

4 PAPERWORK AND SYSTEMS MANAGEMENT

MANAGEMENT OF THE PUBLIC SERVICE

REPORT 4: PAPERWORK AND
SYSTEMS MANAGEMENT

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A number of briefs from individuals, business firms and associations offered comments on a variety of problems associated with this area of our inquiries, and these have been fully considered. A list of these submissions will be found in our final report.

Your Commissioners in acknowledging the assistance and advice received, dissociate all the above-named persons and groups from any of the findings and conclusions appearing in Part 1 or Part 2 of this report; for these, your Commissioners assume full responsibility.

PART 1

1

INTRODUCTION

Your Commissioners are directed to inquire into and report on the organization and methods of operation of the departments and agencies of the Government of Canada, and to recommend changes which will promote efficiency, economy and improved service.

In the public service, as in private enterprise, administrative processes must provide for speedy communication of accurate information. Records and systems are therefore essential to good management, and their design must be efficiently ordered so that timely decisions can be taken with full knowledge by the right people, at a reasonable cost. The common danger, calling for constant surveillance, is that superfluous information may be recorded and too freely circulated, thus clogging the channels of communication and wasting public funds.

This report, therefore, treats with the systems and procedures in use and their suitability: it examines the major problems which result from the necessary handling of large volumes of records, as well as the efficiency of machines and equipment; it deals directly with what the public call "red tape", the internal paperwork of public administration. The problems associated with the filling out of 100,000,000 government forms by the public each year will be discussed in subsequent reports.

It is hardly necessary to emphasize the importance of this subject. Unless administrative procedures are well conceived and carried out two major losses result. First, the performance of public servants and the conduct of government business is seriously impaired. Second, the money costs of inefficiency,

by reasons of the great volume of material handled, are very substantial, running literally into many tens of millions of dollars annually.

The adequacy of administration has, further, a special bearing on certain personnel problems. Morale is directly involved: frustration, blind alleys, non-recognition of meritorious performance and involuntary discrimination, all flourish under faulty procedures and organization. Good performance depends upon sound organization and methods no less than on good employees.

Your Commissioners are highly critical of existing conditions and regard the opportunities for improvement as challenging in the extreme. Almost entirely, the criticism is directed at the pattern of management, rather than at the people who, as a whole, are working under severe handicaps. Possibly because no one has clear responsibility for this aspect of management, there is an appalling lack of understanding of present deficiencies and a general lack of concern about the money wastage.

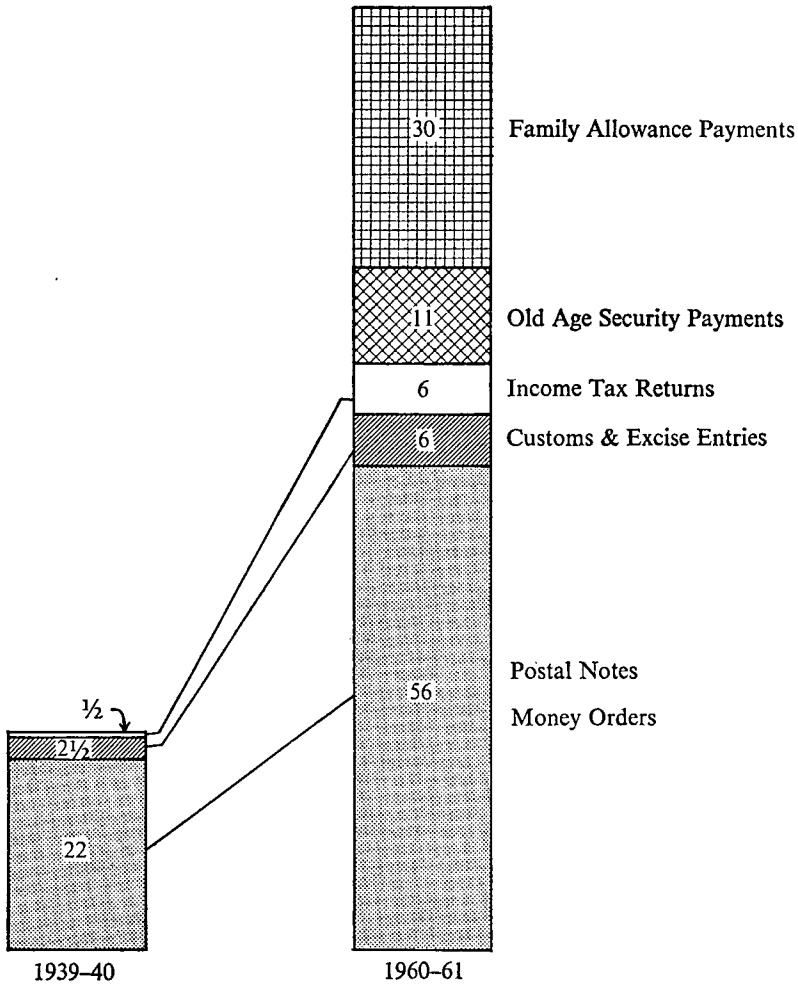
Within the purview of the individual administrator, organization and paper-work procedures take on the character of irritating but inevitable annoyances. They have none of the interest or drama of major policy issues, and when they are given attention it is usually because of some emergency. The tendency towards "empire-building" may actually induce some administrators to avoid streamlining procedures. For all these reasons, the prime requisite of any solution is recognition of the need for a positive policy and continuous application to the task of keeping procedures and systems in harmony with current conditions.

THE PUBLIC BUSINESS

The estimated total paperwork bill in 1961 amounted to about \$500,000,000, about one-twelfth of the total budget. At least 100,000 civilian and military employees (one out of every eight clerical workers in Canada) are engaged in the routine operations of typing, despatching, recording, filing and storing correspondence, and in the preparation of reports, forms and directives which circulate throughout the public service. At least 2,500,000 cubic feet of records are stored on government premises, and each year adds 250,000 cubic feet of filing space—the equivalent of 83 railway box cars. Ten miles of shelving are annually being added to hold new books and publications acquired by departments. Disbursements of the government each year exceed seventy-seven million separate items. The numbers employed and the volume of work constantly increase.

As the scale of government activity has grown, the necessity of preserving records has exerted a cumulative pressure on existing procedures and facilities.

The extent of recent growth in a few areas of activity where much paper originates is pictorially presented.



(Figures in Millions of items)

This growing volume of records is necessarily retained for varying lengths of time. For example, the Central Mortgage and Housing Corporation must maintain records of the hundreds of thousands of mortgages under its jurisdiction. The Department of Agriculture collects annually millions of reports concerning the 600,000 farmers participating in various agricultural programmes. The Armed Forces must keep track of over 500,000 different stores items.

THE NATURE OF THE PROBLEM

The mounting tide of paper can inundate the public service unless management pays strict attention to regulating its flow and directing it into useful channels. Records have a life cycle. They are conceived, brought into the world, live a more or less purposeful life in active files, tend to reproduce themselves, and in old age are decently cared for in dormant storage. When they have no further purpose to serve, they are cremated. Haphazard control of any stage in the life cycle can be disastrous in so massive an operation.

The records found in government are not all alike, and each produces its own problems for management. Forms must be controlled to keep their number within bounds and to achieve standardization. Reports must be kept under continuous scrutiny to weed out those no longer required and to ensure that those in use contain the required data. Internal instructions and regulations require equally close surveillance if they are to be kept current, consistent and intelligible. Drafting, dictating, typing and mailing of correspondence require the development of standards and the application of procedures and equipment designed for efficient production and prompt despatch. Records, in all their varied forms, must be filed in cabinets or recorded on film, with a minimum of duplication, and so stored that they can be quickly turned up for reference purposes. With the passage of time, records lose their value for reference purposes and orderly procedures are required to ensure timely transfer from high-cost office space and equipment to low-cost records centres, and eventual removal to the Public Archives or to the macerating machine.

Office equipment, from the simple typewriter to the complex electronic computer, is needed to prepare, maintain and make use of the records. Furniture and supplies are required for the operations within each office. The choice of the most appropriate equipment, and its systematic arrangement in the proper environment, must be regulated in accordance with carefully developed standards. In particular, the electronic computer, with its enormous potential and rapidly developing technology, is already a major element of the paperwork problem. If costly errors in application are to be avoided, skills of the highest order are required. These electronic devices are servants, not masters, and analysis of their suitability for any task must be objective and include a matching of cost against value to the user.

The performance of staffs engaged in processing paperwork, either manually or by machine, is amenable to accurate measurement. Work measurement techniques, using acceptable standards, can gauge productivity. Work simplification, designed to train supervisors and workers to analyse their own jobs in search of simpler and less costly methods, can also be applied. It is also

possible to check the quality of the work performed and the standards of service being provided. These are samples of the impressive array of modern tools available to management.

All elements of the paperwork process in government fall within the realm of systems management. They may lack drama and for that reason be relegated to the limbo of neglect. But paperwork is the inseparable adjunct of government and provides the basis for most decision-taking. Management cannot afford to neglect either paperwork or the thousands of employees who preside over its mysteries. Sporadic attention is not enough. The problems are never wholly solved and new ones are constantly arising. Diligent attention both within departments and at the centre of government is continuously required and is an integral part of the management function.

The Government of Canada processes by far the largest number of records in the country. Therefore, it has potentially the most to gain from the adoption of new methods and equipment designed to cope with paperwork problems. Because of the size and importance of possible savings, the government might be expected to provide leadership in developing new techniques. Instead of setting an example to the Canadian business world, the government trails private enterprise in this important field.

In the Government of Canada, there is a need for managers at all levels to take an aggressive and positive approach to the development and application of new methods. The dividends, direct and indirect, from such a policy will be great. Your Commissioners believe that a minimum of \$50 million may be saved annually through improved performance in this area. Of equal significance will be the improvement in the morale and effectiveness of civil servants which will be gained from an enlightened management approach to this presently neglected field of public administration.

2

MANAGEMENT OF THE PUBLIC RECORDS

Public records have a unique importance for governments. In earlier centuries they were used mainly to document the obligations of citizens to their governments. With the rise of democratic governments, however, it became even more important to record the obligations of a government to its people. Records must be created, maintained and preserved in such a way that a contemporary democratic government can be held fully accountable to the public for its activities.

Many of the problems encountered in the use and disposition of public records stem from a lack of control over their creation. The way in which a record is generated frequently affects the way it can be filed or otherwise disposed of. Therefore, the anticipated use of a record and its probable disposition should determine its form at the time of creation. Every day millions of individual pieces of paper are born; some serve a useful life and many others are copies serving little or no purpose, but most of them are destined to find their way into the 200,000 filing cabinets of the government. There is urgent need for a comprehensive plan to control the products pouring from typewriters, duplicating machines, and high speed printers of electronic computers.

FORMS

There is no precise record of the number or cost of all government forms, or of the cost of processing them. However, it is estimated that more than 100,000 different forms are printed at a cost of at least \$5.5 million annually. Few

departments appear to have any appreciation of the much more substantial cost of the clerical procedures attending these forms—an annual bill of \$100 million for the whole public service.

The proliferation of forms is a problem which faces every large organization. Forms control measures are therefore a necessary part of the supervisory structure; to be successful, they must be strict in judgment and swift in execution. A well-known authority has wisely observed: «At least once every five years every form should be put on trial for its life». Probably less than half of the government's forms are subject to a review of any kind and, of those that are, very few are reviewed by trained analysts. In many departments, forms control units have no jurisdiction over field offices which create and use most of the departmental forms. In these circumstances, headquarters units review as little as fifteen per cent of the department's forms. Of the forms control or design staff interviewed, less than one-third had any formal training or professional experience in this area.

Where control of forms exists, it is mainly confined to initial design, procurement, and stock control. Analysis of procedures giving rise to the forms is generally overlooked, although considerable benefits could result. For example, one small clerical group, provoked by the sight of an old-fashioned ledger sheet, redesigned it, reduced its size by twenty-six per cent through the elimination of unnecessary columns, and printed it in one colour instead of three. The purchase price was reduced from \$40.00 per thousand to \$2.14 per thousand, and the labour cost to complete the 125,000 annual entries was reduced by \$8,400. Comparison of personnel forms reveals that no two departments follow the same paperwork procedures; as a result, in nine departments alone, 450 different personnel forms are used. Procedures and forms differ so much that, when 1,200 employees were recently transferred from one department to another, one man-year was required to transcribe personnel data from one set of records to another.

