



SOCIAL CHANGE AND TECHNOLOGY IN EUROPE

INFORMATION BULLETIN N° 5

New Technology and Women's Employment
Notes on a debate

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This study was realised by the Commission of the European Community as part of its "Programmes of Research". The analysis and the results presented do not commit the Commission. Informations concerning this study can be obtained at: DG V/A/2 - Mr. Bernard HELIN - Building Archimède 1 - 7th floor, room 19 - tel. 235.78.95.

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WHAT IS THE E.P.O.S. ?

The Standing Committee on Employment was in favour of the Commission's proposal to set up an European Pool of Studies and Analyses (E.P.O.S.) in the field of new information technology and employment.

The Pool has three main functions :

- to collect and evaluate completed research and significant developments at national level,
- to compare and circulate the results of such research and developments, by making summaries available to those who take part in political and scientific debates, in particular employers and trade unions,
- to play a more directional role, in future, vis a vis factual studies and analyses.

At the moment, the Pool is essentially working on the preparation of a data bank, on annotated bibliographies, surveys and on the current bulletin.

N o t e
to our readers, both women and men

This research, for which the author - a consultant to the Commission of the European Communities - is solely responsible, does no more than take up some of the findings on the current status of women's employment as set out in the research reports listed in the bulletin.

These findings, of course, in no way imply approval of the situation in general or women's segregation in employment and inadequate training and vocational guidance.

The research objectives were to inform the social partners of the situation and to contribute towards bringing about the conditions that must be achieved if there is to be true equality between men and women on the labour market.

F O R E W O R D

This is the second bulletin to survey the literature on a given theme: following Bulletin n° 2 on technology and unemployment, we now tackle the issue of women's employment and, in particular, the links with office automation.

Although the literature in this specific field is sparse, because it is generally seen as an issue of major concern we thought it should be surveyed as part of the activities of E.P.O.S.

We shall be reviewing the subject again later in the light of a practical analysis of women's position as it is affected by the arrival of new technology in each of the Community Member States.

E.P.O.S.

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NEW TECHNOLOGY AND WOMEN'S EMPLOYMENT

Notes on a debate

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I N T R O D U C T I O N

In the 1960s women entered the world of work on a massive scale; today they see their position in that world as under threat. They feel that their role in the economic life of European countries is once more at stake and that basic social and economic trends are once again working against them.

This concern is undeniably linked with the introduction of new technology, particularly information technology. The link is easy to explain. History has taught us that whenever society enters a period of crisis, whenever employment is threatened and there is a growth in unemployment, the blame is placed on machines, on technical progress, on productivity. It is a belief that arises from looking no further than the immediate causes and is virtually inevitable in society in general. The view is held by all workers without any preset distinction. When, however, one sees at what a disadvantage women are on the labour market and in employment and observes the way in which office automation is gradually taking over in those sectors and jobs in which women predominate, one cannot help wondering whether in this instance the attitude is not justified and whether women will not be the first to be affected - and the most gravely affected - by the introduction of information technology.

In this paper, the intention is to outline the current debate on "new technology and women's employment", quoting some of the salient points that are made, with the help of a sample of the literature on the issue.

First of all we shall review the literature in general, in all its diversity and with its specific aspects. We shall go on to describe current thinking on the quantitative question of "will women's employment be more affected than men's by new information technology?".

We shall then try to show why the problem cannot be stated in such simple terms. We shall demonstrate the contradiction between quantitative and qualitative requirements that becomes apparent when one challenges the unrealistic hypothesis that the introduction of new technology will upgrade skills in general.

We shall see that the problem is far broader than the matter of skills: the position of women on the labour market is also determined by behaviour patterns in terms of segregation and the apportionment of domestic duties. Before women can improve their situation, there will have to be a redistribution of all the work that is done in society, not just the paid work.

We shall end by reviewing the likelihood that working at home is to become the general practice, a prospect that is viewed with apprehension by working women and their representatives.

I. THE LITERATURE: A REVIEW

In more material terms, the literature relating women's employment to new technology may be classified under three headings:

- general publications on women's employment that also raise the subject of "new technology";
- general publications on new technology that also cover the subject of women's employment;
- publications that focus on the specific issue in question.

To the best of our knowledge, the first category is the sparsest. In our survey no such publication has been reviewed and no example is given in the annex. Investigation along these lines would be valuable, and will no doubt be carried out as part of the current survey by SPRU in the University of Sussex (1).

The second group is easily the most numerous. A few examples are set out in the annexes [2, 3 and 18], but almost every publication on information technology and employment contains some mention of women's employment. If they have not been reported in great detail it is because it soon became apparent that, in dealing with the subject, they display the general spirit noted by E. SULLEROT in her major report on women to the Commission of the European Communities, in which she stated that:

". . . women's problems are still discussed only as an annex, with generous condescension, a good deal of flattery and little scientific spirit."

This state of mind means that the opinions arrived at in such publications tend to be very uniform. Going beyond divergences as to basic issues, there is general agreement that "women will be under special threat" and that there is an urgent need for a "specific policy" for women.

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- (1) EEC/FAST - New Technology and Women's Employment. A State of Art Exercise. Current research.

Nonetheless, these overall analyses are still conducted on the whole on an "asexual" basis. The pertinent data are compiled without distinguishing between men and women and the question is dealt with as a side issue. In the end it is as if women were a weak minority group needing "protection" by "specific social action". The value of women on the labour market and in employment is little recognized and only rarely is the topic seen in perspective in the literature, which continues to discuss women's employment on a par with, for instance, the employment of the handicapped or immigrants.

The final group - publications on the specific subject of women's employment and new technology - is the most interesting as the subject is obviously covered in greater depth.

The group has two sub-categories: publications by more or less militant women or women's groups [10, 11, 13, 16, 17] and those by experts or organizations not directly associated with women's issues [12, 19]. A fairly substantial number of weighty research projects are currently being carried out in both categories (see the references to "current" work in the list headed "other bibliographical references").

All the works in this third group suffer from the lack of basic information, especially clear-cut macroeconomic statistics on the position and qualifications of women in employment. There is a shortage of facts and figures on the labour market and those that do exist (for example, the statistics produced by EUROSTAT, which provide an excellent basis for international quantitative comparisons) are little used.

The other criticism that could be levelled is that, in a substantial portion of publications specifically devoted to women's employment and the new information technology, the basic point at issue is not taken into account. There is little or no analysis in relative terms concerning men and women. Finally, the specific impact of new technology on women is not completely identified, and the methodology used is vague and rarely explicit.

II. THE MOST COMMON LINE OF REASONING - HOW THE PROBLEM IS CURRENTLY VIEWED

To the question of "why should women be more affected by the new information technology than men?", the replies and reasoning to be found in the literature are apparently simple and may be summarized as follows.

A two-fold observation is taken as a point of departure: the current position of women within the employment structure; and the different ways in which new technology is likely to affect the jobs taken into consideration. Let us take the two points separately.

