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KNOWING

Knowledge, Institutions and Gender: an East-West Comparative Study

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Project summary

Building on scholarship in social studies of science and feminist research, the project examined transformations in contemporary science with special focus on gendering and gender consequences of these processes of change. It conceived of gender as implicated in the fabric of science itself, not as an added-on social characteristic or political concern. The study encompassed two comparative perspectives: it was carried out in two scientific fields (within social sciences and biosciences) and in five partner countries. This diversity of research sites allowed for questioning and analysing of a number of features of epistemic practices and cultures and national research systems which are normally taken for granted both by science policies and also social students of science. The study applied a multi-method approach. It encompassed the analysis of existing policy data and documents; and later, in the two institutions under study in each partner country, collecting and analysing a life course questionnaire with research participants; institutional policies and procedures; participant observation of research practices; in-depth interviews and focus groups further exploring and contextualising selected hypotheses. The research culminated in national reports focusing on the most salient issues in national contexts and in a comparative cross-national analysis. A summary cross-national report is organised along three conceptual lines: boundaries and modes of orderings; togetherness; and times and trajectories. Each line provides unique perspective on gender/ing practices in knowledge production and on convergences, differences and power relations in transatlantic science. The reports look into intersection of sciences policies on one hand and epistemic practices and research careers on the other which allows a formulation of policy-related conclusions and recommendations. Findings have been disseminated at national and EU levels to influence science policies, raise consciousness of academic workers, and to establish science studies, including the feminist ones, in the academia in the Czech Republic and Slovakia.

Summary of project objectives

- To examine the production of knowledge contexts and cultures, including the role of gender, from an “East-West” perspective,
- To identify structural and institutionalised practices and procedures, including standards of excellence, that hinder and/or promote the equal participation of women in science,
- To encourage the establishment of feminist science studies in the partner countries, especially in the new EU member states
- To influence policy on higher education and research and development at the national and EU levels in order to promote gender equality and increase the engagement of young people in science

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Main findings

Framing the findings: epistemic living spaces

Knowledge, Institutions and Gender: an East-West Comparative Study (KNOWING, 2006-2008) was a 3-year multi-partner and multi-method research project funded by Framework Programme 6 of the European Union. The project was carried out in five countries (Austria, Czech Republic, Finland, Slovakia and the United Kingdom) and by eight research institutions and universities (Institute of Sociology, Academy of Sciences of the Czech Republic; Faculty of Humanities, Charles University, Czech Republic; Comenius University, Bratislava, Slovakia; University of Leeds, United Kingdom; Department for Social Studies of Sciences, University of Vienna, Austria; Department of Sociology, University of Turku, Finland; Turku School of Economics, Finland; and Department of Sociological Studies, University of Sheffield, United Kingdom).

The choice of the countries for this research study was not accidental. In view of the fact that the objective of the project was to explore the practices of knowledge production and organisation of research in the changing research environment with a specific attention paid to gender, east-west and more broadly centrality-peripherality dimension, and research careers, we aimed to have a composition of research sites reflecting the variability of situations in Europe. There are also major differences among the partner countries in terms of the attention given to gender equality in research and higher education, and the history of women's grassroots organising. Another source of differentiation was the degree and implementation of reforms of R&D and higher education, and the related discussions – public and academic – of these processes. And lastly, the countries are

variously posited in terms of their location on the academic map: some having been largely excluded up until twenty years ago from the mainstream research traffic, with research and educational freedoms greatly curtailed, while others like the UK have been not only at the forefront of research reforms but also dominant in their global research position. These different situations in the countries participating in the project created space for exploring the consequences of the attempts at achieving unified approaches at policy level to organisation and assessment of research in vastly divergent circumstances and how individual researchers negotiate these trends.

We have chosen to carry out the research in two fields: in the biosciences and social sciences with a view to gain an understanding of the way the current transformations impact differently on them. We were interested in the articulations between different forces at work and how that has consequences on researchers' way of inhabiting research spaces and what that means in terms of their perception of what is possible both for them as social beings but also in epistemic¹ terms. Our findings point to the **continued sidelining of social sciences** on the research map as the times of knowledge production, modes of research co-operation, types of research outputs and journal landscapes do not square well with the dominant value systems of R&D.

As the above suggests, the research did not concentrate on "women and science". Rather, it took wider policy concerns as well as research and organisational practices on the ground as our point of departure. We thus explored the messy ways in which gendering occurs in terms of building research careers, how early stage researchers envision their place and potential in science and what impact gender has on knowledge production processes more generally speaking.

To achieve these goals, the research partners used five methods: life course questionnaires were carried out at the outset of the research as the first orientation point in the research institutions under study. Concurrently, we carried out discourse analysis of national and European policy documents together with institutional documents to gain insight into the dominant imaginaries of research and gender in the countries and institutions under study. This was followed by participant observation in two institutions, one in biosciences and the other in social sciences in each country which allowed us to move beyond verbal accounts obtained through the life course questionnaires, and examine the mundane, day to day practices of knowledge making. To close the research, we carried out individual and group interviews on commonly developed areas of concern which arose during the participant observation.

The multiple articulations of the relations of knowledge production, institutions and researchers in changing academic research environments are at the centre of this study. We aimed at investigating how institutions of research and society at large with their different histories and contingencies frame contemporary academic knowledge production. The KNOWING study explores how policy structures research, and reflects the ways in which policies are simultaneously articulated along with imaginaries of the future potentials of knowledge as well as of the potential futures that come along with it. It is about places of research, and how they open up or close down possibilities for being a researcher and doing research. It addresses the issue of spaces – social, epistemic and symbolic ones – in which collective and individuated ways of working emerge and find expression in the multiple forms of knowledge produced. But it is also about the partly contradictory time regimes structuring academic lives, how they are imposed upon, performed by, resisted, managed and reconciled in different places and moments. Yet above all this book is about researchers, how they live in academic research, how they inhabit the different cognitive and material landscapes and participate in giving shape to them, how they organize their social, spatial or temporal environments and are organized by them. We address how they embody the norms and values of their workplace and the epistemic culture they are part of while at the same time also resisting and disputing them, how they make and break social ties, and move in and out of places.

¹ The notion epistemic embraces the ways how and what researchers know, how and under what conditions they acquire and create knowledge.

Eventually this study is also about sharing widespread myths on what it means being a researcher and working in a field as well as participating in creating new ones.

In a nutshell, we are interested in grasping how researchers imagine, encounter and (re)produce what we labelled **epistemic living spaces** [Felt 2007]². This term denotes the space – symbolic, social and physical – which in more or less subtle ways delimits what researchers aim to know, the degrees of agency they have and how they can produce knowledge. But the notion of epistemic living space also tries to capture dimensions like feeling intellectually and socially “at home”, holding an understanding of the often non-codified sets of values which matter, feeling subjected to and performing certain temporal regimes, tacitly sharing a repertoire of practices to address knowledge questions and many more. It addresses the intertwined nature of the personal, the institutional, the epistemic, the symbolic and the political. As a consequence epistemic living spaces are always both opening up and closing down possible degrees of agency; they create the feeling of being on safe ground from which unknown territories may be explored, while at the same time they impose limitations; they give tacit guidance while they simultaneously potentially curtail more radical forms of innovation.

Boundaries

Our reflections on boundary work is organised along six of the European master narratives and their enactments in researchers’ epistemic living spaces. The first and maybe most pervasive policy narrative is the one on efficiency, transparency and objectivity that should become characteristic for the new research systems to be put in place to meet the challenges of contemporary knowledge societies/economies. Monitoring the output of these systems should then allow a steady (self)observation with steady adjustments. The KNOWING research shows that the broader idea of an **audit society** has become embedded in the very self-conceptualisation of researchers. The problematic side of this ideology is not so much the simple counting and monitoring, but rather making only those things count that can be counted. Thus particular value structures, a moral order, came along with such exercises, palpable on the individual level but also creating hierarchies between epistemic activities, between geographic location, nation states, institutions and many more. These moral orders can be found from the most global level of rehearsing the order US, Europe and the catching up players like China and India to the very way how young researchers conceptualise the quality of their work and imagine their careers.

We also showed that these orders create numerous (un)intended consequences: the rehearsal of “East/West” difference while declaring the effort to dissolve it, the hierarchical ordering of epistemic fields with the biosciences being the model which social sciences have to live up to, the values attached to certain contract types, or the often tacit gender orders which are de- and reconstructed. We also hinted at the fact that often contradictory forces are at work, as the shift of many research institutions from a more visionary and vocational mode of ordering to a quite dominantly entrepreneurial one, which in turn demands to re-imagine researchers’ role models to fit with what we called the glossy brochure research-manager – an often also quite gendered representation. And we pointed at the fact that such audit systems never work in an epistemic, institutional and social vacuum, but overlap and create frictions with other orders, historical, cultural or personal ones that are performed in research. Thus neither efficiency, nor transparency or objectivity are simply well defined entities out there but what they mean emerges through complex negotiations in multiple trading-zones. In that sense monitoring does not simply follow predefined entities in their development, but is much more a process that needs careful and more inclusive modes of governance.

² Felt, Ulrike. 2007. “Epistemische Lebensräume: Multiple Artikulationen von Wissen, Institutionen und Geschlecht – Ein erster Reisebericht aus Epistemien.” Paper presented at *Essener Kolleg für Geschlechterforschung*. Essen, 05.07.2008.

The second master narrative on research and its change addresses **changing modes of knowledge production** and are partly captured by notions such as Mode 2 research (or similar analysis). While we can see traces that there are changes going on in the way knowledge is conceptualised, produced, distributed and performed, our analysis leads us to be much more reluctant to interpret them as a clearly directed gradual move from more disciplinary to an increasingly inter/transdisciplinary problem-oriented work. Rather, we perceive a less straightforward development, often moving back and forth between classical modes of ordering research in disciplines, classical key-journals, well-organised theoretical bodies and entrenched social organisations to which one could also count the publication rituals on the one hand, and new ways of conceptualising and ordering research along criteria of relevance, efficiency, problem orientation and speed on the other hand. Looking at disciplinary boundaries also shows the ambivalence of such delimitations. While they seem on the one hand to create barriers which makes it difficult to cross from here to there – a theme often put to the fore in the policy discourse –, disciplinary boundaries are also perceived as protections which create the feeling of being on safe grounds, on having the necessary epistemic coherence and of being better protected from direct external pressures. Thus disciplines and their boundaries play important social and epistemic roles for researchers in an environment that has become fluid and perceived as under rapid change.

Excellence is the second buzz-word in this master narrative on new mode of knowledge production. As we show, the imagination strongly persists that through specifically fostering only the most outstanding brains research will quasi automatically become highly innovative and advance the powerful idea of a leading knowledge-economy. We tried to show that this label, while fostering competition, also creates counterproductive differences. It introduces a moral order into the research system of a two-class society without clearly knowing how to deal with “the others” that do not fall into these elite conceptualisations. We show the different ways in which these excellence discourses are used in the national contexts and how they sometimes produce gender differences (e.g. in sheer number of prizes given to outstanding researchers) which at least should pose questions to those implementing such procedures. And it also made us question whether the simultaneous implementation of audit society criteria and excellence discourse would not simply lead to an implicit reproduction of those who know how to play the audit game best – a fact which can by no means be automatically equalled with innovative research. Over the past decade the need to better integrate science in society, the call for more dialogue, engagement and participation linked to the new modes of governing science as well as the need for more context-sensitive innovations have merged into the third master narrative we want to reflect here.

Our observations reveal that much of the efforts made to “bridge the gap” between **science and society** have contributed their share to continuously recreating this very boundary. Thus, while science intrudes upon society in a much more sustained way, new mechanisms were simultaneously developed to keep society at arm-length. Depending on broader techno-political cultures at work and the respective histories in the science and/in society debates such efforts developed quite different forms in the respective national contexts and have become integrated in the researchers’ “normal” mode of actions to different degrees. While it seems no longer possible to refuse communication with society, this new duty often gets framed in terms of accountability and by no means in terms of engagement or dialogue, as the master narrative might suggest. What is more, researchers spend quite some effort to argue that all this does not touch the epistemic core of their work. Thus, they create a clear vision of a linear chain from knowledge production through diffusion to public acceptance with little to no feedback loops. Public rejection of technoscientific innovations was still staged in terms of lacking knowledge. It is also interesting to remark that different epistemic communities in rather different ways manage to become visible through their applications within society. While the biosciences are often clearly linked with tangible output, the knowledge social sciences produce remains often invisible, and is made invisible through the separation social scientists enact between their academic and engagement work. Yet it is precisely this capacity to merge in an inseparable way with the context of application that could be seen as

the “success criterion” for social science take-up by society [Beck, Bonß 1989].³ But in an academic world where things only count if one can count them (e.g. potential bioscientific applications can be measured in patents, while social sciences have no equivalent) this might turn out as a clear disadvantage and reinforce the hierarchical order between the two epistemic communities.