Many of the forms to be filled out by the public are produced both in English and in French. A few have been designed as bilingual forms and where, as a result, the convenience of the public is better served, the extension of such practice is warranted. As an example, the form used by Canadians returning from abroad to make claim for statutory exemptions from customs duty should be prepared in both languages.

No central agency in government has facilities and expert staff able to assume responsibility for assisting and educating departments in forms management. The Treasury Board, for example, has some responsibility for the management of forms, but has neither the facilities nor the analytical staff to promote a suitable programme. The Department of Public Printing and Sta-

tionery has some qualified staff but no authority to act. The Canadian Government Specifications Board has some facilities and a limited responsibility but no staff. The Management Analysis Division of the Civil Service Commission has qualified staff, who have access to the facilities required, but it has no responsibility.

The intelligent application of a programme for managing forms would result in an estimated minimum saving in printing cost of one million dollars annually; the annual cost of processing forms should be reduced by at least \$10 million.

REPORTS

The preparation and processing of internal and external reports cost at least \$50 million annually. There is no evidence of a regular review of reports in government; agencies and departments generally do not maintain inventories of all their reports, and most are inadequately informed as to the frequency of preparation or extent of the distribution of copies of reports. Nowhere in the government has any training been given on the subject of reports management, nor are there any guide-lines to help departmental staff install and operate a report control programme.

At every point in the inquiry, your Commissioners found reports which served no useful purpose, or cost more than their use justified; many were initiated years ago to supply specific information on a single occasion. Far too often, a report is made simply to report that there is nothing to report. In one department, forty-four reports, used by no one, are still prepared and widely distributed. In one headquarters organization, copies of 6,000 field purchase orders were being received every month for review only on an «as time permits» basis; as a result, a six to eight months' backlog had accumulated. During the course of this inquiry, the department agreed that this procedure could be discontinued, with the result that 400 man-hours are being saved annually and 72,000 pieces of paper eliminated. This example shows that, when an unnecessary report or a redundant form is abandoned, not only is the cost of preparation and reproduction saved, but a wasteful procedure may also be eliminated. Substantial savings would accrue from the establishment of programmes to ensure that reports are necessary, are doing the job for which they are intended, and are worth the cost of preparation.

DIRECTIVES

Directives are a formalized way of ensuring that work is carried out in a specifically intended manner; of promoting a reasonable degree of uniformity and

integration throughout an organization; and of providing guidance to employees. Up to \$5 million a year is spent to develop, print and distribute procedural manuals, policy directives and instructions to government employees.

Departments and agencies issue administrative directives ranging from informal memoranda to large sets of manuals. One department has five different sets of directives, totalling over forty series contained in more than thirty volumes. In another department, the branches have produced ten manuals which are centrally co-ordinated only at the proofreading stage. Close to 24,000 volumes of these manuals have been distributed in this department, representing 6,000 shelf feet of instructions for upward of 10,000 employees; the annual cost for printing and binders is over \$84,000, which is only a fraction of the amounts spent on developing, writing, reviewing, distributing, reading and filing the manuals.

In another department, administrative manuals were not brought up-to-date regularly. As a result, division heads issued separate instructions which eventually superseded so many parts of the manuals that the latter have fallen into disuse, thereby wasting the time and money spent on their creation. In the Armed Forces, to take another instance, the appropriate action required when personnel are absent without leave is referred to in thirty different places. Again, in one of the civil departments, there are at least twenty-seven different circulars or directives on the subject of «authorizing powers». None of the departments and agencies studied has developed adequate central control and co-ordination of its directives, with the result that there is a creeping disintegration of the directive system and wasteful duplication of the subjects covered.

A further complicating factor is that additional regulations and directives are issued by two central control bodies, the Civil Service Commission and the Treasury Board. These texts are often so involved that departments have had to develop their own personnel or administrative manuals to interpret them for their own people. Even these departmental efforts to facilitate interpretation of the original regulations may themselves be rewritten at several levels in the organization. Departmental manuals and directives should quite properly spell out the authorized deviations from the general rules; but far too often they attempt to re-explain the original regulations and may actually go so far as to invalidate them.

Each agency of the public service must, to a large extent, establish its own directives, but this should not prevent them from following certain standards relating to style, form, reproduction, quality, binders and paper size. It is equally important that these directives should not be so detailed as to restrict the proper use of judgment; they should set standards and act as guides to the

man in charge of operations without depriving him of all initiative. Greater attention to the clarity of directives will improve communications within the public service, and standardization of physical form will achieve important savings.

CORRESPONDENCE

The fifty million letters produced annually in the Canadian government cost approximately \$50 million. They vary in cost from 15¢ for a form letter to \$1.75 for an individually dictated letter of average length. If departmental managers were to make full and effective use of the mechanical aids and procedures available to deal with correspondence, the public service could make substantial savings. The fact is that, as with the other areas examined in this report, correspondence management will richly reward proper cultivation.

There is very little mechanization of correspondence. Only five of the agencies surveyed reported use of some type of automatic typewriter. One notable exception is the Civil Service Commission, which is progressively handling a large part of its correspondence through extensive use of pre-approved paragraphs and letters produced on typewriters from punched tape. The form letter and the guide-paragraph permit large volumes of routine and repetitive correspondence to be handled expeditiously, but the savings from the use of such techniques are not fully realized. In dealing with personnel matters, for example, form letters can be used extensively, but the extent of their use by personnel branches in different departments varies from two to sixty-eight per cent of their correspondence.

Over half of all government letters are individually prepared. If only a small proportion of these were converted to pre-printed and stocked form letters, the resultant savings would be impressive. A further important saving could be made by converting other individually prepared letters to pre-approved guide letters. Approximately one-quarter of all correspondence produced in the government is initially hand-drafted, the most inefficient and expensive way to produce correspondence. Probably eighty per cent of the hand-drafted correspondence could readily be dictated to machines, with consequent significant savings.

Another costly practice is the preparation of letters by junior levels for the signature of a senior executive who has not delegated signing authority to appropriate levels. These letters frequently pass up and down several times for rewriting at several levels before final approval, signature and despatch. About five million of these individually prepared letters, costing approximately \$1.50 to \$1.75 each, are probably written at least twice. With adequate dele-

gation of authority, it should be possible to cut the rewriting at least in half and, here again, the saving would be significant.

Not unimportant is the common requirement that the business of a department must always be recorded in English. Thus, if a letter is received in French, and is to be dealt with by a bilingual employee, it will usually be translated into English, a reply will be prepared in English, and a translation into French will be made for mailing. This procedure is costly, time-consuming and cannot but be frustrating to some French-speaking personnel. Present practice appears to involve much unnecessary translating and re-translating; and there are major gains in morale and productivity to be achieved by a more flexible, imaginative and considerate approach.

Full advantage has not been taken of the benefits to be gained from proper utilization of stenographic and transcribing pools. The usual objections, alleging poor service and poor quality, are only valid where the pools are badly administered, where production standards are not set, or where insufficient training is given. In one department, where three-quarters of the total correspondence is transcribed by an efficient pool staff, the basic standard of production, met by the lowest grade typists, is 825 lines per day of good quality. In another departmental pool, the average production is only 244 lines per day; here little use is made of dictating equipment and 12,000 lines a day are being typed from long-hand drafts. Stenographic pools provide opportunities for progressive training, the application of incentives, the use of work measurement, the introduction of quality control, and for effective work distribution to alleviate problems caused by peak workloads.

MAILING AND FILING

The government spends at least \$34 million annually, including postage cost, to process over one hundred million incoming letters and to despatch double that total of outgoing mail of all kinds.

The time required to get a piece of mail from the mailroom to an action desk varies from a matter of minutes to nine working hours. The principal reason for this delay is the complex mailroom-registry relationship. Departmental officials have long been accustomed to having their incoming mail arrive at their desks on the relevant file. Thus, in addition to the usual mail processes, most of the filing must also be completed before the mail is delivered. Mailrooms are not always conveniently located or adjacent to the files or registries. In such cases, since the mail and filing activities are so intertwined, either some of the filing process must take place in the mailroom, requiring additional registry controls, or the mail must be delayed by routing it first to the registry. In these circum-

stances, a double messenger service is normally required—one operated by the mailroom, the other by the registry. This system, whereby an incoming letter is immediately attached to its file, accounts for approximately three-quarters of the total cost of delivering a piece of mail to the action desk and compels messengers to trot about daily with tons of paper.

There are many other reasons for delay. About half the mailrooms examined, all handling approximately the same volume, are not equipped with mechanical openers to speed up this routine operation. Over half the departments time-stamp all mail, including newspapers and periodicals. In some departments, a précis of mail is prepared as an additional finding aid to supplement the main file classification system. Most of these delaying actions are a consequence of the deficient classifications and indexes used for departmental filing systems.

The government has well over 2,500,000 cubic feet of records, of which 1,500,000 cubic feet are alleged to be active and are kept in prime office space. The filing equipment required to house this vast accumulation of records has required the expenditure of well over \$10 million. Every year a cost is incurred of \$5 million for floor space to house these records and more than \$28 million for the twelve thousand people required to service them. Annually, at least 250,000 cubic feet of records are created, utilizing 30,000 filing cabinets and almost 180,000 square feet of space.

Present filing practices cannot cope with the vast amount of data being accumulated, and their inadequacy is bound to prejudice future operations. As the business memory of the organization, files containing millions upon millions of individual facts and prior decisions must be maintained so that vital information may be extracted quickly and economically. Filing systems in the departments and agencies are generally inadequate or non-existent. Frequently, many different systems are in use within the same department, rendering it difficult to classify, file and find a record. In one department, ten separate indexes are in use to help the filing staff to find information, and searches frequently take from one to three days. In many file rooms, extremely elaborate systems of inspection are in use, requiring as many as ten file clerks inspecting full-time. File inspection as a continuing procedure is of dubious value. It rarely discloses errors and, in reality, may contribute to error, because both «user» and registry personnel depend upon it to overcome initial sloppy handling.

Electronic equipment has opened dramatic new possibilities for processing quantitative information; since large volumes of data can now be manipulated at high speeds, records susceptible to this treatment need to be identified, and a new imaginative approach taken to the storage and retrieval of information. It is useless to retain a piece of paper if it cannot be found when required.

Unfortunately, the government has no systematic and efficient approach to the storage and retrieval of information which is accumulating in vast amounts at an ever-increasing rate. Failure to file and recover this information effectively has led to costly duplication of effort and inefficient expenditure of manpower.

The physical condition of the files generally shows indifferent maintenance and a lack of planning. Very few departments have deliberately located their files close to points of greatest use; and very little use is made of shelf filing, which saves at least fifty per cent of floor space required for filing cabinets. There are few pieces of modern equipment; cabinets and other filing equipment were found in many departments to be in deplorable condition. Filing folders of poor quality are often used to hold papers for long-term or even permanent retention; conversely, costly file holders contain papers which should be destroyed within a matter of months.

Savings in excess of \$5 million a year could be realized by simplifying both the processing of mail, and the storage and retrieval of information.

RECORDS DISPOSITION

Since the establishment of the Public Archives Records Centre in 1955, over 200,000 cubic feet of inactive departmental records have been taken from over-crowded, high cost, office space, and placed in the cheaper space of the Records Centre. As a result of these transfers, over 12,000 filing cabinets, 21,000 transfer cases, 33,000 linear feet of shelving, and about 136,000 square feet of office space have been released for re-use by departments. Meanwhile, the Records Centre has become full and is in urgent need of more space. It has been established that it is more economical to store original records in low cost records centres for twenty or twenty-five years than it is to use microfilm solely to conserve prime office space.

Departments variously report that from fifty to ninety-five per cent of their records are being disposed of on a regular schedule. These figures are exaggerated. Some departments were found to be using out-dated regulations as a basis for disposition of records; several, by their own admission, are varying the intent of instructions. Most schedules contain over-long retention periods, with no provision to transfer the obviously inactive files to the Records Centre. In nine departments in Ottawa, 228,000 cubic feet of files and records are presently held in office space, and departments estimate that thirty per cent of them are dormant. If a proper records disposal schedule were in effect, considerably more than this thirty per cent could either be transferred to the Public Archives Records Centre for cheaper storage, or destroyed. For example, in one department with 32,000 cubic feet of records, more than 20,000

cubic feet are semi-active or dormant, and at least eighty per cent of these could either be destroyed or transferred to the Records Centre.

