

JOINT CONSULTATIVE COUNCIL

(For promoting Equality of Opportunity for Men and Women in Clerical and Administrative Spheres)

Representing the Views of

Association of Assistant Mistresses in Secondary Schools
Association of Head Mistresses
Association of Women Clerks and Secretaries
Bank Officers' Guild
Civil Service Clerical Association
Guild of Insurance Officials
National Association of Local Government Officials
National Association of Women Civil Servants

REPORT

ON

The Effect of Mechanisation on the Salaries, Status, and Promotion Prospects of Women in Offices

1935

THE introduction of machinery into offices is a subject of great importance to women. They are regarded by employers in general as more suitable for this work than men, and they have been to some extent associated with office machines from their inception. Throughout the early years of the present century, an increase in the use of typewriters went side by side with an increase in women's employment in offices until, at the present time, typing has become almost entirely a woman's occupation. The same trend is observable where modern machinery—addressing, duplicating, calculating, etc., machines—is introduced.

It is relevant to consider for what purpose the mechanisation of offices is carried out. Mr. S. Hamilton Price, of the Incorporated Secretaries Association, gives two reasons. In a paper addressed to office managers he said: "Before purchasing machinery for the office, it is essential to see, as far as one can, what possible savings will arise, whether such mechanisation will make for efficiency." Sir Joseph Burn, General Manager of the Prudential Assurance Company, and one of the most influential of exponents of office mechanisation, says: "A few clerks, controlling a battery consisting of tabulator machines, together with punching and sorting machines, can produce records and accounts at the same speed as a department of some 70 or 80 clerks." And again: "By an almost entirely mechanised process, a result is achieved in a minimum of time which, with old fashioned methods, would have kept a room full of clerks continuously employed on a somewhat tedious task."

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REP

CIVIL SERVICE

Machine operations in Government Departments, excluding the operation of typewriters, are, generally speaking, performed by a class called Writing Assistants numbering about 7,400, and composed of women and girls only.

This class was already in existence when the process of mechanisation began. As mechanisation spread, Temporary Women Clerks were introduced to do certain varieties of machine work in certain areas of the Service, but by far the larger number of officers engaged on operating office machines are Writing Assistants and, in 1928, the Treasury stated that it regarded the Writing Assistant Class as the appropriate grade for this variety of work.

The present rates of pay and hours of the Writing Assistants and Temporary Women Clerks, Grades III., IV. and V., are given below. It should be noted that the majority of Temporary Women Clerks are graded as Grade III.

WRITING ASSISTANTS.

(Recruited at age 16-17, by local competitive examination. Candidates can compete only for vacancies at offices within daily travelling distance of their homes.)

Age.	London Postal Area.		Outside London Postal Area.	

16	...	28/-	...	26/-
17	...	31/6d.	...	29/6d.
18	...	35/-	...	33/-
19	...	38/6d.	...	36/6d.
20	...	42/-	...	40/-
21	...	45/-	...	42/-
22	...	48/-	...	45/-
23	...	51/-	...	48/-
24	...	54/-	...	51/-
25	...	57/-	...	54/-

HOURS.—London: 7 hours' attendance per day, Monday to Friday inclusive.
3½ hours' attendance on Saturday.

Provinces: not exceeding 8 hours' attendance per day, Monday to Friday inclusive.
4 hours' attendance on Saturday.

TEMPORARY WOMEN CLERKS.

(Recruited through Employment Exchanges.)

SCALES IN LONDON POSTAL AREA.

Grade III.—18 years and under 21	...	36/11d. by 2/1d. increments to 43/2d.
21 years and over	...	40/8d. by 2/1d. increments to 53/1d.
Grade IV.—18 years and under 21	...	29/10d. by 2/1d. increments to 36/1d.
21 years and over	...	33/6d. by 2/1d. increments to 46/1d.
Grade V.—17 years and over	...	(not exceeding) 28/10d.

Lower rates are paid in the "intermediate" and provincial centres, the "intermediate" rate being just over 3/- and the provincial rate just over 6/- lower than the London rate at each point on the scale.

HOURS.—The above rates are paid for an 8-hour attendance day.

OVERTIME PAYMENT is made to London Writing Assistants for attendance in excess of 42 hours in any one week, and to provincial Writing Assistants and to all Temporary Women Clerks for attendance in excess of 44 hours in any week.