The fourth master narrative is around **Europe as a common space for research** captured by the acronym ERA. Our analysis showed how a seeming borderless research Europe is enacted through discourses on and concrete incentives for mobility and cross-boarder collaboration while at the same time boundaries are reconstructed in powerful ways by dichotomies such as East/West or Europe/nation states. In particular, monitoring activities under the guise of guaranteeing transparency and objectivity support the reconstruction of these lines that had been eliminated discursively. Indeed we realised that in many ways the “scientific Europe” as a construct without borders was met with a lot of mixed feelings by researchers. Either it was unclear to them what Europe meant as a concrete reference frame and thus did not use it in their positioning work, or they were much too aware that differences were so fundamental in research and its organisation in the different countries that speaking of one research area seemed awkward. Yet retreating to the national territory cannot solely be understood as a limitation caused by not grasping or following the European idea(l), but also as a form of protection and belonging. It stood for different histories and ways of doing things in research, for an imagination where change might happen as well as for a feeling for an implicit hacking order felt much stronger when moving on a shared European territory.

The fifth master narrative is one of **global change in R&D**, about **speed of change and competition** imagined as taking place in a similar way in all countries, a narrative that somehow closes the option to think and wish things to be different in the personal research context. This global narrative develops a strong normative drive towards an imagined ideal, which is often implicitly assumed to exist somewhere across the ocean in the US. It assumes that change has to happen ever faster, that everyone has to participate in the race and that everything has to be done in order not to lag behind or to be overtaken. Yet this strong ideology – which one could label the tyranny of speed – can only be performed in an elaborate way when developing corresponding self-observation systems by European bodies, nation states, institutions and researchers alike. Thus the audit society becomes the basis for efficiently performing this narrative.

Throughout the analysis offered in this chapter we have tried to show that even the seemingly so homogeneous discourse across national systems, and the ideals to aim at, the way in which actual change happens took fundamentally different forms, depending on **local contingencies**, actor constellations, but also on the epistemic communities we are looking at. While the dominant audit narrative tries to implement rather strict orders, competing myths persist and try to nourish and keep alive other orderings. But overall this global narrative had a strong impact on the moral orders performed along with the speed narrative. Researchers coming from different national contexts participating in this study conceptualised their research system/country as lagging-behind and as having to catch up, they felt quite pressured both on institutional and individual level to buy into this logic and had to struggle to construct a strong epistemic self-esteem. They felt pressured to take-up trendy and global topics, approaches and rhetoric similarly as national science policies take-up trendy and global research priorities. All this can gradually lead to reducing plurality in research and simultaneously to “de-localisation” of research from national or regional contexts and needs.

The last master narrative is on **gender and equal opportunities for women in research**. Although it is definitely less prominent and powerful than the five others, it seems challenging to reflect how gender is imagined on a rhetorical level and how it gets performed in the different contexts. In our explorations of boundaries, we saw many places where the master narratives reproduced in quite

³ Beck, Ulrich, Wolfgang Bonß. 1989. *Weder Sozialtechnologie noch Aufklärung? Analysen zur Verwendung sozialwissenschaftlichen Wissens*. Frankfurt am Main: Suhrkamp.

clear ways existing gender divides. More male scientists win excellence prizes or women loose out in the institutional re-orderings are but two examples. Yet we could also argue with a number of researchers in feminist epistemology that the very way of how the boundary between science and society is upheld and the epistemic core staged as completely protected from societal influence, a male gendered ideal of research stemming from 17th century science is rehearsed. Even if we succeed to get more women into research and allow them to move up the ranks, we might ask in such a highly morally-ordered environment what the prize to pay for them would be.

What we tried to argue is the **tension between the grand narratives and the actual ways in which bounding and ordering works in concrete contexts**. We saw that seemingly homogeneous discourses were locally turned into quite fundamentally different configurations, had to deal with local histories and contingencies and thus led to rather different realisations. We could observe that boundaries, although they are often implicitly and explicitly staged as restrictions or as deranging the production of innovation in European policy discourse, might play a role of creating spaces in which change can happen in different ways and on grounds perceived as safe. But we could also see how some of the new policy orders destabilise whole parts of the science system – social sciences or “non-excellent” researchers – by imposing one-dimensional measure of quality and legitimacy. In a nutshell we would argue that things are more complicated and multidimensional – and for good reasons. Not only from the point of view of diversity and inclusion but also for the sake of a plural knowledge we will need in the uncertain world we live in. Our observations lead to the conclusion that any **responsible European policy for science and technology would have to reflect in a much stronger way the boundaries that are created, reinforced and undone in the multiple processes of implementation of dominant discourse and measures, as well as the modes of ordering accompanying them.**

Togetherhness

Here we explored the ways in which researchers work together and apart and how this shapes the epistemic living spaces of science. We have shown that the policy logics of networks, mobility and interdisciplinarity have shaped practice, but not always in the ways in which policy makers have intended to. In particular, we pointed to the ongoing negotiation of tensions around teamwork and individual autonomy, mobility and stability, interdisciplinarity and disciplinarity, in the routine (re)construction of epistemic living spaces in both the bio- and the social sciences. The KNOWING projects’ multiple foci on policies, practices and organisational and geopolitical positions of researchers, as well as comparisons across select social and bioscience sites, also enabled us to draw some important distinctions between the bio and social sciences, without caricaturing or over-emphasising their differences. We found that teamwork, networking, mobility and interdisciplinarity were aligned to existing practices particularly in the biosciences – although those were less driven by commercialisation or engagements with society than policy rhetoric may have us believe. We found that social scientists were somehow less connected to the everyday workplace and therefore closer to the dislocated knowledge worker of policy imaginaries than first impressions might suggest, although this was offset by other distinctive commitments to local or regional epistemic contexts on their part.

More specifically, we identified a range of tensions and different visibilities and acknowledgements around these forms of working together and apart in both the bio- and social sciences that point to pervasive stratifications of epistemic living spaces. Teamwork and individual working were mutually constitutive and occurred within and beyond academic workplaces, but some individuals balanced them in such a way that their career could advance whilst others were more involved with less visible articulation work, often to the detriment of their career. Mobility came at personal and institutional costs. At the organisational level it was often promoted by those who had reached relatively secure and (more) permanent positions and profited most from new recruitments of knowledge workers. Disciplinarity was often reasserted in the face of interdisciplinarity as a

necessary step to secure career advancement and a sense of belonging and identity with a body of knowledge; we also found a lack of recognised outlets for interdisciplinary work in the social sciences and incidences of dominance of particular fields and servicing of others in the biosciences. On the other hand, in circumstances where logics of individuality, immobility and disciplinarity were more pronounced, often in the social sciences, we found instances of resistance particularly amongst junior and contract research staff who drew on policy imaginaries of teamwork and interdisciplinarity in so doing.

We also brought gender back into an analysis of working together and apart in science. Articulation work, opportunities and investments in mobility and the individual burdens of interdisciplinarity in practice are interlinked and entwined with gender inequalities. This is particularly evident when we consider the roles and positions of postdocs and contract researchers in our findings, in both the bio- and social sciences. We found that the burden of balancing teamwork and autonomy, mobility and interdisciplinarity in practice fell disproportionately on postdocs, just at the time when women are entering this segment of the workforce in large numbers. Although this offers women in science and research more opportunities, staying put, facilitating the work of the team, or conducting pioneering interdisciplinary projects all presented particular career risks to this feminised group of postdocs. Even in a lab or a department where the leaders were not prone to ‘terrorise’ or ‘ignore’ their junior colleagues, we found that striking a balance between too much and too little togetherness was a tricky and highly personalised business. More generally, applying a gender lens to the neoliberal policy visions of moving centres of excellence, we argue that the eternally mobile knowledge worker who makes and breaks research groups is itself a masculine fiction which is built and valued in contrast to the feminised position of staying put and attending to ‘local problems’.

This suggests that policy makers ought to turn their attention to the core forms of togetherness and apartness in the bio- and social sciences and consider how they shape and are shaped by the epistemic living spaces of science. This involves thinking about ways to foster better job security and dare we suggest contentment – two key but often overlooked aspects of productive knowledge work. It also requires that we do not simply relegate the balance between cooperation and competition to individual researchers or research institutions as a whole, but consider at an intermediate level what a good lab and a good social science department would look like. Epistemic living spaces cut across personal, institutional and knowledge practices, which involve a range of hidden and unacknowledged aspects of supportive, integrative knowledge work which are also worthy of more attention and support. In so doing we can aim to build new epistemic living spaces that support and are in turn supported by relations of mutual trust and respect across gender, disciplinary and national divides.

Times and trajectories

The KNOWING research shows that the times of knowledge-making are complex and multiple; that they are actively negotiated and managed by researchers; and that they have implications for the ordering of academic institutions. And they are also both *gendered* and *gendering*. Time is made as well as taken and spent, and thus time is a crucial aspect of processes of social construction. We develop this argument by looking at how everyday times add up – and whose everyday times add up – to the linear careers of policy imaginaries. We conclude by outlining some ways in which the KNOWING findings on times and trajectories can speak to policies related to gender and science.

In relation to both the linear career trajectory and everyday time it seems clear that temporal regimes are gendered. The immersive long hours culture of knowledge production in the everyday and the straight, single, unencumbered trajectory of the successful career are deeply marked by histories of male dominance in the academy. But they are also gendering. Time regimes play a part in the *reproduction* of gendered organisations. One outcome of this is that certain career trajectories (or non-trajectories) and ways of finding time to think (and not to think) take on masculine or feminine characteristics. The linear career reproduces masculine epistemic subject positions that

are best characterised in terms of their propensity for an intense and narrow focus and an atomistic rather than a relational orientation. This is reinforced by the dominance of vocational modes of living and ordering time in the everyday, which privilege immersive and single – rather than distracted and multiple – orientations to epistemic work and identities. The emphasis in science policy on careers that add up to a coherent and singular trajectory and the emphasis in academic cultures on the indivisible and all-pervading qualities of the academic self present an overwhelmingly masculine dominant ideal; subordinate feminine alternatives are represented and often experienced in terms of lack or deficit. These are cultural, not essentialist logics, and we found that they were operating on sexed bodies in the academy in new ways. Older and more senior female academics often enacted masculine epistemic subject positions, while younger men struggled with or resisted masculine vocational norms. This points to the importance of multiple and relational divisions beyond gender – generation, age, class and ethnicity – in shaping the unequal academy. However, our research clearly revealed that the gendered timescapes of academic research were not simply hangovers from the past, but were being dynamically reproduced in changing conditions.

In this context, patchworked and horizontal careers are relentlessly evaluated as distorted or deficient versions of the linear ideal. For some, particularly bioscience postdocs, horizontality is a transient period of their career trajectory (albeit for growing numbers of post-docs, an increasingly long one). It is a period of waiting to see whether anticipatory career planning will work out in practice, and can only be made sense of in retrospect from the frame of a more permanent position (or a position outside academia). But for a significant number of researchers (including contract researchers in the social sciences) the patchworked career is not simply a temporary or inadequate version of linear excellence but constitutes an alternative way of doing academic work. In order for everyday time to ‘add up’ to the successful career trajectory, its outcomes must be made tangible or at least visible, in the form of publications and individual reputation. This logic of academic life – emphasising product over process – has been reinforced and modified in recent years by audit and performance regimes, particularly in relation to quantifying research outputs. Research time that cannot be translated into publication capital, or remains invisible to audit and promotion mechanisms, might be valuable to oneself, one’s peers and one’s students, but it does not count in formal career terms. Women are more prone to invest their time in such invisible work – but increasingly men who also do so find themselves in feminised and undervalued occupational roles. Over and above the implications for individuals’ career progression, cultures of self-discipline and self-surveillance in academic life have damaging consequences.

There are two clear ways in which our analysis of the multiple, complex times of knowledge work speaks to policy. The first concerns *the science career*. We do not offer suggestions as to how the linear career can be made more inclusive and equitable; nor do we follow policy directions in most of the KNOWING countries in asking how women can be helped onto, or helped back into, the linear career trajectory. Instead, we want to draw attention to the plethora of ways in which researchers construct and manage careers of a horizontal or patchworked nature. There are too many of these researchers, whether passing through a transient career stage or stuck or hanging on in precarious positions, to overlook them in the name of the excellent linear career trajectory. In this respect, we believe that policy-makers and institutions need to consider ways of recognising and supporting non-vertical careers.

The second way in which our analysis speaks to policy concerns *the reconciliation of work and family life*. Quantitative and allocative models don’t add up to an effective mechanism for supporting gender equality in science. This is because the time of science work in the present, and the time that adds up to science career trajectories, is above all *vocational*. The vocational mode involves the investment of everyday time across conventional work-life boundaries and represents a key trope through which biographical and career trajectories are not just articulated but thoroughly entwined. Researchers negotiate vocational time in a range of ways – from welcoming it as part of their performance of identity to rejecting it with recourse to an ideal of limited office hours. But the vocational mode has an organisational and cultural reality too, and here it all too easily becomes

caught up with mechanisms for auditing research and disciplining researchers. These impacts fall most heavily on women, and also risk damaging emergent and more equal work/family life contracts for both sexes. It seems that there is rarely enough time in any relationship, especially with children, to support more than one full-time career on the excellent/linear model. In order for work-life balance to be meaningful, then, there needs to be cultural change in the academy in relation to the linear career and the ideal epistemic subject.

In relation to both these issues, one possible answer might be to think about time cultures of knowledge-making in their collective as well as their individual dimensions. We have seen in the biosciences the creative and multiple ways in which researchers find time to think in different kinds of relationalities – with colleagues in lab meetings, and with materials and machines. Our findings from the social sciences imply that there may be parallel potential to think about relational time in teaching and course-making. The main question is: how can these time investments be made to count in valuing diverse contributions to academic organisations, and to resist the gendering of academic knowledge production and scientific careers?

