

# Masculine World Disguised As Gender Neutral

TARJA KUOSA

*University of Tampere-mail: tarja@cs.uta.fi*

**Abstract:** This paper describes the masculine bias in the computing profession through an analysis of computing professionals' speech. This paper is based on empirical material that contains the visions of the future of 24 computing professionals. On the surface these visions seem gender neutral. However, as these visions are analysed in depth, it becomes clear that they describe the male world where women are seen as a problem.

## 1. INTRODUCTION

From its beginnings, the field of computing has been male oriented, and the acting models and norms created during the first decade of computing are still in place. This bias will be explored through an analysis of descriptions of future computer use within countries - the Netherlands [13] and Finland [17].

The documented history of computer science depicts a victory achieved by men. One might infer from this that women did not play an important role. In reality women made significant contributions in many areas [5].

Nevertheless, a clear connection exists between computing expertise and masculinity [11]. Examples of this are easily found: In computer science (CS), it is harder for women to be promoted in their careers. In the USA, for example, only 5.7 % of full professors were women in CS in 1993-94 [3]. CS journals that describe the culture of the field, like the Communications of ACM, chose authors to write essays on future technology. Few women are invited to contribute [9].

In this paper, I will analyse the masculine bias in CS from the perspective of computing professionals. This will provide information about what sort of

things computing professionals analyse about their work and what they take as given ('this is the way things are always done'). Both categories contain a bias that can affect their actions. For example, it can affect how they filter information and the alternatives they consider. The main purpose of this paper is to determine if computing professionals have any gender bias in their thinking-models.

This paper is based on empirical material, including interviews in which computing professionals describe their visions of the future. When I analysed their visions from a gender perspective, I found that on the surface they seemed gender neutral but, as I analysed them in depth, their masculine bias appeared. This interpretation strengthened as I studied the ways in which women are described in the visions. I will also outline some problems caused by this gender bias.

## 2. EMPIRICAL STUDY

This paper is based on empirical material collected in 1998. I interviewed 24 Finnish computing professionals and asked them about their visions of the future. The interviewees were managers, authors, and experts of Information and Communication Technology (ICT) or Information Systems (IS). Of the interviewees, 15 of them were men and nine were women, their ages varied from 22 to 58, and they lived in different parts of Finland.

At the beginning of the interview, I told the interviewees about myself. I am a researcher at the University of Tampere, and I am working on a project on information society in which we studied evolving forms of working life. I explained that I studied CS and worked as a designer in a software house, with the intention that they would understand I am a researcher and at the same time, their peer.

During the interviews I requested basic information about their education, age, and work experience, after which we discussed the future of CS. The themes of the future discussed included: user interfaces, ICT, and the changes occurring in people's lives, organisations, society, and the global situation. I asked open-ended questions and the interviewees themselves determined the progression of the discussion and to what extent the themes were explored.

I asked to hear their personal visions of the future and not those of the company. As skilled professionals, I believe they answered me in this context. So their visions described the culture of the computing field from a broad perspective.

### **3. GENDER NEUTRAL DISGUISE**

At first glance, the visions of the future do not seem to have anything to do with gender. They deal with things, technology, habits, and people. In the descriptions it was important that people used the technology, but it was irrelevant what sex they were.

For example, interviewee #11 is a 50-year-old male manager. He was asked how individuals' lives might change in the future. He answered:

“It’s hard to imagine. Of course, now that the mobile phone is used daily, now that it has become such an everyday tool, let’s take a practical thing, you’re in a strange city and wanna meet someone and fix a meeting place, but you can’t find the other person, so don’t need to keep wondering for long, you can just take your mobile, call this person and ask: ‘where are you now?’ and so you’ll find each other right there and then.”

His answer represents the typical way of speaking in the interviews. The visions describe things and actions that are gender neutral. The way of speaking is also neutral. The interviews were conducted in Finnish, and the language makes it easy to hide the gender, since the Finnish language does not differentiate sexes.