DUTIES.—At the last Reorganisation of the Service, the duties of the Writing Assistant Class were defined in the following terms:—

"Work preliminary to machine operations (punching, tabulating, etc.); hand-copying and transcribing work (writing out acknowledgments, filling up forms, warrants and bills); addressing of letters; counting and routine examination of postal orders, insurance cards, etc.; casting and preparation of schedules and lists; writing up of simple cards; custody of card indices."

It will be seen from this definition that it can hardly be disputed that the Writing Assistant Class is the appropriate class to operate office machinery and, in fact, it has not proved possible to take exception to the performance of this type of work by Writing Assistants. It should be noted, however, that a number of processes which have been mechanised were formerly carried out by Clerical Officers on a scale of pay higher than that of Writing Assistants, and this fact is reflected in a decrease in the size of the Clerical Class.

When attempting to estimate the effect of mechanisation upon the salaries, status, and promotion prospects of the women clerical staff of Government Departments, the following points should be noted.

(1) In the Civil Service women are not employed merely in the lowest grade or grades and on nothing but the most routine work. Nearly every Civil Service class is now open to both sexes so that women have the opportunity of entering a "mixed" as distinct from a women's class if they choose to take that opportunity.

(2) The Civil Service Writing Assistant is not debarred from entry to classes above her own. So far as the Clerical Class, i.e., the class next above her own, is concerned, she can sit for the Clerical Class Examination up to the age of 19 (the ordinary age limits for outsiders are 16-17), and in the second place, she has a recognised avenue of promotion to the Clerical Class. Writing Assistants of 21 years of age or over are eligible for such promotion and, if regarded as suitable, are tried out on Clerical Class duties with a view to subsequent promotion to the rank of Clerical Officer. During 1933/34, the latest year for which statistics are available, approximately 1 in 7 of the Writing Assistants employed who were more than 21 years of age did, in fact, obtain such promotion.

(3) As the Civil Service machine operator is drawn mainly from the ranks of the Writing Assistant Class she has the pensionable status which applies to other classes of civil servants and is covered by the ordinary Civil Service non-contributory pension scheme.

(4) In most departments a scheme of rest pauses during employment on machines and of relief from machine duties is now in force. In many instances the machine operator is employed on a half-day basis, whilst in other cases she is taken off machine work after being employed upon it for a period of weeks.

INSURANCE

In Industrial and Friendly Societies where mechanisation has taken place on a large scale, existing staff has been utilised to a great extent, and staff conditions, rates of pay, etc., are similar. In one such office, women proficient on the machines are granted 2/6 a week extra for this qualification, and half the working time each day is spent on ordinary clerical work. In another, girls are occupied on machines for half time only, the other half of the day being devoted to clerical work which offers opportunities of promotion. The following are examples of machine rates of pay in such undertakings:—

1. 45/- per week rising by 3/- to 60/-.
2. £60 per annum rising by £10 to £130.
3. £1 by 5/- to £2 10s. after six years, then by 2/6 to £3 maximum.
4. 15/- (age 17) by 4/- to £2, then by 2/- to £2 15s. (Note: A free lunch is provided in this case.)
5. 15/- (aged 16) to £3 maximum at age 33.
6. 30/- (age 21) by 2/6 to 50/- maximum.

In some composite offices (i.e., all classes of insurance except industrial) separate "mechanical" departments have been started in buildings at some distance from the head offices, and the staffs employed are wholly on machine work. Internal conditions in these departments differ, however. At office "A" where about 50 girls are employed, conditions are substantially the same as those at the head office, and with the exception of three girls

"borrowed" from the company providing the machines, the employees are all "on the staff" of the office concerned. At office "B" where about 30 girls are employed, conditions on the other hand are appreciably worse than those of the staff at the governing head office. Girls are recruited at 15 years of age (instead of 17 as at head office) from County Central Schools, and only the simplest of entrance tests is imposed (as opposed to H.O. Matriculation Standard). Commencing salary is £40 p.a. (H.O. £65 plus luncheons valued at £20), and hours 9—5.30 (as opposed to 9.30—5). Every third Saturday is allowed, and time off is granted in return for overtime worked. Note: In one mechanised department seven clerks are employed where over 50 were employed seven years ago.

RAILWAYS

Mechanisation is being carried out in many departments of the railways. A typical example is that of the Mineral Department of the L.M.S. where 300,000 traffic entries per month, formerly dealt with by male ledger clerks, are now handled by women clerks on Powers-Samas machines—punching, sorting, tabulating, calculating, reproducing and addressograph machines. About 100 girls are employed here.

