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Women & men in computer cartoons from *Punch*: 1946 to 1982

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Abstract

Investigating the presentation of women and men in mass-media cartoons involving computers can help to elucidate the reproduction of social conceptions of gender roles in technology use. Here, analyses of 211 computer cartoons from *Punch*, from 1946 to 1982, are discussed. Cartoon genres for human/computer relationships, unemployment and marriage broking, and explicitly sexist cartoons are considered. Overall contents analysis suggests that, in computer cartoons of this period, women are less well represented and more passive than men.

Keyword codes: K.4.2; K.7.1; K.2

Keywords: Computers and society, social issues; The computing profession, occupations; History of computing

1 INTRODUCTION

Computing is marked as a technological discipline with the traditional imputation of maleness. Women have worked with computers since their inception but have often been employed in stereotypical subordinate roles to do with data preparation, keyboarding and machine minding. Those who try to advance within male oriented institutional hierarchies face well documented discrimination in working conditions, pay and promotion prospects. Today, strong attempts are made, in the UK through organisations like WISE and WIC, to present computing as potentially gender neutral and to encourage actively women to study and work with computers. None the less, computing is still perceived broadly as a male area, and participation rates of women in computing education and employment remain low.

Computing is a relatively young discipline and most people had little contact with or conception of computers prior to the mass computer use enabled by microprocessors. Thus, media images played a crucial part in shaping social attitudes to computing. Cartoons are a potent source of information. As forms of jokes they depend on internal dissonances for humorous effect and often attempt explicitly to highlight or play on fears and misconceptions about their subject (Mulkay, 1988). For a new, unknown area, the effect is to construct and reproduce those fears and misconceptions. Furthermore, cartoons, like all pictures and texts, are situated within broader social contexts which are taken for granted by the artist and audience: where cartoons do not challenge those contexts they also implicitly reproduce them (Williamson, 1978). Hence, analysis of cartoons involving computers, in particular through

looking at the presentation of women and men within them, may help to identify how broader attitudes to computers are formed and perpetuated.

Punch was a humorous weekly magazine, which was founded in the UK in 1841 (Orme, 1985a) and closed in 1992. Originally, it was a radical publication but quickly became an apologist for reactionary establishment interests, promoting for example fierce hostility to women's suffrage, appeasement of Nazism and an at best patronising attitude to foreigners and the non-white subjects of the Empire. In its heyday after the Second World War, Punch had a circulation of 200,000 and a much wider readership (Orme, 1985b): in the UK, Punch was redolent of doctors' and dentists' waiting rooms. As well as light hearted articles on topical issues, Punch also carried several dozen cartoons in each issue. Thus, Punch is an excellent source for tracing the development of social images.

This paper is based on analysis of 211 computer cartoons which appeared in Punch between 1946 and 1982. The following sections present focused consideration of a number of genres of computer cartoon followed by an overall contents analysis of all the cartoons. Cartoons discussed in detail are in Appendix 2. All the cartoonists are male.

2 WHAT'S THE JOKE?

In analysing cartoons, it might appear crucial to identify who or what is the butt of the joke. However, a cartoon is not neutral and absolute: rather, its effects depend upon the reader's world view. Hence, a cartoon which is funny from one perspective may not be so from another. The butt of a cartoon is often ambiguous and one may identify butts which the artist did not intend and which are not apparent to some readers.

Consider for example cartoon 1 (Punch, 1967b). Is the butt the man at the desk, whose sexist dreams are about to be shattered? Is the butt the computer, which lacks stereotyped feminine attributes? Certainly, the boss appears to have rumbled a source of inefficiency but is that source simply the lecherous man at the desk? Is the butt women office workers, who distract men from their jobs? The cartoon's implicit context is one in which women are only valued by men for their looks and it is appropriate that they should be deskilled and replaced by computers.

In the following sections, three classes of computer cartoons are analysed to try and tease out the implicit sex role assumptions they embody. Cartoons in the first group all deal with the relationships between people and computers. Those in the second group are concerned with unemployment. The last group are to do with computer dating. Finally the uses of computer cartoons in manipulating or denigrating women explicitly are discussed.

