

## Foreword

In this special issue we introduce a novel topic to social studies of science, especially to studies of gender and women in science: universities and other research organizations as *work place cultures*. While the topic of culture has been intensely debated in the context of the production of scientific knowledge, little attention has been paid to universities and other research organizations as work place cultures. By “work place culture” we mean the largely shared, self-evident, and taken-for-granted patterns of meaning underlying the in- and exclusions of ideas and people in work place activities (Hasse & Trentemøller, 2008; Hasse & Trentemøller, this volume). The special issue aims to understand how work place cultures include and exclude gendered researchers in more or less subtle ways. What kinds of people are likely to have successful careers in science? What kinds of talents, skills, and styles of doing science are marginalized or excluded in science? How practices of inclusion/exclusion shape scientific research as well as the public understanding of science?

We wish to address these questions from a number of angles that have been developed in an international research project funded by the European Commission in 2005-2008 (see [www.upgem.dk](http://www.upgem.dk)). The project examined the relation between gender, science, and culture at universities as work places in one particular discipline: physics. The contributions to the special issue are concerned with physics because in physics more than in other academic disciplines we can find what Sharon Traweek calls a “culture of no culture”. Traweek defines this culture as an “extreme culture of objectivity... which longs passionately for a world without loose ends, without temperament, gender, nationalism or other

sources of disorder—for a world outside human space and time” (Traweek, 1988: 162). To study work place cultures in this context is challenging, but as this special issue shows, not impossible. We found that in physics work place cultures are full of temperament, gender, nationalism, and many other sources of disorder. As can be learnt from the article by Helene Götschel (this volume), culture, gender, and physics are intricately entangled in time as well as in space.

The contributions also share an understanding of gender as a social meaning of sex which gets particular cultural meanings in the meeting with a “culture of no culture”. Gender can be approached as gendered processes in organizations, gendered identities, and socially constructed and contested meanings in science. Women can be seen as “anomalies” in male-dominated environments. The presence of women in organizations can lead male and female physicists either to challenge or to reinforce traditional norms and apparently self-evident connections between male scientists, a particular kind of hegemonic masculinity, and the machines used in physical sciences as is shown in Helena Pettersson’s article (this volume). What women are likely to meet in physics is a culture of multiple masculinities and stereotypes: the nerd (Vainio, 2008), the blacksmith, the physicist as the truth priest (Velbaum, Löhkivi & Tina, 2008), the physicist as the playful boy (Hasse, 2002; Rolin, 2008), the ‘below the surface’ truth-seeker (Hasse, 2008), and the physicist as the warrior Hercules. We found also that the ‘old’ warrior is being challenged by a new masculinity allowing men to engage with their families (Hasse, Sinding & Trentemøller, 2008: 107).

These stereotypes can also be studied in the context of interactive and mental gendering processes and counter-active forces such as gender equality policies. Even though local equality plans often function as counter-active forces to the gendering processes in physics departments, the equality plans do not fully capture the subtle underlying gendering processes that emerged in the empirical data (Rolin & Vainio, this volume). Equality plans need to be developed further in order to address the complex patterns of culture which maintain a masculine image of the ideal worker in physics. Gender equality in physics matters not only from the perspective of social justice; it matters also because gendered practices can restrict opportunities for scientific dialogue and distort the evaluation of scientific competence (Rolin, 2001; 2008).

The contributions in the special issue suggest that patterns of inclusion and exclusions can be challenge—and indeed, are already challenged—by recent changes in the politics of science. Not only do more and more females cross the borders of the “man-machine kingdoms” but the new masculinities challenge the ideals embedded in the old science institutions. “Truth priests” and “blacksmiths” (Velbaum, Lõhkivi & Tina, 2008) are on their way out, and in come devoted mothers and fathers who care about climate change and the future of the planet Earth. The days might be over when a woman’s work has to yield to her family’s needs whereas a man’s family has to yield to his work (Vainio, 2008: 225).

We expect this volume to contribute to the future discussions in science and technology studies of how science, gender, and culture are constantly transforming each other.

Kristina Rolin, Cathrine Hasse,  
Endla Lõhkivi

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