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'Technologies of Inclusion. Gender in the Information Society'

by **Knut Sørensen, Wendy Faulkner
and Els Rommes**

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REVIEW

"Where previously the Internet was just one more 'toy for boys', their early presence contributed to making the Internet what it is now - a place where diverse users can find information that interests them and meet others who share those interests" (p. 105).

... but without equal opportunities until today - one would add after reading "Technologies of Inclusion. Gender in the Information Society". To overcome the persistence of gender gaps in information and communication technologies (ICT) the book provides an in depth study of strategies of inclusion of specific groups of women and men in Europe. This turns out to be a complicated task. The authors show that not only do strategies of exclusion follow ideologies of gender dichotomies, but so do strategies of *inclusion*. Even more striking, much of the work on gender in ICT since the 1980s reinforces gender stereotypes by applying a notion of gender narrowed down to a normative binary. This encompassing collective reflection on the European study on 'Strategies of Inclusion: Gender in the Information Society' (SIGIS) attempts to change that problem. Performed by 23 researchers across Ireland, Italy, the Netherlands, Norway and the UK between 2003 and 2005 and resulting in 48 studies of

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inclusion strategies, it provides the reader with an understanding of why it is necessary to analyse gender beyond a simplified binary category – and as a powerful structure in ICT. Moreover, the book offers systematic advice on how to contribute to change through multifaceted efforts of theories of gender and technologies of inclusion.

Instead of looking for presumed differences between (all) women and (all) men, the authors make use of gender not in a generalizing, static or stereotypical way, but to understand gender as a structural social category which produces a variety of gender norms, gender identities and gendered practices and results in diverse gendered exclusions from information and communication technologies. Therefore, to investigate inclusion initiatives rather than exclusion mechanisms is a promising strategy. This is argued and theoretically situated in the first two chapters of the book by Knut H. Sørensen. In the following, an overview of each chapter of the book is provided, with more detail where it is helpful to illustrate the special insight of the work. To make the collective effort visible the main author(s) of each chapter are named.

In the third chapter Wendy Faulkner and James Stewart analyse what it takes to reach out to differently gendered and located persons who were identified as digitally excluded within an inclusion strategy "for all". The authors understand users and consumers of ICT as active agents in the diffusion processes of ICT which are described as local and situated domestication processes where symbolic elements are intertwined with material processes. They identify four key inclusion needs: access, motivation, capability and support. Social networks, where local experts, 'early adopters' or 'ordinary people' function as role models for digital inclusion to 'build practices and meanings', make ICTs interesting to the excluded. With an empirical analysis of a publicly funded 3 year community-based ICT initiative to help remote rural communities by facilitating greater use of ICTs, they show how digital ex/inclusion is gendered in diverse ways: if social networks are gender segregated in a specific location one has to take care to include community support workers of all genders. Therefore, they come to the conclusion that digital inclusion initiatives for communities have to start by identifying who is excluded and who can be reached where and included through which strategy.

In the fourth chapter, Els Rommes asks if interactive websites targeted at women have an impact on the co-construction of gender and ICT. She draws on empirical analyses of two non-commercial websites of volunteer sector initiatives from 1996 and four commercial websites in the private sector, launched between 1998-2001. All websites, except one, have been highly frequented until the report was written. Although the commercial women's web magazines designers were partly critical of stereotypes of femininity like 'skinny models' or 'typical housewife', they followed a content strategy of relying mainly on essentialist notions of the interests of affluent and higher educated women like beauty, fashion and health alongside career, finance and travel. Since their expectations of the ICT skills of their target group were rather low, they provided many features which made the sites very easy-to-use. They offered assistance on how to use the Internet through 'assisted self-inclusion' and introduced interactive features. Because these web magazines attracted large numbers of women who had little previous experience of using the Internet, they were successful in including these women in the Information Society. The author concludes: they

"stretched the 'modern woman' version of femininity to include the computer interested and competent woman" (p. 98). The non-commercial websites did not start with presumptions of essential gender differences or try to attract users by stereotypically 'feminine' topics, nor did they perform a comparable amount of inclusion work. They just offered very effective interactive features like a forum and a chat facility and users "taught each other, and gained support and confidence [...] of other women which resulted in a feeling of empowerment" (p. 101), practising 'inclusion through on-line interactivity'. In terms of inclusion needs, the users themselves provided more and more of the motivation, capability building and support, which was initially performed by the producers. Therefore, Rommes concludes that the growth and popularity of non-commercial websites like 'Sensa Maschera' and 'WOW' proves that it is not necessary to use stereotypical content in order to attract women users. Moreover, seen through the co-production framework, these processes changed gender and technology in terms of increasing numbers of technologically competent women and increasing the number of features of interactive Internet frameworks which led to a change in discussion culture on the Internet.