At least sixty per cent of the government's records are in field offices outside the Ottawa headquarters area. These field units, with no equivalent records centres available, must use office or storage space, mainly in leased premises, to house their dormant records. Consideration should therefore be given to the establishment of records centres under the Dominion Archivist in other parts of Canada, to serve at least those areas where there is a major concentration of federal government offices.

Ever since the early days of the federal government, attempts have been made periodically to improve the handling of public records. Various commissions and committees have investigated the problem and made recommendations. Several years ago, the present Public Records Committee, consisting of senior public servants, was established and, in concert with the Treasury Board, has been seeking improvements. Part of this programme is the authorization of disposal schedules providing for the destruction or transfer of records from more costly office space. Nevertheless, dormant or inactive records still exceed one million cubic feet. Policy direction, which is permissive rather than mandatory, is unlikely to have much impact on this problem.

Responsibilities for the management of public records are defined in Order in Council P.C. 212, dated February 16, 1961. However, it is doubtful whether any committee can adequately «keep under constant review the state of the public records», or effectively advise departments and agencies «as may be required» in the «care, housing and destruction of public records». It is not sufficient to say that the departments and agencies should «where practicable, schedule their records for retirement or eventual destruction or long-term retention».

To accomplish the orderly disposition of public records, an adequate legislative base is needed. It should provide for both the required central leadership and the conduct of departmental programmes. Large sums of money could be saved annually by effective implementation of centrally co-ordinated programmes, utilizing sound disposal schedules and adequate records centres both in Ottawa and in the field.

A records centre is the half-way-house between the records-creating departments on the one hand and the archives on the other. Few federal departments have their own archives, the final repository of most records of permanent historical value being the Public Archives of Canada. The special role of this agency is considered at length in Part 2 of this report. The governmental libraries, as well as the National Library, are less directly concerned with the processes of records scheduling and disposal, but, in so far as libraries are

essential to decision-making by management, their function is akin to that of the public records. The administrative and staffing problems associated with the work of federal government libraries are also subjects for special consideration in Part 2.

3

EQUIPMENT, FACILITIES

AND SUPPLIES

No study of paperwork procedures can ignore either the machines that produce and process huge quantities of paper, or the facilities and supplies needed to accommodate these machines and the people that serve them. The main tools available for clerical workers in early days, the pen and copy-book, have been supplanted today by an awesome array of automatic typewriters, calculators, photocopiers, bookkeeping machines, punched card sorters and printers, and electronic computers. The period of intensive development in new methods of handling facts and figures coincided with the growth of the modern public service in Canada. The continuing development of office mechanization has received notable impetus from the application of electronic technology to the automatic processing of large quantities of data.

AUTOMATIC DATA PROCESSING

Ten years ago, government departments and agencies were spending over one million dollars annually on the rental of punched-card equipment to process large masses of data. The expenditure has now risen to \$2.5 million, in respect of forty-five separate installations. In 1957 the first medium-sized data processing computer in the public service was installed to audit the payroll of the Canadian Army; in 1959 the Royal Canadian Air Force installed a large computer for stock control; and, in 1960 a similar large computer was acquired by the Dominion Bureau of Statistics to process the 1961 Census of Canada. In three years the annual cost of electronic data processing equipment, based on rental

value, has risen from \$70,000 to \$1,250,000. Present plans will almost double this cost in the next three years with the installation of five computers for paying government employees, processing income tax returns, and other major operations. The complete cost of automatic data processing for 1961 for equipment, salaries and accommodation is in excess of \$10 million.

Treasury Board regulations cover the approval of expenditure on equipment and services, and the co-ordination of personnel selection and training. But the regulations are not concerned with the installation and management of automatic data processing equipment after approval has been granted. Neither the Management Analysis Division of the Civil Service Commission, nor the Interdepartmental Committee on Electronic Computers which was created to advise the Treasury Board, has issued operating standards or guides. The Committee is not equipped to advise departments on technical aspects, and has not taken the initiative in promoting new applications. Departments and agencies have been left free to formulate individual policies, to evaluate their own needs, and to initiate, plan and operate their own installations.

Departments have had no real guidance on how to conduct the preliminary studies that must precede any intelligent decision to use automatic data processing methods. One result is that attempts to justify some installations on economic grounds have failed to recognize the high cost of obsolescence, and cost calculations have sometimes omitted a realistic evaluation of the time over which initial investment costs should be absorbed. In one instance, over-optimistic estimates of potential use by other departments significantly affected the calculations used to justify acquisition of a computer. Furthermore, decisions to embark on new installations too often depend on comparisons only with the costs of existing procedures, without due regard to economies and increased efficiency possible through improving the existing systems which might make the case for the proposed computer less compelling.

This hit-and-miss approach has resulted in several unco-ordinated electronic data processing installations. Although the advantages of operating these expensive machines at maximum capacity are substantial, no consolidated record of available machine time is maintained so as to permit better planning of the utilization of existing and proposed equipment. The computer acquired for the 1961 Census was intended to be the nucleus of a government data processing service centre, but there is no evidence of any concrete plans to this end. The result is the development of plans by separate departments for the installation, by the end of 1962, of three large computers, side by side, in Ottawa. The total work planned for these computers for the next three years could be comfortably handled by two large machines, with a saving of one million dollars in expenditure. The development of a central data processing service in Ottawa and a series

of regional service centres outside Ottawa presents formidable problems which merit immediate attention.

Technicians are needed to plan, operate and control the machines, and a whole new group of skills is required. Despite the early recommendations by the Interdepartmental Committee on Electronic Computers, the public service has not succeeded in recruiting a sufficient number of electronic data processing specialists. In 1956, the Interdepartmental Committee asked the Civil Service Commission to establish classifications and standards for such new technical personnel, but these were not issued until October, 1961. There is still no good staffing policy, and a high rate of turnover results from inadequate recognition of the status and needs of data processing personnel, particularly in the Armed Forces. Obviously, management in the public service has not readily adapted itself to, or met the needs of, the new technology.

Beyond the practical day-to-day management problems of data processing, an awareness of continuing developments in this field is essential. Although there is an urgent need to make the best possible use of the few technically qualified people presently scattered throughout the public service, there is no scheme for pooling skills and experience. There is no rotation of such personnel among departments and agencies, and no recognized forum where they could exchange information and ideas on common problems. The government is not making the best use of its accumulated experience, for adequate interdepartmental and external communications and joint activities offer new possibilities for economies and improved service.

Extended use of data transmission facilities has special significance for the Canadian Government with its widespread operations. The development of a countrywide system to facilitate business communications between large organizations, including governments, necessitates study of such matters as compatible equipment and common coding relating to materials and persons. Within the federal government alone, there is a multiplicity of numbering systems for individuals; three of these together cover nearly half the population. Provincial governments and corporations likewise have many coding systems designed to meet specific information purposes, and new independent numbering systems will appear as automatic data processing expands to new fields. The real benefits from integrating the flow of information can only be realized by automatic handling throughout, which will facilitate the exchange of common information between different systems. A numbering system that could be used to identify individuals for all purposes would contribute significantly to improved efficiency, both in government and outside.

The duplication and mistakes of the past, when automatic data process-

ing was in its infancy, will be multiplied many times in the future unless concerted action is taken promptly to ensure skillful application of this new technology.

OFFICE EQUIPMENT AND FURNITURE

Excluding the major Crown corporations, the government spends about \$1,750,000 a year on machines for adding, calculating, typing and dictating, and on a variety of other small pieces of office equipment. Although no accurate inventory is available, it is known that about 80,000 units of small machinery and equipment, including 55,000 typewriters, are owned by the government. As the largest customer for office furniture in Canada, the government spends approximately \$2,250,000 each year for the purchase and maintenance of desks, file cabinets, and other office furnishings. In 1961, for example, over 5,000 desks were purchased. The present inventory of office furniture has a replacement value of over \$40 million.

Inappropriate equipment means a serious loss of time and a lowering of efficiency, productivity and morale. Government supervisory personnel have limited knowledge of the various types of equipment that are available, or of their potential in reducing costs and improving the quality of work. One government department was found to have spent over \$75,000 on twelve book-keeping machines to perform operations which could have been done better manually and at less cost; in another, where the volume and type of work indicated a need for electric typewriters, none of the hundred machines in use is electric; and in another, three-quarters of the typewriters are over fifteen years old. In one office, over half the sixty-two dictating machines were found to be idle; in another, with fifteen dictating machines, less than one letter a day was being dictated to each machine.

The failure to procure the appropriate equipment can be ascribed partly to the lack of competent management services groups, both at the central level and in the departments. With one notable exception, no department or agency has ever prepared a satisfactory guide describing the characteristics of the more commonly used office equipment. Another reason for this unsatisfactory situation is that the acquisition of a new piece of equipment is frequently a long, difficult and frustrating operation. Many examples have been recorded of delays in procurement ranging from six months to two years. While the necessity for senior approval can act as a desirable deterrent to unwarranted requests, the slowness of present procedures discourages departmental personnel from initiating justifiable improvements.

FACILITIES AND SUPPLIES

Government departments and agencies occupy approximately thirty-four million square feet of office space, eighty per cent of which is provided and maintained, at no charge to the user, by the Department of Public Works, at an annual cost of about \$85 million.

Variations in space occupied by employees are substantial and, in many instances, based on neither logic nor need. In practice, use of space is often in excess of established government standards and far in excess of standards prevailing in industry; elsewhere, personnel are sometimes badly housed, particularly where the buildings are either old or poorly planned for the uses to which they are put. More effective utilization of space will be brought about by charging departments and agencies for its use. In addition, a positive programme of facilities management is needed to reassess present standards, to apply sound principles of layout, and to encourage wise use of facilities. Improved morale and efficiency would be accompanied by very substantial annual savings.

While some progress has been made towards standardizing office supplies and stationery, much remains to be done. In twenty-seven years, the Canadian Government Specifications Board has established standards for less than one hundred such items. About nine hundred commonly used office supplies and stationery forms, including the standardized items, are listed in a catalogue of stock items issued to all government departments by the Department of Public Printing and Stationery. Departments and agencies requisition catalogued articles without further approval; requests for those that are not catalogued must be approved by the Treasury Board and these specially approved items may thereafter be ordered direct from the Department of Public Printing and Stationery. In practice, Treasury Board approval of two thousand non-catalogued articles has undermined attempts to encourage the use of standard items.

The satisfaction of day-to-day requirements for space, equipment and supplies is the responsibility of several different agencies, and clarification of authority is required to ensure that these common services are efficiently provided. The development of standards and the reduced use of non-standard items must be vigorously encouraged. However, your Commissioners believe that suppliers of services should exercise no control over the users, and that the cost of services should be borne by the user. This principle would require, for instance, that the service agency charged with common procurement would be primarily responsible for acquisition on the best possible terms and prompt delivery of the articles requisitioned by departments, with the cost thereof borne by the departments.

4

MEASUREMENT OF PERFORMANCE

The quality and quantity of work produced by 100,000 civilian and military clerks in the public service is important to every Canadian taxpayer. Modern techniques of work measurement, work simplification, and quality control, properly applied in the government service, could improve quality and reduce paperwork costs by over \$25 million annually.

In many government offices, massive clerical routines, such as filing, typing, addressing and mailing cheques, have taken on an assembly-line appearance, involving many small repetitive operations. However, over half the departments and agencies surveyed do not apparently recognize the need for controls to ensure a reasonable output for salaries paid, relying entirely upon the subjective judgment of the immediate supervisor to evaluate performance. In the others, control techniques are generally primitive; for example, the commonest is comparison of the output of a group of clerks in one office with the output of a group of clerks performing the same work in other offices or at other times. Implicit in this method is acceptance of the faulty premise that optimum performance is achieved by the group of clerks with the highest output, whereas methods study and work measurement would show that this is rarely true. Modern work measurement techniques eliminate the inaccuracies that result from placing reliance on individual judgment and on comparison with past experience.

In general, there is little recognition of the real meaning of scientific work measurement; of how it should be applied, the benefits to be gained, the dangers of misuse, or its cost in terms of time, staff and money. The few successful pro-

grammes can be attributed to the initiative and enthusiasm of a few individuals, and such efforts to measure performance as have been made by departments have been isolated and incomplete. There is virtually no training in this subject anywhere in the public service, except at the Royal Canadian Ordnance Corps School in Montreal. The Management Analysis Division, which should have provided guidance and assistance to departments and agencies in developing their own programmes, has only one person qualified in work measurement and has distributed no guides for general use.