In costing departments, similar action is being taken to replace higher paid male clerks by women machine operators, and to a lesser extent the introduction of the Creed instrument in Telegraph Offices has led to the introduction of women where formerly Class 4 male clerks were employed. The scale of pay of the Class 4 male clerk is £210—£230, plus £10 per annum, London area.

The introduction of machines has not led to any salary reductions as far as the women are concerned. The saving has been effected by the difference between male and female rates. Machine operators in the railway service are not regarded as a class apart but as a part of the general grade of Woman Clerk. The salary scale is as follows:—

Age 16, 17/6; age 17, 21/6; age 18, 30/-, rising by increments of 2/- or 2/6 per annum to a maximum of 60/- at age 31.

There is a second scale, for Class I. Women Clerks, as follows:—

Minimum, 65/-; after two years, 67/6; after two years, 70/- (max.).

Note: 4/- per week should be added to these figures for London district.

The total number of women employed in the Railway Service is about 9,500. About 95% are in the lowest grade.

The effect of machine introduction on numbers employed in the Railway Service has not been so great as might have been expected as more statistical and costing figures are produced than was formerly the case.

BANKS

The women machine operators in banks are not yet working under uniform conditions owing to the fact that, when the system was initiated, women who had obtained some salary seniority during the war were in many cases put upon machines, where they still remain. They are working side by side with younger girls who were taken in expressly for the purpose of machine work. Senior women so treated suffered no loss in salary, but the transfer to less responsible work has lowered their status.

AGE OF ENTRY.—There is a tendency to reduce the age of entry where girls are being taken on solely for machine work.

QUALIFICATIONS.—Banks were originally inclined to demand an education up to matriculation standard, but this is in most cases no longer insisted upon. Young girls are considered quite capable of operating the machines after a course of six weeks' training. Some banks give the girls a course of training themselves, while in others girls come to the banks already instructed by the firms who supply the machines. There are also large numbers of girls who have been taken on by the banks through influential recommendation. At the present time all the banks do not appear to demand any special qualifications for the mechanised staff. Many girls, however, who enter for machine work, offer shorthand and typewriting, although this is of no monetary advantage to them.

CONDITIONS.—Some banks keep their girls permanently on machines, while others are given alternating periods of clerical work. This practice varies in different branches of the same bank. With regard to hours of work, the position of the banks is that it is impossible to arrange the required output uniformly since the amount of ledger posting is more concentrated at some periods of the month and of the year. The machinists, as a general rule, are the last to finish their day's work. There are no recognised hours of work. Conditions are not ideal in all the banks, as the buildings were not designed to accommodate a large mechanised staff. It is generally agreed that it is profitable to mechanise a branch with a staff of six or more. Apparently this limit has been reached in some banks, and there is no further development, at present. Centralised book-keeping has been introduced in some large provincial centres, and is being further considered.

SALARIES.—In one large group of joint stock banks the salaries are more or less uniform. Probationary period of three months (or until age 18) £80 p.a., then £90 p.a., increasing by annual amounts of £10 to a maximum of £200 in country and approximately £225 in London and some large cities. In other banks, however, the maximum is £130 p.a., while others pay a little more. Pensions are granted entirely at the discretion of the directorate after 20 years' or more service, with one notable exception among the group of larger banks, where no woman has been put on the pensionable staff since 1928. Some of the smaller banks do not pay pensions at all, although efforts are being made to get them to do so.

AGE OF RETIREMENT.—This originally was 55; in some banks is now 50, and in one large bank since 1933, is optional at 45. It is to be noted that in some banks the young girls who have come in expressly as machinists have not yet been in the service long enough, either to know what their maximum salary will be or to know what their age of retirement may have to be.

WELFARE.—Unlike most industrial organisations the banks make no attempt to install any supervisory or welfare system. The female staff is, with few exceptions, superintended in exactly the same way as it was before the introduction of machinery, hence overpressure is liable to arise from time to time, and is not sufficiently allowed for.

EFFECT OF MACHINE INTRODUCTION ON NUMBER OF STAFF EMPLOYED.—No dismissals have taken place as a result of mechanisation in the banks. Posts formerly held by men have been taken over by female machine operators, but these men are transferred and are being retained until the age of retirement.

PROSPECTS.—There do not appear to be many avenues of promotion open to women except appointments as secretaries to managers and higher bank officials. There are no administrative posts open to women. Women in future will be almost entirely on the mechanised staff.

Estimated number of women employed in banks: 14,000.

