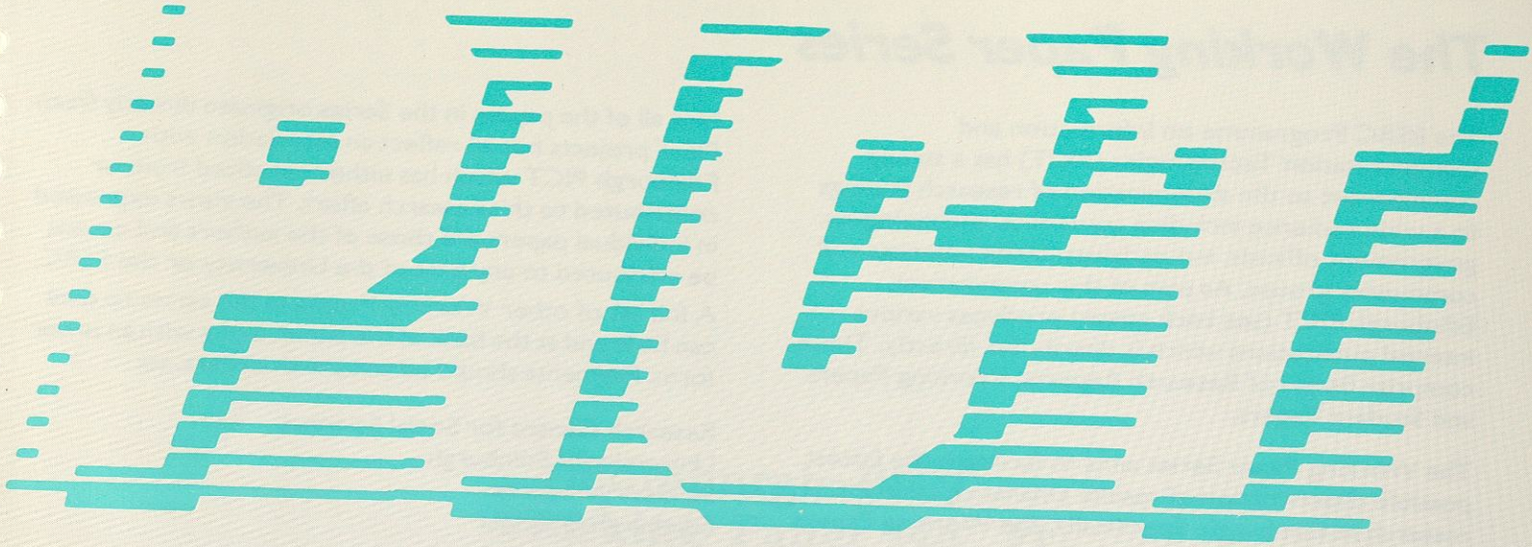

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21

AUTOMATION IN THE SOCIAL OFFICE: WOMEN'S SKILLS AND NEW TECHNOLOGY

Juliet Webster

UNIVERSITY OF EDINBURGH

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AUTOMATION IN THE SOCIAL OFFICE: WOMEN'S SKILLS AND NEW TECHNOLOGY

Juliet Webster*

This paper examines the location of skills, technical expertise and organisational knowledge, and particularly the value accorded to these skills by bosses and their secretaries in the non-automated office. It considers whether new office technologies, specifically word processing, have changed patterns of expertise, routinised office operations and so radically altered the social and power relations of yesterday's office. It concludes that, on the contrary, the character of the technological office is determined by the social relations that exist before the automation process - that structures of power and expertise condition the application of technology, rather than vice versa.

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*This paper was first presented to a seminar in the Department of Sociology, University of Edinburgh on 14th March 1990. Juliet Webster is a Research Fellow in the Research Centre for Social Sciences, University of Edinburgh, and is currently working on a PICT-funded project on the Organisational Shaping of Integrated Automation.