Since the clerical work in the public service involves large volumes of paper and many repetitive actions, much of it can be measured effectively at reasonable cost. Once work is measured, performance can be evaluated, and experience elsewhere has shown that competent supervision can usually increase output over fifty per cent above that of workers not subject to such standards. Work measurement and labour productivity standards applied broadly in the government service would result in annual economies of major importance.

In the flurry of making sweeping changes and installing new programmes, which often employ the more exciting electronic equipment, the man on the job is frequently overlooked as a potential contributor to greater efficiency. A trained systems analyst is not the only person capable of improving a method; the individual operator himself is often in the best position to recognize unnecessary copying, duplication, wasted motions, delays, and uneven work flow; and his supervisor should also be close enough to the job to recognize where significant improvements can be made.

Work simplification thrives, therefore, at the individual work location. But at present, because tens of thousands of clerks are not being trained to watch for new and more effective methods, their potential contributions are being lost. These could be many and varied, such as rearrangement of desks and bookkeeping machines, changing sorting sequences, balancing work distribution, or in other ways. As an illustration of what can be achieved, it was noted in one department during a review of accounting operations that a specific set of records was being posted from forms which flowed in at such an uneven pace that the clerks were alternately busy and idle from day to day; but the idle clerks seldom assisted the busy ones. If the work in these sections were properly distributed, the staff could be reduced by at least thirty per cent.

Work simplification assists materially in the development of cost-consciousness at the operating level, and provides employees with a challenge and a satisfying sense of participation. Unfortunately, neither the Management Analysis Division nor the departmental organization and methods groups has any programme to train and enlist the help of the man on the job.

At least \$30 million is spent each year on checking the accuracy of govern-

ment paperwork. In one department, all payroll change notices are checked at a cost of approximately \$100,000 a year, equivalent to thirty per cent of the original cost of the operation. In one operation observed, documents received from the public were being subjected to no less than five stages of checking. Most of these checking procedures, which exist at all levels in the public service, stem from a desire to achieve perfection and to avoid the public criticism that may arise from comparatively insignificant mistakes. Even a complete verification of records and documents, though sometimes justified, is by no means infallible, because experience shows that checkers normally fail to detect from five to fifteen per cent of the errors present. In some cases, in recognition of this hazard, attempts are made to detect these errors by instituting a second, monotonous check of all items.

The purpose of all checking activities is to find errors and correct them; unfortunately, there is little attempt to correct the cause of the errors and reduce the need for verification—the “Quality Control” approach advantageously used in industry. To illustrate the true value of this approach, a departmental checking operation for payroll changes was analyzed, and it was determined that a quality control programme utilizing statistical sampling procedures could almost halve the cost. Furthermore, since nearly ninety per cent of the errors that occurred during the test period were due either to carelessness or to inadequate training of the originating personnel, rectification of weaknesses in the original operations would improve quality and reduce the amount of work to be done again.

The existing system of checking departmental expenditures prior to payment makes no use of statistical sampling techniques, nor are accounts of different dollar values given different emphasis. Equally scrupulous attention is given to items worth a few cents or thousands of dollars. Your Commissioners are satisfied that there is only superficial appreciation of the application of quality control and statistical techniques to paperwork. Neither the Management Analysis Division of the Civil Service Commission, nor any of the departmental organization and methods groups surveyed, has persons equipped with the necessary statistical skills or with an understanding of the uses of these skills for good managerial control. The introduction of these techniques, which should be in the repertory of government systems analysts, would enhance the level of service and save considerable sums each year.

5

SYSTEMS MANAGEMENT

Objectives and policies are translated into action by people, techniques, and machines, harnessed together so that the aims of the enterprise are achieved in the best possible way. A continuous programme of systems management is required throughout the public service to develop cost-consciousness, to keep abreast of new developments, to provide specialized skills in the implementation of new methods, and to train both manager and clerk in the use of these techniques. Systems must be subjected to regular examination to ensure that the benefits derived from an operation bear a reasonable relation to its cost.

Departments and agencies of the government seldom take a comprehensive look at all aspects of a system: if the equipment is well managed, the forms and instructions need attention; if the forms programme is well managed, one or more of the other elements of paperwork lack direction. The usefulness of systems and procedures is considered all too infrequently, because administrators are not alert to the need to equate cost and value. For example, about sixty-five per cent of the 300,000 departmental orders annually issued to the Queen's Printer for printing and supplies average only \$1.75; but no one seems concerned with the obvious fact that the accounting costs for billing and payment actually exceed the value of the goods.

Some legislation, in its detailed provisions, tends to impede or prevent the adoption of more modern systems. For example, the Customs Act and the Customs Tariff contain several detailed sections which have remained unchanged for over fifty years; they are expressed in terms inappropriate to

modern commerce, causing considerable impairment of the whole customs and excise field, untold nuisance to the public, and an exchange each year of thousands of needless letters and forms. In 1896 this legislation specified that the public should be charged a fee of 50 cents for additional copies of customs documents. To record the receipt of the 50 cents, and to prepare the copy of the required document, costs at least \$1.25; 100,000 such copies were provided in 1961, but no thought is being given, either to increasing the fee appropriately or to eliminating the charge altogether. Either measure would benefit the government, but would require a change in the law. While often used as an excuse for inaction, these legislative restrictions are real. Many small anomalies and restrictions that have no effect on policy are not removed, or their removal is deferred until a major revision of the statute is undertaken. In the interests of administrative efficiency, the number of detailed administrative provisions in legislation should be kept to a minimum.

There is urgent need for co-ordination and integration of systems that cut across departmental and agency boundaries, usually resulting in extravagant overlapping and duplication. For example, in the Department of Health and Welfare, the extensive Family Allowance and Old Age Security payments are an integral part of the department's programme, but all payments are subject to the authority of the Comptroller of the Treasury. Thus, because two departments with different standards are involved in what should be one system, there is extensive duplication and systems improvement is virtually hamstrung because system changes require the approval of both.

A prime function of the Dominion Bureau of Statistics is to act as a central statistical collection agency, but it is not uncommon to find the Bureau compiling information which duplicates that prepared independently in a department. The need for co-ordination of systems is further illustrated by the substantial duplication of information that exists in several independent card files pertaining to employers. In one department, alphabetical and numerical card files are kept on 313,000 employers; in another, employer statistics on hirings and separations are kept; in another, a punch card file of similar information on over 100,000 employers has been set up; in still another, some records are maintained but all the information is available in the three other departmental files. Similarly, information about planted acreage, size of farms, grain handled by farmers and the trade, and other subjects related to the farmer, is used by a number of separate units administering different statutes, but in most instances each unit collects and handles the data independently.

The difficulty in obtaining an inventory of manpower in the public service is mentioned elsewhere. Personnel records are duplicated and scattered throughout departmental personnel and pay offices, the Civil Service Commission, and

the Department of Finance. Despite the large sums spent to maintain these records, information essential to management is not readily available. Punched card equipment could have been utilized to develop a simple, standardized personnel-records system, and it is unfortunate that no plans exist for a comprehensive attack on this whole area of vital information.

It is evident, from the foregoing examples, that duplication and waste result from the isolated development of systems for the exclusive purposes of individual departments and agencies. Means must be established to develop systems and integrate them properly throughout the public service, without regard to departmental boundaries.

Efforts to improve systems, procedures and administrative practices in the public service are usually no more than emergency measures. Only limited benefits accrue from the employment of specialists to make hasty and narrow reviews of pressing problems. Often the tendency is to plug a hole when a new dike is required, or to concentrate on getting the job done with small regard for the eventual cost. Little thought is given, in the absence of a crisis, to re-examining systems that were designed for another age. Though some good work has been done throughout the public service by departmental management services groups and by the Advisory Services of the Civil Service Commission, their successes are comparatively few. Even the existence of the central Advisory Services is not well known, let alone the extent of the services they are able to provide. Management must be made aware of the need to pull the sluggish administrative machine out of the mire and put it on the right road.

The following illustrations are typical of the potential economies that abound in the public service:

- Since the inception of the programmes, Family Allowance and Old Age Security cheques have been paid from ten locations, but considerable economies could be achieved if payments were cycled and made from fewer offices or even from one central location.
- It is traditional practice to use stamps to signify that certain excise duties and taxes have been paid. In fact, so far as Canadian manufactured products are concerned, this has become a redundant safeguard. Over one million dollars annually could be saved by discontinuing the practice, but there is at present no positive attempt to assess these possibilities.
- In the Armed Forces, committees with common objectives have been studying integration of service payrolls and personnel records, within each service and across the three services, for ten years. Each time that a decision to integrate becomes imminent, another committee is formed—with much the same

experience as its predecessor. Payroll and personnel forms are no nearer integration in 1962 than they were in 1952.

Much of the work in the public service is necessarily repetitive and therefore amenable to standardization, but the establishment of standards and assessment of performance against them require close attention and careful planning. In the solution of these problems, the broad general approach can be an extravagance unless it leads to precise analyses, which require the attention of specialists. Although senior government officials are concerned with day-to-day operating problems, they tend as a group to assign too low a priority to systems and procedures. They are reluctant to make full use of the systems analysts within their departments, to accept assistance from a central advisory systems group, or to employ outside consultants. With the general lack of interest and unawareness of the potentialities of modern systems design and techniques, it is not surprising that opportunities for substantial improvement and cost reduction have been and continue to be ignored.

Positive action is required from departmental and agency management to employ the talent that exists both within and without the public service, and then to follow through with vigour to achieve the important potential economies exemplified by the foregoing illustrations. The present unsatisfactory situation stems in part from the withholding of proper authority and accountability from senior departmental management. But even with an effective devolution of authority, the substantial benefits available will only be secured by an enthusiastic approach, by the use of sufficient competent and specialized personnel, and by sustained pressure from senior officials.

6

MANAGEMENT SERVICES

Your Commissioners have found that the newer administrative techniques developed by large-scale industrial and commercial enterprises have been less than adequately utilized throughout the Government of Canada. Generally, forms and all their attendant procedures are not subjected to sufficiently stringent reviews by qualified staff. Reports, so essential to management and so costly to produce, are seldom evaluated to ensure either that they are actually being used or that their cost is reasonably related to the value of the information provided. Directives too often fail to provide the lucid instructions and guidance that employees should receive. Advantage is not being taken of the means at hand to reduce the cost of preparing correspondence and processing mail. Filing systems, in general, are inadequate and expensive, and the government is being slowly overwhelmed by the sheer volume of its own records.

Insufficient use has been made of electronic equipment developed in recent times to cope with the massive data processing tasks confronting public administrators, while at the same time, electronic equipment that has been acquired is not fully utilized. Nor, indeed, has proper use been made of the multitude of office machines and equipment designed to increase efficiency.

The performance of clerical workers is seldom assessed against properly developed standards, and there is practically no attempt to train the man on the job to analyze and improve his own performance. Generally, well-known statistical techniques have not been applied to the checking of accounts, forms and data—a common and costly activity in government. The failure to subject

systems to continuous analysis and control has resulted in a waste of human and financial resources. Such efforts as have been made to ameliorate this situation consist of a number of separate and unco-ordinated approaches to various aspects of systems and procedures by the Treasury Board and its staff, the Civil Service Commission, the Queen's Printer, the Department of Public Works, the Canadian Government Specifications Board, the Dominion Archivist, and a number of standing committees in the public service. Each of these authorities has only a partial or divided responsibility in this vital area.

The Advisory Services Branch of the Civil Service Commission, the only central administrative advisory unit in the government, has not made an appreciable dent in the mountain of administrative problems in fifteen years of operation. The present central advisory services, started in 1946, developed entirely within the Civil Service Commission to the present staff of about twenty-five. In its early years, this branch assisted the Commission and the Treasury Board in scrutinizing departmental manpower requirements. In consequence, departments and agencies became reluctant to make use of its services lest the information be used against them. Agencies not subject to the Civil Service Act did not use the service because they did not welcome Commission intervention in their operations. In the early 1950's, the policy changed and, while the Advisory Services Branch now restricts itself to providing advice and assistance on request, such requests for help are still made with some reserve.