Policy conclusions

In these conclusions and recommendations we want to point to some of the difficulties entailed in the current direction of R&D and higher education transformations, and the negative impact they may have on research careers, especially of women, and research in general. We base our recommendations on the observation that research and research organisations are becoming more competitive and speed has become a central preoccupation; strong boundaries are being erected, and (value) orders implemented which makes research careers uncertain, precarious and stressful, and thus fairly unattractive. And, despite the attention paid to the position of women in science and the attempts at increasing the number of women in research and development, the organisation of research with the attendant values and norms as well as systems of accountability, are re-enforcing the masculine nature of the organisation of research. This is also visible in the divorce of ‘women in science’ policies from the wider policy concerns in the area of research, development and innovation. Thus, we argue, **fundamental re-thinking of the approaches to and treatment of the gender equality agenda is required if any substantive change is to be achieved.**

The elementary framing of our analysis is the ‘epistemic living space’, a concept developed during the KNOWING project to capture the intertwinedness of the personal, institutional, epistemic and political, the fact that research is a lived-in, inhabited space with sets of written and unwritten rules, values and moral orderings. We have structured our analyses around three major areas – boundaries and orderings in/of research, forms of togetherness and being apart, as well as time and trajectories. These framings allow us to explore the issues of concern from three different angles, which makes it possible for us to bring into focus the dominant orderings in research and their inter-related nature.

In the sections that follow we will concentrate on six main areas of policy concern that flow from our research. The first one deals with **practices of becoming** (a researcher) and looks into the ways in which research careers are organised in relation to dominant notions of **excellence, mobility and linearity (1)**. The second explores the **geographies of knowledge production (2)** with a particular attention paid to local and global aspects of knowledge production in social and biosciences and the impact on these fields of dominant excellence and assessment criteria. The third looks into **sense-making narratives (3)** which are both the motor and glue for a research system. They are put in place through dominant policy discourses and enforce certain visions of scientific knowledge production and conceal others. The fourth will focus on the **expectations, incentives and disincentives of interdisciplinarity (4)**. The fifth explores **science and society issues (5)** asking whether increased marketing of research is the way to make science more attractive as a place to

aim for and as a place to stay. In the last section we will bring together some of our observations to examine the **genderings of the research arena (6)**.

Our conclusions are based on our observations and research findings as well as our political commitments. Our analyses are informed by feminist values and endeavours to change not only the research environment in order to become less biased against concrete women researchers but also the gender-stereotyped knowledge production. Where such space was created, we tried to explain and communicate gender issues and feminist values to research participants, both for the purpose of explaining and grounding our research and also to open up ways of thinking about gender issues in research that may have concrete outcomes in the way research participants may regard them in the future. Our endorsement of the need for feminist attention to science is linked to our concern with the dominance of neoliberal values informing current R&D transformations. Despite claims to the contrary, research has always been a means to achieving goals; however, we consider the current turn to a fairly limited economist view of research, with its attendant reduction of the notion of public good to economic wellbeing of society, to be narrow and – as our findings attest – also detrimental to the image of science among researchers and ability of research environment to provide a ‘sustainable’ career. One aspect of this reductionist approach is that the European Commission as well as some Member States try to address the issue of attracting young people to science without at all attending to the question why large numbers of early stage researchers drop out – what is it that makes research as a career unattractive after several years of training to become a researcher? And what are the gender aspects of this?

Before we turn to the concrete recommendations we wish to make some general remarks regarding the general policy process and governance of research.

General observations

1. Implementation of EU regulations and directives: the failed process of gender mainstreaming

It is evident that although gender mainstreaming has been adopted by the European Union as a tool for fostering gender equality, gender is not adequately mainstreamed to European programmes, including the Framework Programme. After the breakthrough in Framework Programme 6 where the gender dimension was included as part of project evaluation both in terms of personnel as well as content of research⁴, this motion was removed from Framework Programme 7 and does no longer constitute an obligatory assessment criterion. The explanation given, namely that the removal of the gender dimension was motivated by the ‘simplification process’ of the Framework Programme, suggests that the gender equality agenda does not receive the necessary policy support. Yet the failure to attend to and realise gender equality – a central value of any democratic society – is a major launa of policy, and attests to the continued difficulty of grasping and supporting gender equality measures.

2. Separation of gender agenda from general policy concerns

That gender mainstreaming is not streamlined into EC’s research policy, including the Framework Programme, signals a separation of the gender agenda from general R&D&I policy concerns. This is not a problem only in terms of the failure to implement binding regulations of the EU but also with respect to losing a crucial tool for analysing the genderings of the current organisation of research. Furthermore the increasing separation between gender issues and research policy more generally

⁴ Although experience has shown that “the gender dimension” was mostly considered to be about counting the numbers, and gender in the content of research was only addressed by those “already persuaded”, it was a milestone in terms of attracting attention, at policy level and in the research community, to the fact that the knowledge researchers produce is gendered.

does not concern only policy-making bodies, such as the EC, but also research institutions which have to come to terms and respond to policy imperatives entailed; this means for example, in the priority of mobility, dominant notions and organisations of a research career (concerning linearity and timelines) and organisation of research units. The failure to insist on gender mainstreaming thus sidelines gender equality in the policy and research processes as a whole.

3. *Limited accountability*

An outcome of such a situation is that public accountability of research organisations and policy-making bodies with regard to gender issues has become limited. One aspect of this is the above-mentioned gap in gender mainstreaming; the other is linked to wider policy concern with public accountability of research. It is necessary to insist on the inclusion in the policy process of a wider array of actors and stakeholders – not only powerful research organisations and single prominent (often male) experts, but also actors with gender relevant expertise and from civil society. The inclusion of female publics from various backgrounds and circumstances may point to aspects visible from their particular vantage point and thus highlight research needs and concerns (including the application of knowledge and innovations) that may not be visible to the powers that be. In this, we would like to join the Expert Group on Science and Governance in its call for involvement of a wide range of publics in the policy making process, not least to counterbalance the concerns of the EC regarding the public distrust of science and the attractiveness of research for young people (as addressed in the Capacities Work Programme).

Although these general remarks may seem to concern the concept of epistemic living space indirectly and with distance, they have a major impact on research practices, organisation of research, including research teams, engagement of research organisations with wider publics and general regard for the issue of gender equality at policy making and research organisations' levels.

Now we move to the six areas of our concern which build directly on the data from the research sites as well as document discourse analysis:

(1) *Practices of becoming*

Issues concerning the position of early-stage researchers, making research an attractive career for young people and creating a single European research labour market through international mobility of early stage researchers are a main policy concern at EU and member state level [for example, Green Paper 2007]. These concerns are however compromised by other policy priorities and imperatives, not least the stress on excellence and the rather narrow way excellence in research is conceptualised. It is therefore necessary to re-think the notion of excellence to make space for a larger number of researchers in order to render careers more 'sustainable'. Equally, we must consider the detrimental effects of the must of mobility, which leads to the devaluation of fields where mobility is not readily available for epistemic purposes (social sciences and humanities in particular because the knowledge there does not 'travel' as easily as in other fields). It must also be taken into account that there are researchers who for various reasons do not wish or cannot be mobile; as our and other research studies show, gendered organisation of care and work plays a major role in this. These concerns also require the re-examination of the neoliberal thrust of these policies.

Excellence

As developments in the countries participating in the KNOWING project make clear, excellence is a dominant framework of current research policies which builds on an elitist vision of a few prominent researchers with other, presumably non-excellent, researchers orbiting around them. It is a competitive, individualist notion – which calls up the need to be more aggressive – based on countable output and application defined in economic terms. In essence, excellence is increasingly

equated with economic profit generated by researchers, which sidelines other types of contributions to social wellbeing and public good and outputs that are – depending on the country's assessment criteria – awarded poorly compared to other measurable and measured types of output. Such a notion of excellence has a (negative) impact on some researchers, some disciplines and some regions.

On the **individual level**, excellence is available only for a few, with a huge body of researchers hanging on the margins. The availability of excellence to researchers is dramatically circumscribed by their dis-identification with values and activities which excellence entails (such as administration and management), by a refusal to endorse a working culture that is oriented uniquely or largely on work and high levels of performance (researchers who wish to have work-life balance). As KNOWING research participants attest, such a notion of excellence is also detrimental to collegiality and cooperation due to competitiveness and protection of new knowledge.

On the **institutional level**, it enforces a system that values only certain types of output and culture while the organisation requires other types of activities that remain invisible. As a result, the system is biased against individuals who perform such 'invisible' activities (administrative tasks, in some countries activities aimed at the wider public, or the mundane day-to-day invisible research work). Lastly, this notion of excellence is masculine in nature as it highlights competitiveness, aggressivity, individualism, output orientation – values that are considered masculine in this cultural milieu. Thus, such an orientation brings the risk of making research unattractive for potential or actual researchers who do not condone such a working environment and such values.

It is vital to expand and re-think what an excellent research and researcher means in order to become more inclusive of other roles than economic that science plays in contemporary societies. Such a re-thinking needs to also entail a thorough gender analysis in order to eliminate the bias built into the dominant notion with respect not only to the position of female researchers but also research priorities and application of knowledge. Such a step will also increase public accountability of research. The first step in such an endeavour may be the re-organisation of research assessment: Firstly, as some of the KNOWING research participants as well as recent debates around the European Research Council projects show, pressure on 'excellence' does not necessarily lead to innovative results but may rather result in 'hunting for points'. Secondly, the stress on output results in a deluge of papers where results are not properly controlled, are repeated in different contexts and editors of journals are losing the ability to have full control over the results of published papers.⁵ Clearly, there seems a connection between the stress on excellence and problematic developments in the ethics of research conduct.⁶ And thirdly, the stress on excellence has also negative impact on people who cannot (e.g., because of the career breaks) or do not want to engage in this fast race for output.

Career normalisation and linearity

The notion of excellence analysed above is built, among other things, on a linear uninterrupted career with a steady stream of recognised research output with the following progression in biosciences (and other hard sciences): PhD – postdoc – independent research position, such as that of a lab leader, with attending timings of these phases. Such a career is, however, available only to few, and is much less compatible with the processes of knowledge making and organisation of research in social sciences. Such a situation is among other things a result of grant based funding of research, which places many researchers in insecure positions, thus making a linear upward career a complex endeavour, hardly realisable.

If Europe wants to build an attractive research labour market, it is crucial to address the issue of job security and growth, including the issue of postdoctoral fellowships and maternity (as funds used to

⁵ Davidoff, Frank. 2001. "Sponsorship, authorship, and accountability." *The Lancet* 358: 854-856.

⁶ See Bob Grant, Critics rip Cell paper, The Scientists Blog entry 25/11/2008. <http://www.the-scientist.com/blog/display/55240/>

cover female researchers leaving for a parental leave are regarded as a 'waste', which thus makes the position of early-stage female researchers even more precarious). It is also vital to consider the development of career ladders that are not built on a progression from postdoctoral fellow to an independent lab leader with his or her team and grant funding and that also include independent researchers in non-leadership positions (again, especially in biosciences). These positions are increasingly made 'invisible' while playing a crucial role in the organisation of research teams, transfer of tacit knowledge within teams, preservation of team's history and 'teaching the ropes' to students. Some researchers, moreover, prefer to stay in these positions rather than being involved in a competition for independent teams.

Mobility

International mobility has become a policy must [see, for example, the Green Paper 2007]. It forms a specific phase of the linear career (see above), especially in the biosciences. The stress on mobility is firmly written into policy documents as well as the organisational order in research (bioscience) institutions which often have temporal rules for postdoctoral fellowships.

Mobility is premised on the notion that although people have social ties, these can be easily severed and renewed. The subject of the mobility agenda is a disembodied entity, disconnected from his or her milieu of family, friends and sense of location. Although the recent attempts to take into account family concerns of early stage researchers with respect to mobility, these take a very narrow view of researchers' sociality, limited to the core family of a spouse (and possibly children). Mobility thus brings a moment of social instability which, long-term, is problematic for early stage researchers, both male and female.

In order to address issues related to unwillingness/inability of being mobile on the scale expected by the system, national research systems need to provide shorter-term research funding (3-12 months) for early stage researchers, which will allow researchers to continue building their expertise within the international community but without the necessity of displacement for longer periods of time. However, it is crucial to recognise the impact of the dominant gender division of labour and the continued difficulty women researchers face when wishing to be mobile – these difficulties are not the least related to dominant scheme of dividing care work within families.

Furthermore, it needs to be recognised that international mobility may not be a useful instrument of career building in social sciences to the extent it is in biosciences. As research participants report, it is epistemically less tangible: for example, a researcher working in biosciences may fairly easily start working in a foreign lab that uses the same method on a new research problem or learn a new method to continue the same line of research. In the social sciences, intimacy with one's research data is crucial as is the knowledge of local contexts. Thus, researchers coming to a foreign environment will have harder time working with existing data and interpreting the data in a context-relevant manner. That is not to say, though, that mobility in social sciences has no value. Quite the contrary, international research projects and fellowships can make researchers acutely aware of what is specific and different across cultural contexts. Mobility schemes for social sciences however need to take into account the different nature and relationship to research data as well as the contextual nature of data interpretation. And lastly, social scientists may be less susceptible to mobility because the knowledge is deeply intertwined with language and local contexts for which it is often perceived by researchers to be produced.