2.1 Human/computer interaction?

People have been puzzled by the nature and potential of computers since they were first developed. In particular, deep fears have been voiced by non-specialists about the supposed intelligence of computers and the degree to which they may rival, supplant or control human beings, fuelled in part by the wild speculations of not a few Artificial Intelligence acolytes. Many of the computer cartoons reflect these concerns.

Early cartoons often engage with the threat from computers' superior abilities, for example showing a man smashing a computer because "It knew too much!" (Punch, 1956) or unplugging one to affirm that "Without me, you're a nobody, see!" (Punch, 1963b). Similarly, a man kowtows before a computer: his colleague suggests that "Smithson's on to something pretty big!" (Punch, 1964c). Other cartoons are more thoughtful: thus, a male office worker speculates that "...you and I are only as good as the data fed into us." (Punch, 1964a).

A few cartoons touch directly on the possibility of emotional dimensions to human/computer relationships. Cartoon 2 (Punch, 1963d) suggests a gentle reciprocity between a man and his machine, much like that between master and pet. In contrast, in cartoon 3 (Punch, 1978a), the only one to show women scientists alone using a computer, the device has apparently received male socialisation and seeks a legally sanctioned relationship with its tender.

Cartoon 4 (Punch, 1977) provides a new twist to an old joke genre involving a woman objecting to a man spending more time at some activity than with her, for example playing golf or drinking or watching television. Here, however, the implication is that the man can have a relationship with a computer that is equivalent to that with a woman, rather than simply taking part in individual or social activities which exclude her.

2.2 It's more than the job's worth...

Throughout human history, new technology has been introduced to reduce labour costs and there is a long established genre of cartoons about technological deskilling and redundancy, for which computers provided a new focus. Some cartoons again pick up computers' supposed superior abilities: for example an early cartoon shows a computer firing a male employee (Punch, 1958). Often however, the computer is an excuse for an employer/employee relationship joke with bosses gleefully announcing redundancies as a result of computerisation. For example, three men and a woman are told that "You're being replaced by one big, happy computer." (Punch, 1966) and five men are informed that "...because of last year's profits, we will be able to buy a machine that will replace five men." (Punch, 1978b).

Employer hypocrisy is aimed at men and women but in different ways. For example, as a new computer is wheeled in "Mr Gantry" is told "...we're at a loss to know just how we're going to replace you." (Punch, 1965b) as if his intellectual qualities are respected. In contrast "Miss Price" hears that the boss will be "...looking at a computer...but seeing you." (Punch, 1964d): as in cartoon 1 above the woman's physical attributes are more significant than her skills.

Employee reactions to male and female unemployment also differ. Thus, two men in a computer room muse on the absence of "...old Fred...And Jim, Sandy and young Murphy..." (Punch, 1963c), and the loss of male camaraderie. However, in cartoon 5 (Punch, 1980), it is again assumed that women are only employed to fuel male sexual fantasies.

2.3 Blind date?

One of the more visible effects of the cheapening and widening availability of computers in the mid-1960's was the development of computerised dating and marriage agencies, which sought to bring a pseudo-scientific gloss to the centuries old traditions of arranged introductions and betrothals. This spawned an original genre of computer cartoons in which women's computer use is acceptable and computers' abilities are substantially more equivocal.

16 cartoons about computer dating appeared between 1966 and 1982, including 6 on a full page in May 1967 by Thelwell (Punch, 1967a). Of the 16, 5 show people using a computer to help a client and in 4 of these the consultant is female. For example, cartoon 6 (Punch, 1972) shows a woman interrogating a mini computer whose previous selection has not satisfied either the male client or his outraged female assailant. This preponderance of women computer users probably reflects the popular belief that match making, like all matters emotional, is a female realm: indeed, in many cultures women play a crucial part in marriage broking which has fundamental implications for the financial as well as matrimonial futures of the participants.

In the cartoons, the computer is apparently no more successful than people at predicting interpersonal compatibility: in 9 cartoons the computer is blamed for an unsatisfactory liaison. In 3 cartoons, people are unhappy because their new partners are identical to themselves, either in looks or in habits: casting doubt on the simplistic algorithm of matching similar qualities.