The effectiveness of this Branch has been limited by two major weaknesses. First, it has attempted to do the work for departments rather than to train departments to do it for themselves. The departments and agencies of the Government of Canada are, collectively, too large and varied to be served adequately by a common management services agency. The requirements of this vast complex so disperse the efforts of a central service that it is rendered ineffective. At the centre, there must be common policy formulation, advice, guidance and training, but no apparatus for the conduct of work within the departments. The real work at the operational level has to be performed by the departments themselves.

Second, the Branch is located in an agency that is not subject to the Executive and has to do with only a part of the public service. Any central advisory service should clearly enjoy the backing of the government and its very location should be evidence of the importance assigned to its functions; thus, it should form part of the administrative link between Cabinet and the departments and agencies.

In short, leadership for administrative improvement must come from the top. A new dynamic programme is needed to bring government administration in

step with the development of the country and to hold costs within reasonable bounds. All levels must participate in the programme; goals must be set and performance reviewed. Money and manpower will have to be invested if worthwhile economies and greater efficiency are to be achieved. Finally, the principal objective of such a drive for administrative improvement must be the development within departments and agencies of skill in applying the best available administrative techniques.

CENTRAL ADVISORY SERVICES

In the report *A Plan for Management*, your Commissioners review methods of fostering the application of effective management practices throughout the public service. This function, in the view of your Commissioners, should be the responsibility of the Treasury Board and its President, served by a reorganized staff forming part of the Privy Council Office. The report on *Financial Management* recommends a major transformation in the approach of the Treasury Board, away from the detailed review of thousands of departmental submissions towards the review and approval of departmental programmes and objectives, both annual and long-term, so as to ensure compliance with government policy. The report on *Personnel Management* proposes that the Treasury Board staff develop personnel policies and standards, and appraise departmental performance in relation thereto. Your Commissioners believe a division should be created in the reconstituted Treasury Board staff to be concerned with administrative policy and procedures. This might be known as the Administrative Improvement Division.

The principal duties of the proposed Division should be:

- To develop broad administrative policy and guide-lines relating to organization, methods and operating procedures in the public service.
- To observe performance in the individual departments and agencies, and assist in the assessment of programmes and other matters to be dealt with by the Treasury Board. To be vigilant in the detection of overlap and duplication, and to develop long-range plans for government organization.
- To assist departments and agencies:
 - (a) in staffing and operating their own management services groups,
 - (b) in developing training programmes,
 - (c) in the development and use of common services,
 - (d) by issuing guides and manuals on techniques and the use of equipment and facilities,
 - (e) by encouraging research on administrative problems,

(f) by acting as a clearing house for management information.

Despite this formidable list of duties, it is essential that, like the other divisions of the Treasury Board staff, the size of the Administrative Improvement Division be kept small. The precise number cannot be estimated, but initial requirements will tend to be high because of the dimensions of the task. Particularly in its early years, this Division will need to draw upon resources outside the government, such as universities and consultants, for the skills required to prepare manuals and guides, conduct courses, and provide training. The Administrative Improvement Division should assist in the general appraisal of performance by individual departments and, through its close knowledge of operations, contribute to major policy and programme decisions by the Treasury Board. Policies should be designed to provide broad central direction, but they must not withhold from departmental management the authority required to provide good, efficient service.

Training should range from on-the-job instruction in work simplification to courses in management for senior officials. The Division should plan, coordinate and develop the government's training in administrative techniques. In addition, it should participate in both departmental and interdepartmental training programmes by arranging for instructors, drawn from its own numbers, or from universities and private companies, and by identifying and encouraging the use of training facilities that exist outside the public service. Training and research should be closely related. The Administrative Improvement Division should conduct research on administrative problems and support the work of departments or agencies that are pioneering on some administrative frontier. This type of support might usefully be extended to universities, companies and individuals outside the public service, when the results of the research are likely to be of direct benefit to public administration.

Guides and manuals should be produced and distributed as an important means of encouraging the application of good administrative practices. The Division could develop these manuals itself or commission their preparation either by a department or agency or by some organization outside the government.

The Division would advise the Board when major expenditures on automatic data processing equipment are being contemplated, to ensure that existing equipment is fully loaded and that proposed uses do not constitute duplication of existing information in other departments. It should encourage investigation of such possibilities as the provision of a central data processing service by the Comptroller of the Treasury (Accountant-General) or the audit of payrolls for the Department of National Revenue by the Unemployment Insurance Commission.

The staff of the Division will best be recruited from departments and agencies, and employed in the Division for a limited number of years. The injection of people recruited from industry will be both necessary and desirable, and the work of the central staff can be kept dynamic by the development of a programme of rotation. The Administrative Improvement Division should look to the common services agencies to assist in the development of policy and standards for approval of the Treasury Board.

The Division should have no authority to direct the activities of departments and agencies; nevertheless, its competence should give weight to the recommendations made to departments and agencies and to the Treasury Board. The Division should undertake a review of operations at the request of a department; but the authority of the Treasury Board to order such a review should be exercised only as a last resort.

The organization of the Government of Canada should be subjected to regular review by this Division, so that plans may be laid for orderly development. The Treasury Board will be responsible for a rational allocation of activities among departments and agencies; for the development and use of common services both in Ottawa and elsewhere; and for better integration of field operations. The essential approach of the proposed centrally located Administrative Improvement Division should be global concern for the quality of Canadian public administration and the development of effective management advisory services within departments and agencies.

DEPARTMENTAL MANAGEMENT SERVICES

The task of departmental management includes the management of money, the direction of people and the maintenance of efficient systems. The head of a department or agency requires the services of specialized staff groups for each of these functions, and the group responsible for the matters covered by the foregoing sections of this report is referred to as management services. A management services group, responsible to and strongly supported by the permanent head of the department or agency, is an essential part of this concept of government administration.

In many departments systems work is now ineffective because specialists are scattered in very small groups throughout the department, with no senior support or direction. In some cases, financial and operating branches have competing systems and procedures groups; and in others the administrative branch is responsible for systems and procedures, while another branch has all the work-measurement specialists. The work of a small group, as a staff unit within a branch or division of a department, is usually limited to emergency relief from

a pressing problem; the subordinate position of the group generally precludes identification and correction of the real source of trouble. The position of the management services group in the departmental organization structure should acknowledge that it is not a subordinate element of either financial control or personnel management, but that it exists to provide a distinct group of specialized staff services to managers at all levels.

The staff complement of management services groups will depend upon the requirements of particular departments. While the group should endeavour to have readily available within the department the skills normally required, it should have prompt access, through the service provided by Treasury Board, to skilled assistance from any part of the public service. Occasional need for a particular skill should be met either by the Administrative Improvement Division of the Treasury Board or by another department. Departments and agencies that are too small to justify their own management services group could be served by larger departments for a fee.

The primary objective of the departmental management services group is to get results by cutting costs and improving the quality of service through modern, proven administrative techniques. Investigations and reports are of little value in the solution of problems unless recommendations are implemented. The group should identify opportunities for potential improvement, develop and plan new systems, and help to install them by training operators and advising supervisors. Above all, the group should promote the use of its services; it should encourage all levels of the department to apply modern administrative techniques by demonstrating the improved performance that will result. Given the necessary status and with proper working arrangements, it should produce savings of at least ten times its cost, and probably more.

Savings of this magnitude require trained specialists, and it is evident to your Commissioners that there are too few such people in the public service. Unfortunately, the required skills are in short supply throughout Canada, and the government must therefore embark on a large-scale training programme to provide itself with trained staff. A training programme on administrative techniques is required, not only to produce the skilled practitioners of the desired quantity and quality, but also to educate managers and to create awareness of the need for improved systems and service in every corner of the public service. Technicians will be of limited value if they are employed in departments where managers are unaware of their potential. Failure to indoctrinate managers in the public service, who have come up through organizations where these tools are practically unknown, will weaken the impact of the drive for improvement. Moreover, such techniques as work-simplification training, which penetrate deeply into the ranks of a department, will reinforce the effectiveness of the

departmental systems specialists.

Your Commissioners have stated that departments and agencies should be entrusted with the authority to deal with many of the matters now being handled by the Treasury Board. However, in recognizing the overriding needs of the government for unity, consistency and a proper regard for the public interest, the recommended reorganization of the Treasury Board, with its three main divisions, will facilitate effective departmental management. The roles of the central and departmental management services groups described in this report are designed to meet this objective.

If a genuinely unified public service is to be achieved, the recommendations for improving management services should be applied to all departments and agencies. Your Commissioners have noted in other reports that some agencies have been granted special independent status as a matter of public policy or because they conduct commercial, revenue-producing operations akin to those in private enterprise. It is not intended that our recommendations should apply to these agencies, but as a practical matter they may well take advantage of the management services developed in accordance with the proposals in this report.

7

CONCLUSIONS AND RECOMMENDATIONS

Many recommendations are implied in the suggestions and comments throughout this report. However, your Commissioners make five comprehensive recommendations which should, if adopted, fill the needs and produce the benefits identified in this report.

MANAGEMENT SERVICES

Efficient conduct of the nation's business urgently requires the development of competent management services groups, both centrally and departmentally, to be responsible for achieving efficient operations through prudent use of recognized administrative techniques.

We therefore recommend that:

- 1 An Administrative Improvement Division be created to serve the Treasury Board and be responsible for initiation of policy on administrative procedures, promotion of improvement within departments and agencies, and co-ordination of inter-departmental and common service matters.
- 2 Management services groups within departments and agencies be created, strengthened and reorganized to carry out continuous programmes for administrative efficiency under the direction of the deputy head.

RECORDS

An authoritative statement of executive policy is required for controlling the creation, use, retention and disposition of public records, and ensuring both efficient administrative systems and proper documentation of government business. Generally, this policy should be promulgated by the Treasury Board acting on the advice of its proposed Administrative Improvement Division. However, particularly with respect to regulating the disposal of records, legislation is required.

We therefore recommend that: The allocation of responsibility for public records and the establishment of rules for their disposal be governed by legislation.

COMMON SERVICES

Because of the cost and capacity of electronic data processing equipment, it is essential that, except where individual departments can utilize fully their own installations, all electronic data processing should be performed as a common service.

We therefore recommend that: An electronic data processing service centre be established in Ottawa and, as required, in other major cities.

MANAGEMENT IMPROVEMENT SURVEYS

In the present era of the office revolution, management must be constantly alert to make the best use of innovations. Change, instead of being an occasional problem, must be recognized as a continuing process and the government should meet the challenge effectively.

We therefore recommend that: Administrative improvement programmes within the public service be continually reviewed and an independent external survey of the entire public service be undertaken at five or ten year intervals.

PART 2

1

CORRESPONDENCE

1 The creation, handling and filing of correspondence are among the most costly and time-consuming processes in modern government. At least fifty million letters and memoranda are written by public servants every year. This is approximately one million letters a week, or thirty thousand letters each working hour. Such a volume of correspondence demands specialist attention; and fortunately, techniques have been developed which, when properly applied, bring substantial improvements to the quality and cost of correspondence.

2 Several means were employed to study Canadian Government correspondence practices:

- Analysis of replies to a questionnaire distributed to departments and agencies.
- Interviews with representatives of ten government departments and agencies.
- A review of several thousand letters and memoranda.
- A review of correspondence and stenographic manuals and directives.

- A review of reports by the Management Analysis Division of the Civil Service Commission on studies associated with correspondence, which provided valuable information.

3 The questionnaire provided basic information on correspondence volumes and practices, and identified those areas where further investigation could be employed most profitably. For many reasons, the statistics obtained understated the actual volume of correspondence. To arrive at a reasonable estimate of the maximum volume of letters produced, the number of typists and stenographers reported by fourteen departments was compared with the total numbers reported in the official Estimates; the factor obtained was applied to the correspondence volumes provided by these fourteen departments. Therefore, the actual correspondence produced annually by the government lies between the low and the high shown in Table 1.