On the one hand, it is noted that most women are employed in the service sector and, within the industrial sector, on "service" jobs. This means that women tend above all to be employed on non-manual work. Furthermore, within these "service" jobs, women do very specific tasks - usually the simplest, the most repetitive and the least skilled. In view of the fact that service tasks are primarily those associated with information, it could be said that women are assigned almost exclusively to the handling of information (its transmission, formatting and storage), whereas men have taken over the higher status and more highly skilled creative, information analysis and decision-making jobs.

On the other hand - and this is the reverse side of the coin - it is demonstrated that technology and office automation will have a more profound, radical and rapid impact on service jobs (whatever the economic sector in which those jobs are done) than on industrial work. Many factors help to bring this about: today's office equipment is lighter than workshop equipment and can therefore more easily be made obsolete; information handling lends itself to information technology; work organization in the service sector has not yet been subjected to systematic rationalization and the scope for higher productivity is all the greater; there is less resistance from the workforce in general, etc. In other words. it is the non-manual jobs which are most directly at risk from new technology.

While women are at risk because they tend to be engaged on non-manual rather than manual jobs within the employment structure, they also face an even greater threat because of the type of service activities on which they are employed. Information handling tasks, on which most women are engaged, are the easiest to automate and the most directly affected by the introduction of office automation. Word processors, memory typewriters, data bases and banks, computerized accounting and telecommunication technology will completely call into question the type of jobs now essentially done by women: secretaries, typists, counter staff, receptionists, switchboard operators, filing clerks and librarians, etc.

In the same way, the "manual" industrial jobs done by women are shown as being at greatest risk because women are engaged on the simplest, most repetitive and least skilled tasks.

Starting with this very simple explanatory outline, several lines of reasoning are developed in the literature. This serves to clarify the issue and put it into perspective, as well as restating the problem in more concrete, and therefore more useful, terms.

The first set of questions concerns the real impact on office work which can be expected in the "office of the future". This is a matter that should be investigated before going on to consider the specific impact of office automation on women, and it deserves a little space here.

The second set of questions is on the underlying implications for the qualifications and status of women's employment expected in the future.

The third and last set of questions we shall consider concerns the position of women on the labour market in general, a subject that must be investigated in detail before draft policies specifically relating to women's employment can be formulated.

Later on in this paper we shall be discussing these three points in turn.

III. WHAT THREAT IS THERE TO JOBS IN THE SERVICE SECTOR?

1. Diversity of employment in the service sector

The first and not unimportant point is that only half - at most - of employment in the service sector are office jobs. The "threat" to office jobs, therefore, affects only a portion of employment in the service sector. The prospect of new technology being introduced in the other jobs is far less immediate and does not give rise to concern in the short term, at least insofar as employment is concerned (1). It is specifically this part of the service sector that, as it is sometimes argued when discussing the "post-industrial society", will generate the momentum for further economic development. With a scenario of this kind, it would seem appropriate at least to question the frequently discussed issue of "workshop or office" as the alternative forms of employment.

2. The effects of office automation equipment

The other question relates to the foreseeable impact of new technology on office jobs as such. Is there a real short-term risk of a sharp cutback in office work because of the introduction of office automation? The alarmist theories published in the late 1970s seem to have been somewhat modified since then, for at least three reasons - all interlinked.

The first is that the argument based on a concept of "the same output with fewer jobs" should be viewed more cautiously when it refers to the service sector than when it refers to production. How does one quantify the output of the secretarial department of a public body, an accounting section or a bank? Because of the greater scope they offer, the new machines will clearly influence such factors as the quality, reliability and speed of services rendered before they start to have an impact on productivity; furthermore, it is always extremely difficult to measure that impact in these sectors.

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- (1) This statement is true in general. It does not mean that certain branches in the "non-office" service sector in the sense in which we understand it in this instance will be highly automated and that the jobs of women working there will be at risk.

The second reason relates to the profiles of jobs done in offices compared with what might be called simple tasks such as photocopying, document typing, keying in computer data, etc.

Because there has been far less rationalization of office work (i.e. breaking down and apportioning tasks) than in industry, it still tends to consist of a multitude of individual tasks making up a whole that is more coherent socially than technically [13]. Since it is organized in this way, the introduction of electronics into the office cannot have a direct effect on productivity, at least on the effectiveness of work, unless the tasks have already been broken down, are being broken down (usually at the time of the introduction of office automation) or are new (see, for example, the industrial dispute in INSEE early in 1981 [15]).

Secretaries and typists provide a good example of the gap which may exist between the theoretical increase in productivity attributable to new equipment - such as might be demonstrated in laboratory research on specific tasks (1) - and the actual effects as they gradually become apparent in places where the new machines are installed.

A recent survey by the Office Management System Corporation (2) shows that typists in the United States spend an average of only 15% of their time on typing. The rest is devoted to a wide range of tasks: administrative (27%), the telephone (8%), maintenance (5%), filing (4%), etc. Above all, however, their time is spent on very vague activities which clearly demonstrate how loosely office work is still organized and how far from rational it is. According to that survey, 19% of working time is spent "away from the desk" on not very clearly defined tasks, 13% is accounted for by absences and 8% is spent doing nothing. If this survey is to be believed, 40% of typists' working time is taken up on rather vague activities and 85% on duties other than typing. Work of this type cannot be directly automated unless the work is completely reorganized. This leads us to our third and last point.

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(1) This method, for example, led to the catastrophic Siemens predictions. Büro 1990, 1976, Munich.

(2) See The Times, 14 January 1982.

The final factor which in our view will slow down the rate at which new technology is introduced into the office is today's organizational inflexibility. This rigidity is partly due to pure inertia (associated with the difficulty of rationalizing complex organizations with multiple functions) and partly to social aspects of the way in which office work is currently organized. Secretarial work is a good instance of this. As G. DOWNING points out [13], a secretary does not just fill a post that carries certain practical duties; she also plays a social role, creating a prestige image for an executive and acting as an "office wife" (as the author neatly puts it). It would be difficult to automate her work without affecting the position and status of the executives themselves. The question that arises here - and we shall consider it now - is the radical reorganization of office work.

3. The organization of work

Here we should merely make what is by no means an original observation: in the office, even less than elsewhere, the way work is organized is determined neither by the technology used nor by essential considerations of production costs.

The rationale applied, then, is complex and - at least up to this time - is not based on efficiency in bringing a predetermined product into being.

In our view, the vital question is whether this rationale has changed (or is about to change); in other words, whether we can expect a clean sweep of rationalization in this sector. Any such clean sweep will not be brought about by the new broom of technical progress as such.

The next question relates to the nature of any reorganization that is carried out. On it will depend the future position of women in the service sector, both qualitative and quantitative. The nature of reorganization will depend to a great extent on the procedures adopted in introducing new technology, and the specific involvement of women in those procedures will have a decisive influence on the results.

Before discussing the organization of work further, we should return to one of the central issues in the current debate on the relationship between employment and qualifications.