(2) Geographies of knowledge production

<p>The main policy goal of the EU and specifically the R&D policy exemplified for example in the Green Paper [2007] is to create a single Europe and a single and open European research labour market. This links to the effort to address ethical conduct as well as job security (flexicurity) together with achieving coherence and impact of various research schemes through European networking.</p>

Yet, this imagery of single Europe does not seem to work for researchers. First of all, differences among countries are visible in the 'race rhetoric' of catching up and staying ahead within Europe. Secondly, the 'single' European research market is predominantly built on a Western standard on which all other 'regions' should converge. This 'westward' orientation is visible also in terms of mobility (major flow of researchers is westward), epistemic authority (major journals located in the West). The West, shortly, in the dominant imagery, is equated with a better standard, better science. This westward orientation has an impact on fields of research as well as whole research communities.

Thus if policy makers want to realise steps towards Europe as a research area it is essential to create awareness of the existing differences in material terms, research traditions but also values systems and question how the implementation of European research structures addresses them.

Unity and disunity in Europe

The project of European integration aims to create a single Europe, in research especially through open research labour market, networking and cooperation, which turns a blind eye to differences and power differentials in Europe. Through these efforts of harmonisation and creation of common categories of thinking and developing research, Europe is supposed to emerge and be able to play its role in a global competition. Thus we could argue that the European Union to a certain degree aims at dissolving the boundaries of nation states with the aim of merging them into one common research area. Nevertheless, despite this policy talk about a single European research area, nation states are evoked in competition with each other - through charts, tables, budget diagrams. Thus, there is an inherent tension at policy level between the declared goal of building a single research area and the continued attention paid to the rankings of nation states. These rankings, without taking into account the different national contexts, situations, R&D expenditures etc., continue to enact the dominant imageries of political and epistemic authority in Europe that is western. The 'others' (especially but not only the new member states) if they want to be recognisable in the system, must adopt the dominant rhetoric and attendant practices irrespective of whether they fit the national tradition.

Points of reference: centres and peripheries

When we look at the research landscape, especially through the lens of researchers' experience in the biosciences, Europe and nation states disappear. On the ground, researchers refer to particular labs or people representing labs, particular journals and particular conferences and congresses. For them, building a single research Europe does not make sense – quality is not linked to countries, continents or regions, but to small-scale units with relevant results in a given field. Although nation states or supranational conglomerates fall out of these accounts, what they have in common with the gist of policy documents is that they are located in the 'West'. The goal then is to reach a standard that will allow research from the periphery to the centre.

On the contrary, in the social sciences, the nation state is never completely absent: language, culture, traditions, social institutions and many more frame and define the types of relevant research questions asked as well as the epistemic objects. Theoretical framings and ways of addressing issues emerge from national, regional and even local contexts. In this way, the social sciences and humanities fall out of or should fall out of the dominant imagery of a single European research area (with regions catching up with other regions). This is, however, not the case – social sciences are regarded on policy level as equal and identical to biosciences in conduct and organisation. This creates particular sets of inequalities among regions and also among disciplines. If a regional context demands that a question be asked or be framed in ways that are not relevant for the centre, such a question or framing is not legible, conceivable – and thus, its ability to 'travel' west is circumscribed in potent ways. Despite this major difference in how epistemic work is done in social sciences and humanities compared to the biosciences, this is not reflected in the assessment of research outputs or in the way disciplines are posited on global research map.

The dominant policy documents and priorities build on imageries that have not been relevant on the ground, to researchers or research institutions, in the biosciences. The European Research Area is not evoked, much less consciously built by researchers or research institutions. It is a source of funding that may be tapped but never an object as such. In this respect the situation is very different from the social sciences where the dominant imagery of single Europe and European commonality is reflected in research plans and research projects – it is a way to justify a research question as relevant. In this sense, although European research funding for social sciences is marginal compared to other fields, and although unified research assessment criteria and managerial approach have a more negative impact on social sciences and humanities, these fields are more affected by the dominant imagery of single Europe and understanding differences within it in epistemic terms. What we want to know, how we phrase questions is often strongly affected by what is relevant in terms of European policy goals.

(3) New and old myths of science: How to make sense in/of research?

The discourse on “the central role of science in knowledge economies” has become omnipresent in national and European policy documents but also leaves traces in researchers’ accounts of their working environments. It frames research funding, personnel policy, institutional reforms, but above all also researchers’ self-understanding, in many more or less direct ways.

The knowledge economy discourse builds on a R&D narrative assuming rapid global change and competition. For researchers this implies a high level of pressure to produce (ac)countable outputs, which in many contexts is silently equalled with an increase of innovative power; mobility has become a must and no longer is a choice; careers are expected to be linear, “deviations” from the norm increasingly being unacceptable; tight and partly contradictory time regimes govern academic work; and programmes as well as priority lines are supposed to assure the continuous flow of innovations where needed. Only the best are given time and space to buy out of this logic at least for a while in “excellence programmes”.

Most of our interviewees referred to these new myths of science as linked to narrow and reductive neoliberal imaginations of Europe as an economic, social, cultural and scientific project. Many of them did not recognise them as supportive to their intellectual and personal development, and thus felt alienated by them. Our analysis shows that these myths perform and reinforce already existing divisions between those at the centre and the ones at the periphery, but also between social and natural sciences as well as along gender dimensions. They thus widen some of the very divides in the European research landscape they are often invoked to close.

Policy makers need to recognise that these widely rehearsed narratives on science, the economy and society do not simply represent given pre-existing orders, but impose new ones. Thus our recommendation is to both rethink the existing discourses in terms of responsibility and to imagine new less normative and more inclusive narratives on the role of science and scientists in society – in order to foster creativity in its broader meaning, to create the feeling of belonging for those who “live” in research and to make research an attractive place to be for young researchers. This seems all the more urgent given the currently obvious weaknesses of neoliberal economies and their underlying value structures.

Narratives and imaginaries matter

Policy makers produce a quite dense discourse (speeches, brochures, press releases etc.) on the new ways of doing R&D. We labelled those narratives and imaginaries the new myths of science. Our work clearly shows researchers’ ambivalent feelings about this new way research is framed discursively. Indeed myths are not mere ‘stories’ but deeply reflect the value and power structures of the social systems they are part of. Their power lies in their capacity of making the beliefs and the values they promote seem natural and unquestionable. The widespread use of formulations such as “researchers have to ...” and “Europe needs to ...” in policy discourse is but the most

obvious indicator of this. As a consequence only actions based on these myths appear as reasonable while others become to be perceived as alien and irrational. These narratives thus serve as justification for decision, (e)valuation and action and they constitute important sense-making devices. They are inscribed in and are made durable through institutional practices (e.g. assessment systems), work routines and taken-for-granted value sets (e.g. mobility is good per se), and in the end they shape the social identities of researchers. In that sense myths are much more influential than often commonly assumed – and hence reflecting their impact becomes a matter of responsibility for those producing them.

A lack of values systems to identify with

Throughout our research, we witnessed a struggle between two larger sets of myths about research and science. One set gravitated around the idea of a “golden past” and was invoked quite densely by researchers across all countries and epistemic fields. There seems to be a longing for this (imagined) past, when there was allegedly still much more time to think, careers were smoother, competition lower, freedom existed to pick the research that seemed attractive, needs for complex technical infrastructure were lower, accountability was virtually a non-issue, and curiosity was the driving force instead of the vision of economically relevant applications. In these golden times, there were no rules that pressured people to be mobile, teaching and research had a better relationship and institutions seemed happy to employ people for a lifetime career. However, this past appears to be vanishing gradually, and to be replaced by a new set of myths judged by most as not a quarter as attractive as the old one.

Imposed from “the outside”

Researchers saw this set “new myths” as mainly imposed from “the outside”, and as new sense making narratives supposed to guide their actions and feed their value systems and, in doing so, allowing for a successful implementation of science policy measures. As a consequence many of our research participants’ stance towards the “new myths” was distanced and ambivalent, because these myths were perceived as embracing elements felt to be quite disruptive: all too high competition and selectivity, enforced mobility, linear careers, dense time regimes, projectification of knowledge production, and an all too exclusive focus on few research priorities. Under these symbolic conditions, in particular younger researcher felt it hard to decide whether or not to stay in such a system. Others tried to redefine or adapt the new myths in terms that would allow them to make sense of and live with them.

We observed an important difference between the social sciences and the biosciences. While for the latter finding arrangements with the project and accountability culture seemed more feasible and doable within their epistemic habits, the former quite explicitly rejected the use of these new myths for creating a self-understanding and often narrated themselves as being forced into a new logic. Indeed their way of work seemed to require a much more fundamental re-organisation to fit. This does not come as surprise, as most policy imaginaries were modelled along the natural sciences. This creates a deeply uneven situation between the two epistemic fields, although policy narratives pretend that their imaginaries of research and the accompanying measures would treat social sciences and natural sciences equally.

An economy of promise without responsible managers?

The new myths created around science and research hold high promises: promises that technoscientific innovations will make Europe a better place to live in, more equal, with better jobs and social security. Yet the prize for this future would be for both researchers and citizens to comply with this predefined logic and to behave in ways supportive to science and technology. However, neither researchers nor citizens are invited to participate in the development of neither the futures nor the sense-making accounts.

As a consequence it seems essential to open up a debate on the values and choices underlying contemporary myths of science and to make potential alternatives to the contemporary version of the European knowledge-economy more explicit – including their benefits and drawbacks. This

would also imply to ask who should take part in the creation of the visions for the techno-scientific future of Europe, and thus also whose values should get represented. Taking such an approach would also mean posing the question of responsibility for the knowledge (not) produced, to reassess dominant narratives, imaginaries and promises and to develop or allow for the development of alternatives.

(4) Interdisciplinarity as a new mode of knowledge production?

Working across disciplinary boundaries has been a recurrent topic in our exchange with researchers. As a quite longstanding debate, this issue is hardly explicitly addressed anymore in EU science policy but rather taken for granted without more detailed elaboration. The Commission's 2007 Green Paper on the European Research Area speaks of the need for 'easy movement between disciplines and between public and private sectors' as well as for 'effective knowledge sharing notably between public research and industry'. Also funding programmes such as the FP7 or the ERC stress the importance of interdisciplinarity, the ERC Council recommending that 'the traditional departmental barriers need to be reconsidered, and a strong focus on interdisciplinarity promoted'. Interdisciplinarity is taken to be synonymous with novelty and risk as well as excellence: a matter of breaking down barriers between subject areas. Yet the backside of this discourse of *opening-up* is the fact that the central issue of hope put in this type of interdisciplinary research from the policy side seems to be an enhanced economic applicability of the output. The production of broader and more socially inclusive knowledge is widely lacking on the agenda and thus we see a clear *closing-down* of possibilities.

Our results on the reality of academic work show, however, that linear career schemes, rather narrow accounting and assessment structures (e.g. publication counting), but also the continuous time pressure exerted do by far not give adequate space to this type of knowledge production. There is an obvious contradiction between two sets of policy imaginaries that create important tensions for the researchers, contradictions which also do carry a gendered dimension.

Thus if policy makers actually believe in the enrichment and innovative force of interdisciplinarity research, it seems essential to reconsider the current strongly normative assumptions on the form of careers in research and to create systems which valorise this kind of research in adequate ways. In particular the strong tendency to "measure" quality along quantitative indicators might show detrimental effects on the readiness of researchers to engage in such cross-boundary work.

Disciplinary boundaries matter

In a research environment which puts so much pressure on researchers to acquire funding, produce excellent results, publish them in top journals, and for doing all this in rather tight time frames, it is not astonishing that researchers look for working environments which provide them with some sense of control. Our work indicates that disciplines are still seen as attractive, seemingly stable contexts in a rapidly changing academic environment. They are recognised in institutional contexts, have clear publishing lanes, a strong common theoretical corpus, and hence may be seen as offering better frames to integrate the knowledge produced and develop it further. At the same time researchers acknowledged that remaining within such boundaries might also limit the degree of innovation possible. Indeed, disciplinarity was often re-asserted in the face of interdisciplinarity both as a necessary step to secure career advancement and as a sense of belonging and identity with a body of knowledge.

On the other hand, in circumstances where logics of individuality, immobility and disciplinarity were felt as too pronounced – often in the social sciences – we found instances of resistance particularly amongst junior and contract research staff who drew on policy imaginaries of teamwork and interdisciplinarity. They defined their self-understanding not so much tied into a particular academic structure but much more to a specific issue at stake in their research. In the social sciences interdisciplinarity often meets with engagement, while in the biosciences it often emerges from the more pragmatic needs to combine different methodological approaches to answer a research question.

Interdisciplinarity as hard work with unclear recognition and reward

In our fieldwork, researchers noted that interdisciplinarity is not simply the smooth synthesis of disciplines that necessarily guarantees “better knowledge”; it can also involve hierarchies of knowledge, with one discipline in the service of another. Our results indicate further a lack of recognised publishing venues for interdisciplinary work. We also found considerable evidence of perceived difficulties of working across disciplinary boundaries. This was expressed in terms of a ‘clash of cultures’ and different conventions, speeds and views on what constitutes a publishable result. Others spoke of a lack of resources, particularly time to build a common language and expertise for interdisciplinary work to occur in practice.