Once again, the cartoons tend to reflect traditional attitudes and stereotypes. An unhappy woman assaults a computer with a rolling pin (Punch, 1967a). A man in a pub regrets failing to program "for her mother" (Punch, 1967a). A woman is rejected because she isn't "blonde, willowy and 19 years of age" as the computer claimed (Punch, 1971). Overall, though, in these cartoons women and men are equally the victims of computers or the butts of the jokes.

2.4 Me? Sexist?

A small number of computer cartoons are starkly misogynist, with men either using computers to manipulate women or employing associated stereotypes to denigrate them. Cartoon 7 (Punch, 1963a) shows an nasty reworking of Pygmalion reductionism. Cartoon 8 (Punch, 1965a) illustrates another sexist male fantasy: the woman's resolve melts and her "irresistible" seducer's machine records another conquest. Similarly, in cartoon 9 (Punch, 1982) the man is primarily concerned with monitoring his "progress" on a micro-computer. Cartoon 10 (Punch, 1975) suggests that women with technological or numerate careers are indistinguishable and nondescript. Cartoon 11 (Punch, 1981) is particularly ironic given that the vast majority of word processing is carried out by women: the assumptions here are that word processing is technological and therefore a male activity beyond the comprehension of women.

The most explicit attack on women's computer use is in a 2 page article (Punch, 1964b), stimulated by a course at York Technical College on the "mechanical office" and a London County Council conference on training for "new-look office" workers. The article takes the form of a magazine called "Auto-sec". The first sub-article is about appropriate fashion for working with computers. A strip cartoon then shows two women discussing Jenny who is "...always staying late with that new machine. She ought to go out with boys more often." Apparently, "...she's fallen for it in a big way." The next sub-article is a "true-story office romance" entitled "Was I learning to care for a machine?", illustrated with a computer in a heart shaped thought bubble above a woman's head. The small adverts include an IBM1401 magnetic tape unit seeking a "PERSONAL OPERATOR (Female)" and the offer of a miniature conductor attached to a rose-coloured garter to avoid nylons crackling from static. Finally, a photo shows "Miss Disk Storage 1964" who was "unanimously elected by British computers, after they had been fed data of over 40,000 girls. Her hobby is calculating the chances of her premium bonds: her favourite film star, Son of Frankenstein". It is impossible to tell what readers made of this sustained ridiculing: note, however, that a 25 year old in 1964 could be a 55 year old decision maker today.

3 IT'S A MAN'S WORLD...

A contents analysis was carried out of 211 computer cartoons from Punch between 1946 and 1982. Dines-Levy and Smith (1988) performed a similar analysis of sex cartoons from Playboy. Their emphasis was on the differing sexual representations of men and women in the cartoons. Mathews and Reifers (1984) surveyed American computer cartoons without content analysis. Here, the focus is on the presence or absence of men and women in computer cartoons, their roles within the cartoons and their forms of interaction with computers and with each other. Note that cartoons involving robots were not included.

First of all, Table 1 shows an overall summary of the cartoons with totals in 5 year groupings, apart from 1946 to 1952. The first column shows the number of cartoons to appear. The second and third columns show the numbers and proportions of cartoons with male and female actors. Note that many cartoons have multiple actors: hence proportions do not sum to 100%. The fourth and fifth columns show the numbers of male and female actors:

cartoons		with men	with men%	with women	with women%	all men	all women
46/52	1	1	100.0%	0	0.0%	1	0
53/57	11	9	81.8%	0	0.0%	20	0
58/62	15	14	93.35	2	13.3%	40	2
63/67	57	47	82.5%	15	26.3%	108	20
68/72	24	22	91.6%	7	12.3%	45	7
73/77	40	29	72.5%	6	16.0%	60	17
78/82	63	56	88.3%	25	39.7%	138	34
totals	211	178	80.1%	55	26.1%	412	80

Table 1: numbers of cartoons by year and human actor gender

The first cartoon involving a computer appeared in 1946 (Michaelson, 1986). The first cartoon with a woman appeared in 1961. By then 20 cartoons had appeared of which 17 involved men. In those 20 there were 33 men and one woman.