Introduction - The Office under the Spotlight

Over the last decade, owing to the development and application of microelectronic technologies, the office as a workplace has come under increasing scrutiny. Suddenly, from a position of relative invisibility, the office work process has become subject to widespread discussion by academics (McNally 1979; Barker and Downing 1980), management writers (Vinnicombe 1980; Curran and Mitchell 1982), and goverment agencies (KMG Thomson McLintock for the Department of Industry n.d.). Initially, in the early 1980s, analyses of office activity focussed on areas where automation of processes was taking clearly identifiable forms. These were the application of word processing to text production (LAMSAC 1978), and of data processing to the generation of payrolls and invoices. More recently, however, broader computing applications such as the development of networked systems and the integration of office and manufacturing functions via production control and inventory management systems have appeared in the computing and business literature (see, for example, the regular computing surveys in the Financial Times).

Much of the attention that the office has received, though, has been centred upon office technologies - combinations of machines and procedures. That is to say, the discussions have largely been technically focussed, in that they have sought, for example, to establish 'best ways' of introducing office systems (Curran and Mitchell 1982; Long 1984), or have been concerned with the impact of those systems upon existing office jobs, both in terms of numbers employed and in terms of skills affected (APEX 1980; Morgall 1981; Huws 1982; Arnold, E. et al 1982). However, in all the concern with the changing techniques associated with office work, little attention has been paid to the detail of social relations within the office. The grander-scale macro-analyses of organisational and technical change have submerged any micro-level consideration of office life. Yet an account of these social relations and processes has much to contribute to an understanding of the dynamics behind the introduction of office technologies.

This paper examines the social relations within offices and posits them as a critical element shaping the application and impact of information technologies (ITs). It explores the relations between secretaries and their bosses, distributions of expertise, attributions of skill and status, and their

consequences for office processes when ITs are introduced.[1] It also aims to contribute to our more general appreciation of the factors shaping the implementation and utilisation of ITs which is being developed in Edinburgh and which views the antecedents of technologies - the social context within which they are introduced - as central to an understanding of their effects (Edge 1988). In order to further this understanding, we begin by contextualising the application of IT in the office, by considering how office relations are structured and what secretarial work entails. What is the nature of women's office work and of their working relationships with their bosses and peers? What are their superiors' assumptions about their level of knowledge and competence in the job? What role do automated office technologies play in these working arrangements?

Secretarial Work - The Rhetoric

There is a complex ideology surrounding the nature of secretarial work, the precise character of secretarial skills, the extent of organisational and technical knowledge required for such work, and the interaction of secretarial and executive work processes. There is, on the one hand, a literature designed to attract women into secretarial work - in careers and secretarial manuals and in articles in women's magazines, as well as in management writings. These emphasise the high levels of skill, knowledge, responsibility and status involved in secretarial work. Vinnicombe writes of the secretary that: 'most of her day is spent in a supportive administrative capacity carrying out a variety of tasks, from making the coffee to taking her boss's place at a meeting. This kind of secretary works very closely with her boss, and indeed, her success depends vitally on maintaining this co-ordinated team approach' (1980:10).

Furthermore, secretarial work is usually presented as incorporating a career structure in which able women can progress through an identifiable hierarchy to the top of their organisations and even into managerial positions. Bosticco, for example, tells us that a 'top secretarial position is an

[1]The empirical material considered in this paper is drawn from a study conducted during the 1980s on the introduction of word processing into offices in West Yorkshire and is more fully discussed in Webster (1990a).

excellent stepping-stone to many interesting and remunerative careers in various fields' (1975:9) while Rowe pronounces secretarial work to be 'a magic carpet, an open sesame, to a life full of interest - a life with a complete fulfilment' (1958). This sort of literature often emphasises the need to acquire a university degree.

The advice manuals for prospective secretaries are filled with tempting visions of the future, usually based on the careers of most exceptional women, like BBC secretaries who become producers. Advertisements also tend to propagate what McNally (1979) refers to as the 'Marcia Williams Myth'. She quotes an advert placed by the Department of the Environment, which reads: 'I never dreamt when I became a Senior Personal Secretary here just how closely I'd be involved with affairs of national importance'. In view of the fact that the manuals place so much emphasis on obtaining important glamorous jobs in close proximity to important glamorous men, it is not surprising to find that prospective secretaries have very clear preferences regarding the type of employers they would like to work for. In a survey by Williams and Root, a top ten of employers emerged from the responses of a sample of women secretarial trainees. At the top of the list were airlines, travel agencies and media organisations. At the bottom of the list were building societies, building firms, gas and electricity offices, London Transport and trade unions, with not a single mention between them.

