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Women and science: Making change happen

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WOMEN AND SCIENCE IN THE NEW PERSPECTIVE
OF THE EUROPEAN RESEARCH AREA

PREFACE

The promotion of women in science is a key concern in the process of establishing a European Research Area. Not only does the lack of women represent a serious loss of potential in terms of human resources devoted to R&D in the European Union, but it also limits the diversity of research and its contribution to European society.

Listening to the debates of the conference, I realised how much the issue of women's under-representation in the scientific system is linked to something broader and touches upon the need for reforms in the world of science. It is not simply about solving women's problems. It is rather about recognising that the exclusion of women from the scientific system is a symptom of underperformance and inefficiency in the structure of the European research system itself. The systematic disappearance of women from the ladder of the science system implies that something else other than excellence comes into play in the selection process.

Women are agents of change, they are key actors for ensuring reform and progress.

Hence what is good for "Women and Science" is good for science and society as a whole.

How can we ensure a fair share for women in science? We must tackle this challenge with the same rigorous spirit that characterizes the scientific method, because the best convictions can only make progress if they are thoroughly supported through concrete actions. We need a sound methodology based on factual evidence, supported by methods for measuring trends and benchmarking progress.

Co-operation with international bodies, member states and scientific institutions is absolutely vital. The private sector should not be left out of our concern: 60% of European research takes place in the private sector.

I also want to mention that the consensus among the three European institutions, Council, Parliament and Commission, to support the need for enhancement of women's contribution to science is most promising.

Things won't change overnight, but I am confident that if we pool our efforts in the spirit of the "European Research Area", we can deliver change, we can... "make change happen".

Philippe Busquin
Commissioner for Research

nisms of the EU, which does however attempt to harmonize them into workable policies. Again, the ETAN report is a very valuable example of this.

The implication of this is that:

- gender mainstreaming can only work if it does NOT avoid the issue of differences among women;
- the shape of this debate is similar but also substantially different from debates in American feminism about identity politics.
- It also aims at making the discursive production of differences negotiable, that is to say workable.

Conclusion

Although we cannot as yet dismiss the debate universality vs. specificity, the session agreed that the terms need to be redefined rather drastically so as to prevent this debate from acting as a stumbling block on the path that can hopefully lead to a common policy on gender research and mainstreaming.

In this respect, the top priority expressed by this session is to increase the amount and the quality of the fundamental research on gender at EU level.

Science by women: universality or specificity?

V.1.2. HILARY ROSE

City & Bradford Universities, United Kingdom

I very much concur with the synthesis provided by Rosi Braidotti, because what was exciting about the session was the extraordinary differences between epistemological approach, disciplinary formation and yet the measure of agreement, that to discuss these things in the grand abstraction, in the tradition of the enlightenment, was not going to get us too far. We had to historicise. We had to survey those junctions Rosi Braidotti has offered us.

But as a discussant, my job is to open things up, make a little trouble. So let us start.

First of all, there was a very funny contradiction. I read you Rosi: '*Doctor Vidal demonstrated the utter lack of scientific credibility of any arguments.*' This is a paper showing the genetics of intuition. This is published in 'Nature'. This is precisely the same journal we are all invited to worship when we were discussing *Wennerås* and *Wold*. We have a problem, sisters and brothers, we have a problem. If you think that the peer review works for *Wennerås* and *Wold*, how come it is in trouble when it says the genetics of intuition? I think that what it means is this, and we have to take it much more seriously and even my dear Rosi has got it wrong: science is and women, is actually a central fight within science. It is not a fight outside science, it is also a fight within science. And we will need our neurobiologists, because Isabelle Stengers complained beautifully about how there is this persistent biology as destiny in the narrative of maternity in modern science. It is an absolutely standard problem. And it has to be contested. But also she then made a funny remark about how she didn't understand why there was so much genetics. The answer is simple: there are 3 million boxes being spent on the human genome project. If you put the money in one end, out the other comes a certain kind of science. Sorry to be crude!

Now, the other thing is that there is an even worse parasitic science which we will have to contest passionately and we will need every feminist of every discipline that there is to do it. This is the child of socio-biology. Socio-biology was bad enough and was beaten. Now, we have the Schiebinger's happy view that evolutionary theory is good, well done by feminists. There is a huge reconstruction of evolutionary theory taking place that tells us that our — I don't know how many people know the *Flintstones* — but as it were, that this kind of Stone Age 1950s family, is actually how we were in the Pleistocene past. This is serious stuff. It is a big fight in science's culture.

But let me turn away.

First, I want to say how much I welcomed the ETAN Report, because I am a committee pluralist and I think you need to use what theories and methods are appropriate to the task in hand. And the general tone of that report is one of the very careful empirical assessment of evidence, drawing to very clear conclusions for our Commissioner here and his colleagues we hope to adopt and get into place. You only have to persuade the Council and I think that the Parliament will be there.

Logic	VS	Irrationality
Mainstream culture	VS	Feminist culture
The essence of masculinity	VS	The essence of femininity
Equality	VS	Difference
General interests	VS	Specific interests or ghetto

What the question is:

1. It is an open question, which we need to interrogate, historicize and criticise. Prof. Honegger especially pursued this point, joining Dr. Bosch in criticising any monolithic definitions of science. She also called for further advanced research about the disciplines as sub-systems of science and to enquire about the transfer of theoretical models between them. This critical approach is especially important at a time when the crisis of traditional disciplines is open, due to both external challenges and to internal complexities. In such a context, the question of women's contribution to scientific disciplines has to be kept open and women need to be aware of running the risk of being Florence Nightingales to the critical disciplines.

2. It contains the century-old problem, of the pejorative understanding of difference as meaning worth-less-than/ inferiority.