IV. THE INTRODUCTION OF NEW TECHNOLOGY AND CHANGING TRENDS IN QUALIFICATIONS

The line of reasoning set out in Chapter II implies a hypothesis that it is important to clarify: the argument that women's jobs are at greater risk from the new technology because women are less qualified than men rests on an implicit assumption that the average level of skills involved in employment will rise as a result of office automation. This is the inference that may be drawn, for example, from references [6] and [12], and it would mean that the opportunities would be relatively greater for men and less for women.

In the past, the proliferation of routine jobs in the service sector resulted in wider recruitment of female staff with a fairly low level of skills; in the early stages of the introduction of information technology, women were also taken on for work as, for instance, punch operators and programmers. It seems that another stage is now being reached in which women are placed at a disadvantage by the gradual elimination of what are seen as routine office jobs [19].

This assumption regarding trends in qualifications as a result of the introduction of new technology raises a problem. As noted for instance by the Working Women group in the United States [11], the idea that it is the boring, repetitive and deskilled work that is taken over by the machine and that the work that remains is varied and attractive is a myth. Employers use automation to make the work of a majority of their staff repetitive and routine. The group concludes by saying that the division of labour will be even greater.

This view is also expressed by J.I. GERSHUNY [9], who takes the argument even further by stating that the most likely trend is that the proportion of women in Europe's working population will continue to grow, although this will occur only if two things happen:

- 1) work continues to lose its skill content and the division of labour becomes more marked;
- 2) women's position in the hierarchy of skills remains unchanged.

We shall consider the second factor later. If we assume that it will be true, the trends in skills that arise from the introduction of new technology will essentially determine its impact on the volume of female employment. It is obviously not the only problem that arises, but we feel it is important and controversial enough to be stressed here. The question may be broken down into two parts. Are the less skilled jobs in fact being abolished? And are the jobs being created really skilled?

A survey of this kind is not the place in which to hazard a fresh reply to such questions, but we feel that any findings on women's employment should be based on a more concrete analysis of what are seen as "women's jobs", an analysis that takes realistic account of patterns of social behaviour. What is it in a job that tends to make it a "woman's job"? We know that most women work in "female employment" in the sense that 80% of the work they do is generally done by women. Is this due to the tasks themselves? Or to a two-way phenomenon in which, once the process begins, men reject that type of employment and women are attracted to it? Or to the way work is organized in society? Or to a set of values? The replies given to these question partly determine the differences in the scenarios suggested by the authors but, to our knowledge, the questions are not tackled explicitly and head on. Research along these lines would be very desirable.

These basic truths as to why certain jobs are "female" are also important in predicting the number of women's jobs in the future in relation to trends in their level of skills. The policies recommended with a view to protecting women's employment will differ depending on where the emphasis is placed.

Before considering this point, we should merely point out that a marked contradiction may arise between the desire to raise the level of women's skills and the wish to give women more opportunities of employment. If we want to avoid unrealistic hypotheses as to the future supply of skills, we should bear in mind the conflict between upgrading women's qualifications and maintaining the average level of men's qualifications.

V. THE POSITION OF WOMEN ON THE LABOUR MARKET AND POLICIES RECOMMENDED

Another issue should be clarified besides those described above. The disadvantaged position of women in employment is, as we have suggested, not due solely to their level of qualifications. Other factors come into play:

- Some occupations are purely and simply closed to women either for institutional reasons or because, sociologically, they are too demanding. In other cases an occupation may not be entirely closed but access may be very difficult for the same reasons. This means that the range of opportunities for women is restricted due to segregation.

- The geographical mobility of women is also restricted. More and more women in paid employment are married and cannot move away from a given spot because of their husbands, who are seen as the main breadwinners.
- Domestic work also ties women to their homes. Women often bear very heavy family responsibilities and are placed at a disadvantage by their domestic duties on the labour market: they have less time to look for a job, their working hours have to fit in with the other demands on them, they are forced to interrupt their careers, and their paid employment has to come lower down in their scale of priorities and values.
- Finally, there is little collective effort to uphold women's rights, for example through the unions.

Faced with these obstacles to women's employment and with due regard for the matter of skills, in our view there are three fields of action:

- 1) Training policy. Such policy is necessary, even though it is often overestimated. It should cover subjects like:
 - informing girls of the career opportunities open to them before they decide on training;
 - greater incentives to schools and colleges to attract girls;
 - thorough investigation of training opportunities, with due regard for the constraints specifically placed on women;
 - a practical policy on retraining women whose jobs have disappeared or been altered.
- 2) A medium-term anti-segregation policy. This policy is the vital complement to training policy if the result is not to be the opposite of what is intended. Since it is associated with attitudes and behaviour, however, its implementation will require a good deal of time and effort. The solution whereby systematic quotas are laid down is radical but complicated, difficult to implement and very inflexible; besides, many women's groups are against it. This anti-segregation policy can be implemented only if attitudes change, if society's image of women changes.

- 3) The reapportionment of unpaid work and domestic duties. Attitudes are formed by what exists, however unjust. Any policy to combat segregation will require a reduction of the deep-rooted causes of this segregation. We believe that before the work done in society in general can be more evenly distributed between the sexes there must be a reapportionment of domestic duties. The whole of the work done in society - both paid and in the home - must be reshuffled. Technology may be one means but it cannot be an end in itself for the society by which it is used. The position that women occupy in tomorrow's society will in the end be determined by their active implication in the introduction of new technology.

VI. WORKING AT HOME: A FEASIBLE ALTERNATIVE?

Although working at home is still uncommon, it offers women an alternative in that it helps to eliminate many of the bottlenecks that make it difficult for certain women (1) to work and, at the same time, it has been made feasible by the introduction of new technology.

This type of employment is still in an experimental phase and involves only a tiny minority. Nevertheless, the scope it offers for the reorganization of work and production and for the revamping of working conditions, and the threat it represents to the social achievements of the period before the current crisis, are so great as to arouse strong reactions among both women (1) and union bodies. Painful memories of the period of industrialization in the 19th century linger on and are undoubtedly the partial cause of the very deep concern generated by the prospect of a return to working at home.

The research conducted by the Auguste Comte Institute [8] is, as of this time, the best source of European facts and figures on the subject of working at or near home, even though it is already rather outdated.

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(1) particularly married women with children.

Certain observations could be made in the light of the case histories described in the annexes to the Institute's report:

- working away from a work centre almost always means working at home;
- working at home seems to be applicable only to the employment of women, who account for over 95% of the jobs described in the case histories. Since the subject of women and employment is not the Institute's primary concern, the sample may be considered as significant in this respect.
- the standard profile of the home worker is a woman with young children for whom no child care facilities exist in the neighbourhood (for example in country areas);
- the jobs offered are also of a clear-cut type, being repetitive, simple and sometimes laborious, which are easy to remunerate on a piecework basis;
- finally, the work must play only a minor part in the life of the woman by whom it is done.

How likely is it that this type of employment will be more widespread in the future?

Taking ten years as our time scale, it would seem reasonable to say that the potential is small. After that time, the prospects depend on the overall reorganization of society, in terms of basic production units and basic consumer units. For the time being, authority over collective employment - as exercised by both the employers and by the unions - is too bound up with geographical unity to make it realistic to expect such a breakdown in the foreseeable future. The likelihood of such a trend occurring, however, should not be dismissed out of hand, even if its arrival is not imminent.