Rank	Employers	Number of mentions on 'popularity'
1	Airlines	70
2	Travel agencies	51
3	BBC	50
4	Film companies	47
5	Fashion houses	36
6	Advertising agencies	26
6	Newspapers and magazines	26
8	Hospitals	25
9	Hotels	21
10	Doctors and dentists	16
10	Oil companies	16

Williams, R. and Root, M., 'Has your company got secretary appeal?' Personnel Management, November 1971.

Feminist analysts of secretarial work have been sceptical of the mouth-watering images of future prospects for women office workers, in which there is apparently room at the top for those with ambition and ability. For example, Benet (1972) and Barker and Downing (1980) seek to explode the myth of secretarial work being significantly skilled and responsible and having a worthwhile career structure. Instead, they point out that secretarial work involves little more than caring for and servicing groups of men - the 'office wife' syndrome.

> What the secretary does can well be described as 'household duties' or 'social amenities', and the higher the standing of her boss, the less real use she has to be. The same is true of the wife ... There is one way in which the secretary has a higher value even than the wife; she has been specially trained for the role (Benet 1972:70).

Benet goes on to quote from a secretarial manual which lists the duties of a private secretary, in order to show how the more elevated the executive, the more closely his secretary's duties approximate those of a wife:

> (a) Receive visitors and, if necessary, turn them politely away.
> (b) Receive and give messages verbally or by telephone, understanding sufficient of their significance to be able to judge whether or not the message has been correctly passed.
> (c) Compose routine replies to letters and memoranda such as, for example, simple acknowledgements.
> (d) Punctuate and correct grammar in transcribing dictation.
> (e) Maintain a filing system.
> (f) Keep an engagement diary, and see that the engagements are fulfilled or some other suitable action taken.
> (g) Operate a reminder system, to see that jobs which the executive should do at some future date are, in fact, dealt with at the correct time (Benet 1972:72).

Thus, the higher up the secretarial ladder a woman progresses, the less she needs to use the technical skills of shorthand and typing and the more she requires qualities learnt through what Barker and Downing call 'an apprenticeship in womanhood':

> ... although in financial and status terms, the private secretary wins out over the copy- or shorthand-typist, the amount of time spent using her technical skills is much less. Instead she is required to spend much of her time on jobs which, according to standard industrial definitions, would not be considered skilled at all (1980:75).

The qualities of the perfect secretary are highlighted as being those of femininity and servility, for just as she must display a certain bare level of competence, so the secretary must 'understand' her boss, just as a wife must be sensitive to her husband's moods and whims:

> Study him closely; tread warily during the first few weeks; get to know his likes and dislikes, his every mood. Find out the best time to interrupt him, if interrupt him you must. Gradually adjust your methods of working to fit in more easily with his. A lack of understanding will mar your success as a secretary (Rowe 1958:13).

The critique is, quite rightly, not just of the servility which a secretary is expected to develop, but also of the fact that even the correct working of all her bodily functions are part of the criteria by which a secretary is judged:

> Is your hair sparkling clean and free from dandruff? ... Do you see to it that your breath is clean and sweet-smelling (especially after a meal with onions)? Do you bathe daily? Do you use a good deodorant every day?... Are your clothes spotless and free from perspiration odour? Do you shave underarms and legs regularly? (H & J Whitcomb 1959:49-50).

These pieces of advice to prospective secretaries are admittedly rather old (1958 and 1959), but they are quoted by feminists in order to show the exploitation and degradation of secretarial work. Benet describes how the 'office wife' status of secretaries leads to their being totally invisible to and undervalued by their bosses, and this is reflected in the space - smaller and much more poorly decorated - which they inhabit as well as the pay which they receive. The secretary is a cipher, whose presence is only to be noticed or acknowledged when something happens to impede the 'smooth running' of the office. What kinds of social relations do we then find in offices? Do office workers exercise no real skill, knowledge or expertise? Or do they exercise competences which, for identifiable political reasons, are simply rarely recognised? And what are the implications of this for the introduction and use of new office technologies?