There was a big increase in the number of cartoons in the mid-60's. This was the period of the 1964-1970 Labour Government which promoted heavily social development through technological innovation. It was also when manufacturers started to develop ranges of computers of consistent functionality and varying price/performance, for example the IBM 360 and the ICT/ICL 1900: the prices of computers began to drop and computer use grew substantially. The proportion of women in computer cartoons rose in this period, reflecting primarily the use of computers in dating agencies.

The increase in the early 80's reflects the start of mass computer use through the introduction of microprocessor technology. Once again, the proportion of women in the cartoons rose in this period, reflecting in particular increasing word-processor use.

Roles were assigned to each male or female actor in each cartoon based on dress stereotypes and activities. The main roles are that of scientist (white coat/bald head/beard/glasses), office worker (suit/at desk/in office), worker (boiler suit/flat cap/manual work/service work) and individual (at home/client/in street). Other roles include analyst, child, criminal, educator, entertainer, monarch, military, mythical, police, pupil and religious. There were far less female than male roles. Table 2 shows the main male and female roles by number and proportion:

	male	male%	female	female%
individual	49	11.9%	32	40.0%
office	148	35.9%	21	26.3%
scientist	86	20.9%	6	7.5%
worker	31	7.5%	13	16.3%
other	98	23.8%	8	10.0%
total	412	100.0%	80	100.1%

Table 2: numbers of cartoons by human actor role and gender

The scientist and office roles imply generally that the actor is making direct use of a computer in a cartoon.

Finally, the interactions between actors and computers in cartoons were analysed in terms of talking (i.e. for a computer through paper or paper tape output), listening, communicating (i.e. talking and listening) or thinking (i.e. thought bubble). Table 3 shows the number of cartoons in which different types of actor interact in different ways. Note that in some cartoons actors do not interact:

	total	listener	talker	comm.	thinker
computer	28	3	21	2	2
female	44	22	17	4	1
male	220	106	103	9	2

Table 3: numbers of interactions by actor and interaction type

Table 4 shows the number of cartoons in which male, female and computer actors appear as interactors and that number as a proportion of the number of cartoons with such actors:

	total	interactors	%
computer	169	27	16.0%
female	55	37	67.3%
male	178	137	77.0%

Table 4: numbers of cartoons with interactors by actor

Each individual cartoon was also classified according to its pattern of actor interactions. The number of occurrences of each pattern in the whole corpus was then found. Appendix 1 shows all interactions. Table 5 shows the most significant patterns of interactions (i.e. more than 1 occurrence) for men and women as numbers of cartoons and as proportions of cartoons with such actors as interactors:

C = computer (s); M = man/men; W = woman/women; c/l = communicating/listening

M talks to M	73	53.3%
M talks	13	9.5%
W talks to M	11	8.0%
M talks to W	9	6.6%
C talks to M	7	5.1%
M talks to M & W	5	3.6%
C talks to c/l M	4	2.9%
W talks to M & W	3	2.2%
M listens	2	1.5%
M talks to C	2	1.5%
M thinks	2	1.5%
other	6	4.4%
total	137	100.1%

Table 5a: numbers of cartoons with typed male interactions

W talks to M	11	29.7%
M talks to W	9	24.3%
M talks to M & W	5	13.5%
W talks to M & W	3	8.1%
C talks to c/l W	2	5.4%
W talks to W	2	5.4%
other	5	13.5%
total	37	99.9%

Table 5b: numbers of cartoons with typed female interactions

To summarise, men appear in three times as many computer cartoons (80.1%) as women (26.1%). A higher proportion of men (56.8%) than women (33.8%) appear in roles like scientist or office worker which involve interaction with the computer. Indeed, this may underestimate women's passivity in cartoons: female scientists and office workers are often watching their male colleagues. A higher proportion of men (77.0%) than women (67.3%) interact in the cartoons in which they appear. Overall, individual women appear as listeners (22/44) more than talkers (17/44) whereas individual men listen (106/220) and talk (103/220) the same amount. Of cartoons with male interactors, 74.5% of significant interactions show men talking: in comparison, of cartoons with female interactors, only 43.2% of significant interactions show women talking.