4 Recent cost studies by the United States Government and in large private corpora-

Table 1—SUMMARY OF CANADIAN GOVERNMENT CORRESPONDENCE VOLUMES

	<i>Dictated to Stenog- rapher</i>	<i>Dictated to Machine</i>	<i>Hand Drafted</i>	<i>Form Letters</i>	<i>Guide Letters</i>	<i>Total</i>
DEPARTMENTS						
Volume reported in Questionnaire.....	5,746,908	1,731,318	5,144,756	11,539,416	1,724,776	25,887,174
CROWN CORPORATIONS AND OTHER AGENCIES						
Volume reported in Questionnaire.....	597,108	215,208	343,800	1,142,664	201,756	2,500,536
CALCULATED VOLUME.....	8,084,086	2,356,736	11,787,563	15,855,388	3,957,218	42,040,991
TOTAL VOLUMES.....	14,428,102	4,303,262	17,276,119	28,537,468	5,883,750	70,428,701
PERCENTAGE TO TOTAL VOLUME.....						
	21%	6%	24.5%	40.5%	8%	100%

tions have established the following averages :

- Length of a letter — 175 words.
- Cost of a form letter — 15 cents.
- Cost of a guide letter — 25 cents.
- Cost of a machine-dictated letter — \$1.50.
- Cost of a stenographer-dictated letter — \$1.75.
- Cost of a hand-drafted letter — over \$1.75.

These averages were used to calculate the cost of correspondence in the Canadian Government. They are conservative, since they include only the dictator's and stenographer's time; they do not include the costs of related mailing and filing procedures.

5 While it is impossible to assess accurately the total cost of government correspondence, an estimate may be made by applying to the volumes produced an average cost for each type of letter. Upon this basis, the fifty million letters produced annually would cost approximately \$50 million. It will be appreciated that cost depends on the mix of various types; more form letters at 15¢ and fewer hand-drafted letters at \$1.75 each can make a significant difference in the total cost.

QUALITY

6 Quality of correspondence varies considerably from department to department and from branch to branch, and reflects the apparent attitude of officials towards the subject. The Department of Public Works has issued a booklet which states the principles of good, concise, and clear writing, and its impact is apparent in the Department's correspondence.

7 The following sample of officialese from the Department of National Defence is typical of many letters scrutinized during the course of this inquiry :

With reference to your review of subject documents made during the week Nov. 6–Nov. 10, and your suggestions made in conversation with LC/P Admin. during this review, that you consider it probable that some of the documents could be held at AMCHQ library, in lieu of their present location. Please advise if a decision has been made in this regard.

This memorandum could read :

May I be informed whether or not a decision has been reached on storing the subject documents in the AMCHQ library?

or :

Have you decided whether we can store our documents in the AMCHQ library?

8 Probably five million such letters are circulating each year, both within the government and to the public. The consequences of this volume of unintelligible correspondence are impossible to measure, but it is obvious that thousands of telephone calls, further letters of explanation, and improper decisions must result. Moreover, such letters must create in the mind of the general public an impression that government officials are pompous, long-winded, and officious.

FORM AND GUIDE LETTERS

9 The most widely known correspondence cost-saving device is the form letter. The guide or pattern paragraph letter is not as well known, but is probably used unconsciously by most letter writers.

10 A form letter is reproduced and stocked in advance of its actual use; it may require only the insertion of an address or limited fill-ins, and it may be either pre-signed or require signature on release. It should be numbered to facilitate selection and designed to take full advantage of window envelopes and automatic folding. A guide letter may be drafted but not produced in advance of actual use, or it may be composed of standard paragraphs drafted in advance and filed for use by a typist.

11 The principal advantages of form and guide letters are:

- They need be composed only once.
- They eliminate dictation time.
- They eliminate or minimize transcribing time.
- There is no need for file copies of form letters because the original letter is noted or stamped.
- Review time is reduced or eliminated.

12 The use of form and guide letters in major departments ranges from ten per cent

to seventy-five per cent of total correspondence. Wide variations exist even where the functions performed are similar, as illustrated in Table 2. Similarly, in purchasing functions, usage ranges from ten per cent to sixty-five per cent. Some departments believe that much of their work is too complex and varied to permit use of form or guide letters. The following illustrations show that such cases are not so common as is often supposed.

13 In the Immigration Branch, Department of Citizenship and Immigration, letters produced by the typing pool during the course of one afternoon were analyzed. Of 208 letters typed, 59 were identified as routine and repetitious and readily adaptable to form or guide letter methods. In this Branch the work is considered to be complex.

14 One particular file sampled in the Department of National Defence indicated that some 600 letters written annually (individually dictated and typed) covered a single routine subject. The majority of this correspondence could be handled by three or four standard form letters, eliminating all dictation and most of the typing.

15 Some examples of current form letters are shown in Exhibits 1, 2, and 3.

16 Over half of all government letters are individually prepared. If even five per cent of these individually prepared letters were converted to pre-printed and stocked form letters, the resultant savings would amount to well over one million dollars annually. The conversion of an additional five per cent of individually prepared letters to pre-approved and established guide letters would result in a further one million dollar annual saving.

HAND-DRAFTED LETTERS

17 About one-quarter of all government correspondence is hand-drafted, generally the

Table 2 — COMPARISON OF FORM AND GUIDE LETTER USAGE AMONG PERSONNEL DIVISIONS OF VARIOUS DEPARTMENTS AND AGENCIES

(Note: The correspondence subjects in the Personnel Divisions may be assumed to be similar.)

<i>Agency</i>	<i>Correspondence Annual Volume</i>	<i>% Form Letters</i>	<i>% Guide Letters</i>
ANNUAL VOLUMES OVER 12,000			
Atomic Energy.....	13,200	23	<i>Low</i> 0
Canadian Broadcasting Corporation — Toronto	15,600	42	17
External Affairs.....	12,960	20	10
National Defence — Navy.....	60,000	<i>Low</i> 5	25
— Army.....	98,400	9	10
— Air Force.....	12,720	5	10
National Health and Welfare.....	89,520	<i>High</i> 50	<i>Low</i> 0
National Research Council.....	40,800	35	<i>High</i> 33
Northern Affairs.....	21,600	38	12
Transport.....	20,400	12	5
ANNUAL VOLUMES UNDER 12,000			
Air Transport Board.....	1,440	<i>Low</i> 2	<i>Low</i> 0
Canadian Broadcasting Corporation — Montreal	10,200	10	24
Defence Construction Ltd.....	4,320	6	5
Finance.....	1,920	3	2
Fisheries.....	11,400	30	15
Labour.....	4,440	21	22
Mines and Technical Surveys.....	9,480	25	8
Public Works.....	8,400	17	3
Trade and Commerce.....	4,200	<i>High</i> 30	5
Veterans Affairs.....	6,600	22	<i>High</i> 39

most inefficient and expensive method of producing correspondence. The most common reasons given for hand-drafting were:

- Subject matter is normally too technical to dictate to a stenographer or to be transcribed from a machine.
- Hand-drafting allows more care to be given to composing.
- Dictating equipment or stenographic service is not readily available.

18 A less common reason given was that officials were not familiar with dictating

equipment and good dictating practices. In the Department of National Defence, it was frankly stated that officers had received little training in dictating techniques and had become accustomed to hand-drafting from earlier years spent in small offices.

19 A review of typical examples revealed that probably eighty per cent of the hand-drafted correspondence could easily be dictated to machines, with possible savings of the order of one million dollars by making more extensive use of both dictating machines and stenographers.

Exhibit 1 SAMPLE FORM LETTER



DEPARTMENT OF VETERANS AFFAIRS

In all correspondence,
please state full
name and service number.

Dear

Your application/circumstances has/have been
considered by the War Veterans Allowance District
Authority and

Documents enclosed:

APPEAL

You have the right to appeal against the
above decision to the War Veterans Allowance Board
in Ottawa.

Should you desire to do so, please call at
the District Office of the Department of Veterans
Affairs, at the above address, or write, stating
your reason for disagreeing with the decision.

Instead of entering your Appeal directly or
personally to the District Authority you may, if
you prefer, enter such Appeal through the local
Branch of the Canadian Legion or any other
veterans organizations having service facilities,
who, in turn, will present your Appeal to the
District Authority on your behalf for considera-
tion by the War Veterans Allowance Board.

Any Appeal must be made within sixty days of
receipt of this letter.

Yours truly,

Encls.

WVA-91 (Rev. 7 60)

- *Poor introduction*: non-applicable words must be crossed-out, resulting in an unsightly letter. This problem could have been avoided by better wording: e.g. "The War Veterans Allowance District Authority has considered your case".
- *Unattractive design*: the completed letter will often have a scattered appearance due to blank spaces.
- Address location should be indicated, and folds marked for use of window envelopes.

Exhibit 2 SAMPLE FORM LETTERS

POST OFFICE DEPARTMENT
ADMINISTRATION BRANCH



MINISTÈRE DES POSTES
DIRECTION DE L'ADMINISTRATION

Your File
V/réf.

Our File
N/réf.

Ottawa, Ont.,

Dear

Evidence has been received indicating that you have used the mails for the posting of matter relating to a sport pool operating in England.

The use of the Canadian mails in any way in connection with the above undertaking is prohibited and postal law and regulations provide for the withdrawal of Canadian mailing facilities from any person or firm observed to be using the mails for this purpose.

It is deemed advisable to bring the foregoing to your attention because if further evidence is received indicating that you are continuing to use the mails in connection with the above undertaking, there will be no option but to withdraw mailing facilities from you.

Yours very truly

Director of Administration

POST OFFICE DEPARTMENT
ADMINISTRATION BRANCH



MINISTÈRE DES POSTES
DIRECTION DE L'ADMINISTRATION

Your File
V/réf.

Our File
N/réf

Ottawa, Ont.,

Dear

Evidence has been received indicating that you are using the mails for lottery purposes.

Lotteries are illegal in Canada, and Postal Law and Regulations provide for the withdrawal of mailing facilities from any person or firm observed to be using the Canadian mails in any way for lottery purposes, or whose name and address is being used for the receipt of lottery matter.

It is deemed advisable to bring the foregoing to your attention because if further evidence is received indicating that you are continuing to use the mails for lottery purposes, there will be no option but to withdraw mailing facilities from you.

Yours very truly

These letters illustrate unnecessary variety of Form Letters. Both cover essentially the same subject, and could be combined.

Also: - unnecessary verbosity
- no identification numbers

Exhibit 3 SAMPLE FORM LETTER—GOOD DESIGN

POST OFFICE DEPARTMENT
ADMINISTRATION BRANCH



CANADA

MINISTÈRE DES POSTES
DIRECTION DE L'ADMINISTRATION

Your File
V/réf.

Our File 13-UMO-315
N/réf.

OTTAWA 1, Ontario

The Postmaster

Attention is directed to the following error(s) in your return of special matter as checked below:-

1. () Label 1 D.L. (g) not used for making return.
2. () Postmaster's or clerk's initials not indicated in space provided for on label.
3. () Office date-stamp omitted from label.
4. () Account number not indicated on label.
5. () Registration not given when contents warrant it, i.e. cash, liquor.
6. () Registered letter bill not enclosed in registered return.
7. () Covering memorandum not enclosed with suspected lottery mail.
8. () Contents of return incorrectly counted and indicated on label.
9. () Contents damaged due to poor packing.
10. () Unauthorized endorsement on cover of mail.

Director of Administration

—an efficient design:

- requires minimum of fill-in, and could be entirely completed by hand.
- readily identifiable by Form Letter Number.

F.L. (1) U.M.O.

EQUIPMENT

20 The advantages to be gained from the utilization of modern correspondence equipment in field offices have not been given sufficient consideration in many departments. Surveys conducted by the Management Analysis Division of the Civil Service Commission have confirmed that departments generally have a high correspondence cost which can be attributed to insufficient use of the right equipment. The proper application of automatic and manual typewriters, dictating equipment and copying equipment is extremely important in achieving economical production of correspondence.

21 The main advantages of automatic typewriters are that they produce approximately one hundred words a minute and eliminate the need for a full-time operator. Of fifty-nine departments and agencies completing the questionnaire, only five reported use of some type of automatic typewriter. The Civil Service Commission found that a large proportion of correspondence in its Advertising and Examination Section could be handled through the extensive use of standard paragraphs and standard letters, and automatic equipment was accordingly purchased. Possible applications for automatic equipment were noted in the Departments of Agriculture and National Revenue, where sufficient repetitive letters and paragraphs exist to justify a feasibility study.

22 Departments have not been encouraged to acquire dictating equipment and, where dictating equipment is available, there appears to be a reluctance to use it. Of the fifty-nine departments and agencies that replied to the correspondence questionnaire, five used no dictating equipment and six used only one machine. The following list shows the wide variation in the use of dictating machines by major departments:

Post Office	— 403 machines
Veterans Affairs	— 22 “

Customs & Excise	— 33 “
National Defence	— 120 “
Citizenship & Immigration	— 146 “

The questionnaire revealed that in both the Post Office and the Department of Citizenship and Immigration a far greater proportion of correspondence was dictated to machine than in any other department.