The empirical material which follows is drawn from eight case studies of offices in Bradford, West Yorkshire. They represent a number of different organisational features: public and private sector, white-collar work central and peripheral to main activity, large and small white-collar activity, use of private secretaries and typing pools, and varying degrees of use of typewriting

and word processing technologies. The intentionwas to build up a picture of the office of the late twentieth century, the monopoly capitalist era, the office of Braverman (1974) and Cooley (1980) and other critics of IT and modern work organisation (Barker and Downing 1980; CSE Microelectronics Group 1980; Huws 1982). I was looking for evidence of unmitigated deskilling and routine, expecting to find either the office wife who had no other abilities than purely caring and servicing ones, or the pool typist whose routine was so routine that it did not involve even these vaguely human tasks. On that level, the evidence did not meet my expectations. The office of the 1980s turned out to much richer than that.

Secretarial Work - The Reality

At one end of the spectrum, there was the office of Janet Sykes[2], the secretary to the financial director of Albert Sugdens, a structural engineering company. The company was a small family firm, with a large blue-collar workforce and a small white-collar component, mostly designers. Janet was one of two secretaries and a number of clerk-typists. The fact that this was a family firm was the most important clue to the social relations in this office: the whole company was run along very paternalistic lines. In a manner reminiscent of some kind of 'below stairs' television drama, the employees always referred to the two brothers who owned the company as "Mr Ernest" and "Mr Guy", and spoke of how the company "treated you like a family". Mr Newsome, the financial director and Janet's boss, was a markedly avuncular figure who took a personal concern in the fortunes of every single worker.

The working relationship between Janet and Mr Newsome had strong familial overtones, with elements of both patriarchy (control of women) and paternalism (control over the family). Though she was 30 years old and far from slight, Janet was to Mr Newsome "the little girl" who kept everything running smoothly for him (for which you could read 'kept house for him'). The somewhat bizarre title of 'Confidential Secretary' indicated her special status and particular closeness to the corridors of power. In return for her special loyalty, Mr Newsome kept a close eye on her welfare, showed appropriate concern over her anxiety at "coping" with the new word

[2]All names of individuals and companies are pseudonyms.

processor that they had gone out and bought her together - "we had tears initially", he told me, situating her firmly as the emotional role player in the office. For his part, he made sure that she had transport home whenever she was sick, and that she had lifts hither and thither when her husband injured his back and threw her domestic life into chaos. Rosabeth Moss Kanter, in her book Men and Women of the Corporation, elaborates on the appropriateness of the marriage metaphor:

> ... (the) choice of a secretary on the basis of personal qualities like appearance, fusion of the couple in the eyes of others, (is) a non-rationalised relationship with terms set by personal negotiation; expectations of personal service, including office 'house-work' - special understandings that do not survive the particular relationship; expectations of personal loyalty and symbolic or emotional rewards - and an emotional division of labour in which the woman plays the emotional role and the man the providing role (1977:89).

Mr Newsome's perception of Janet as someone who simply attended to the minutae of office matters while he attended to the grander business of running the company is, of course, the patronising of a woman which goes on in all workplaces and in society at large. In fact, she was that very familiar figure - a secretary who effectively runs the office, without, predictably, any recognition. Certainly, this consisted of doing a great number of very routine and rather degraded tasks which typify the work of 'the office wife', of which the most domestic included the regular process of cleaning the boardroom in preparation for meetings, washing out all the ashtrays and stocking up the drinks cupboard, and sending Christmas gifts to the company's customers. However, through the administrative side of her work - dealing with phone callers, arranging internal meetings, processing salaries and pensions, and acting as gatekeeper when there were visitors to see Mr Newsome - she developed a strong familiarity with and influence over the running of the firm. Just as women often have this influence in the 'private domain' (Stacey 1960), so Janet was influential in the 'private-within-the-public' domain of the office. The process of constantly going round the office to arrange meetings and appointments with other managers, which she often preferred to do personally because of the smallness of the company, meant that she quickly became drawn into office politics and negotiation processes between different members of management. She became a repository of organisational knowledge, and soon people stopped in her office, en route to

visit Mr Newsome, whose office was next door to hers, when they wanted to discuss certain aspects of company business or to exchange information.[3] This organisational expertise and influence has been well described by Vinnicombe in her study of secretarial work:

> At the top of organisations, where secretaries traditionally operate in the one-to-one working relationship with their managers, secretaries carry out a variety of administrative tasks. These tasks all tend to stem from the secretary's gatekeeper position in her boss's communication network. Theoretically, this position gives the secretary almost complete control over the boss's communications. It also means that she has the opportunity to wield a great deal of influence. The extent to which she can influence matters ... is also related to her personality and the number of years she has worked for the organisation. The last point is important and frequently underestimated. Many top secretaries have well-developed personal contacts throughout the organisation and have an extensive knowledge of the organisation's activities - and sometimes even its secrets (1980:105).

The Office Proletariat - The Typing Pool

Although this is the particular situation of a top secretary, it is still true to say that other categories of office workers possess and retain organisational and technical expertise which gives them far more understanding of their companies' activities than their superiors are generally aware of. In the knitting yarn manufacturing company, this knowledge was used for subversive ends which positively impeded the smooth running of the office function. Before going on to look at these, it is at this point worth describing the circumstances of this company.

Boothroyd Yarn Industries Ltd was a medium-sized company which spun, dyed and marketed well-known branded hand-knitting yarns - not only wools but also synthetic fibres. It had a large clerical workforce of 237 (43% of its total employees), concerned with processing the paperwork involved in dealing with a national network of retail outlets. Therefore the bulk of the staff were routine clerical workers dealing with customer services - processing new business, credit control and customer advice. The typists were concerned

[3]Her office was a big room which she had to herself and which indicated her position in both the company and the secretarial hierarchy.

largely with producing the standard letters to retailers generated by these activities.

The clerical workforce was housed in a large open-plan area on the ground floor of the office block, with the typing pool away in a corner. There were four copy typists and a typing supervisor, and it was this supervisor who was engaged in a substantial degree of organisational wheeling-and-dealing which was designed to safeguard her own position (and arguably that of the other typists), but which totally handicapped the efficient performance of the typing function.

For a number of reasons of a cultural nature, this typing pool was very inefficient. Principally, this was because the company had not paid the same attention to the management of its white-collar function as it had to its manufacturing activity. It had a distinctly amateurish approach to its typing function, and in particular made no effort to superintend the activities of the typing pool, to develop organisational procedures which favoured a sensible use of word processing, or to produce text of even passable quality. Instead, it relied on scrappy duplicated sheets for standard letters. This work was exceedingly simple and required very little initiative on the part of the typist. The women were unfamiliar with the overall process of work and significance of their tasks, they were slow and, because of the overall low level of morale and work pride in the company, were uncommitted to their work.

It was against these odds that the typing supervisor constantly struggled to produce the work that was required when it was required. Much of her time was spent trying to foster the illusion that the pool was efficiently churning out its work. Partly, the necessity for this illusion existed because the typing pool was in full view of the rest of the office workers, and it was the kind of organisation where people had to be seen to be working all the time. She dealt with this problem in a number of ways. In order to get the work done properly, she gave the typists only the most simple and undemanding of the typing tasks. She was reasonably confident that these could be performed without error. The more complex tasks she spirited away to the company receptionist who had once worked in the typing pool, understood the work and did it correctly. If work was thin on the ground though, she would keep

it in the typing pool, and would say to Karen, the receptionist, 'You haven't had any work this week. I have tried to keep it all in the typing pool to look busy. That is why I have not brought you any up.' Karen theorised that Jean was also taking work to a bureau to get it done, though how she was paying for this was a mystery.