A consensus emerged that difference is the effect of socialization and history; not all that is 'different' about women is necessarily pejorative. A great deal is not. Thus, when confronted with the demands of a scientific career that is tailor-made for men in terms of time requirements, success expectations, mobility and aggressive competitiveness; Stengers asks whether we are going to tell women that they should make all those sacrifices, and why???

3. It is about validating the contribution that women can make to science and to analyse constructively the obstacles they find on their way. This has two implications:

3.1. That we cannot answer YET the question of what a difference, if any, women can make to science- this is analogous to the question V. Woolf asked women writers in the 30's. By now we have enough data to answer it.
As Dr. Varnos suggested, archival research and new statistical evidence are more crucial than ever - we need more data

The 'we do not know yet' line received especially sharp attention in Prof. Stengers's paper, which challenged the epistemic roots of common assumptions of science. This 'not yet' is an unknown, in the mathematical sense of the term, as such it opens up possible hypothesis and fields of enquiry. The worst thing we could do when we are confronted by something we do not yet know is to close down and become rigidly defensive about it. This would hinder a rational progression of the question. Ignorance is the starting point for taking the risk of postulating new hypotheses, to frame new research questions.

- the task for science is to accept them. To do so, we need a social discussion about what kind of scientists we need to construct today. If it is the case that we need to work with indetermined, to take risks and take the challenge of partiality, this amounts to a significant reorientation of the existing scientific paradigms. We know, following Kuhn, that paradigms do not shift unless there is a consensus of the community that allows them to shift.

- Let partially replace at the heart of scientific practice closed objectivity as the central term of reference. If science wants to be relevant to the world of today, it needs to address this challenge.

- Conversely, the task for gender and feminist scholars is to create the conditions of possibility for new insights and modes of production of knowledge. These require collaborative efforts and the good will of a community: they can never be individual efforts.

3.2. That the undecidable nature of the question means that we need to replace the broad question of universality vs. specificity with more specific ones.

4. The more concrete questions will have to do with paradigms, epistemological assumptions and different expectations about the definition, purpose, structure and practice of science. Most of the discussions in this session concentrate on these issues.

On the issue of SCIENCE and its connection to either universality, specificity or neither, opinions differ, as do paradigms and theoretical orientations. The axes along which the distinctions are positioned are multiple, but the following emerged with particular force:

- disciplinary affiliation, especially the division between natural and social sciences
- theoretical disposition
- the fact of being a practising scientist or not
- type of involvement, in and consequently definition of feminist or gender theory

The social construction of main scientific categories such as 'evidence', 'excellence'

Dr. Bosch argued that all these aspects were necessarily underplayed in the ETAN report, which chose to give priority to issues of equality in a socio-cultural and strategic perspective, it is also the case however that this report provides valuable elements to construct bridges across these dividing lines. This is even one of the strongest points of this report. In this respect, the session urged us to pursue the aims stated in the report and to work them out more fully especially in the light of the forthcoming 6th Framework programme.

5. This approach is in keeping with the aims of gender mainstreaming, as stated with admirable clarity in the ETAN REPORT: a mixture of equal opportunities and the transformation of mainstream science Practices, as well as the culture of scientific research.

6. As such, it is an issue that has crucial implications for the EU as a whole and certainly not only for women. This may not be enough to make it universally valid, but it is a concrete and not a general universal (Seyla Benhabib's definition of feminist theory).

7. The need to respect cultural diversity and to reflect a diversity of cultural traditions in the making of women and science. One participant yesterday commented on the subtlety of bias systems of analysis. This issue was raised by Londa Schiebinger: what exactly is the status of difference within European debates on women and science?

The drift of the meeting was that European women and feminists are extremely aware of differences among themselves, especially in terms of culture, religion, tradition, ethnicity, race and their respective impact on the construction of gender.

It was also pointed out that this respect for diversity is crucial to the policy-making mecha-

V.1. Science by women : universality or specificity?

V.1.1. ROSI BRAIDOTTI

University of Utrecht, The Netherlands

The session was extremely dynamic and productive.

It expressed unreserved support for the quality and the quantity of work done by the ETAN Group and all other professionals involved in the 'Women and science' programme of the EU.

It stated explicit satisfaction with the ways in which research by/for and on women is currently being sponsored by the EU and stressed the need NOT to separate these dimensions, rather let them run concurrently and reinforce each other.

The issue of universality vs. specificity was generally felt to be an important question in the sense of being top of the list of the most frequently asked questions about gender and science. The meeting however also expressed strong reservations about the validity of this question.

Dr. Bosch described the question as rhetorical at best, undecidable at worst. She advised us to approach it as a complex, not a one-dimensional question, and to discuss it accordingly. Dr. Vidal demonstrated the utter lack of scientific credibility of any arguments that attempt to base differences between the sexes on biological or neurological factors: the evidence is simply not there. Dr. Vamos argued that only history/future developments, can answer it. Prof. Honegger translated the question into the need to historicize and criticise the role of the disciplines in constructing social expectations about science.

These remarks were picked up in the general discussion and were expanded: it then became apparent that you can go on speaking and disagreeing forever about the cultural codes of masculinity and femininity, and the ways in which they influence behaviour, identity, scientific and other practices. From psychology to psychoanalysis there are simply endless arguments about what the difference is, and why it does or does not matter?

- A consensus was reached in the session about the need to
- avoid generalizations
 - historicise the debates
 - situate the problems and the evidence

What the polarity universality vs specificity is not:

Objectivity	VS	Subjectivity
Science	VS	Gender
Natural sciences/hard	VS	Social sciences/soft
Reason/mind	VS	The other of reason/mind