This suggests that interdisciplinarity does not easily collapse the boundaries and distinctions between disciplines but involves considerable work to (re)negotiate their meaning and significance as the collaboration unfolds. However, this work needed to build interdisciplinarity often remains hidden and certain individuals take on the bulk of this work, sometimes at considerable risk to their own careers and in any case without any clear pattern of how such work would be academically recognised. There are substantial reasons to assume that the distribution of this work is highly gendered, as – similar to care work in society at large – different kinds of labour get different values attached and are made visible differently.

(5) Science and/in Society

Over the past decade a lot of policy attention both on national and European levels has been directed towards increasing the interaction between science and society. The problems identified, for which these measures should be the remedy, were a felt “public unease with technoscientific developments”, an often-cited lack of technoscientific knowledge on the side of the citizens, but also too little interest of young people in science in general and in research careers in particular. In these policy imaginaries, interactions of science and society were expected to happen on three different levels. First, quite some efforts were put into setting up venues and formats to communicate research to wider audiences (one important focus being the communication of science to the youth). Second, there was a growing discourse on governance and participation as a way to render science more inclusive and assure that contemporary societies actually develop an “innovation-friendly” climate. Thirdly, efforts were to be made to foster a co-production of knowledge involving both researchers and societal actors. When it comes to the actual realisation of these policy goals we may identify a clear dominance of the first level (even with growing tendency), leaving only very little space and effort to the latter two. Most of the time interaction with society thus means ‘communicating and discussing science, research and technology’, as stated in the 2007 Green Paper on the ERA.

In doing our research we witnessed that researchers implicitly conceptualised communication exercises actually not so much as serving “to bridge the gap” but much more as silently reinforcing the boundary between science and society. “The public” and other actor groups addressed were still predominantly conceptualised as lacking knowledge and in need to listen, while researchers did actually only rarely perceive these interactions as learning and listening exercises. This was quite dominant imagination in the biosciences while the social scientists acknowledge struggling with their engagement with society and how that relates to their knowledge production. And even though the latter engage more densely with society, they often tried to keep this apart from their academic work in fear that the knowledge produced would loose in value (the idea that scientific knowledge could be regarded as “contaminated”). Furthermore due to the rather dense accounting systems and due to the fact that it was difficult to “measure” the societal impact of social science knowledge (there is no equivalent to a patent which is often used in the biosciences to “measure” societal impact), social scientists fear that this rather time consuming engagement work is not valorised sufficiently.

Further it seems important to question the way policy makers imagine to make science more attractive to young people through better “selling strategies”. In fact we would strongly argue that an exercise of re-thinking academic careers would be needed in order to make science more attractive.

Speaking but not necessarily listening

Without any doubt – even if not necessarily being keen on doing so – researchers are aware that they have to interact with the society that supports them. Also research institutions are increasingly engaged in communication exercises. Yet when conceptualising what actually happens in this interaction and talking about their role in it, most researchers use a clear one-way-communication model and perform a clear asymmetry in the relationship: scientists communicate to society and want to be taken seriously but they actually do not see how they could learn from society and thus why they should listen. In fact, despite the turn to ‘outreach’ and ‘public understanding of science’, the framing of research – in particular in the biosciences – still remains largely “internalist”, their peers being “the public” which matters. Wider publics and communities, the idea of science as part of the wider “culture”, and the notion of accountability to funders were mentioned, but seemed to be only annexed. Further we find that “the public” is still predominantly characterised as lacking information – while science is implicitly assumed to possess information ready to be diffused. This profound knowledge asymmetry is a clear distinction criterion for continuing to perform communication but no real engagement with society, which would demand scientists to listen as well as to speak and inform.

While it seems no longer possible for scientists to refuse communication with society, this new duty often is framed in terms of accountability and by no means in terms of engagement or dialogue. Researchers spend quite some effort to argue that all this does and should by no means touch the epistemic core of their work and would at best make a difference at the “periphery”. Thus, they create a clear vision of a linear chain from knowledge production, diffusion to public acceptance with little to no feedback loops. Public rejection of techno-scientific innovations is still often staged as rooted in a knowledge deficit on the side of the public. What is more, researchers partly even expressed a fear of “contaminating” their scientific knowledge through societal interaction.

Our argument thus is that communication is paradoxically done for both reasons, to inscribe science into society and create a feeling of public commitment to science, and at the same time in order to reinforce science’s difference and distance from society.

Producing relevant knowledge as a form of interaction with society

But how is “society” imagined in researchers’ accounts on their interaction with it? Who are those to be addressed and interacted with? In our material one of the main ways scientists address their relation to society is in terms of the relevance of the knowledge they produce.

Stressing the immense potential applications of scientific knowledge and how this will change society for the better evidently works best in those countries which could at least imagine to validate such an imaginary – which are those countries in our sample with an already more developed economy. Further it is interesting to remark that different epistemic communities manage to become visible through their applications within society in rather different ways. Indeed, bioscientists often referred to tangible outputs of the biosciences, although they would partly claim for their own work not to be linked to the realm of application. Social scientists on the contrary were more divided about their role as knowledge producers. While some defended their work as “basic research” which is in first place addressed to the scientific community and saw application-oriented research as limiting their epistemic freedom, others strongly underlined the importance of engaging with those to whom their knowledge was addressed at and thus to contribute to societal change. Working with administrative bodies, international organisations, societal groups etc. and feeding back research to those who are in control of or affected by certain political or social measures seemed to be a desired and fulfilling task. Yet this engagement was not seen as unproblematic.

Social scientists often thought that it was important to make this engagement not very visible and enact a separation between their academic and engagement/more practice-oriented work as they imagined that the scientific credibility of their knowledge produced could suffer. Furthermore, there was a complaint that in an academic world where things only count if one can count them (e.g. potential bioscientific applications can be measured in patents, while social sciences have no equivalent) too much rather time-consuming engagement might turn out as a clear disadvantage and reinforce the hierarchical order between the two epistemic communities.

Bridging these arguments is the fact that the very meaning of applicability takes very different forms in both epistemic fields. While bioscientists can refer to quite material innovations (e.g. in the health system) such “product-like entities” are absent in the social sciences, making any impact often quite invisible. This difference is a substantive disadvantage in a system that buys largely into the ideology of a knowledge economy with its focus on marketable products as the desired outcome of research.

Making science an attractive career?

As a last point concerning the relation of science and society it seems essential to address the issue of making research appealing to the younger generation in order to attract them into science. From what we have said in this report as well as partly in these conclusions it seems essential not to naively see the problem of lacking interest in science as to be remedied by a better “selling strategy”. As one of our researchers made explicit it remains questionable whether or not the “glossy brochure scientist” can actually serve as a role model for young people.

Much more it seems central to ask what would make science an attractive career for young people in the first place, and which disincentives for choosing a scientific career exist. To consider the latter dimension is not only central in understanding students’ initial choices, but also in analysing why many prospective scientists abort their training and careers. Beyond this, our material indicates that a central issue for the latter question are young scientists’ perceptions of the way the science system in general and scientific careers in particular are currently structured. From our perspective the central issue at stake is to ask not only how many enter and remain in the system, but also who remains in the system and who decides to opt out or does not manage to comply with the rather normative imaginations developed.

What is more, even if much effort is made to attract more women into science and partly support is given to make them stay, we have shown how deeply gendered academic work and the accompanying values systems are. There is an obvious tension between inviting more women into science, the deeply gendered work realities, and the more implicit gendered images of being a scientist visible in the public space and perceptible once a person enters the academia. Policy measures which fail to address this tension are unlikely to contribute to a sustainable increase of the proportion of women in science.

(6) Gender

Over the past decades the issue of women and science and more generally gender equality has been given attention by policy makers at the EU level and in Member States; research bodies and organisations have equally tried to address some issues pertaining to the position of women in science, including work-life balance. Despite these advances, no major breakthrough has occurred in terms of the gendering of policy-making, research organisation and research practices.

Gender as a female quality

The KNOWING research findings show that gender is primarily perceived as a quality of women, something women but not men have. Gender is that which makes women different, from men, visibly other than men in the research environment. Research participants identify gender

predominantly in issues relating to work-life balance – the woman's handicap of bearing children, which slows her career and reduces her research performance. Moreover, some bioscientists (but not social scientists) argue that certain differences between men and women are biologically grounded and result in different social skills and career aspiration (for example, that women are not competitive, do not strive for top positions, like the everyday research work). In essence, such stereotypes tell women that they should not aspire to reach the top while, at the same time, middle-rank positions (which these women are told to aspire to) are disappearing. Such an understanding of gender has several consequences. Firstly, it enforces the link between structural, symbolic and individual gender and sex, which naturalises gender differences. Secondly, it primarily locates gender in individual bodies and to some extent social organisation of work, but leaves untainted the issue of gender in knowledge production. Indeed, most researchers in the biosciences did not allow that gender has any bearing in terms of data interpretation or questions asked.

Such a treatment of gender equality is largely visible also in policy documents where the issue is often relegated to special attention to women in science in terms of the impact of motherhood on research careers, and building the human resources for the European research market, rarely is gender linked to the actual processes of research organisation and knowledge generation.

Masculine gender of the organisation of research

Some of the conclusions above already suggest that research processes and research organisations are organised masculine today. This concerns the values on which current research imageries (new myths of speed, competition, competitiveness, aggression etc.) are built, the ideal of the linear research career, the must of being mobile in the biosciences, the stress on research output and performance. This masculine gendering of the research process and organisation has a negative impact on some women (and men) researchers. Our research suggests that women more readily than men consider leaving science after the completion of PhD or postdoctoral training. Czech results for the biosciences for example corroborate recent results of a study done by the Royal Chemical Society in the UK [Recruitment and retention 2002] that primary causes of early stage female researchers to leave science are that the research culture is competitive and 'macho' and the research process is 'frustrating'. However, as the KNOWING research did not include people who have left science, these are partial suggestions for further research. Obtaining a complex picture of the reasons for leaving science will illuminate what makes the research profession unappealing and unsustainable. It must be stressed that such a research needs to look into the research culture, organisation of research institutions and teams, value systems as well as work-life balance issues. If the discriminatory organisation of research is to be eliminated, a proper gender mainstreaming needs to take place in order to identify the values and practices which disadvantage individuals gendered feminine. Furthermore, work is needed 'on the ground' in research institutions as it is the people in leadership positions, especially lab leaders, who are in position to shape the research culture on the ground and create conditions that do not condone negative gender stereotyping.

Invisible gender

In addition to the genderings inscribed in the organisation of research and research career discussed above, other types of genderings are less visible within research settings. Gender is often submerged at the workplace level, or articulated in complex ways with other categories such as age/generation, organisational role, and seniority. Although women were present in high numbers in the teams' national research sites, gender tended to be present in the margins; in interpersonal contexts; in interactional performances in collective epistemic settings; and in relation to accounts of exclusion and career. Findings suggest that the interweaving of the structural (institutional), gender stereotypes, internalised gender norms create a complex matrix which result in, for example, a gendered perception and organisation of collectivity, collaboration and competition.

Overview of work by Workpackage

Summary of WP 1 implementation (State of the Art: Background Information)

WP leader: Turku School of Economics

The objectives of the WP1 'State of Art' included the opening up of the KNOWING-project and gathering the first data for the three-year-project, that would give an idea of the specific institutions, researchers, and the research landscape in general. It consisted of conducting data gathering and synthesis of a review of existing statistical information on the number of women and men employed at the national level and in each selected institution, their ranks, positions, official wage rates, and funding sources in each partner country and to create, disseminate and analyse a life-course questionnaire to members of selected institutions in each of the partner countries in order to create an informed collective starting point for the empirical research to be carried out in the partner countries. This 'state of the art' national reports and additional information and data materials gathered during the WP1 was used to establish a baseline of information about each institution, thus situating each institution in its national context and giving firm background for the further intellectual and empirical work within the KNOWING project.

The activities on WP1 were organised in the following manner:

- 1) Introduction of the organisation for WP1 work and more specifically the theme areas for life course questionnaire by WP leader at the first Project Management Meeting in Prague to project partners;
- 2) Proposal for and management of further collaboration within the consortium by e-mail exchange, including development of a measurement device such as discussion of the theme areas for the questionnaire (Life Course Questionnaire). This part of the joint activity was done through e-mail communication with deadlines, cross-national communication, nomination of national responsible persons and aim for constructive collaboration at the practical, information exchange level;
- 3) Further instructions concerning the access negotiations to institutions at the national institutional level, and
- 4) Information sharing and follow-up concerning the development of the work within WP1, and a shift of the communication to the project Website, instead of using e-mail communication.