However, she had to keep the typists looking busy so as to avoid the attention of higher management. She was working against the fact that the amount of work coming in was noticeably diminishing because of the very low level of morale and confidence of authors (the people producing the raw material to be typed) in the typing pool. Moreover, in order to rekindle this confidence, she was secretly redirecting a good proportion of the work that was coming in to the very competent receptionist in the front office. Making the back office typists look busy therefore involved giving out the same batches of work to different women at different times, so that they were in effect duplicating each other's effort. This came to light one day when Jean was out of the typing pool on some errand, and Noreen asked the other women a question concerning a letter she was typing. Julie went over to Noreen's desk to help her and recognised the letter as one of a batch she herself had typed the week before. Had she done it wrongly and had Jean been too polite to say so? The typists wondered what had happened to the batch that Julie had typed, and searched in Jean's desk where they found them hidden away but perfectly correct. Another of Jean's attempts to keep the typists looking busy involved having the typists perform tasks in the most roundabout way; for example, instead of using the word processor and the hopper feed to the printer to produce a large batch of letters using the print merge function, she would make them put paper and carbons into the printer, as if they were using a typewriter, so that they could only produce batches of three at a time.

It was indicative of the complacency and lack of intervention of higher line management that there was no scrutiny or reorganisation of office procedures to accommodate the new technology, nor were any of the typists given any proper training in its use, which meant that they did not know that there was a more efficient way of doing things. The extent of management's lack of awareness of the dynamics within the typing pool was illustrated when Mr Knights, the office services manager, came in one day when Jean was out of the room to see whether some of his work had been typed. The women all

looked blank and searched the office for it; it turned up in a large pile of work yet to be done, which caused some embarrassment because the women were all sitting idle and had not been told that any work was waiting. He did not pursue the point with Jean, however. Like many managers, he probably only recognised the value of understanding the formal aspects of the organisation, and could not see the importance of the informal ones.

While they were not particularly constructive uses of organisational knowledge and power, these practices on the part of the typing supervisor do illustrate the extent to which office workers with apparently minimal influence can completely subvert the running of a section of office operations to their own ends. These people are not simply the executors of higher management's directions, nor are they lacking in their own discretion as to the organisation of work. The fact that a complex office politics persists which allows a stratum of office workers like Jean to pursue their own agendas for the performance of work, indicates that these office workers are not the passive recipients of managerial authority or technical deskilling, but that they continue to organise work in ways which are from their point of view highly rational, and use technologies in support of these.

Even the most routine of office workers, without the level of autonomy and discretion that characterises secretarial or supervisory work, commonly know far more than their superiors about the organisation of the office, the labour process and, within this, the operation of technologies. It is also very common for this expertise to be totally undervalued by these superiors, who do not understand what their work entails.

> I think most of them think that we are right thick and all we do is just press a button and the work is produced. One person was amazed when Marion said that she had typed something out. She said, 'Oh, do you have to type it?' I think they thought you just put it into the machine and it just came out the other end. I don't think they realise that you do have to use your own head, that it is not going to do it all for you ... I think they just think that the work comes in, we just press a button, and it all falls into place and they have it.

And, similarly,

> Terry thinks he knows, but he hasn't a clue what goes on. He isn't going to hear this, is he? They think it is easy (working the word processor). They think you just press a button and that is it. It takes a

lot more doing than they think. It still has to be typed out the same. They just think you press a button and it types it itself. Terry even thinks it types on its own.

To compensate for his ignorance, Terry, the office services managers in Motor Parts, attempted unsuccessfully to assume greater control over the labour process, by watching the women constantly through the glass partition which separated his office from theirs, and by keeping track of how long they spent returning work to their superiors. For their part, they realised that the most effective way to get away from the watchful eye of a male manager and to have a break from work was to go to the ladies' loo. Fed up with being constantly undervalued and oversupervised, the typists decided to embark on a campaign to illustrate how difficult their work was made by poor quality audio dictation, and thus to demonstrate what unrecognised skills and discretion they actually required:

> If they said 'er', we put 'er' in. Or they had a bad habit of saying, 'Dear Sir, We have none of your pistons in stock, number RA247 ...'. And then they say, 'Oh, no. We have some of your pistons ...'. That is no good because you have already typed it if you are on a typewriter. You are only about one word behind all the time. So what we did was, we typed exactly what they said. You just can't correct it when you are on a typewriter; you have got to pull the whole thing out and start afresh when they go and say 'Oh no' and then dictate another sentence.
>
> So some of them came back and were furious about this and said 'This is absolute rubbish'. We said, 'Well, that is what you dictated, so we typed it'. They wouldn't admit that they had done it ... And they do. They are really bad. They say 'Oh no, typist', so we typed 'Oh no, typist'. They didn't like that at all.