Occasionally, situations are not as gender neutral as they are presented in the visions, as is the case with the next quotation. It is taken from interview #14. The interviewee is a 50-year-old, male consultant. In the following quotation, we discuss the combination of the television and the Internet. Through (Internet) television, people can watch whatever they wish. The normal practice is to register in a ‘viewer service system’ before one starts watching. According to the interviewee there are situations when anonymity is needed and desirable. As an example he mentions watching pornographic films:

“Sometimes it might be useful that as you turn the television on, the television set will probably ask whether you want to be registered in the viewer service system. This is the simplest way. I think it’d be good, ‘cause when you want to watch bare skin, then nobody else will know that you watch it, so you do not have to log there.”

The words used do not reveal the sex of the watcher of pornographic films. Watching them is brought up as an action people normally engage in and as if there were no differences between sexes in the watching of pornographic films.

In the visions, the typical way of talking is gender neutral. Among the 24 interviewees, there was only one exception that clearly brought up sex and gender. This was a young woman (interview #17). She is a CS student

working in a temporary position. Her vision differentiated between women and men - she focussed on her own gender. She told me about the problems she faced being a woman in a male environment and how she survived in that situation. For example, on the Internet, as others noticed there was a woman on the chat group, questions could be asked such as "what is your bust measurement?" To avoid this, she sometimes used a male pseudonym or "a male net identity", as she put it.

The computing professionals' gender neutral way of talking can be connected with two things. First, in the Finnish society, heated, public or political debate on gender and gender equality seldom occurs [6, p.24], although people know there are differences between women and men on the societal level. Second, gender issues are efficiently hidden in work organisations [8, p.152]. Gender is not perceived to matter in everyday working practices, on the contrary it is thought that, on the organisation level, people are individuals who are free to act as they choose [7]. Computing professionals also think along these lines.

Why is it so important to study gender when professionals do not give it any importance? Bjorkman et al. [2, p.55-56] give an answer: "By creating a community of genderless 'computing people', where the function of gender and power is hidden, and indeed regarded as irrelevant, women are effectively excluded." This means that women are allowed to enter the profession as long as they behave like men [14].

#### 4. A MASCULINE WORLD

The visions of the future are presented as gender neutral but, as they are analysed more closely, their male bias gradually appears. The following example is an extract from interview #24. The interviewee is a 50-year-old male consultant. In this extract, we discussed the changes that might occur in people's lives in the future. He discussed two trends. First, people use computers as tools. A typical example is the telephone net that is used for talking to other people. Second, people are spending more and more time with the machines. A typical example is playing Solitaire in Windows. He explained why people pass the time with computers by using an example of virtual reality:

"Everyone can move into one's own virtual reality and live there alone, being an emperor in one's own virtual world, and all virtual subjects do everything they can to please their emperor."

I analyse the structures the quotation describes. It deals with control and power. It talks about creating a world of one's own where the creator has an

unlimited freedom to decide what the world will be like. The most remarkable feature of this world is the fact that the regime is hierarchical and that the creator is located on the top of the hierarchy and controls everything. The quotation describes hierarchy, power, and control. All these structures are masculine [4].

Hierarchy and control can be seen in many systems development methods, since they have been the very goal for the first methods designed. Computing pioneers developed a systems development method that aimed to bring order and control to design work [15, p.17-20]. However, hierarchy and control are not the only way to develop information systems. An alternative model is based on socio-drama and it is useful for analysing users' needs. Vehviläinen describes how this model differs from typical systems development models:

“Experts are not above workers. Social reality is understood rather than controlled. There is room for various perspectives in the social drama. The process is very social - negotiating rather than mastering. It is democratic and could even be feminist” [15, p.19-20].

This section is based on an extract from interview #24. It is remarkable because it describes the thinking models that he uses when speaking as a computing professional. Within this context he, as most of the other interviewees, takes examples from a masculine world. In these examples, in addition to hierarchy, army and violence are also mentioned.

## **5. WOMEN AS A PROBLEM**

The image of a masculine world became clearer as I analysed the way women were described. Women were seldom talked about and when they were mentioned, they were described as passive people who could not use ICT. As an example. I take a quotation from interview #3. The interviewee is a 30-year-old male manager. In this extract we discussed electronic commerce, that is, shopping via the Internet, and how it could become more popular.

