Women and AI

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It is now a well-known fact that the number of girls studying computer science at universities and polytechnics has dramatically fallen during the last few years. The stark reality is that, of all the students entering universities to read computer science, the percentage of women fell from 25 per cent in 1978 to 11 percent in 1985. Recent figures show no sign of any upturn in this trend. These figures should be set against the background of increasing government and public awareness of an IT skills shortage, and the relatively successful national initiatives to encourage girls to consider careers in science and technology. A more detailed account of these trends and a discussion of possible causes can be found in our paper 'Where have all the girls gone?' [1]. Indications are that courses with a substantial Al content, both undergraduate and postgraduate, are having no greater success in attracting female students.

These startling statistics have a number of serious implications for the future of computing and computer-related research. Future generations of managers and decision-makers in the computing industry will almost solely be composed of men. Women may enter the computing profession through other routes but are unlikely to achieve high-ranking status in competition with people who have been formally trained. This will result in fewer and fewer female role models to influence future generations of women and the direction of research in the profession will lack a feminine perspective. This will also apply at the highest levels of decision-making in government and advisory committees.

How will this affect the world of Al? As a discipline, Al draws very heavily on computer science expertise. The programming languages in which artificial intelligence programs are written, the machines on which they run, the graphics which make them attractive to the user, all emerge from the realm of computer science. Many AI researchers come to the subject from such a background. It is quite feasible to argue therefore, that the low number of women in computer science will result in a correspondingly low number of women in AI. If this is the, case, the effect on AI research could be more profound than on computer science research in general. This is because the kind of qualities that are important to the Al community in particular, are often found in women: for example, attention to detail, organisational skills and the ability to communicate easily and effectively. A good illustration is the field of knowledge acquisition which is an important branch in the area of expert systems. Although it is not necessary to have a formal training in computer science in order to work in the area of knowledge acquisition, experience has shown that it is difficult to become an expert without a wider understanding of the systems and tools to be used.

On the other hand, AI probably has more women in key roles and in the public eye than any other branch of computer science. Many of these women have come to AI through other routes; for example from philosophy, psychology or biology. It could be argued that AI will continue to attract women from subject areas other than computing, but it may be that the dramatic fall in numbers of girls interested in computer science has much wider implications. Indeed we may find that we have produced a generation of women who will want to have nothing to do with computers for the rest of their lives.

The women already established in AI today were attracted to the subject before computers acquired their macho image. At least they had not been put off using computers whilst at school.

It is too early to say whether this scenario is actually the case. What we can say is that the image of computing has reached a very low ebb amongst girl school-leavers and that this will without a doubt have a knock-on effect on the number of people choosing computing or computer-related careers. This must have an effect on the AI community if only in the fact that the pool of possible researchers will be smaller. At worst, it will starve AI research of the particular skills that women can offer. There are a number of publicity and research initiatives beginning to emerge this year in order to find both short-term and long-term solutions to the problem. These will involve finding reasons why girls are dissuaded from careers in computing, and finding ways to attract them to the subject. Ironically, one way might be to increase pupils' awareness of Al and AI techniques because this is one of the aspects of computing that is most likely to appeal to girls.

REFERENCES

1. Lovegrove. G.L. and W. Hall (1987). Where Have All the Girls Gone? *University Computing*. December. 207-210.