CONCLUSIONS

As we come to the end of this brief survey of the literature on new information technology and women's employment, a few conclusions may be drawn.

Substantial efforts are being deployed to increase women's skills, and therefore to promote training (which is still very inadequate and misdirected), but they will not be enough to reverse current trends. On the contrary, to make women more qualified without tackling the issue of segregation in employment might well lead to fewer opportunities for women and under-employment of the skills that the women have acquired.

There is every chance that the production system will continue to offer low-skill, routine jobs in which tasks are compartmentalized. Even if the overall number of jobs available continues to dwindle, the upgrading of women's skills must be based on true "skill-sharing" and "power-sharing", implying a shift in qualifications and power from men to women.

This shift can take place only if specific efforts are directed towards paid employment. The reapportionment of domestic duties is a vital prerequisite for the lessening of inequality between the sexes in employment and on the labour market.

Finally, on the subject of research, we feel that there are two issues that require clarification before we can understand the problem. These are:

- 1) the actual position of women within the employment system;
- 2) The role of technology in reshaping the organization of labour, particularly in the service sector.

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Incidences de l'introduction des machines à écrire dotées d'une mémoire
sur les emplois de secrétariat chargés de dactylographie

CEREQ, 1977

Discussing the effects of the introduction of memory typewriters on staffing levels and the structure of secretarial employment, the author reports the following findings:

- a) considerably higher productivity is achieved;
- b) he did not find that any staff were displaced by the introduction of the automatic machines;
- c) the occupational structure of office jobs will be radically overhauled, the typing workload being reduced and the work redefined.

There are no rigid rules as to how work should be organized when new machines are introduced. One of two different categories of staff may be assigned to operate the equipment, sometimes both within the same firm: people essentially engaged on typing duties, who specialize in the equipment when it is introduced (the work perhaps being standardized and a daily output quota being set); or people for whom typing is only part of their duties, who then integrate the equipment into their work as a new tool.

The difficulties that arise with the introduction of the technology may be associated with the discrepancy between the flexible, multi-purpose equipment and the fact that the concept of how work should be organized is still imbued with O&M principles of breakdown and specialization.

On the subject of training, the author's analysis shows that:

the additional training needed is not just learning how to work the machine; the trainee should also be made aware of the potential of the machine for activities associated with the work to be done on it. With a larger workload, the operator must be involved with organization, preparation and storage - work that requires more detailed and sometimes relatively lengthy training that goes beyond familiarization with operating techniques.

depending on the purposes for which the memory typewriter is used, its introduction may or may not alter job definitions. In some cases it would be appropriate to call the process "adaptation", in others "change" or "conversion".

The definition of jobs consisting entirely of the production of typed texts is related to a great extent on mastery of the equipment used. Such jobs are radically altered by the introduction of memory equipment and may come under new occupational categories based on the degree of technicality of the equipment operated.

On the other hand, jobs whose overall duties are defined in terms of a given object, aim or specific procedure, with typing only one of several factors, seem to have changed less so far; their role and occupational category have remained the same.

Even so, the changes that are being made to both of the former job groups are only the first steps in a major process of change occurring in the whole chain of written communication.

The development of new equipment will lead to and depend upon as yet undefined methods of work organization. Will the policy be to break work down into specialist categories or will the tendency be towards a broader range of duties and, as a result, more highly skilled staff?

Employment and Technology

T.U.C., 1979

Clearly the volume of work available in the jobs traditionally done by women - based on the current workload - could be cut substantially by the introduction of new technology. The use of microelectronics in clerical work and in the distributive trades is a threat to thousands of jobs in the civil service, local government, banking and insurance as well as to office work in the manufacturing industry, where women often account for 70% of the total workforce.

There is a real danger that these women, as well as the 600,000 women who are expected to come onto the labour market between 1979 and 1983, may find that a major portion of the jobs for which they used to be recruited will have disappeared.

Youthaid (London), October 1979

According to the report, in 1979 there were about 9,000 word processors in the United Kingdom in 1979. Estimates of market growth emanating from various manufacturers and consultancy organizations ranged from a cautious 15% per annum to around 40%.

In view of this lack of agreement even as to current rates of market growth, the author prefers to build up a scenario rather than embark on a true forecast. Even taking the lowest estimate of 15% growth, the implication is that the total loss of typing and secretarial jobs by 1989 will be in excess of 36,000. Based on the maximum of 40%, more than 260,000 secretarial jobs will be displaced over that period.

The author considers various ways in which this loss might be offset and goes on to quote ten case histories that all show how word processors necessarily reduce staffing levels. Since secretarial jobs are usually done by women, the first victims of the new technology will be women. The problem is especially serious in that there is likely to be an increase in both the number and the proportion of women by comparison with the total working population coming onto the labour market.

There is still a ray of hope, however, since the process will not take place overnight. The author predicts that society has ten to twenty years in which to determine whether such innovation will be a blessing, freeing many people from the need to spend much of their lives in dull routine work, or a curse, consigning a large section of the population to a life of enforced idleness, loss of status and poverty.

Gewerkschaft MBE: Chancen der Microelektronik nützen

May 1981

The women's section of the Austrian union of workers in the engineering, building and energy industries (MBE) held a meeting in Vienna on 13 May 1981, chaired by the Secretary of State to the Federal Minister for Social Affairs. The theme was "microelectronics and job opportunities for girls". At a press conference, the president of MBE stressed the growing importance of microelectronics to the economy and therefore to employment, particularly women's employment. The union must be prepared for the change and keep itself informed about experience acquired in other countries, to avoid the pitfalls and improve job training - especially the training of girls.

A representative from the electronics company, Siemens, said that his employers had for several years been offering girls a chance to train for various trades in the industry: precision engineering, toolmaking, communications and electromechanical engineering. Although girls sometimes cope with the theoretical work better than boys, they find workshop practice more difficult. This is due not to lack of practical ability but rather to their education and the role they are assigned in society.

A representative of the office workers' unions described the physical and mental constraints imposed by modern technology (the need for sustained attention, monotony, concentration) and stressed that works councils should be kept abreast of changes and their effects so that they can take part in decision-making rather than merely being faced with a fait accompli.

A union representative specializing in vocational training urged MBE to ensure that the new jobs created by the foreseeable expansion of micro-electronic technology are equally accessible to boys and girls.

The idea must be instilled in girls that whatever happens they will have to cope with some electronics in their jobs. Without adequate training, for example, they will find it impossible to embark on a career in the engineering industry and later to go through the more advanced training that will be made necessary by the rapid development of new technology.

Eight in Ten Secretaries will lose Jobs

Presentation to the Labour Women's
Conference in Felixstowe, UK, 17-19
June 1979.

The author is a former Minister of Energy in a British Labour Government.

The paper is very pessimistic as to the impact of technology on secretarial employment.

In general, the microprocessor will affect women far more than men. Eight out of ten secretaries will lose their jobs as a result of the introduction of new technology in London.