“For this it is required that the purchase transaction and sales transaction will be changed. At the moment there are these services, by means of which you can order and buy in the Internet all kinds of stuff. They're developed for a special kind of person and these special kinds of people are unfortunately such a small minority...I cannot imagine that my mum could buy books from amazon.com through its present user interface.”

The interviewee talked about young male engineers who were familiar with new technology - he himself belonged to that category - and he mentioned his mother as an example of the opposite. His mother was mentioned as if she represented something –a normal older woman. This older woman is not familiar with computer use or other new technologies. She probably would have liked careful guidance and a human tutor. New technology is not developed with this type of learning in mind; instead new things are learned through trial and error. This is considered the normal practice everywhere in computing culture, for example, in computing professionals' education [18, p.170-175]. Berners-Lee et al. [1, p.76] recommend it for learning to use the Internet: "If you haven't yet experienced the web, the best way to find out about it is to try it."

'Women are helpless when it comes to technology' is the common view in the interview material. However, in reality, this is not the Finnish situation. According to the statistics of Finnish working life, 52% of the women in the oldest age-group (age 55-64) used ICT at work in 1997, and on an average women used ICT a little more often than men [10, p.145-148].

The interview material included only one exception where women were not depicted as technologically helpless. This was the interview with the young woman mentioned earlier. In her vision she talked about women as capable beings -although not in the capacity of computing professionals, but as mothers. As an example of people for whom the Internet might be useful she mentioned nursing mothers. However, In another interview (#21) motherhood was depicted as a special problem. In this case, the interviewee was a male manager over 30. His view of mothers' abilities was a complete opposite to the young women's view described above. He discussed with the rapid change occurring in ICT field. "If I were a woman and would take a maternity leave, it would be a great shock to return. How could I keep my knowledge up-to-date during that time."

His statement recognises the rapid pace of change in technology. In Finland maternity leave last usually approximately ten months. However, another way to interpret the quotation is to analyse it from a gender perspective using a cultural approach. In this case, I interpret it as follows. It is very hard for women to work in the computing field. Especially when women have babies, and that is what women do. So women are seen only as mothers, and this is not what computing professionals are. Womanhood is seen as an unsuitable feature for a computing professional. If there are women in this profession, they should act like men. With this interpretation, this quotation confirms the view that I described in the previous section, according to which the computing field is a male area.

## **6. DISCUSSION**

I described the gender aspect of computing culture through computing professionals' visions of the future. At first glance, the visions appear to be gender neutral. Computing professionals see gender as an irrelevant thing in working life, so that in their role of professionals, they hide gender in their speech. In the Finnish language it is easy to hide the gender since the language does not differentiate the sexes, for example, the same Finnish sentence can be translated as 'He needs e-mail in his work' or 'She needs e-mail in her work.'

However, when the interviewees' visions were analysed in detail the gender-neutral disguise disappeared. The visions described a masculine world; examples were usually taken from the male culture and masculine world, and women were depicted as problems.

As the computing field has a masculine bias, it is not easy to work there if you are a woman, thus there are few women in this profession [17]. In Finland, the technology sector, including mobile phones, has grown quickly in the 1990's, and it is expected to keep on growing [12]. So, at the moment, there is shortage of computing professionals. While there may be a great potential resource of women to fill the shortage, because the culture of the CS excludes women, few women seek this profession. There has not been any change for the better: in the 1970's, 30% of CS students were women, but in the 1990's the proportion of female CS students has declined [17].

According to the interview material, male and female computing professionals alike adopt the masculine culture of the computing profession. It creates problems for the computing field, as well. In addition to the shortage of computing professionals, at least some systems design might have been improved if the underlying beliefs within IS development were different. I have in mind the IS for fields where workers are almost exclusively women, for example, office workers [14, 16].

A miracle cure to change the masculine bias in the computing field does not exist. A first step could be making the underlying thinking models about people visible.

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