Both managements and radical critics of the 'office wifely' aspects of secretarial work have contributed to the denigration of the skill or knowledge involved in some office jobs. Managements have tended to vest intelligence in themselves or in machines, and critics have been over-influenced by the managerial ideologies, attributing little if any skilled activity to the office worker. Numerous secretaries and typists whom I interviewed expressed frustration with managerial attitudes which robbed them of any recognition of their capabilities.

The corollary of this underestimating and undervaluing of the competencies of female secretaries and typists, is that managers (invariably male) are the

sole possessors of organisational and technical expertise, by virtue of their position of authority, their education and their sex. It is assumed that they know how the office and its technologies work, because they are male and because they are managers. They may grant secretaries access to certain pockets of knowledge necessary for the secretaries to carry out their sphere of activities, through delegation of work and through training, but only because the knowledge is theirs to impart.

In the boss/secretary couplet, as in marriage, it is the male who is seen to play a 'providing' role, in which, among other things, he has an automatic understanding of, and ability to deal with, the technologies which increasingly permeate office life. This assumption of the location of technical knowledge is not borne out by experience. As we have seen, managers are usually ignorant of how office technologies work, and therefore of what is involved in their operation.

Manual Technologies for Women, Computer Technologies for Men?

Why should men be assumed to be competent in the use and maintenance of microelectronic office technologies? Cockburn's (1985) work shows how this is invariably so, and that the male monopolising of technological expertise contributes to the power they exercise over their work and over women in the workplace. Yet in the office, it is only microelectronic technologies which men claim expertise in; they have never assumed technical know-how in relation to the old manual devices like typewriters and addressographs, which were somehow assumed to fall outside their usual arena of competence. On the contrary, technologies like this were specifically and uniquely associated with women's work: they were the exclusive domain of women, and originally even derived their name from the women who operated them - 'typewriters' (Davies 1979). This was not a domain which was in any way associated with male labour, or one which men had any interest in entering.[4]

[4]Their managerial status also of course gave them a distance from the hands-on aspects of office life, just as managers in manufacturing rarely get close to the machinery on which their subordinates are skilled.

Why should microelectronic office technologies be assumed to be more appropriately the concern of men than previous technologies were? Are they in some way different because they are computer-based? Do they have connotations of masculinity because of this? And do they lack the connotations of femininity which characterise previous machines, thereby enabling male management to claim an expertise with them?

It would certainly seem that, as the computing aspect of word processing technologies increases and the typewriting aspect decreases, these technologies lose their specific and exclusive association with women's work. No longer is the word processor a dedicated machine which has a keyboard with dedicated function keys and carries out typewriting tasks electronically. Over the last five years this species of office technology has been growing increasingly rare and is forecast to disappear altogether; word processing is now carried out on all-purpose microcomputers, and is one of many applications which they handle. As word processing has become associated less with dedicated electronic replicas of typewriters and more with general computing, it has become a more acceptable male activity. No longer is the keyboard the sole province of women office workers, to be avoided by self-respecting males. On the contrary, courses in keyboard skills are now specifically designed to attract male managers.[5] Even secretarial studies courses have been renamed 'Office Studies', so that men as well as women many acquire keyboard and other office skills without the association with 'women's work' (and therefore presumably without embarrassment). Word processing - the activity and the technology - is rapidly becoming de-gendered.