The effect of microelectronics on office jobs will be even more marked than the effect of mechanization on the manufacturing industry.

Information Technology in the Office:

The Impact on Women's Jobs

Equal Opportunities Commission, 1980.

According to the report, 21,000 typing and secretarial jobs (2% of the present secretarial workforce) will have been displaced by the introduction of word processing technology by 1985; by 1990, the maximum displacement expected is 170,000 (17% of the the total). According to the estimates arrived at for the purpose of the report, each word processing unit installed will result in the displacement of one third of a typing job.

The forecasts regarding clerical jobs are even gloomier: 40% of jobs may be loss in the 1980's Unskilled clerical workers and those with a low level of skills will be worst placed. The evidence is that office work is demanding higher qualifications.

There will be wide regional differences in the impact on employment.

Not enough new posts will be created by the introduction of new technology to absorb the surplus workforce. Furthermore, the jobs created will be prevalently "male" posts, whereas the jobs lost will be - indeed they are already - essentially women's posts. In 1979, a year in which it is calculated that 6,000 typing jobs were displaced by WP, the manufacturers of word processing equipment created about 800 jobs. Out of those 800 jobs, only 40% could be taken by women.

This means that there has been a shift in the balance of opportunities for men and women as a result of new technology, with fewer typing jobs and an increase in sales jobs (predominantly taken by men). In general, the trend whereby office jobs are becoming more skilled does not benefit female employment because women tend to be less qualified than men. Women's skills are also less in demand.

The introduction of new technology is likely to produce some increases in pay for staff who were previously copy typists, although this still tends to be below the salary of the average secretary.

Technology does not seem to increase flexible or part-time working, despite the technical facilities it brings. Part-time work is widely sought by women workers.

Firms are placing a low priority on the use of the new technology to allow staff to work from or near home.

Job satisfaction among the operators of WP and computer terminals is reported as greater than in their previous jobs. There is some concern, however, that it will decrease as the novelty of the new system wears off.

The major recommendation in the report is that women should have access to more advanced training so that they will have a better chance of filling job vacancies, obtaining promotion and reducing the inequality of men and women brought about by the new technology.

Training in WP operation tends to be short (not more than a week) and limited to the operation of the WP machine. Operators' job security and opportunities for promotion will be increased if broader training is provided in basic business management and administration, and of how these can be conducted more effectively using the new systems.

Finally, the spread of terminals to all fields of the service sector will make it more important for everyone to be able to use a keyboard. The view that "typing is for girls" will be weakened.

T.U.C., 1980.

This teaching material consists of case histories compiled by the education departments of the British Trades Union Congress, to help with the training of union workers when new technology is introduced. Two case studies are based more specifically on the repercussions on women's employment. The subjects discussed are the volume of employment, skills and training.

[8] **F. GENDRIN, A. HURAND, X. DE ROQUEMAUREL,**

F. DE LAVERGNE

L'emploi à distance

Institut Auguste Comte, 1980

The report is a review of certain experiments in working away from the work centre, mainly with the aid of telecommunications. It takes these experiments one by one and analyses them in length annexes - sociologically the most interesting part of the research. The case histories have been taken from six industrial nations: France, the United Kingdom, Sweden, Canada, the United States and Japan.

It is apparent from the case material that in all the successful and reasonably wide-scale experiments in working away from the work centre most of the people involved (more than 95%) were women, a finding common to all the countries covered by the report. The reason is the fact that, as things stand, such employment is unequivocally beneficial to both parties - the employers and the employed - only if people who would otherwise be unable to work outside their homes are able to do the job. In other words, most work away from the central workplace is in fact work done at home. The people involved are women with young children not wishing (or in country areas not able) to leave them.

The jobs that lend themselves best to this type of "delocalization" consist of repetitive tasks that can be interrupted (or that are best done intermittently, stopping frequently, because they are laborious). Examples are typing, programming and the assembly of precision instruments. It must also be feasible to pay piece-rates for such employment, as there is no check on hours of work or working rates. Finally, for the sake of psychological stability such work must not be too much of a challenge or occupy too important a place in the life of the person by whom it is done; it must be seen as a side-activity.

The report is unabashedly frank in expressing the "female" aspect of these needs: "women seem to be better suited to this type of work than men because they have no career ambitions and because the work is pin money or a second wage, never an end in itself".

The advantages to the employer are that this type of work cuts labour costs, makes employment temporary (contracts for work done away from the work centre are always "individual" rather than collective), substantially reduce absenteeism and turnover and, in many cases, raises productivity.

In general, however, it should be borne in mind that this type of employment and the use of telecommunications are still the exception rather than the rule. Whether or not they will finally gain favour will depend on social rather than technological considerations.

Technical Innovation and Women's Work in the EEC

A medium-term perspective

E.E.C., 1981

In quantitative terms, the author's findings on the prospects for women's employment may be summarized according to job categories:

technicians, executives and the professions account for 18% of all women working in Europe (mainly in the public sector). There will be only a small increase or even a reduction in such jobs in the future, depending on the pattern of public spending;

there will be a gradual increase in the number of office workers (33% of women working in Europe), the result of a combination of very high productivity increases and a sharp rise in demand;

the availability of work in sales (8% of women's employment in Europe), on the other hand, can be expected to decline considerably;

cleaning and catering work (20% of female employment) will expand at a moderate rate but will still be poorly paid and usually part-time;

finally, there will be a slight fall in the amount of manual labour (accounting for 21% of women's jobs in Europe), with wages staying low and working conditions poor.

The author notes that although technology will have a marked impact, if limited to certain occupational groups (those engaged on selling and industrial assembly work), the main factors governing employment in the future will not - at least at first sight - be technical; women's employment will depend primarily on public spending, the structure of demand (particularly the end demand for services), competitiveness and policy on women's work.

For quantitative forecasts, more research is needed on:

the occupational structures of employment in Europe;

the nature and distribution of tasks in the main socio-occupational categories;

the social and economic factors that determine the structure of demand (for services in particular);

the political, social and economic factors that determine the volume and apportionment of public expenditure.

According to Gershuny, the most likely trend is that the proportion of women in Europe's working population will continue to grow. The reason will be that their position on the labour market will force them to accept jobs that are badly paid, part-time and with poor working conditions. This means that the quality of their working lives will continue to deteriorate. Over the longer term, one third of working women now in office jobs will be placed at risk by the introduction of new data and word processing technology.

Due consideration should be given to the private - or domestic - tasks that make up at least 40% of women's work. Rather than taking only paid employment into account (and this is bound to decline in Europe in the future), it would be wise to try to redistribute work as a whole, whether this is at present paid or unpaid.

An adequate solution will be achieved only if allowance is made for the changing relations between the official and the unofficial economy. The segregation of jobs and differences in training are signs that women will not benefit from the introduction of new technology without the help of political intervention.

[10] **EQUAL OPPORTUNITIES COMMISSION**

Equality for Women

Assessment - Problems - Perspectives: A European Project

Manchester, UK, 28-30 May 1980

The fifth session of this conference was devoted to the problems facing women and the opportunities opened out to them by the introduction of new technology. This is a report of the discussions taking place on the occasion, based on the paper by J. Gershuny (Technical Innovation and Women's Work in the EEC - A Medium-Term Perspective).