DISTRIBUTION

GENERAL POSITION IN CO-OPERATIVE SOCIETIES (Trading side only referred to).—In a number of offices the staff has not been considered sufficiently large to make mechanisation on any considerable scale either practical or economical. The number of clerks exclusively employed even as typists is relatively small. On the retail side, check systems have been introduced for registering the purchases of members and a special office known as the "Check Office" is usually staffed by young girls, with one or two adults. The work is routine and the employees' union have had difficulty in preventing it from becoming a blind-alley occupation. As a result of pressure, however, the tendency now is to absorb the girls into the general office or to the centralised cash desks.

In the one society where large scale mechanisation has been carried out, there was a tendency at first to displace adult male clerks by female juniors. Under pressure, it was agreed that compensation should be paid to adults displaced in this way, and the actual result of this arrangement has been that those whom it was proposed to dismiss have been absorbed in one occupation or another. Thus, mechanisation has not been followed by dismissals but it has changed the type of recruitment. Formerly recruitment consisted mainly of boys between the ages of 14 and 17. To-day, boys and girls in about equal proportions are

engaged, all of them having passed their 16th birthday and all of them having had a secondary school education.

Synchronising with the introduction of mechanisation a superannuation scheme was introduced providing for compulsory retirement at 65 and this probably accounts in part for the fact that actual dismissals of adults have been avoided.

SALARIES.—In retail societies boys and girls start at approximately the same rate, but the incidence of annual increments is such that the adult female clerk usually receives between one-half and two-thirds of the amount received by the adult male clerk. On the wholesale side, the adult female clerk gets approximately three-quarters of the rate paid to the adult male.

PUBLIC UNDERTAKING (No. 1)

The total number of women involved under this heading is 154, of whom 31 are graded as shorthand-typists and 123 as women clerks. The work of the women clerks is clerical, mechanical or both. One hundred and thirty are permanent staff and 24 temporary.

Both grades, clerks and typists, are subject to the same conditions of employment and the rates of pay of the permanent staff are as follows:—

Class II. £70 per annum, increasing to £170 per annum.

Class I. £180 ,, ,, ,, ,, £235 ,, ,,

Class I. is recruited from Class II., and Class II. from the temporary staff. Permanent appointments are made at 18 years of age, after six months' approved service, provided there is a vacancy. Overtime is paid for special jobs.

The principal machines in use are Comptometers, Sunstrands, Addressographs, Grapho-type, Adrema, Calculators, Typewriting Accounting Machines, and Hollerith Tabulating Machines.

On the whole, machine operators are taken into the service younger than clerical workers, from 16 years of age in some cases, and therefore the proportion of temporaries among them is rather higher. In the Tabulating Section, where most of the machine work is done, the juniors start on punching and are paid 20/- per week, with an increase of 2/6 per week each year as long as they are temporary, which is on average about two years.

PUBLIC UNDERTAKING (No. 2)

The rate of pay is the same for typists and calculator operators. Entrance by examination (educational and proficiency in machines). Age of entry, not under 17.

SALARY SCALE.—*First Class Typists and Calculator Operators*: £170 by £10 to £210.

Second Class Typists and Calculator Operators: £80 by £10 to £160.

HOLIDAYS.—1st Class, 15 days' leave; 2nd Class, 12 days' leave.

Posts are pensionable, with the option of retiring at age 55. The maximum pension is two-thirds of salary.

COMMERCE

It is impossible to give a general picture of the commercial position as conditions vary greatly. Information given by the Machine Training Schools is as follows:—

BURROUGHS.—A training of three to four months is necessary for the calculating machines, and young girls straight from school are preferred. Girls so trained can command a salary of 35/- at age 16, rising to 60/-. On the book-keeping machines a training of five weeks is necessary, and salaries range from 45/- to 60/-. Promotion prospects for fully trained operators are (a) Control Clerk, in charge of six to twelve machines, (b) Machine room supervisors. Such posts command salaries of £3—£4 10s.

COMPTOMETER.—Similar information given in regard to length of training and commencing salaries, but no precise information given as to upper salary scales.

ELLIOTT-FISHER.—A training of six weeks, though a lesser period is necessary for those who are already efficient typists. Salaries for senior workers range from £2 10s. to £3. For invoicing machines, a training of two to three weeks is required, the rate for this work being about £2 10s.

In considering to what extent these rates are paid by commercial firms in general, it must be remembered that it is the practice in some firms to have existing staff trained to perform one process on a machine and to employ only two or three fully trained operators.