Summary of WP 2 implementation (Gender in Institutions: Discourse Analysis)

WP leader: Faculty of Humanities, Charles University

The primary objective of this work package was to map out and analyse prevailing topics of discourses centered around knowledge production practices and the dominant discursive patterns underlying them in order to gain an understanding of larger discourses on scientific standards and procedures that have been institutionalised or marginalised with regard to gender within scientific communities and institutions. The results of this analysis was used, in conjunction with the results of WP 1, to facilitate further analysis in other WPs. In order to achieve these objectives the following activities were performed: in each of the selected scientific fields and institutions, there were identified, gathered, selected, coded and analysed relevant institutional and public domain documents that included grant applications, papers in academic journals, presentation of research teams on the web and project presentations, official web pages of academic institutions, press releases, researchers' media appearances, commonly used textbooks, national research and development policies and gender policies, institutional regulations and provisions concerning hiring, promoting and internal evaluation procedures. As to the choice of documents selected for both the

in-breadth content analysis and the in-depth discourse analysis, the consortium agreed that variable, flexible selection criteria were needed to allow for the variety of documents relevant in respective national contexts to be accommodated. Among those most commonly exercised combinations of procedures of selecting documents were brief scanning of document content, relevance and discursive styles (more applicable in social sciences), publication patterns, diversity in terms of publishing opportunities, citation indexes, presence of topics and features pertinent for analysis as outlined in the working list of relevant codes (see below), the frequency a given document being cited (applicable to research papers, covering low, middle and high ranking), sex of authors of documents (in such documents where authorship is applicable category). We also took advantage of the synergy generated by the combination of methods of life course questionnaires, participant observation and in-depth interviews which enabled to track down particular texts as actors linked within a network of discursive processes and the way they clustered around various thematic or discursive discursive events (grant application, grant project, team formation, drafting and peer reviewing an academic article, reform of national research and development frameworks etc.).

It was agreed that the analytical work of the work package shall proceed in three, partly overlapping phases. The first phase consisted of mapping out, collecting and selecting relevant documents for discourse analysis that had to be done in further two stages of the WP 2. The second phase involved coding of documents and engaging in-breadth discourse analysis. Eventually, the more phase 3 – in-depth analysis discourse analysis took place in the final, third phase of the work package. There have been identified and gathered several dozens (often up to 150) of documents in NS and SS in each individual country, of which about 30% have been in-breadth and 10% in-depth analysed. The second in-breadth stage of analysis retrospectively both informed the selection of relevant documents and served as a tool to elaborate and amend the list of codes. Documents selected for in-breadth and in-depth analysis have been coded using Atlas.ti software. In the last phase of the work package, an extensive variety of codes emerged, on basis of which 10 more general analytical interpretative themes were developed. Using this interpretative matrix of 10 analytical themes developed throughout preceding phases of coding and in-breadth analysis, the in-depth analysis was carried out. However, both in terms of the document selection and the analytical foci, the individual teams proceeded in their work individually taking the specificities of local discursive context and locally prevailing trends in the corpus of documents analysed into account. Thus not all of the selected 10 analytical categories were covered by each team within the consortium. The final deliverable report was accompanied by five individual national Annexes written by the members of the WP2 working groups from each national team. In these national Annexes, a more detailed account on national contexts was provided.

Summary of WP 3 implementation (Science in the Making: Participant-Observation)

WP leader: University of Leeds

The objective was to conduct on-site observation of ‘science in the making’ at each of the selected institutional locations. *Observational research was conducted (T3.1)* by all teams between September 2006 and July 2007 in national university and research institute sites in the social and biosciences. *Fieldnotes were taken and coded* during the observation period. Preliminary *analysis* of coded observation notes was undertaken and all teams produced a report giving a ‘thick description’ of knowledge production in institutions July 2007. As WP leader, UK team coordinated team submissions of thick descriptions and initial analysis of observation data. UK team formulated in response a working paper setting out a framework for analysis and overview of teams’ emergent findings. Teams revised their thick descriptions to produce national reports on participant observation; WP leaders revised the analytical framework to produce an introduction, conceptual overview, and conclusion to the national reports. D3 National Reports analysing observational data

on 'science in the making' completed 31 October 2007. National teams also submitted longer reports on participant observation as Annexes to D6 report.

Summary of WP 4 implementation (Biographical Aspects of Career Path: In-depth Interviews)

WP leader: Philosophical Faculty, Comenius University

The objective of WP4 was to investigate scientists' positioning within the scientific community and their own career paths in the broader context of their biographies through face-to-face in-depth interviews. The biographical focus around which the research interviews were built up and conducted was designated to interconnect institutional settings on the one hand and researchers' positionings and trajectories on the other. National teams identified subjects for interviews during previous WPs, mainly during conducting participant observation. In-depth face-to-face interviews at the institutions under study were conducted according to research design plan.

In order to make the national teams' results comparable, an interview topic guide was elaborated by the consortium (within WP2). In the process of conducting the interviews all national teams relied on the topic guide as a guiding tool for framing their interviews and for covering areas of concern indicated in it to some extent. At the same time, the overall objectives of WP4 were specified by each national team in the context of their findings from previous research phases. In this way an open space for asking institution- and person-specific questions was enabled. The interview guidelines were designed so as to provide national teams with a considerable degree of freedom to adjust it to their specific conditions and interests and the way the interviews were conducted in particular research sites varied. So did approaches and methodological frameworks research teams adopted.

The number of interviews national teams carried out and the structure of interviewees varied widely. However, all teams structured interview research according to discipline, gender, academic position and juniority/seniority.

For most teams, the length and nature (in/formality) of interviews varied significantly and it depended on various factors, mainly on the quality of relationships already developed with particular research participants. In terms of length the interviews varied, too: they lasted from 40 minutes to more than 2 hours, their average length was 1.5 hour.

After transcribing interviews teams were coding and analysing their data. Teams agreed to provide progress reports on their work and their emerging analytical topics were discussed at PMM 4 in Turku. The structure of the national reports and the DR was agreed at the PMM 5 in Prague. Teams submitted national WP4 reports to WP leader in Month 25. The Deliverable Report consists of two parts, the first is a general Introduction outlining and conceptually developing the issues emerging from national teams' findings was elaborated by the WP leader based on national teams' inputs. In the second part of the Deliverable Report the national team reports are included.

Summary of WP 5 implementation (Epistemic Communities: Focus-group Interviews)

WP leader: University of Vienna

The main aim of this work package was to conduct focus group interviews (FG) and to accentuate and contextualise key thematic issues that had come up in individual interviews, observations and discourse analyses.

At PMM 4 in Turku (May 2007) settings, compositions and main issues of FGs were discussed. Project partners shared and argued their choices according to their specific academic contexts. It was decided that all partners would have either 2 or 3 focus groups per discipline. We agreed that FGs would have a mixed composition in regard to gender and structured according to position of researchers. It was agreed upon to use FGs mainly to feed back and “test” first findings and observations developed out of analyses of WP 4 interviews and participant observations. Furthermore it was concluded to focus on the following main topics: Disciplinarity, relation of science and society, and gender.

The individual teams carried out their FGs in the course of late summer and autumn of 2007. This meant a slight deviation from schedule which was due to the purpose of FGs: Feeding back first hypotheses of course means to analyse WP 4 interviews first, therefore the FGs could not take place earlier than autumn 2007. Most teams conducted two or three focus groups per discipline. Due to reluctance and time constraint of some participants not all planned FGs could take place. Therefore some teams had less data than they had expected.

FG interviews were transcribed, coded and analysed immediately after conducting. Short national reports were written and sent to WP leader in winter 2007. WP leaders compiled and edited the national reports and wrote the introduction and joint conclusion. The final report was sent to the commission on 15 February 2008.

Summary of WP 6 implementation (Comprehensive National Reports)

WP leader: University of Leeds

The objective was to prepare comprehensive national reports on the research study findings. National teams analysed previously collected data in order to decide on themes and arguments for the national reports (T6.1). As WP leaders UK team chaired discussion of structure and table of contents for national D6 reports at PMM 4 Prague (November 2007). It was decided that teams would select the key themes and structures most appropriate to their national contexts and the course of their research. The Austrian and Slovak teams decided to write reports in national languages. UoL coordinated national team's circulation of their outline plans for D6 national reports which took place in March 2008. Subsequently national teams wrote reports. The Czech team revised the national report into an edited volume which will be published in February 2009 by the SLON publishing house. Currently the reform of R&D and higher education is under way in the Czech Republic, and the book provides an analysis of some of these processes (in terms of management of research, measuring research performance and the impact of gender on these processes). The Slovak team wrote the report around four themes: science and/in society, knowing subjects and epistemic communities, gender and academic settings, aspects of academic career paths. The Leeds team analysed the data around conceptual themes of 1) Making it: constructing the research career and 2) Working together/apart. The Austrian team focused on four distinct topics: “Handling academic (dis)order: Boundary drawing as an ordering activity”, “Individuals and their many ways of being/becoming collective”, “Temporal perspectives in academic life” and “gender implications” across these topics and beyond. The Finnish team concentrated on the broad themes of gender and research life, in addition to putting Finnish science policy development and recent changes in perspective. WP team leaders collated national reports, ensured English language Executive Summaries were available, and submitted D6 Comprehensive National Reports to co-ordinator May 2008.

Summary of WP 7 implementation (Analytical East-West Comparison Report)

WP leader: University of Vienna

The main aim of this work package was to make an internationally comparative analysis of epistemic communities across all national contexts that were represented in the consortium.

Prearrangements for the comparative analysis of our data already began at the PMM 7 in Prague in November 2007 when Ulrike Felt proposed three main lines of analysis that the final comparative report could be oriented at ("Boundaries", "Working together", "Times and Trajectories"). Three working groups each with members of all contributing national teams were organised and it was decided that two members of each working group would be in charge of writing a chapter for the final comparative report and for coordinating the comparative analysis. Other members of the working group were to contribute by providing analyses of national data along questions and topics that chapter authors suggested.

At the PMM 5 in York in April 2008 working groups discussed the respective chapters separately in working sessions. They did substantive preparatory work for the comparative report: The main lines of argument were carved out and working groups agreed on time schedules for the collective work on the chapters.

For the PMM 6 in Vienna in September 2008 the Austrian team coordinated the preparation of first drafts of the three main chapters for the WP7 report on the basis of an analysis of national reports and national teams' inputs. WP leaders coordinated the further development of the chapters within the working groups and – together with the project coordinator – moderated the discussion on crucial topics like form and content of the WP7 report (authorships, publication, overall trajectories of the report etc.). Together, a timeline for follow-up-activities was developed and the consortium decided to publish the WP report as a book.

Between the PMM 6 in Vienna in September 2008 and the PMM 7 in Prague in November 2008 the WP leader monitored the timeline for the preparation of the WP7 report that included one more round of commenting on the main chapters and the delivery of 2 chapter drafts prior to the PMM 7 in Prague in November 2008. Ulrike Felt collected all chapters, wrote the introductory chapter of the report prior to the PMM 7 and circulated a full report draft to the consortium for comments by national teams. At the PMM 7 she moderated the discussion of last comments and crucial topics to complete the report. After a last revision of all chapters she integrated all chapters into one text.

The report will be published after the end of the project by the Academy of Sciences of the Czech Republic. It is currently in peer review until the 15 February 2009. Publication is expected at the end of March/beginning of April 2009.

Summary of WP 8 implementation (Communication)

WP leader: Institute of Sociology, Academy of Sciences of the Czech Republic

The objective was to ensure the communication of the project and dissemination of findings. The work performed on the WP involved preparing a project presentation and project website at www.knowing.soc.cas.cz and the organisation of final project conference under the title *The Politics of Knowing: Research, Institutions and Gender in the Making*, which took place in Prague on 27 and 28 November 2008 (for more information about the conference and some conference papers see the project website). Main findings from the project were presented in the initial plenary session. The conference was listed among the 2008 highlights of the Science in Society programme of the European Commission (http://ec.europa.eu/research/science-society/document_library/pdf_06/dirl-highlights-of-the-year-2008_en.pdf).

Furthermore, individual teams ensured the dissemination of the project findings through conference papers, journal papers, presentations to the research participants, publication of reports and monographs and newspaper articles. Output from the project can be seen in the final dissemination report (please see section Dissemination and use in this final activity report).

Summary of WP 9 implementation (Management)

WP leader: Institute of Sociology, Academy of Sciences of the Czech Republic

The objective was to ensure proper management of the project. A total of eight management and research meetings were held over the course of the project, three in Prague, Czech Republic, two in Vienna, Austria, one in Bratislava, Slovakia, one in Turku, Finland and one in York, UK. Over the course of the project, the consortium addressed the issue of comparativity of the project outputs, anonymisation of data, referencing internal reports and issues of intellectual property. The project cooperated with three consultants, Prof. Helen Longino from Stanford University, Prof. Gerlinda Smausova from Faculty of Social Sciences at Masaryk University in Brno and Dr. Susan Molyneux-Hodgson from University of Sheffield.

Dissemination and Use

Dissemination Strategy

Knowing (Knowledge, Institutions and Gender: an East-West Comparative Study) was a three-year, multi-method and multi-partner research project with the ambition to provide an insight into the changing research practices and processes in five European countries. The analyses were aimed at illuminating how researchers make sense and go about producing knowledge in the changing academy. Our goal was to use project findings to generate conclusions and recommendations that can be used at policy level in relation to gender equality in science, position of early stage researchers and issues such as research mobility and measuring of scientific excellence.

Because of the nature of the project we concentrated on scientific output in the form of papers and book publications and conference presentations. However, the research participants were also an important target group to whom we fed back and with whom we discussed our findings; we have also published brochures and other output to be disseminated in the research community. The policy conclusions were primarily targeted at various stakeholders at national and EU level with a view to shed light on the complex nature of some research processes which, at the present moment, are addressed either marginally or without the proper attention to the complexity of the issue, or without a proper attention paid to the gender dimension.

The project also developed other dissemination tools such as the project website (www.knowing.soc.cas.cz) and a project PowerPoint presentation, and findings generated in the project served also as a basis for communication with the media.