All those who spoke in the debate (1) agreed that the introduction of new technology is a vital event, but they differed as to the drawbacks generated by such innovation and the social consequences that may ensue in work and in society in general. They all deplored the gaps in the information available on the issue. Women must be consulted and play a part in all decision-making at European and national level.

Discussing the quality of work, the participants displayed great interest in the effects of alienation that might result from more widespread working at home. The danger of social isolation was mentioned in particular. According to one of the women who spoke, there may be advantages for women in working at home but they may also be cut off from all the social contact that comes with a job, as well as the union support and solidarity in general.

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- (1) N. BARENDREGT (chairwoman), P. MELVYN, R. VILLEBRUN,
G. BIANCHO, T. MARSLAND, V. SQUARCIALUPI, E. TER VELD,
M. KUTSCH, M. DEVAUD, M. HOORNAERT, M. BARNES,
E. BRUNFAUT, J. FINLAY, D. NANDY, S. KOHNENMERGEN,
M. LEVY, M. PIRARD, I. McCORMACK, M. GROTENHUIS,
J. MAIS-WEGGEN, P. CURTIN-KELLY, S. DEKKER.

According to other speakers, home workers might forfeit the rights won by women workers in the past. They also lose the satisfaction of seeing the end results of their own work. What must be done, then is to ensure that the human relationships that come from employment are not destroyed by the introduction of new technology.

Training was almost unanimously seen as the vital issue. Training and retraining are ways of narrowing the employment gap between men and women and giving women access to the jobs created by new technology.

Even so, two questions remain unanswered. Is the objective of a fairer distribution of tasks in fact being pursued? If so, this must be taken into consideration in training. What precise training should be given? The implications of this second question go beyond the sphere of technology and even the sphere of work. Boys and girls need to be educated for a reapportionment of responsibility as a whole, in the home of course, but also in the social, civic and occupational domains. This, according to some of the speakers, is the only way of eliminating sex discrimination at work. The sharing of work in society and domestic work is the determining factor.

Race against Time: Automation of the Office

Working Women, National Association
of Office Workers, Cleveland, 1980

This report analyses trends in office automation in the U.S. and the effects on employment.

In the service sector, the jobs most affected by automation will be office work - the very jobs that provide the largest proportion of employment in the sector. That proportion is likely to grow during the 1980s.

More than 50% of the 20 million new jobs expected in the United States up to 1990 will be white-collar posts. The Department of Employment expects the number of office jobs to rise by 4.8 million between now and 1990, and most of these will be taken by women.

With the record number of women coming onto the labour market in the 1970s (a growth rate of 10% per year), office work gradually became a female preserve. In 1950, 62% of office workers in the U.S. were women; by 1970, the percentage was 74%; today it is 80%.

At the end of 1979, the number of office workers stood at 18 million (18% of the total workforce) and they accounted for 35% of the female working population of 42 million.

The occupations most likely to be automated - document research, archive work, secretarial and typing posts, bank counter work and insurance - are the province of women, who make up at least 90% of the workforce in each. Such jobs have already been radically altered. Women do the bulk of the low-skilled work of data preparation and text processing needed for the smooth running of automation, both now and in the future. They are the first people to be affected by automation.

The introduction of information technology to the office implies far-reaching changes in the organization of work. We must expect "the end of the social office" and maximum transfer of decision-making powers of office staff to management via sophisticated IT systems.

Information technology is merely a medium and a convenient pretext for such reorganization. Employers may use the introduction of new technology as a means of centralizing work and increasing job specialization, two far from unfamiliar trends.

What is achieved is often due not so much to the new technology as to the reorganization that accompanies its introduction. In this sense, technology is not neutral but depends on the way it is used.

It is highly likely that most women employees will continue to work in an office rather than at home. Even so, office workers still run the risk of social isolation; it is highly probable that the trends will be the same as now exist among blue-collar workers whose human contacts are "mediated" by the machine and whose orders and supervision are being computerized.

Will technology serve to improve jobs? Most of the optimistic studies are based on laboratory research, whereas the pessimistic findings are based on investigations in the field, within companies.

It is a myth that it is the boring, repetitive jobs that are automated, leaving more scope for varied, interesting work. Employers, it is found, use automation to make the majority of employees' tasks repetitive and routine. There will be even more marked division of labour.

Because of the choices made regarding the use of the computer, the vast majority of women engaged in office jobs will have little opportunity for taking advantage of the potential benefits of technology. Automation is often designed to do away with the most interesting aspects of work: variety, human relationships and opportunities for training and promotion.

The Word Processing Plan developed by IBM calls for the abolition of personal secretaries, the very people who enjoy the most varied and best paid posts on the office staff. In the words of Larry Wells, a high-level consultant in a California IT firm, "the long career in secretarial work is probably destined to disappear".

Women working in automated jobs will be paid less for doing more laborious tasks. According to an IBM research report, "soaring clerical wages" are among the major incentives for office automation; in fact such wages do not appear to have risen very much since 1966. In the United States as a whole, office staff working at a terminal earned an average of only \$7 more than conventional typists in 1979. Company management tries to deskill jobs to keep its staff's wages as low as possible.

Office automation systems create a "new" hierarchy of tasks that perpetuate the stratification of sexes in terms of wages, power and prestige. Women tend to take the lowest-level IT jobs and do the least skilled of the tasks generated by the computer.

Does new technology create new opportunities for women? It is still a matter of debate. Whereas traditional office jobs will become more skilled, it is alleged, new IT tasks will create enormous opportunities for women (as programmers, systems analysts and operators).

The first functional computer, ENIAC, employed to carry out the calculations required in commissioning the atomic bomb in 1944-45, was ("successfully") programmed by women. A hundred girls, with basic mathematical training, worked on a task that at the time was ironically considered as "for women" and "for female clerical staff". Almost immediately, programming was redefined as a "technician's" and "executive's" job and was taken over by men - not because women were incapable of doing it but because its social image had changed.

It was not until the 1970s that women won back certain skilled jobs in the computer world. Today they account for no more than 19% of IT specialists: women are still concentrated in the lowest paid jobs in data processing, working as application programmers or encoders.

The arrival of women in the ranks of computer specialists coincided with efforts on the part of management to standardize those tasks.

Most of the lower grade work linked with computer technology is done by women. In the United States women account for 95.6% of keyboard operators, 75% of office machine operators and 62% of peripheral equipment operators.

It is noted that management makes use of the changes associated with automation to make tasks more ambiguous, bring down the level of wages and get rid of experienced staff who are better paid because of their many years of experience. Job insecurity is one outcome of change. The introduction of new technology also restricts the promotion opportunities open to women office workers, typists and secretaries.

The report ends with proposals as to practical measures: a Congress hearing, a moratorium on the future introduction of new technology and research by the Department of Labour.