A statement by the Office Management Association, giving the results of a questionnaire issued to members, shows the following facts:—

DUPLICATOR OPERATORS (Multigraph, Roneo, Adrema, Addressograph, Ormig and Gestetner).—Replies from 12 firms give rates ranging from 18/- to 30/- at ages 16 to 18 (general averages: 21/1 at age 16, 28/1 at age 18); adult workers (21 and over), minimum ranges from 24/- to 60/- (general average: 38/3), maximum from 28/- to 67/6 (general average 48/3).

MACHINE LEDGER POSTERS (Burroughs, Elliott-Fisher and Sundstrand).—Replies from 13 firms give rates ranging from 20/- to 30/- at ages 16 to 18 (general averages: 22/- at age 16, 33/5 at age 18); adult workers, minimum ranges from 30/- to 70/- (general average: 45/9), maximum 47/6 to 80/- (general average 64/1).

CALCULATING MACHINE OPERATORS (Burroughs, Comptometers, Brunsvica and Victor).—Replies from 10 firms give rates ranging from 17/6 to 35/- at ages 16 to 18 (general averages: 19/6 at age 16, 30/6 at age 18); adult workers, minimum 30/- to 35/- (general average: 41/9), maximum 40/- to 76/9 (general average: 56/11).

The following figures are given as the average minimum rates in the various grades of work in the firms covered by the enquiry:—

Machine Ledger Posting ...	45/9	Shorthand-typing ...	39/11
Calculating machines ...	41/9	Copy Typing... ..	35/4
Duplicators	38/3		

The average maximum rates are given as follows:—

Machine Ledger Posting ...	64/1	Shorthand-typing ...	64/-
Calculating machines ...	56/11	Copy Typing... ..	47/2
Duplicators	49/9		

Note: These figures apply to the London area.

CONCLUSIONS

EFFECT OF MECHANISATION ON NUMBERS EMPLOYED.—It would appear that the introduction of mechanisation has not decreased but has increased the number of women employed. Our evidence tends to prove that this increase is at the expense of male workers who are being displaced from routine clerical duties by machines. It is not possible to state, however, that this increase on the machine side will be maintained, since it is partially due to the fact that a greater amount of statistical detail is demanded than was formerly the case. The fact that the machine worker can achieve a far greater output than the hand worker cannot be overlooked.

EFFECT ON STATUS.—The introduction of machinery has tended to degrade the character of the employment where sub-division of work has led to the employment of workers on one process only, because in such cases it seems to be regarded by employers as relatively unskilled work.

EFFECT ON PROMOTION PROSPECTS.—There does not appear to be much chance of promotion for machine workers as comparatively few supervisors are needed. The nature of the work tends to isolate the machine worker, and affords little opportunity for her to gain a general knowledge of the undertaking in which she is employed which might lead to promotion into other grades of work. Continuous employment over a period of years on one process tends to create a rigidity of outlook which militates against the assuming of responsibility. This is true of all monotonous employment but the additional danger as far as machine workers are concerned is the fact, as mentioned above, that their work isolates them and creates of them a class apart.

EFFECT ON SALARIES.—There is a growing tendency to introduce female machine workers in place of male workers on the more repetitive forms of clerical work. From the information collected it would appear that where strong organisation exists among employees salary scales have been maintained at the level of those paid to the shorthand-typist or woman

clerk. Where organisation is weak or non-existent, the tendency is to employ extensively female juvenile labour, at a low rate, with very poor prospects, and without security, thus creating a blind-alley occupation.

EFFECT ON HEALTH.—It is too early to judge the result of machine work on the health of the workers, but where information is available there is evidence to show that continuous employment on machines has proved to be a greater strain on the nervous system than clerical work or shorthand-typing.

RECOMMENDATIONS

1. It is contrary to the interests of the staff that any separate grade should be established for machine workers. Such workers should be salaried staff, appointed on a recognised scale. Appointments should be permanent and superannuated.

2. Employment on machines should be part time only, to avoid undue strain and to provide for a rotation of duties which will enable machine workers to become conversant with other aspects of the undertaking in which they are employed. Where possible an approved psychological test should be applied before engaging applicants for machine work to avoid the employment of unsuitable staff.

3. To obviate the risk of strain, it is essential that the best possible conditions should prevail, namely, good light, adequate ventilation, ample space, specialised seating and scientific arrangement of equipment, and as far as possible noise should be eliminated by sound-deadening apparatus.

4. The increased output arising from machine work and the fact that such work is organised to prevent any slack periods during the working hours should afford an opportunity to employers to decrease the hours of work and so provide the workers with the leisure which should result from increasing mechanisation.

5. It is the opinion of the Council that strong Trade Union organisation is essential for the maintenance of salary standards where mechanisation is introduced.