Accomplished Dissemination Activities

Project overview

Knowledge, Institutions and Gender: an East-West Comparative Study (KNOWING, 2006-2008) was research project funded by Framework Programme 6 of the European Union. The project was carried out in five countries (Austria, Czech Republic, Finland, Slovakia and the United Kingdom) and eight research institutions and universities (Institute of Sociology, Academy of Sciences of the Czech Republic; Faculty of Humanities, Charles University, Czech Republic; Comenius University, Bratislava, Slovakia; University of Leeds, United Kingdom; Department for Social Studies of Sciences, University of Vienna, Austria; Department of Sociology, University of Turku, Finland; Turku School of Economics, Finland; and Department of Sociological Studies, University of Sheffield, United Kingdom).

The project was carried out in two disciplines: in the biosciences and social sciences with a view to gain an understanding of the way the current research and development and university transformations impact differently on these two fields. Our concern was to illuminate the ways in which these different disciplines function in terms of research co-operations, their local / global orientation, research careers and research outputs with a specific focus on gender. The research did not concentrate on “women and science” but rather, taking wider policy concerns and research and organisational practices on the ground as our point of departure, we explored the messy ways in which gendering occurs in terms of building research careers, organisational rules of promotion and the impact on knowledge production processes in general.

To achieve these goals, the research partners used five methods: life course questionnaires were carried out at the outset of the research as the first orientation point in the research institutions under study. Concurrently, we carried out discourse analysis of national and European policy documents together with institutional documents to gain an insight into the dominant imageries of research and gender in the countries and institutions under study. This was followed by participant observation in two institutions, one in biosciences and the other in social sciences in each country which allowed us to move beyond verbal accounts obtained through the life course questionnaires, and examine the mundane, day to day practices of knowledge making. To close the research, we carried out individual and group interviews on commonly developed areas of concern which arose during the participant observation.

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Ahlbeck-Rehn, Jutta, Seppo Poutanen, Anne Kovalainen, Ismo Kantola. 2008. *Embedded in Fluid Networks: Spaces, Times and Conditions of Biosciences and Social Sciences in Contemporary Finland*. Research Reports from the Finnish KNOWING project 2. Turku: University of Turku & Turku School of Economics.

Ahlbeck-Rehn, Jutta, Anne Kovalainen, Seppo Poutanen. 2006. *The Natural and Social Sciences – Gendered epistemic environments at two university departments in Finland. An Introduction*. Research reports from the Finnish KNOWING project 1. Turku: University of Turku & Turku School of Economics.

Special issue of scientific journals

Molyneux-Hodgson, Susan, Morgan Meyer. In preparation. Proposal for a special issue for the journal *Sociological Research Online* on the theme of epistemic communities.

Presentations at the project conference

28/11/08. Alice Červinková and Morgan Meyer: "Sitting on/between two stools – on the partial connections between PhD students and institutions." *The Politics of Knowing: Research, Institutions and Gender in the Making* conference (KNOWING). Prague, Czech Republic.

28/11/08. Magdalena Gorska: "The role of implicit research practices in production of legitimate knowledge claims." *The Politics of Knowing: Research, Institutions and Gender in the Making* conference (KNOWING). Prague, Czech Republic.

28/11/08. Dagmar Lorenz-Meyer: "Easily movable? Embodiment, materiality and (gendered) locations in physical chemistry." *The Politics of Knowing: Research, Institutions and Gender in the Making* conference (KNOWING). Prague, Czech Republic.

27/11/2008. Kobova, Lubica. "The society/social – a vacant residence in the discourse of science and society?" Paper presented at conference *The politics of knowing: research, institutions and gender in the making*. Prague, Czech Republic.

27/11/2008. Szapuova, M. "Maintaining /defending scientific authority: disciplinary boundaries and scientific capital." Paper presented at conference *The politics of knowing: research, institutions and gender in the making*. Prague, Czech Republic.

27/11/08. Garforth, L. "Times and trajectories in academic research." Presentation of D7 final report chapter at conference *The politics of knowing: research, institutions and gender in the making*. Prague, Czech Republic.

27/11/08. Kerr, A. "Togetherness." Presentation of D7 final report chapter at conference *The politics of knowing: research, institutions and gender in the making*. Prague, Czech Republic.

27/11/08. Garforth, L. "The (in)visibilities of research." Paper presented at conference *The politics of knowing: research, institutions and gender in the making*. Prague, Czech Republic.

27/11/08. Kerr, A. "A Problem Shared...Team work, autonomy and error in assisted conception." Paper presented at conference *The politics of knowing: research, institutions and gender in the making*. Prague, Czech Republic.

27/11/2008. Woehrer, V. "Too close to be welcomed? Methodological reflections on researching social scientists." Paper presented at conference *The politics of knowing: research, institutions and gender in the making*. Prague, Czech Republic.

27/11/2008. Felt, U., L. Sigl, V. Woehrer. "Perceptions of 'togetherness' and 'individualities' in the fields of sociology and molecular biology/biochemistry in the Austrian national context." Paper presented at conference *The politics of knowing: research, institutions and gender in the making*. Prague, Czech Republic.

27/11/2008. Felt, U. "Presentation of the introduction to the final report." Presentation of D7 final report at conference *The politics of knowing: research, institutions and gender in the making*. Prague, Czech Republic.

27/11/2008. Stöckelová, T. "Boundaries." Presentation of D7 final report chapter at conference *The politics of knowing: research, institutions and gender in the making*. Prague, Czech Republic.

Poutanen, Seppo. "Some discursive positions on scientific excellence and visibility taken by Finnish natural and social scientists." Paper presented at the conference *The Politics of Knowing: Research, Institutions and Gender in the Making*. Prague, Czech Republic.

Other conference presentations

Červinková, A., T. Stöckelová. 2006. "Disciplinary identity and interdisciplinarity". Contribution presented at workshop Identities in conflicts – conflicts in identities, Brno, FSS MUNI, 20.-21.10.2006.

20-23/08/2008 Alice Červinková, Tereza Stöckelová. "Inter/disciplinarity in social sciences: Distributed sociology and boundary subjects." Paper presented at *Acting with Science, Technology and Medicine (International 4S conference organized by Society for Studies of Science (4S) and European Association for the Study of Science and Technology (EASST))*. Rotterdam, the Netherlands.

5-6/6/08 Marcela Linkova. "Freedom, Kids and Performance: Gendered Notions of Success and Failure in the Academy." Workshop Women in Science and Technology organised by the Sociology of Science and Technology Network (SSTNET). Zagreb, Croatia.

5-6/6/08 Dagmar Lorenz-Meyer. "Articulating the epistemic, the organisational and the personal. Challenges of a gendered politics of belonging in science and technology." Workshop Women in Science and Technology organised by the Sociology of Science and Technology Network (SSTNET). Zagreb, Croatia.

20-23/08/2008. Dagmar Lorenz-Meyer: "Following epistemic communities in interdisciplinary contexts: the example of academic chemistry". Paper presented at *Acting with Science, Technology and Medicine (International 4S conference organized by Society for Studies of Science (4S) and European Association for the Study of Science and Technology (EASST))*. Rotterdam, the Netherlands.

20-23/08/2008 Meyer, Morgan B., Veronika Repikova. "Close Relatives or Distant Friends: Comparing Epistemic Communities in Theory and Practice." Paper presented at *Acting with Science, Technology and Medicine (International 4S conference organized by Society for Studies of Science (4S) and European Association for the Study of Science and Technology (EASST))*. Rotterdam, the Netherlands.

Stöckelová, T., A. Červinková. 2007. „Exploring STS through social sciences: situating a researcher, delineating the field.“ Contribution presented at workshop Research on Social Sciences and Humanities: Sharing Experiences and Discussing Methodological Approaches, Vienna, 18.-20.10.2007.

14/03/08 Szapuová, Mariana. "Knowledge production and the problem of boundaries." Paper presented at the conference organised by the Department of Philosophy and History of Philosophy, Faculty of Philosophy, Comenius University in Bratislava.

21/08/08. Garforth, L., A. Kerr. "Let's Get Organised." Paper presented at *Acting with Science, Technology and Medicine (International 4S conference organized by Society for Studies of Science (4S) and European Association for the Study of Science and Technology (EASST))*. Rotterdam, the Netherlands.

22/08/08. Sigl, Lisa. "Living Changes in Scientific Careers: An Explorative Analysis of the Co-production of Visions of Career and Epistemic and Social Change in the Life Sciences." Paper presented at *Acting with Science, Technology and Medicine (International 4S conference organized by Society for Studies of Science (4S) and European Association for the Study of Science and Technology (EASST))*. Rotterdam, the Netherlands.

23/08/08. Wöhrer, Veronika. "Complicity and Ambivalence. Questioning the Boundaries of a Research Field." Paper presented at *Acting with Science, Technology and Medicine (International 4S conference organized by Society for Studies of Science (4S) and European Association for the Study of Science and Technology (EASST)*. Rotterdam, the Netherlands.

20-23/08/2008. Kovalainen, Anne, Seppo Poutanen. "Language at Work. How is Membership of Epistemic Community Linguistically Constructed in Natural and Social Sciences?." Paper presented at *Acting with Science, Technology and Medicine (International 4S conference organized by Society for Studies of Science (4S) and European Association for the Study of Science and Technology (EASST)*. University of Rotterdam, The Netherlands.

10-11/5/2008. Kovalainen, Anne, Seppo Poutanen. "Corporeality and epistemic communities: Interrogations in social sciences and natural science." Paper presented at *Colloquium in memory of Anne Witz. Embodying Gendered Sociality*. University of Keele, UK.

3-6/9/2007. Ahlbeck-Rehn, Jutta. "Foucault's discourses and small histories – contextualising discourse, gender and otherness." Paper presented at *The 8th Conference of the European Sociological Association: Conflict, Citizenship and Civil Society*. Glasgow Caledonian University & University of Strathclyde, UK.

31-2/9/2006. Poutanen, Seppo. "Gender and Science in an East-West Comparison: Some Reflections on an Ongoing Research Project." Paper presented at the *6th European Gender Research Conference "Gender and Citizenship in a Multicultural Context"*. University of Łódź, Poland.

Conference panels

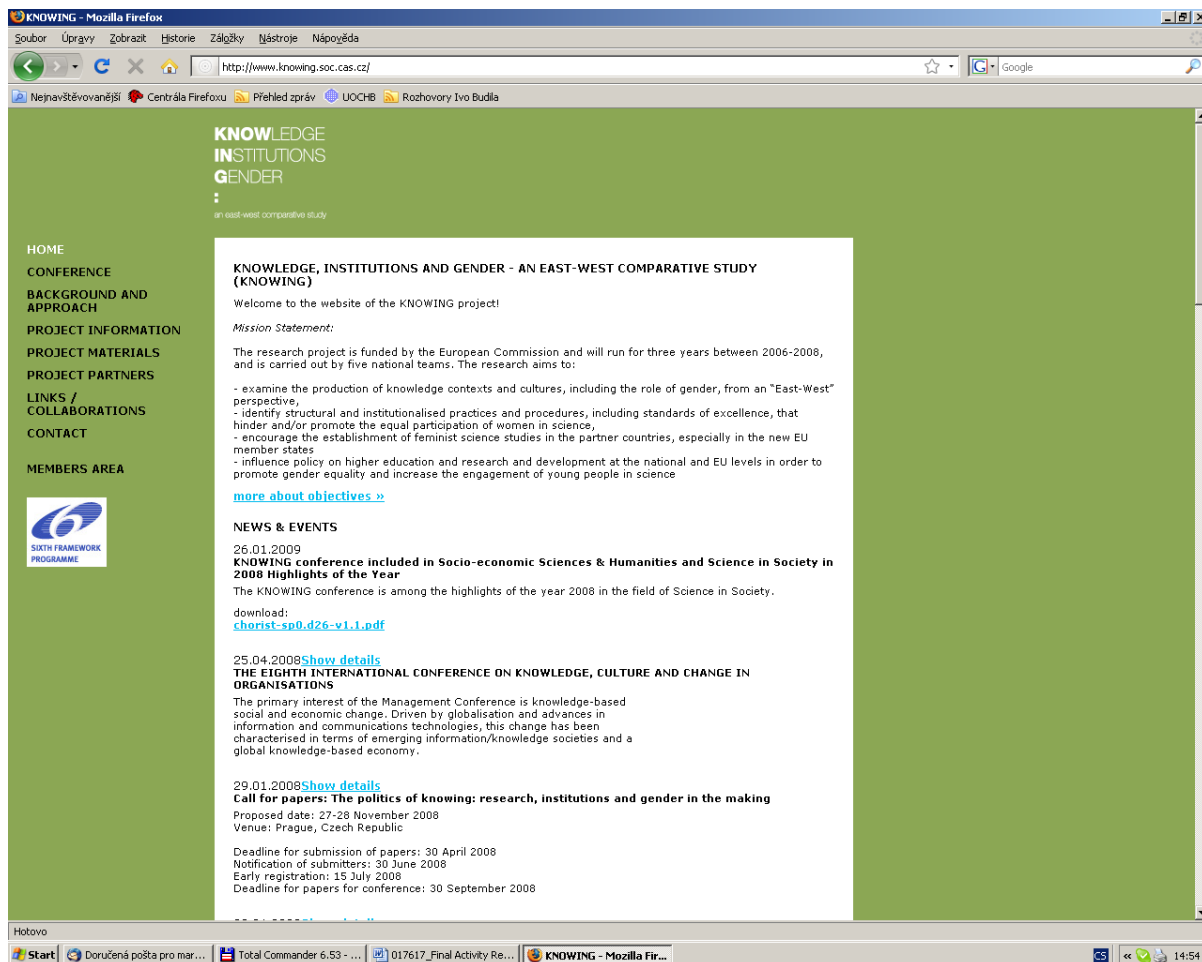
20-23. 8. 2008. Mayer, K, Stöckelová, T., Wöhrer, V. "Acting with Social Sciences and Humanities." at *Acting with Science, Technology and Medicine (International 4S conference organized by Society for Studies of Science (4S) and European Association for the Study of Science and Technology (EASST)*. Rotterdam, the Netherlands.