Les activités d'information, de l'électronique
et des technologies des télécommunications -
incidences sur l'emploi, la croissance et le commerce

Paris, 1980

A few pages of this OECD report are devoted to the issue of women's employment.

So long as decisions as to the introduction of new technology are influenced by the higher productivity in information-linked tasks that it may bring about, women's jobs will be at special risk.

Among the information occupations, those at greatest risk will be the jobs involving routine information processing - a prospect that does nothing to reduce the threat to women's employment. For example, more than three quarters of the growth in routine information processing may be attributed to the work of office staff and associated activities, a field in which there is a large proportion of women.

In very recent times, two thirds of office and associated jobs were held by women, whereas women accounted for just over one third of the total working population.

The situation is roughly the same if the analysis is broadened to take into account all those occupations that may be considered as likely to be influenced by new technology. When these occupations are looked at in detail, four features of the women's labour market should be borne in mind:

the prevalence of job segregation; in other words, women's employment is restricted to a relatively narrow range of occupations. It has been observed that more than 85% of women are concentrated in 18 out of 61 occupational groups, and that over a half of women are employed in no more than 5 occupational groups;

the fact that the level of women's education is lower than that of men in all OECD countries. Young women (aged under 25) are closer to young men in terms of education in most countries, but the gap is still wide with respect to scientific and technical qualifications.

lack of continuity in employment. This is due both to high job turnover and to women having to interrupt their working lives for family reasons.

women are more likely to work part-time in every OECD country for which statistics are available, where the proportion of part-time work ranges from under 10% to over 40% of the total female workforce.

These features have a marked influence on the results of technological progress and the process of adjustment on female labour markets. As already stated, women workers tend to take the routine information processing jobs in which information technology may perhaps have a considerable effect on the demand for labour. Because of acute job segregation, women made redundant find it even harder to obtain another job. Their relatively low standard of education, combined with lack of continuity in employment, means that it is difficult for women to acquire the skills in demand on the labour market. This disadvantage is even greater when the skills they do acquire become obsolete at an even faster rate.

Word Processors and the Oppression of Women

1980

H. Downing outlines a radical sociological view of the office technology revolution and its consequences in terms of women's employment.

Starting with a "Marxist" analysis, the author shows that the current ways in which office work is organized are anomalous, due to the ineffectiveness of social relations in the office. The main function of new technology is radically to restructure those social relations.

The author shows that the relation between a secretary and her superior (usually a man) is usually of a specific nature that he calls an "office wife" relationship. A secretary's status and position, for example, depends more on her boss's status and position than on her own qualifications. The criterion for access to the more rewarding posts is her femininity rather than her efficiency. This role of "office wife" (and the resulting organization of work) is called into question by automation, at least in the case of most secretaries. What we shall in fact see is the bipolarization of secretarial jobs. For most secretaries, particularly those of working class origin who do not convey the right image, new technology will deskill employment; their work will also be subject to closer supervision, which will no longer ^{be} mediated and veiled by the social relationships that formerly prevailed in offices.

The new Technology and the Employment of Women

Research Discussion Paper 15 (Wellington), Jan. 1981

Report of the Inter-Union Working Party on Technology

1979

NZ FEDERATION OF LABOUR

"The Crunch". The Effects of new Technology in the Workplace

The Unions' response

Women have a major and growing role in working life. Between 1936 and 1976, the percentage of women actually engaged in a trade or profession rose from 24.9% to 36.6%. How will they be affected by current trends in technology?

Women workers are already concentrated in a narrow range of poorly paid, low-level jobs in which the risk of unemployment is high. According to the New Zealand Public Service Association (PSA), information technology is likely to make their jobs even more precarious than before.

Even in the data processing field, most of the best paid jobs with the highest status are taken by men, whereas women are confined to the least attractive jobs. The figures for the public service reflect the general situation: only 23.4% of civil service programming jobs are held by women, while 99.8% of terminal operators are female.

Even women operators are placed at threat by the success of equipment such as desktop computers by which users can obtain direct access to a central computer.

Workers in New Zealand, says PSA, must take the predicted loss of women's jobs seriously. Not only will women be likely to find themselves back at home - whether they want to or not - but men and women will be competing fiercely for the remaining jobs, leading to the false solution to the problem of unemployment: making women redundant so that men can take over their jobs.

The issue is far more broader than the problem of the future of women's employment. As SPA points out, answers may vary but the fundamental question is still the same: "will new technology lead to lower employment?". Even optimists must face up to the fact that there are more than 50,000 unemployed in the country today and, according to the New Zealand information technology society, the figure is likely to rise to 500,000 by the year 2000.

Les dactylos face aux robots

Le Monde, 13.2.1981

and

Liaisons sociales.

N° 8460, 3.3.1981

On 16 March 1981, a nine-week strike in the French national statistical institute - INSEE - at Nantes came to an end. Its 48 women typist/coding clerks had won what they were claiming: an extra 25-minute rest period a day, the right to work without a VDU screen for an hour a day, an end to individual performance monitoring and back-pay for the 21 working days lost by the strike.

A system of multiple keyboards and screenless terminals linked to a computer centre had formerly been used for data compilation in the centre. The messages were encoded and checked by the central computer which then notified the operator of errors needing correction. To modernize the process, the input terminal was replaced by a mini-computer with a VDU screen so that errors could be corrected immediately (conversational compilation). The work was longer and more tiring for the keyboard operator/coding clerks but it helped to improve productivity by about 30%. The operators complained that the work - the inputting of 700 to 1,000 cards a day - caused eye strain and nervous exhaustion.

As one of the women workers explained during the strike, "our work used to be simple. We didn't have a screen, we could chat to each other from time to time while we keyboarded our copy. Now we have to cope with a lot of messages. We spend the whole day typing out the copy from a text to the left of the keyboard and at the same time we have to scan the

screen on the right - they say that it would be bad for our eyesight if it were right in front of us. This twisting and turning is exhausting. When I get tired, when the letters start blurring before my eyes, of course I can always switch off the computer and stop the conversation. But the shut-down is notified and I risk losing my performance bonus ..."

The operators - mostly young women who had been hired in 1972 when they were aged 16 or 17 and had just obtained their typing diploma - were at first prepared to try out the new equipment for three weeks, because they "thought the work would be more interesting". Right from the start, though, they claimed compensatory benefits. They were given them: five minutes extra rest period twice a day! They decided to slow down work on their own initiative, taking 45 extra minutes rest a day. Finally, on 7 January, they went on strike because head office had decided to deduct one thirtieth of their wages as well as back pay in respect of the extra rest periods.

Technologies Nouvelles et Emploi des Femmes

Colloquium arranged by "Commission belge du Travail des Femmes",

1-2 October 1981

reported by G. Pichault

The introduction of new technology has specific effects on women's employment. For two days, the politicians, employers, union officials, scientists and teachers attending the colloquium arranged by the Belgian committee on women's work took a long, hard look at the topic, together with women workers who had already had to cope with the repercussions of new technology.