Is this loss of a monopoly of expertise significant for women? It does not mean a loss of occupational control or status in the same way that it does for certain groups of skilled male workers (Penn 1982; Cockburn 1985). Women's traditional monopoly of expertise and skill in handling office technologies has not afforded them equivalent levels of power. On the contrary, office work and women office workers have been ghettoised and de-graded. Indeed, the very concept of 'skill' has been one that has sat uneasily with women's work, precisely because of the cultural devaluation of the latter. Women's

[5]Sight and Sound, the typing college, has launched 'Breakfast Time Training for the Busy Executive', a four week course in keyboard skills aimed at 'putting the businessman in control of his (sic) computer'.

work, as Phillips and Taylor (1980) remind us, is conventionally labelled as 'unskilled' simply by virtue of the gender of those who perform it, rather than because of the inherent qualities of the work itself.

Typing activities and office technologies are now losing their association with this highly gendered and consequently degraded set of competencies. Where does this leave the women who traditionally performed this work? In the short term, it is clear that little has changed in the way that offices are run. The traditional boss/secretary relationship and the associated patterns of knowledge and expertise remain intact in many workplaces; evidence collected by Silverstone and Towler (1983) of the historically changing composition of secretarial tasks bears this point out. Even in typing pools, where the women require less organisational understanding, they still use some technical competence and skill in the course of their work. That is to say, they are continuing to exercise real competencies and abilities at work, despite pessimistic predictions of the deskilling effects of word processing made during the 1980s (Barker and Downing 1980; CSE Microelectronics Group 1980; Huws 1982), and despite the difficulties inherent in attributing to these competencies 'skill' in the conventional sense. An item on the BBC Radio 4 'Today' programme on Monday 5th March 1990 illustrated the continuation of women's skills in the office and their continued importance for maintaining the smooth running of an organisation. The item concerned Jim Hodgkinson, a manager of a branch of B&Q, the DIY chain, and Julie Andrews, his PA, who swapped jobs (though not salaries or promotion prospects) for a day. Whereas Julie found no difficulty in taking over Jim's job, simply executing the tasks which previously she left in preparation for him to execute, he was totally unable to cope with hers. It was the technologies that defeated him particularly. "The technology beat me, I'm afraid", he said. "The word processors and facsimile machines and technology dotted around the place were just mind-boggling."

In the long term, it seems that we need to develop new arenas for women office workers to move into. As Huggett (1988) has suggested, the spread of microcomputers in the office provides secretarial workers with opportunities to claim responsibility for a range of activities (for example, desk-top publishing or database management) which would broaden their jobs and expertise. However, this requires a recognition of women's competencies and

abilities, rather than a denigration of them. Some feminist analyses have, unfortunately, contributed to this denigration and devaluing of women's office work by highlighting its unmitigated subservient routine and the lack of any real technical competence necessary to carry it out. As such, their over-pessimism has been unhelpful for an understanding of the dynamics and relations at work in the automated office. In fact, the interaction of gender, role and hierarchy seem to govern the pattern of office processes and social relations of control, and these forces complicate the effects of technological change. The application of technology to women's work has quite different connotations from its application to men's work; managements do not usually set about the deskilling of these jobs with the same urgency as they might apply to men's jobs because women's work is seen as already being unskilled. In fact, as we have seen, women persist in their exercise of competencies in the course of their work. This, however, is mediated by their role in the office, with routine workers being confined to the exercise of primarily technical abilities, but those higher up the secretarial hierarchy bringing a wider range of organisational and other competencies to bear.

The interplay of gender and role also shapes the direction of technological innovation such that there is a complex and mutual interaction process at work. The entire history of word processing technology can be seen as resulting from the distribution of typing skills and gendered office tasks. The need to reformulate these activities and overcome women's monopoly of expertise has prompted a shift from dedicated machines that mimicked typewriters to an all-purpose technology based on the conventional computer. This suggests that, as a number of studies of technological change have indicated (Edge 1988; Fleck 1988; Webster 1990b), the relationship between technologies, patterns of work organisation, and social relations in the workplace is not a simple one, but involves mutual shaping and reshaping, with technologies emerging in particular social contexts in response to particular problems, influencing these and themselves being reshaped in response to the changing patterns of work organisation and social relations within which they are situated.

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