23 Most of the departments surveyed have copying equipment and make good use of it. However, the lack of copying machines in stenographic pools encourages the practice of typing copies rather than using the low-priced copying equipment now on the market.

STENOGRAPHIC AND TRANSCRIBING POOLS

24 Although many stenographic and transcribing pools exist, there is wide variation in quality of service and production performance. Investigations revealed a pervasive reluctance to use stenographic and typing pools, stemming from a variety of considerations such as:

- The material is technical and requires a typist who is familiar with the subject.
- Service from pools is poor, priorities are not set, and the user must often reschedule his work.
- The quality of work produced by pools is generally poor.
- A personal secretary or stenographer is a status symbol.
- A personal secretary or stenographer, when familiar with the work, composes letters with the minimum of direction.

These considerations are valid only where poor dictating practices are followed, pools are poorly administered, inadequate production standards are set, or insufficient training is given.

25 The Post Office operates a good central departmental pool which transcribes seventy-five to eighty per cent of the headquarters correspondence. The quality of work and service is good, and the basic standard of production of 825 lines a day is met by the lowest grade typist. In contrast, a survey of the transcribing and typing services in the Department of Defence Production, made in July, 1961, by the Management Analysis Division of the Civil Service Commission, revealed that:

- The average production for pooled staff is 461 lines a day, and the average production for non-pooled staff is only 245 lines a day.
- The 22 dictating machines in the Department are being used on an average of five minutes a day.
- 12,000 lines a day are typed from long-hand draft.

INSTRUCTIONS

26 Twenty-four separate government publications contain instructions on the form, style, method of address and closing, dating, layout, hints on difficult words, punctuation and grammatical styles. Most of these manuals were written for stenographers and typists; few instructions have been developed for the person who has to compose the letter. The two centrally-produced manuals, the Canadian Government Style Guide and the Civil Service Office Manual, are designed primarily for such specialist groups as transcribers of government letters and reports,

and the writers and editors of reports, bulletins, circulars and other publications issued by government departments.

27 Helpful as the present guides may be, they are not sufficiently comprehensive to foster either the best letter-writing practices, or the use of the most economical production techniques. A further difficulty is the re-training of transferred employees made necessary by the differing standards expressed in the multiplicity of guides and manuals. There is no need to duplicate information that is readily available in recognized texts and in the two central government publications. However, more guidance is required in planning and dictating a letter and in the use of dictating equipment, form and guide letters, and automatic typewriters.

CONCLUSION

28 Few people appreciate either the volume and cost of correspondence, or the potential benefits to both the government and the public of an improvement in this function. The public, as a recipient of government letters, can benefit from improved quality of correspondence—the government, from improved communication and possible cost savings of about \$5 million annually. There is no doubt that any attention paid to correspondence practices will bring beneficial results. Your Commissioners' questionnaire on this subject brought hitherto unknown facts to the notice of departments, and stimulated improvements. However, only a planned attack upon expensive and inefficient practices can realize fully the potential improvements and savings.

2

FORMS

1 Forms are an essential medium in business and government for recording, analyzing, transmitting and storing information. Forms management is concerned with the birth, use and disposal of forms as a vital part of the campaign to get maximum value from the clerical dollar; it is much more than forms design, or control of purchasing and printing new forms.

2 The Commission's study of forms in the Canadian public service was carried out by examining forms control programmes in seventeen departments and agencies, as well as the work of the Treasury Board, Canadian Government Specifications Board, and the Department of Public Printing and Stationery. At an early stage, it became evident that "forms management" and "forms control" did not mean the same thing to all departments. Therefore, the following definitions were adopted:

- Forms Control is concerned with the identification, authorization, design, storage and issue of forms.
- Forms Design is a part of Forms Control

concerned with the physical characteristics of the form, its appearance, and the preparation of specifications for the printer.

- Forms Management is the planned use of control techniques in a systematic review of forms and procedures.

3 At least \$5,500,000 was spent in 1961-62 on the printing of government forms—the letterheads, envelopes, punched cards, one-part flat forms, multiple copy sets, continuous carbon interleaved forms, cheques, etc.—which record, acknowledge, manipulate, transmit and store data. Since few inventories of forms exist, no accurate information is available on their number; however, it is estimated that there are over 100,000 in use in the government service.

4 The forms control units examined during the course of this survey have more than 21,000 different forms under their review; estimates by forms control officers of the number of other forms, not subject to their constant review, range from 100 in Customs and Excise to 40,000 in the Department of National Defence.

5 What is not readily appreciated by all departments is that the cost of printing forms is small compared to the cost of performing the related procedures. A brief submitted by the Institute of Continuous Forms Manufacturers, representing three-quarters of the country's specialty forms producers, estimates that the cost of processing forms is as much as ten to fifty times greater than the cost of printing them. The control procedures of departments and agencies are mainly confined to design and procurement of forms, and to stock control. Analysis of procedures is generally overlooked; forms, once printed, are not regularly re-assessed when a supply is ebbing and reprints are requested.

CENTRAL CONTROL

6 The central control of forms is divided among several agencies: the Treasury Board, the Canadian Government Specifications Board, and the Department of Public Printing and Stationery.

7 The involvement of Treasury Board with forms derives from the Financial Administration Act:

- 7 The Treasury Board may make regulations (a) respecting the collection, management and administration of, and accounting for, public moneys. . . .

Recognizing the importance of forms management in terms of this general authority, Treasury Board issued Directive 536430 on September 24, 1958, which provided, in effect, that:

- Forms Control Programmes were to be started in all departments.
- Forms Control Officers were to be designated in all departments.
- Reports were to be submitted, describing in detail present or proposed programmes.

The eventual goal of this directive was a continuing programme for the orderly, scheduled review of all forms and related procedures.

The directive urged departments to use the Organization and Methods group of the Civil Service Commission for procedures studies.

8 As a first step, the Treasury Board's action was unexceptionable. However, an analysis of forty reports to the Treasury Board on this subject shows that, of the twenty-one largest departments which established some kind of centralized control over printing requisitions, only nine placed control in or close to their procedures analysis function. A review of the departments' responses over the last three years to the Treasury Board's initiative leads to the conclusion that the real value of forms control has not been grasped and that the Board's intentions have not been fully implemented.

9 The Treasury Board today examines initial requests for specialty forms, such as continuous or multiple copy carbon interleaved forms, weighing necessity against cost. The deterrent value of this review is high, and well-documented, well-reasoned cases are receiving favourable treatment. But often, in making requests, departments fail to set forth the carefully developed ideas that give rise to them.

10 The Treasury Board conducts a periodic review of each department's specialty forms. However, judging from one typical review at which members of your Commissioners' staff were present, it is futile to attempt to examine forms when removed from the context of related procedures. In this particular case, departmental representatives were able to discuss stock controls, purchasing, and the most obvious inadequacies in design; they were less competent when it came to explaining the purpose, and the method of processing or disposing of the form.

11 The Research Council Act empowers the National Research Council:

- 13 (c) to undertake in such way as may be deemed advisable

- (v) . . . the determination of the standards of quality of . . . supplies used in the various branches of the Government service.

The Council exercises this authority through the Canadian Government Specifications Board which is accordingly concerned with the establishment of standards for forms. The Board consists of twenty-five permanent heads of departments and agencies; the President of the National Research Council is chairman; and the Council provides the coordinating staff, and also provides clerical staff for a large number of sub-committees.

12 The Forms Committee is but one of seventy-two committees of the Specifications Board. With four sub-committees, it deals with envelopes, letterheads and related papers, common usage forms and interdepartmental forms. While these committees appear to operate in a businesslike way, cumbersome procedures limit their effectiveness. A typical proposal by a member goes through the following steps:

- Proposal by member placed before the sub-committee.
- Sub-committee appoints a panel to examine a proposal.
- Panel submits recommendations to sub-committee.
- Agreement of sub-committee results in proposal being sent to main committee for discussion.
- Main committee votes on a ballot form sent out by the secretary.
- Results of ballot sent to the Canadian Government Specifications Board (deputy minister or delegate level).
- The Board votes by ballot.
- If few negatives are received, the secretary to the Board may try to influence change.
- If adopted, results of the vote are sent to

the Treasury Board with samples of the forms.

- The Treasury Board sends a directive to all departments requiring that they adopt the approved standard.

13 While standards for corn brooms, asphalt emulsions and sewer pipe joint compounds, for example, are established by tests and by agreement of a relatively small number of government personnel, the establishment of a standard form requires the examination of procedures in all departments. Since procedures analysis groups do not exist in every department, an immense job of liaison and fact-gathering is necessary.

14 Unlike many other Specifications Board committees, the Forms Committee has no analysts to conduct its studies; investigatory work is done by members who volunteer to serve on panels and who therefore limit studies to simple forms, such as tags, letterheads and airmail papers, which require a minimum of investigation.

15 In June, 1954, Treasury Board Directive No. 1954-15 stipulated that new or revised forms, with specifications, must be referred to the Department of Public Printing and Stationery for review and advice on physical characteristics and economical production. Since that time, the Office of the Business Forms Co-ordinator in that Department has become an authority on design and specifications for two reasons: first, because the Treasury Board's directive supports its position; and second, because its work and advice are capable and respected. The Co-ordinator has established a functional index, covering at present 2,000 to 3,000 departmental specialty forms, and has helped several departments to install similar indexes. The Co-ordinator develops and writes over 1,200 printing specifications annually and reviews more than 6,700 requisitions for more than \$1,500,000 worth of printing.

16 The foregoing developments demonstrate that, in the past several years, there has been a serious attempt to improve government forms. Inferior designs still exist due to a combination of the following circumstances:

- Insufficient training of departmental forms designers.
- Poor preparation of departmental specifications.
- Lead time provided by the departments is insufficient for a thorough examination by the Business Forms Co-ordinator.
- Inability of the Business Forms Co-ordinator's office to devote enough time to a review of all forms.

The solution is, primarily, more training for departmental forms designers.

17 While the terms of reference of the Business Forms Co-ordinator imply that he is to be concerned solely with design and printing, in practice his office actively encourages effective procedures' studies prior to the design request stage. In September, 1961, the Co-ordinator proposed the development of courses on forms management to be conducted early in 1962. The proposal was approved in principle by the Queen's Printer and the Civil Service Commission.

DEPARTMENTAL CONTROL

18 In many departments, such as Public Works, the forms control unit has no jurisdiction over forms prepared outside headquarters, but it is in the districts that most of the forms are used. In such cases, the forms control officer may only be able to examine as few as fifteen per cent of the department's forms. Only in the Dominion Bureau of Statistics, the National Film Board, and the Department of Public Printing and Stationery, do the forms officers believe they have

brought all the forms of their respective departments into their programmes.

19 In response to the Treasury Board directive of 1958, the title "Forms Control Officer" was liberally conferred, frequently on persons who were not fitted for the task. Clearly, the intention of the Treasury Board was not simply to award a new title to stationery stock controllers, nor was the title intended to apply to a forms designer who translates a crude sketch into a neat layout on the assumption that an analyst has already established the need for the form. The careless and inconsistent use of the title Forms Control Officer perpetuates a misconception of the true nature of forms control.

20 The typical approach of departmental forms control officers is too often a hurried attempt to ascertain that the sponsor of a form has no changes in mind before a request for reprint is approved. No department schedules a review of all forms and procedures and, since most forms are re-ordered two to four times a year, the re-order routine recurs hundreds of times only to prove that few, if any, changes need be made. When an important change is required, the forms control officer may race the clock to push a new design through the normal approval and purchasing procedure before the shelf supply disappears.

21 Many methods of identifying forms are in use. The Department of Agriculture prefixes a number to show the branch or division where the forms are most commonly used. Customs and Excise uses a prefix to relate members of a class of forms for cataloguing purposes. The Dominion Bureau of Statistics relates the form directly to a cost centre. The Unemployment Insurance Commission provides letter suffixes so that a new form can be properly positioned in the catalogue. A functional file groups all the forms of a department according to use or subject matter; for example, all forms related to an ordering

procedure are together, as are the forms used to schedule or to estimate work. Thus, when an analyst begins a forms study, the functional file is one of his most valuable sources of information. Also, when a new form is requested, a quick review of the functional file indicates whether a suitable form may already exist. The Departments of Transport and Public Works, the Indian Affairs Branch, the Immigration Branch, and the Customs and Excise Division, are all building functional files, and all departments will benefit from the use of such records as an aid to procedures analysis.