Women are more vulnerable to new technology because of the following social factors (in Belgium):

- a) Segregation in employment: 72% of the female workforce is to be found in six sectors of the economy: services, education, communications, catering, tobacco processing and footwear manufacture. Office automation and telecommunications technology are developing in most of these sectors. Ten occupations account for 81% of the female workforce: office workers, teachers, saleswomen, medical staff, spinners, cutters, packers, personal care, domestics and tobacco workers, all of whom will be affected by technological developments. Men are to be found in a whole range of occupations. Only 10% of men and women work in "mixed" occupations.
- b) The level of women's education is too low and their counselling at school is misguided.
- c) Their commitment to their careers is still interrupted, although the trend is towards greater continuity.
- d) Women are more likely to work part-time; new technology tends to increase this type of work, especially in the distributive trades and in work with VDU screens which would be intolerable for more than four hours at a stretch.

The type of work offered to women is falling in quality, in that it tends to be part-time and unskilled. Women workers who attended the colloquium were outspoken in condemning the effects already apparent: fewer jobs, the monotony and dehumanization of the work available to them, more stringent checks on their performance and working rates, the onset of new disorders recognized as occupational diseases, an increase in nervous illness and self-medication, isolation and a loss of solidarity.

Certain guidelines for action emerged in the course of the debates:

- specific efforts to inform women and encourage them to undertake training for the skilled jobs created by the introduction of new technology;

- more help for women workers threatened with unemployment, to come out of the European Social Fund;

- review of school curricula and textbooks to do away with stereotyped ideas;

- encouragement for equality agreements at management/employee level (no agreement as to quotas);

- more information about the structure of the workforce; an end to "asexual" statistics;

- clarification of the authorities' role and duties, and a firmer resolve to achieve equality;

- effective involvement of women in all national and international consultative bodies on new technology, on which they are not now represented;

- selective expansion of night shift work for women;

- an almost general rejection of piece-work (part-time, work done at home, etc.), which pushes women even further out on the fringes of society and isolates them in the world of work;

- social welfare protection for part-time workers;

- research on the new occupational diseases, especially on the disorders generated by office automation; new regulations to protect the health of all workers, both men and women.

Impact of new Technologies on Women's Employment

November 1981

This paper analyses the potential links between new technology and women's employment on the basis of a statistical review of occupations and sectors in which women are in a substantial majority and in which the introduction of new technology will be widespread.

The impact of new technology on women's employment is not analysed as such. Statistical research on the basis of the Belgian case material consists of identifying the female-dominated sectors and occupations likely to be affected by information technology. One conclusion is that a majority of men work in sectors that will be affected by more advanced automation and robotics, while women work in sectors that will be more affected by office automation and associated technology.

Women are concentrated in a few occupations: 81% of the female working population is to be found in 12 of what are considered as typically female occupations, whereas 64% of men are to be found in the most "male" categories. Only 10% of job categories are truly mixed.

The other social characteristics of working women are:

- an often inadequate level of education;
- inappropriate guidance at school;
- lack of continuity in employment (due to motherhood and turnover);
- high rate of part-time employment.

These characteristics increase their susceptibility to discrimination in the process of introducing new technology.

The resources that should be introduced to offset the drawbacks of new technology are many and various, but the primary emphasis should be on education in all its forms (at school, basic training and retraining, etc.).

The Future with New Technology

London, 1981

This booklet devotes a few pages to the topic of women and new technology.

The Union (the National and Local Government Officers Association) feels that the most immediate threat posed by new technology is to the lower grade, more routine jobs which lend themselves to automation. Typing, filing and routine clerical jobs are particularly vulnerable, and the people doing these jobs are women.

The stark fact is, however, that the nature of women's participation in the workforce and in trade union activity could undermine the resistance to job loss in these lower grade jobs. NALGO sees five factors as making women specifically susceptible to the introduction of new technology.

Job Segregation

Although women now make up over 40% of the workforce, their opportunities at work in terms of the range of jobs open to them has narrowed rather than expanded. Typists and secretaries (99.0% of whom are women in NALGO services) and clerks (81.1% women) are most likely to be affected by office automation.

Family Commitments

Women's participation in paid employment has been growing steadily over the past 15 years, and that growth is largely the result of increasing numbers of married women joining the workforce. This means that more than ever women are combining work with home responsibilities. This makes them heavily dependent on public services such as nursery facilities, school meals and services for the elderly and handicapped. Pressure to maintain such services is needed in protecting women's employment.

New technology is also a medium whereby work can be done at home. Although home working may be an attractive proposition for employers because it cuts their costs, it could be a disaster for women and unions.

Part-time work

Women often reconcile their domestic responsibilities with their need to earn money by working part-time, and there is a vital need for more opportunities for part-time work and better conditions of service for part-timers. At present, 90% of part-timers in some NALGO services are women, almost all in the very lowest grades. They have a poor record of union membership. Any agreement which leads to a reduction in part-time opportunities penalizes women. The formula for staff reductions is often "part-timers first".

Women's skills and the education of girls

Although keyboard skills are of considerable importance (until such time as voice recognition systems are in widespread use), in the long term it is vital that a far wider range of training opportunities should be opened up for girls.

Many women at work are aware that word processing will dramatically reduce the number of typing jobs and want to train in new technology skills to ensure that they will have jobs in the future. There is a need for equal opportunities policies on wider retraining and career development for women.

Natural wastage

Turnover in lower grade jobs is greater than in higher ranking jobs, and the former are primarily held by women. As a result, a policy of staff reduction by "natural wastage" tends to discriminate against women. A "no job loss" agreement is preferable to a "no redundancy" clause in a new technology agreement.

Informatisation et emploi féminin: éléments d'approche

Internal memorandum, CREI, 1981

The memorandum describes the impact, both past and future, of the introduction of new technology on women's employment in France and suggests hypotheses to be tested by more thorough research.

Women's employment tends to be concentrated in the service sector, as does information technology. This causes grave concern as to the future of women's employment, especially as their rate of unemployment is rising at a time at which a larger percentage of women is coming onto the labour market.

The authors of the memorandum distinguish between two periods: 1960-1975 and 1975-1990.

1976 - 1975: women's employment benefited in general from the introduction of new technology. There were more jobs for women in fields in which automation was being introduced, in other words in processing (chemicals, oil) and the capital goods industry (electrical and electronic). Women gained a foothold in sectors in which mechanization and automation were being developed and at the same time the structure of unskilled jobs was changing. It was not that women gained access to new types of jobs but that unskilled jobs were created that were taken by women. The service sector was the main generator of new employment in the period.

1975 - 1990: applications are broadening and there is growing integration of new technologies. Women are likely to be the first to be affected by the changes. The situation will probably differ from that in the first period in that the spread of information technology will create fewer jobs or even do away with jobs. The work (most of it women's employment) that was created during the phase of centralized information technology (for example, punch operating and programming) may well be the first to disappear. Few jobs will be created, especially jobs for women who do not generally opt for training in the "electronic" field. The wide-scale introduction of automatic machines will affect certain grades of skill (in the jobs with a high proportion of women) rather than specific sectors.

The trend will be towards less segregation: industrial jobs will be more "female", while jobs in the service sector will become more "male".