The fifth chapter opens with a critique of research on gender and ICT which has painted a binary picture of boys and men who use computers for having fun versus girls and women who use computers for utility interests. The author, Helen Jøsok Gansmo, argues that the boy/toy versus girl/tool assumption has reinforced computing on the symbolic level as a masculine domain. Moreover, the assumption that girls constitute a homogeneous group distinct from a homogeneous group of all boys led to strategies of inclusion which proved ineffective in supporting girls and women to develop a creative relationship with ICT, to enter higher education in computing and to get a career as a computer professional. She supports her argument with an analysis of three examples. The long term Norwegian initiative to implement ICT in schools worked to demystify the computer and instil basic computer skills. The author shows that the focus of the initiative provoked in the teenagers studied a differentiation between 'boring' school computing and 'fun' leisure computing. Although the teenagers considered the various practices of leisure computing (like gaming, chatting, downloading music) not as exclusively practised by girls or boys, no girl was planning to study computer science. Neither did those interviewed in a study of 'The Gathering', the largest European computer party for teenagers, think of leisure computing practices as exclusively gendered. Gansmo attests that the organizer's major inclusion effort was only partly successful, since in more recent years 15-20% of the participants were young women. The most striking results of this study were the assumed gender differences by the participants: although none of the interviewed participants had knowledge of programming or configuring computers, the participants said that boys were more skilled than girls. Suddenly, a new gender hierarchy opened in the imagination of these young computer enthusiasts: girls were having 'just fun' whereas boys had 'serious fun' with computer use. IT Beat, a UK government-backed initiative targeted at girls, aimed to combine computing with fun and glamour. The girls learned to design a fan website for their favourite pop band and were rewarded by a concert and meetings with glamorous women ICT professionals. The author considers these efforts as successfully challenging the image of computing as fun for boys but not for girls. But, especially in the case of IT Beat, where the focus of showing that ICT can be fun and glamorous and hiding the technology behind it, ran the risk of not nurturing the desire for learning more about computing as

a technology. The author concludes that pleasure in technology is a potential to be encouraged, not a problem to be avoided and demands that it should be available for all. Yet, she considers as problematic, that in the course of domestication of ICTs for fun uses, the phenomenon of the computer as an object of desire in itself has declined and has become just an instrument to do desirable things.

In Chapter 6, Els Rommes continues her analysis of web magazines targeting women, and focuses on the question of inclusive design strategies. She includes in her sample a study on a multinational producer of consumer electronics, five computer game companies located in Norway and the Netherlands and a mobile phone company from Italy. She identifies features present at companies when deciding to develop and market ICT products to women or girls and identifies four main practices: designing from gender stereotypes, I methodology, reflexive I methodology and participatory design. She finds that designing from gender stereotypes runs the risk of reinforcing traditional gender practices and divisions of tasks or missing the target group completely. But since a computer game especially designed for girls may attract boys as well, even this strategy has potential gender transgressing and transforming effects. The I methodology is also problematic when the designer thinks he [sic!] is representing the target group or he is convinced he knows best in terms of what a good design, a good story, a good technology for any user is. The reflexive I methodology was used most commonly when women were asked to join the design team for a product aimed at women or girls. This implied an essentialist gender assumption and proved as problematic as the I methodology as the hired designer made her choices mostly from her own preferences. The author emphasizes that reflexivity has to be based on the desire to find out about the complexity and diversity of actual people, their practices and identities and to access expert knowledge about gender to identify relevant considerations and refine the designer's understandings. Several of the companies studied worked to identify representative end-users and to examine their preferences in special places or through on-line user testing. The feedback influenced design decisions in several cases, but it proved that it remains a big challenge to find out about the multitude of actual and potential users and to become more sensitive to the diversity of wishes, skills and preferences. According to the author, none of the products studied were successful in producing a gender sensitive design or gender transgressive products. Rommes thus suggests more reflection on design methodologies is needed to include a wider range of users and to overcome category politics and gender binaries.

In Chapter 7 Vivian A. Lagesen analyses a comprehensive strategy to include more women as students of computer science by the Norwegian University of Science and Technology in Trondheim. The study successfully increased the percentage of women among first year students from 6% in 1996 to 38% in 1997. The so called 'Women and Computing Initiative' worked to establish an interest among upper secondary school girls in computer science through a counselling and motivation course in mathematics and a 'visibility' initiative including popular lectures which aimed to show that computing is fun. It encouraged young women leaving upper secondary school to apply for the computer science programme. It then persuaded women admitted to accept the offer and provided activities to avoid women dropping out from the computer science programme by creating a community for women, by improving the

learning environment and facilitating student-to-student support. The most important instrument was to establish quotas for the admission of students. This was controversial, but initiated by the pro rector and backed by the wish to take measures to increase the numbers of students in computer science in general. What proved to be problematic was the advertising campaign launched in major cinemas that portrayed a stereotypical image of women in general (to want to work with people) and inaccurate information about computer science (that it is not really about technology). The author explains the success of the initiative by the powerful combination of inclusion instruments leading to a positive 'circle of inclusion'.