4 CONCLUSIONS

This analysis appears to confirm the stereotype of women's lack of involvement with and passiveness in the context of computers. However, it is important to remember that these 211 computer cartoons were published over 36 years and formed a very small proportion of all the cartoons to appear in Punch in that period. Looking at a specific type of cartoon en-masse may be misleading as it exaggerates that type's overall significance: alas, a full contents analysis of all Punch cartoons, which would give context to the computer cartoons, is beyond the scope of current resources. A further study of computer cartoons in Punch from 1983 to 1992 is planned, to look at the treatment of mass micro-computing and associated gender roles and relationships.

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Punch, (1958) Vol 234, p511, #79
Punch, (1963a) Vol 244, p707, #100
Punch, (1963b) Vol 245, p156, #104
Punch, (1963c) Vol 245, p879, #107
Punch, (1963d) Vol 244, p188, #97
Punch, (1964a) Vol 246, p395, #109
Punch, (1964b) Vol 246, pp652-653, #110/111
Punch, (1964c) Vol 246, p813, #113
Punch, (1964d) Vol 247, p261, #115
Punch, (1965a) Vol 248, p566, #124
Punch, (1965b) Vol 248, p746, #126
Punch, (1966) Vol 251, p522, #141
Punch, (1967a) Vol 252, p651, #147
Punch, (1967b) Vol 252, p776, #148
Punch, (1971) Vol 261, p852, #176
Punch, (1972) Vol 263, p428, #179
Punch, (1975) Vol 269, p1105, #197
Punch, (1977) Vol 273, p546, #220
Punch, (1978a) Vol 274, p481, #229
Punch, (1978b) Vol 278, p632, #259
Punch, (1980) Vol 279, p803, #272
Punch, (1981) Vol 281, p799, #290
Punch, (1982) Vol 283, p980, #309
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APPENDIX 1 - INTERACTIONS BETWEEN WOMEN, MEN & COMPUTERS

C = computer (s); M = man/men; W = woman/women;
c = communicating; l = listening; t = thinking

M talks to M	73
no interaction	60
M talks	13
W talks to M	11
M talks to W	9
C talks to M	7
M talks to M & W	5
C talks	5
C talks to c/l M	4
W talks to M & W	3
M listens	2
C talks to c/l W	2
M talks to C	2

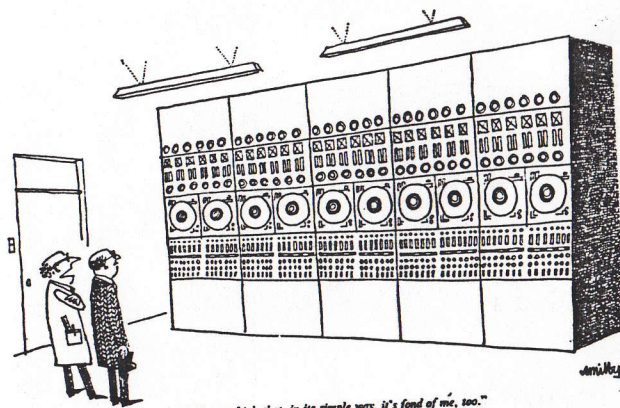
M thinks	2
W talks to W	2
M talks to M & t C	1
C thinks	1
M & W & C c	1
M & C c	1
C talks to C	1
C talks to c M	1
C talks to W	1
W talks to c M	1
M c	1
W thinks	1
W c	1
total	211

APPENDIX 2 - CARTOONS



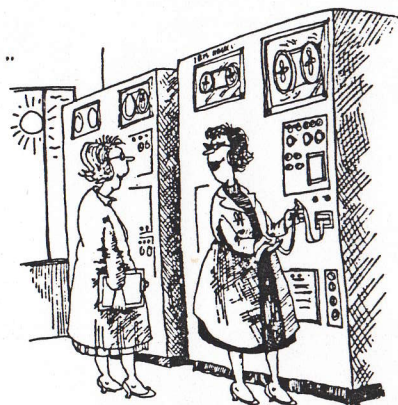
"Ah, Johnson, I'm bringing you a new assistant—good shape, beautiful and damned efficient."