20-23. 8. 2008. Felt, Ulrike, Lisa Sigl. "Shifting Work Cultures in Science." Session organised at *Acting with Science, Technology and Medicine (International 4S conference organized by Society for Studies of Science (4S) and European Association for the Study of Science and Technology (EASST)*. Rotterdam, the Netherlands.

20-23. 8. 2008. Meyer, Morgan, Susan Molyneux-Hodgson. 2008. 'Finding and following epistemic communities.' at *Acting with Science, Technology and Medicine (International 4S conference organized by Society for Studies of Science (4S) and European Association for the Study of Science and Technology (EASST)*. Rotterdam, the Netherlands.

Website

The KNOWING project developed a project at www.knowing.soc.cas.cz which was used to provide information about the project and to disseminate partial findings from the project. A conference section was created on the website to provide comprehensive information to the conference participants.



Szpuová Mariana. Project presentation at the Gender Studies Centre website (see <http://www.genderstudies.fphil.uniba.sk/>)

Since 01/06. Project presentation on website of the Department of Social Studies of Science of the University of Vienna/AT, at: <http://www.univie.ac.at/virusss>.

Ahlbeck-Rehn, Jutta. Project and Knowing-research presentation at the Department of Sociology, University of Turku website from May 2007 (see <http://www.soc.utu.fi/laitokset/sosiologia/tutkimus/projektit/index.html>).

Presentations at research institutions and beyond

31/1/2008. Gorska, M. "Projekt KNOWING v přírodních vědách [KNOWING project in the natural sciences]." Presented to the research participants at the biochemistry lab.

24/9/2008. Cervinkova, A., M. Linkova. "Ne/jistota a ne/samostatnost: ustavování akademické dráhy [In/security and in/dependence at the start of a research career]." Presented to research participants in the social sciences.

20/10/2008. Linkova, M. "Freedom, kids and hormones: gendering of success in the biosciences." Presented to research participants in the social sciences.

22/12/2008. Linkova, M. "Science profession as a precarious job: gendering the research career in natural science." Presented to the research participants at the biochemistry lab.

3/5/2007. Cervinkova, A., M. Linkova, T. Stockelova. "Nezapomeňte dávat věci do RIVu': jak souvisí vytváření a vykazování znalostí ve vědě? [‘Don't forget to record things in the Research Result Database': on the relationship between accountability and knowledge production in science]." Project presentation at the seminar series at the Institute of Sociology of the Academy of Sciences of the Czech Republic.

21/6/2005. Linkova, M. "Knowledge, Institutions and Gender: an East-West Comparative Study." Presented to the meeting of Helsinki Group delegates. Luxembourg.

5/12/06 Szapuová, M. Project presentation at the Central European Science Day in Bratislava.

15/09/06. Garforth, L. "Researching, researchers and reflexivity: participant observation and the KNOWING project." Presented at Leeds Social Science Institute workshop on Ethnographic research.

15/02/08. Garforth, L. "The (in)visibilities of research: ethnography, lab life, and what the researcher can't see." Presented at SATSU, University of York, UK.

08/07/2008. Garforth, L. "Communities and careers in academic research: findings of the UK KNOWING project." National project findings presented to participants and social science researchers at seminar.

13/01/09. Kerr, A. "Togetherness: findings of the UK KNOWING project." Presentation at University of Leeds early-career researchers workshop *Doing Collaboration Differently*.

22-24/06/08. Sigl, Lisa and Veronika Wöhrer. Project presentation at the Summer School of the Department of Social Studies of Science/University of Vienna/AT.

05/07/07. Felt, Ulrike. "Epistemic Living Spaces: Multiple articulations/manifestations of knowledge, institutions and gender. A first account of a journey to epistemia", Talk at the Genderkolleg in Essen (Germany).

Ahlbeck-Rehn, Jutta, Anne Kovalainen, Seppo Poutanen. Project presentation at the national level meeting of *the Women and Science – project meeting*, University of Helsinki. 20 August 2007.

Ahlbeck-Rehn, Jutta, Anne Kovalainen, Seppo Poutanen. Several presentations of the project to faculties of the researched university departments. 2006 – 2007.

Media articles

Stöckelová, Tereza, Ondřej Slačálek. 2008. "Bílá kniha není bible (an interview with the Minister of Education on the reform of tertiary education)." A2, 28.

Stöckelová, Tereza. 2008. "Akademický kapitalismus šlape na plyn." A2, 23.

Stöckelová, Tereza. 2007. Jak hodnotit společenské vědy. A2, 50.

Stöckelová, Tereza. 2007. Univerzita jako motor hospodářství. A2, 43.

Stöckelová, Tereza. 2007. I věda představuje riziko: Expertní pravda jako politický problém. A2, 25: 16–17.

Felt, Ulrike. 2006. Interview on the project for the online newsletter of the university of Vienna, at: <http://www.dieuniversitaet-online.at/>.

Student theses

Gorska, M. (2009). Etnografie objektu poznání v výzkumných praktikách: konfigurace materiality, diskursivity a agentnosti. Master thesis. Prague: Faculty of Humanities, Charles University.

Řepíková, Veronika. "Were it not for the post-it notes...": A laboratory leader's day at work. An undergraduate thesis submitted at the Faculty of Humanities, Charles University in Prague, June 2007.

Synergies and cooperation with other projects

28/11/2008. Klinge, Ineke. "Inclusion of sex and gender aspects in biomedical research practices: what are we heading for?." Paper on the GenderBasic project presented at the KNOWING conference *The Politics of Knowing: Research, Institutions and Gender in the Making*. Prague, Czech Republic.

Workshop series "Research on Social Sciences and Humanities: Sharing Experiences and Discussing Methodological Approaches" in Vienna and Prague. Co-operation between the Institute of Sociology of the Czech Academy of Sciences (Prague), the Department for Social Studies of Science (Vienna) and the Department of Philosophy of Comenius University (Bratislava) financed by ASO Brno.

Organisation of three panels "Acting with Social Sciences and Humanities I, II and III" at the 4S/EASST Conference "Acting with Science, Technology and Medicine" in Rotterdam. Cooperation between Veronika Wöhrer (University of Vienna/AT), Katja Mayer (University of Vienna/AT) and Tereza Stockelová (Institute of Sociology of the Czech Academy of Sciences/CZ).

Panel "Dilemmas in researching and representing gender in (social) science: concepts, affects, practices and visions" at the 7th European Feminist Research Conference in Utrecht, organised by Dagmar Lorenz-Meyer (Charles University, Prague).

Kovalainen, Anne, Seppo Poutanen, Ismo Kantola. "CHANGING KNOWLEDGE PRODUCTION: Research communities and networks in the transition period of university and science fields in Europe". Research project, funding to be applied for (synergy).

Poutanen, Seppo. "What are research interviews about? Knowledge claims and epistemic certainty in qualitative methods." Research project, funding to be applied for (synergy).

Poutanen, Seppo. "Feminist social research, sociology and social epistemology: how to develop shared theoretical and discursive space?" Post-doctoral research project funded by Academy of Finland, August 2005 – July 2008 (synergy).

Molyneux-Hodgson, Susan and Morgan Meyer. "Microbial Applications to Tissue Engineering: An Exemplar of Synthetic Biology." BBSRC-funded Network in Synthetic Biology at the University of Sheffield, members of network (cooperation).

Follow-up Dissemination Activities after the end of the project

Publications

(Forthcoming) April 2009. Felt, U. (ed.) *Knowing and Living in Academic Research*. Prague: Institute of Sociology, Academy of Sciences of the Czech Republic.

(Forthcoming) January 2009. Garforth, L. and Kerr, A. *Constructing careers, creating communities: findings of the UK KNOWING research on knowledge, institutions and gender*. Publication of UK National Report findings. To be circulated to participants, UK science policy organizations, and academic networks.

(Planned) April 2009 . Kerr, A. and Garforth, L. 'The Asocial Sciences.' Paper in preparation for sociology journal.

(Planned) July 2009. Garforth, L. and Kerr, A. 'Constructing the postdoctoral object'. Paper in preparation for social theory journal.

(Planned) February 2009. Felt, Ulrike, Lisa Sigl and Veronika Wöhrer. "Together Alone. A comparative study of collective and individual dimensions of research"; planned submission to Science and Public Policy.

(Planned) February 2009. Felt, Ulrike, Lisa Sigl and Veronika Wöhrer. "Disciplining Boundaries. Researchers' Ways of negotiating Disciplinarity and Relevance"; planned submission to Minerva.

(Planned) February 2009. Felt, Ulrike and Lisa Sigl. "Temporal Governance Structures in Research in Different Epistemic Cultures"; planned submission to Time & Society.

(Planned) February 2009. Felt, Ulrike, Lisa Sigl, Veronika Wöhrer. *Living in the Life Sciences*. Summary report of central research findings to research participants/scientific communities in (molecular) biology/(bio)chemistry.

(planned) March 2009. Lorenz-Meyer, D. 'Enacting epistemic communities'. Paper in preparation for Sociological Research Online

(planned) Molyneux-Hodgson, Susan, Morgan Meyer. In preparation. Editorial for the special issue of *Sociological Research Online* on the theme of epistemic communities.

(planned) Molyneux-Hodgson, Susan. In preparation. Paper for the special issue of *Sociological Research Online* on the theme of epistemic communities.

(planned) Meyer, Morgan, Veronika Repikova. In preparation. Paper for the special issue of *Sociological Research Online* on the theme of epistemic communities.

Presentations

(planned) Lorenz-Meyer, D. February 2009. Presentation of Knowing Findings on gender in science to participants in the biosciences

(planned) 04/06/09 Lorenz-Meyer, D. 'Visceral gendering'. Paper to be presented the 7th European Feminist Research Conference 'Gendered Cultures at the Crossroads of Imagination, Knowledge and Politics', Utrecht, Netherlands.

Szapuová, Mariana. 2009. Planned paper "Interviewing scientists about gender: dilemmas and dissonances" at the panel entitled Dilemmas in researching and representing gender in (social) science: concepts, affects, practices and visions (with KNOWING partners) being held at 7th European Feminist Research Conference Utrecht 2009, June 4th-7th 2009.

Szapuová Mariana. 2009. Planned paper "Epistemic communities and situated knowers" at the conference organised by the Department of Philosophy and History of Philosophy, Faculty of Philosophy, Comenius University in Bratislava, being held on 27th February 2009.

(Planned) 19/02/09. Garforth, L. and Kerr, A. 'Constructing academic careers, creating epistemic communities: findings of the UK KNOWING research.' Presentation of UK KNOWING findings at research seminar, School of Sociology and Social Policy, University of Leeds.

(Planned) 13/10/09. Garforth, L. Paper: 'Practice and performance: studying and auditing science.' Paper to be presented to Department of the History and Philosophy of Science, University of Gothenburg, Sweden.

(Planned) Jan-Mar 2009. Garforth, L. Presentation of KNOWING findings to participants in biology.

23/01/09. Outline of PhD thesis by Lisa Sigl that partly draws on empirical data of the Austrian part of the KNOWING project; Poster presentation at the Austrian Academy of Sciences.

(Planned) March-April 2009. Presentation of project findings to research participants in (molecular) biology/(bio)chemistry in Vienna by the Austrian team.

Ahlbeck-Rehn, Jutta. 2009. Planned papers (with KNOWING partners) and presentations (Utrecht, “Fluid Science – Fixed Gender”).

Kantola, Ismo. 2009. Planned seminar papers and follow-up research projects with Anne Kovalainen and Seppo Poutanen.

Poutanen, Seppo. 2009. ‘What are research interviews about? Knowledge claims and epistemic certainty in qualitative methods’. An article manuscript close to submitting; other manuscripts and related conference presentations in the making.

(Planned) Cervinkova, Alice, Meyer, Morgan, Susan Molyneux-Hodgson. 2009. ‘Sitting on/between two stools – on the partial connections between PhD students and institutions.’ Abstract on waiting list for the *Annual conference of the British Sociological Association*. Cardiff, 17-19. 4. 2009.

(Planned) Molyneux-Hodgson, Susan. 2009. ‘Searching for Inge: essential tensions in the pursuit of gender in science.’ Paper to be presented at the *7th European Feminist Research Conference*. Utrecht, 4. 7. 2009.

Projects

Stockelova, T. 2009-2010. Vyjednávání vědních politik ve výzkumné praxi a akademické dráze [Negotiating science policies in research praxis and academic path]. Grant project from the Grant Agency of the Academy of Sciences of the Czech Republic (contract no. KJB700280907).

Project logo