In Chapter 8 Lisa Lee analyses the potential of professional networks to empower women working as professionals in ICT and to overcome problems resulting from the minority situation at their workplaces. She brings together the results of studies on one network in Ireland, one in the Netherlands, and two in the UK, all set-up around the year 2000. Lee argues that the networks operate at the same time as 'networks of empowerment' through the activities they offer and as 'networks as empowerment' by the (self-) organizing process itself. The participants interviewed valued the networks for creating communities of people in similar situations for mutual support and solidarity in a situation where gender equality is far from being achieved. They not only become empowered for their individual professional development, but also become agents of change beyond their own career to support other women. In addition, the public presence of these networks challenges the status quo in making women visible as ICT professionals. Because of the bottom-up mechanism of networking, the networks function as a space in which participants belong and feel welcome. The author emphasizes that it is the collective knowledge and energy in those networks structured by high flexibility, transparency and openness that produce the empowerment of women and the experience of inclusion through self organized professional networks.

In Chapter 9 Wendy Faulkner and Knut Sørensen discuss whether women centred inclusion strategies in ICT can contribute to a transgression of gender binaries in ICT. The evidence from the SIGIS studies suggests that this is the case, especially when an inclusion strategy is focussed not only on gender but on specific shared experience, motivation, preference or interest of concrete persons. When people become active in either getting some training in computer use in order to get a job or in finding a network of professionals in an area highly dominated by men or in getting some specific information, 'women-centred spaces' can serve as powerful means for the de-gendering of ICT, as the authors argue. This is so just because 'women-centred spaces' result in a higher number of women entering, remaining, having professional success as well as sharing useful information and pleasure in ICT - even 30 years after some of these initiatives have been founded. On the other hand, the authors conclude, when for example marketing strategies of programmes or ICT products are developed from gender stereotypes as presumed ideas about what 'girls in general' or 'women in general' are or want, gender specificity does not meet the feminist aim to overcome gender specific discrimination and establish equal opportunities but instead reinforces gender inequalities in the long run, on the symbolic as well as on the material level of ICT.

In Chapter 10 Knut Sørensen asks what digital inclusion strategies are made of in general and differentiates elements of an 'anatomy of inclusion'. In an attempt to overcome 'deficit models', 'discrimination models' as well as 'negative image models' of exclusion, he offers a classification of inclusion instruments based on inclusion needs. The author stresses the need for reflection of inclusion instruments as 'technologies of inclusion' depending on the persons who are intended to be included, in what ICT field, in what role (designer/user/student) and in what kind of environment. Technologies of inclusion may encompass the provision of local experts, of assisted self-inclusion, of shared fun with ICT, of design methodologies, of positive circles of inclusion, of women-centred spaces and of the double articulation of content and community.

In the final chapter Els Rommes, Knut Sørensen and Wendy Faulkner discuss their approach to show what works in practice to challenge inequalities between men and women in ICT. Through the lens of co-production of gender and ICT they ask to what extent the widespread use of gender stereotypes in the making of inclusion initiatives could be overcome. The authors ask if ICT works as a technology of inclusion in itself and conclude that it rather must be understood as a trickster in the sense that to some extent it is helpful to achieve the desired inclusion and to some extent it is not. Although they hold that the outcome of inclusion activities cannot be predicted with certainty, they see possible ways for the integration of ICTs into women's lives and the integration of women into the study and design of ICTs and how this can contribute to eliminating the reproduction of inequalities between women and men, to the questioning of binary thinking about gender and ICT and to the empowerment of women.

In the end, only few questions remain: Does this study show, that even in those European countries believed to represent, more than others, equal opportunities to all genders, ICT spaces and ICT activities are still structured by androcentrism to such a degree that many women prefer to organize access, motivation, capability, support - and fun (!) with other women and for their empowerment to compete with their (men) colleagues? Is cyberfeminism really about gender essentialism or rather about the exploration of queer and transgender strategies of empowerment (see for example Reiche & Kuni 2004)?

In a very remarkable way, this book has set new standards regarding the research on policies of gender in the Information Society. It offers rich empirical analyses, thorough theoretical reflection and helpful policy advice for everyone striving to make ICT a place for all genders equally - and for those doing research on it.

REFERENCES

Reiche, C. & Kuni, V. (eds.) (2004), *Cyberfeminism. Next Protocols*, New York: Autonomedia.