Cartoon 1: "Ah, Johnson, I'm bringing you a new assistant - good shape, beautiful and damned efficient." (Punch, 1967b)



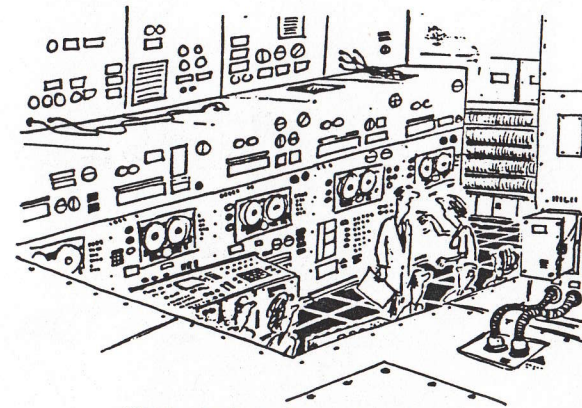
"I like to think that, in its simple way, it's fond of me, too."

Cartoon 2: "I like to think that, in its simple way, it's fond of me, too." (Punch, 1963d)



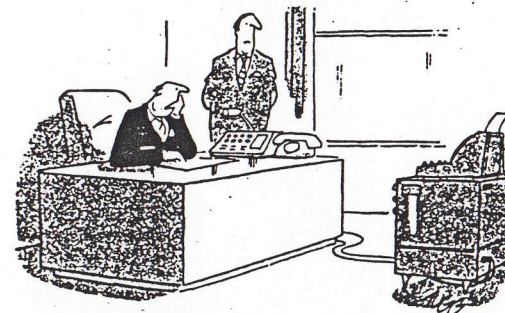
"This is the third time it's proposed this week."

Cartoon 3: "This is the third time it's proposed this week." (Punch, 1978a)



"You have to choose, Harry,—I'm not forming a ménage-à-trois with that!"

Cartoon 4: "You have to choose Harry, I'm not forming a ménage-a-trois with that!" (Punch, 1977)

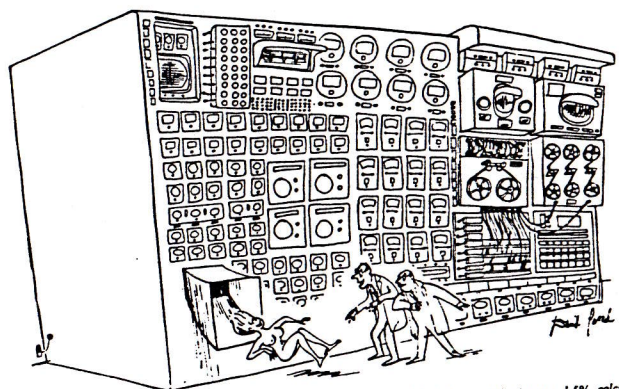


"... I find myself sitting here waiting for it to cross its legs..."

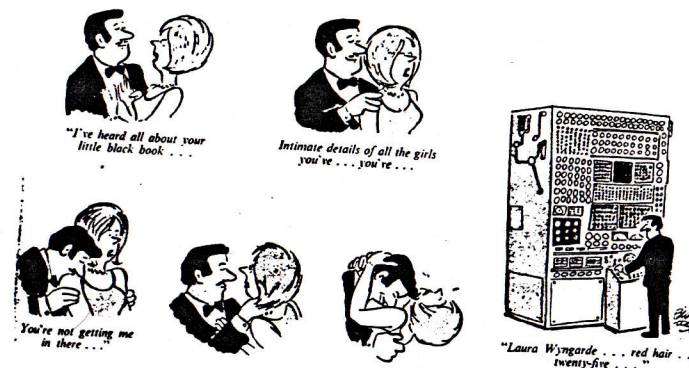
Cartoon 5: "...I find myself sitting here waiting for it to cross its legs..." (Punch, 1980)



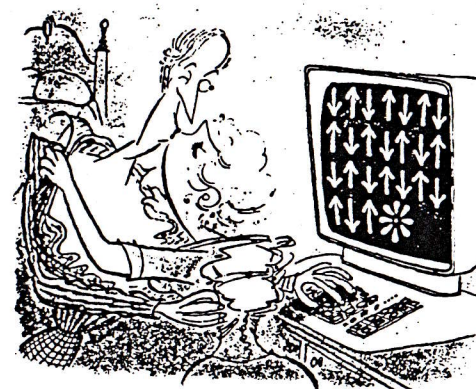
Cartoon 6: "Never mind, we'll see what it comes up with this time, shall we?" (Punch, 1972)



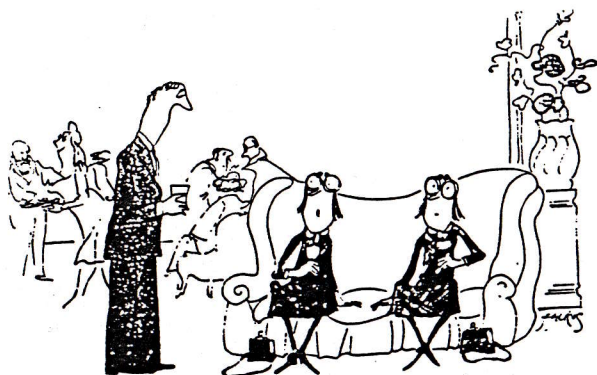
Cartoon 7: "All I did was feed in a chit marked, 65% oxygen, 18% carbon, 10% hydrogen, 3% nitrogen, 1.5% calcium, 1.0% phosphorous, 0.35% sulphur, 0.15% sodium, 0.15% chlorine, and 0.6% trace elements." (Punch, 1963a)



Cartoon 8: "I've heard all about your little black book..."; "Intimate details of all the girls you've...you've..."; "You're not getting me in there..."; "Laura Wyngarde...red hair...twenty-five..." (Punch, 1965a)



Cartoon 9 (Punch, 1982)



"No, Eunice programmes computers, I redistribute boundaries."

Cartoon 10: "No, Eunice programmes computers, I redistribute boundaries." (Punch, 1975)



"How fascinating! Tell me some of the words you process."

Cartoon 11: "How fascinating! Tell me some of the words you process." (Punch, 1981)

WORK SHOP: Women computer professionals define information systems expertise - life stories and groups of women computer professionals

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The workshop explores work-life narratives of women computer professionals and their definitions of information systems expertise. Definitions of systems expertise are politically important for women. Information systems more and more intervene in the everyday practices as well as in thinking, concepts, acting and subjectivity of women. Becoming aware of women's own definitions of information systems design and in the processes of information systems use. Women computing professionals' work-life narratives make a special starting point. They provide material to examine the processes where women's subjectivities intertwine with the social and textual practices and relations of the male technical world.

Ellen van Oost examines life stories of Dutch women computer professionals who started working in computer jobs during the sixties. She will focus on their definitions of the computer jobs and knowledge related to the male gendertyping that was taking its shape in the new domain of expertise. Marja Vehviläinen explores an oral life history and texts written by one Finnish woman systems analyst, and discusses of the construction of systems expertise in Finland, as well as of the construction of the systems expertise definitions made by the woman analyst. Christina Mörtberg reports her study - interviews and groups with Swedish women computing professionals - and examines how women understand their positions and create their own ways of acting as professionals. At the end, there is a panel where studies from (three) different countries are drawn together, first, to discuss the historical and gendering constructions of information systems expertise; second, to examine the gendering situation of women professionals and their definitions on information systems expertise; and third, to address the question of method, especially life stories and women's groups, as means of getting access to the subjective meanings, to the interplay of subjectivity and the social and gendered world of information technology.

Schedule of the workshop

- * Ellen van Oost: Life stories of women in early computerization;
- * Marja Vehviläinen: Living through the boundaries of information systems expertise - a work history of a Finnish Woman systems developer;
- * Christina Mörtberg: Women's ways of acting - possibilities and obstacles;
- * Other presentations;
- * Panel discussion: Ellen van Oost, Marja Vehviläinen, Christina Mörtberg.

Keyword Codes: K.2; K.4.2; K.7.0

Keywords: History of Computing; Social Issues; The Computing Profession, General