22 Some departments and agencies recognize that a form, like a work order, compels action, and that unofficial, unnumbered, uncontrolled or "bootleg" forms may represent unidentified procedures. In Customs and Excise, for example, fewer than ten per cent of the forms are unauthorized, whereas in National Health and Welfare, with no forms management programme, only ten per cent of forms are registered with the forms control officer. The form number, like an approval signature on a work order, should be the sign of official authorization of the form and its procedure.

23 There is no government-wide record of the costs of forms. Neither the Treasury Board nor the Department of Public Printing and Stationery know the annual cost of forms, which is regarded in most departments as an incidental expense included in the accounts under "stationery, publications, rental of equipment, etc." However, some have made a record of costs of purchase requisitions so that the forms cost can be isolated. For example, both the Department of Veterans Affairs and the Taxation Division of the Department of National Revenue obtain prices on each requisition, including those from the local Queen's Printer units, and in recent years more accurate estimates of forms expense have been developed. In contrast, many departments, keeping no rec-

ords of forms costs, can only guess the total expense from year to year.

24 Inventory controls may be completely lacking or extend all the way to systems appropriate to stocks of gold leaf. The experience of Customs and Excise with its stock control records will serve to illustrate the need for varying controls to correspond with the special character of the forms. Prior to April, 1961, the Department subjected all its forms to the same detailed inventory control: flat forms produced by a Queen's Printer unit in an adjoining office at \$2 per thousand were as rigorously controlled as continuous forms costing \$50 per thousand and requiring sixteen weeks' delivery time. Now, flat forms are controlled by a stockpicker, and only specialty forms are recorded in detail.

25 The re-order procedures of the Department of Citizenship and Immigration, which are typical, utilize visible-edge card records of forms and stationery items, detailing turnover, re-orders and deliveries. Whenever the re-order point is reached, a reprint control form, C&I-58, is typed in duplicate and sent with two copies of the required form to the forms unit of the Immigration Branch. Between 1,500 and 2,000 requests a year are prepared in this department, but only 139 revisions were made in 1960. Therefore, at least ninety per cent of the requests to reprint are examined with no resulting changes. In Veterans Affairs, the ratio was 100 revisions out of 4,000 reprints; in Customs and Excise, 165 out of 600; but in Agriculture, 575 out of 625. A replenishment procedure which utilizes a "travelling requisition", bypassing the forms control unit for routine replenishment of stock, would reduce costs and concentrate attention on needed changes.

26 The re-order quantities of flat forms vary from three months' supply in Veterans Affairs to twelve months' in External Affairs and Trade and Commerce. For specialty forms, the periods vary from six months in Public

Works to twenty-four months in Agriculture. In the Taxation Division of National Revenue, the forms control unit has eliminated headquarters stockpiling by directing the printer to ship to each field office. The Taxation Division's procurement procedure is also worthy of mention; taking into account seasonal fluctuations in the consumption rate, the forms control officer draws up a timetable showing an annual re-order date for every form; prior to the re-order date, the schedule is sent to the field offices to confirm their continued need. The procurement procedure is automatic, simple and routine, and does away with the preparation of requisitions on an "as required" basis.

CONCLUSION

27 The benefits to be derived from the proper management of forms cannot be achieved by a random attack on paperwork costs. The success of a forms programme should not be measured by its effect on the printing bill; the clerical costs of processing forms are the major source of potential savings. The management of forms, developed as part of a broad programme for improving paperwork techniques, can both reduce the cost of administration and improve the quality of service.

28 The proposed Administrative Improvement Division of the Treasury Board staff should encourage the development of forms management programmes in departments and agencies. The content of such a programme would include:

- The development of new techniques and equipment for coding, inventorying, storing, costing and disbursing forms; and training in the application of these techniques.
- Research in forms printing and design, and the maintenance of records on specialty forms.
- The integration of forms control programmes with other departmental management advisory services.
- The development of simplified methods of allocating the costs of forms produced and distributed.

29 With the Treasury Board supplying such guidance and co-ordinating interdepartmental efforts in this field, departments and agencies will be provided with the support and assistance they require. The result will be better forms and better procedures; less paper created, processed and stored; fewer clerical errors and less clerical work.

3

DIRECTIVES

1 Directives include internal instructions, procedures manuals, references to and interpretations of statutes and regulations, etc., distributed throughout an organization for the guidance of its staff. Administrative directives were studied in thirteen departments and one Crown corporation which, collectively, employed over half of the public servants. Specialized technical publications were excluded.

2 In evaluating the effectiveness of existing directives systems, answers to the following questions were sought:

- Are policies, procedures, instructions and regulations communicated simply and directly by the appropriate authority?
- Is the coverage comprehensive and grouped for easy reference?
- Can directives be easily and quickly kept up-to-date as revisions are issued?
- Is material distributed on a selective, "need to know" basis?
- Can users be sure that they have all current issues and revisions?
- Is there a revision programme to ensure that instructions are understood?
- Are there any established standards of quality, style, clarity and form; and are preparation and reproduction processes chosen with proper regard to economy and quality?
- Is the system flexible enough to accommodate changes and future expansion?

3 None of the departments surveyed assigns to a single officer or group complete responsibility for the central control and co-ordination of directives. However, some centralize the responsibility for the preparation of final copy, or the assignment of code numbers and co-ordination of printing, and others assign total responsibility for parts of the directives system. Departments, generally, have relied upon branches and divisions to create and distribute directives according to their individual needs. For example, the Department of National Defence has five different directives systems—one for each of the three Services, the Defence Research Board and Civilian Personnel Administration. These total over forty

series of directives contained in more than thirty volumes. Common policy matters are co-ordinated by a tri-service Policy Co-ordinating Committee for publication in Queen's Regulations. There are, however, three sets of Queen's Regulations requiring three separate operations for preparation, printing and distribution. Army, Navy and Air Force Orders, the major administrative publications, totalling six large volumes, expand and duplicate much of the content of Queen's Regulations. In the Army, administrative communication at the corps level is provided by twelve series of Corps Manuals, which duplicate or further explain material contained in both Queen's Regulations and Canadian Army Orders.

4 The appearance in directives of apparently conflicting material tends to cause disintegration of the system. The Defence Research Board instituted a system of administrative manuals but, due to lack of maintenance, division heads issue separate instructions by memoranda superseding much of the content of the manuals. Thus, many parts of the manuals are obsolete and it is necessary to refer to several places to be sure of having the correct information. The administrative manuals are consequently falling into disuse, so time and money spent on creation are wasted.

5 The following example of duplication within one system was identified in a survey conducted by the Management Analysis Division of the Civil Service Commission. On the subject of "Absence Without Leave" in the Canadian Army, the following references are to be found:

- Queen's Regulations—eleven separate instructions in five different sections.
- Canadian Army Orders—two separate orders in two sections.
- Canadian Army Manual of Ordnance Services, Vol. 7—seven references in one section.

- Manual of Records—seven references in two sections.
- National Defence Act—three separate references.

The conclusion must be either that considerable duplication exists, or that some thirty references are required to get the full story on "Absence Without Leave".

6 An example of hidden cost of administration is the continued interpretation, explanation and rewriting of policies and regulations published in officialese. A brief to this Commission from the Civil Service Association of Canada clearly states the situation:

... once a policy is issued it is interpreted in the various departmental personnel manuals and, in many cases, in departmental publications. One result is that various interpretations exist, which result in differing practices that may not be consistent with the intent of the original policy. Further problems arise from the fact that both the original measure and the subsequent interpretation are often issued in terminology which does not contribute to clarity.

The eventual result is that many first-level supervisors have a restricted knowledge of pertinent policies and procedures, and their only recourse is to go back up the line in an endeavour to ascertain how they should act or advise those under their direction.

Because this lack of information has been so apparent to us we found it necessary to develop a manual for our officers and members containing a digest of the many measures affecting employees, and it has subsequently been in wide use at all levels. While we are, of course, always pleased as an Association to offer such services, we do feel this should be primarily a management responsibility and undertaking.

In addition, current personnel policies and procedures should be drawn together in one manual, worded to meet all reader levels, and issued to those with supervisory responsibility. It is also desirable, we feel, that employees should have ready access to such material at all times on request. In many cases, this is not the present practice.

7 Cost figures of sample directives shown in Table 3 include only the mechanical and

Table 3—SAMPLE COSTS OF TYPICAL DIRECTIVES SERIES
(Material and Printing Costs Only)

	<i>Number of Types or Series of Directive</i>	<i>Total Copies Dis- tributed</i>	<i>Total Cost to Develop</i>	<i>Average Cost of a Manual or set of Instruc- tions</i>	<i>Annual Main- tenance Cost</i>	<i>Annual Main- tenance Cost as a Percentage of Develop- ment Cost</i>
1. Agriculture (Personnel Manual only).....	1	745	\$ 1,199	\$ 1.61	\$ 369	31%
2. Canadian Broadcasting Corporation.....	10	5,183	39,277	7.58	3,907	10%
3. National Defence (Canadian Army Orders only).....	1	2,900	57,452	19.81	23,106	40%
4. Post Office.....	21	111,009	184,215	1.66	67,593	37%
5. Public Works (Admin. and Tech. Directives only).....	1	330	3,777	11.45	497	13%
6. Unemployment Insurance Commission.....	10	24,600	151,805	6.17	*84,534	56%
					<u>\$180,006</u>	

*The high proportion of turnover of directives, indicated by the high cost of annual maintenance, suggests that more economical methods of printing are necessary.

material elements, such as binders, paper, printing and collating. They do not include the time spent by employees in studying and writing the subject matter, although these indirect costs generally exceed the mechanical costs of production. For example, the Canadian Broadcasting Corporation has estimated that the man-years involved in compiling the data for inclusion in two of their ten directive systems cost approximately \$47,250, or \$10,000 more than the cost of the mechanical production of all ten systems. The costs shown for each department include different factors because some departments could not provide reliable estimates for costs of distribution, stitching, collating, etc. However, these figures illustrate the magnitude of the development and annual maintenance cost of these activities.

8 The quality of reproduction depends entirely upon the process selected; the most commonly used are:

- Varsity preparation—photographed to offset plates for reproduction.
- Justewriter (automatic typewriter) preparation, photographed to offset plates.
- Manual or electric typewriter preparation, directly on offset plates.
- Typesetting by a printer from typed copy, reproduced by either letterpress or photographed to offset plates for offset reproduction.

9 Advantages of the Varsity, Justewriter and typesetting processes mentioned above are uniformity of print and justification of

margins (straight right-hand margins). The Varityper and typesetting methods also allow for variation in print size and type. The typewriter preparation process is by far the most economical method and is used very effectively by the R.C.A.F. in many publications.

10 It is often difficult to distinguish between Varityper and typeset work, and typesetting is generally more expensive for quantities required for directives. The Department of National Defence employs the typesetting process widely in their directives system, notably: the Queen's Regulations, Canadian Army Orders, Air Force Routine Orders and numerous other training manuals and publications. Many other departments use Varityping or typesetting for their manuals; since most of these manuals are distributed internally, this standard of quality is questionable.

11 Where the choice of binders is left to the discretion of branches or divisions, a variety of types, sizes and colours are to be found, even within a single department. Almost every conceivable type and size of binder is in use

in the government. The lack of a general standard for binders and paper sizes requires the Queen's Printer to supply a wide range, procure small quantities and to cut paper sizes to order. Table 4 illustrates the wide cost range of binders.

12 Indexing, consolidation and subject grouping have not generally been given sufficient attention. Consequently, it is often difficult to find appropriate references. At least six of the departments surveyed utilized the branch circular system, either exclusively or as part of their directives systems. These circulars are authoritative, often modifying or superseding other directives, such as manuals. The indexing system used for branch circulars is chronological, each circular numbered in sequence of issue, regardless of subject. Originating branch symbols indicate the general function involved.

13 This system results in the creation of annual files of circulars in no logical grouping for reference purposes. Often references to the same subject or regulation are to be found

Table 4—SAMPLE COSTS OF TYPICAL BINDERS

<i>Department or Agency</i>	<i>Type of Binder</i>	<i>Size</i>	<i>Cost</i>
Agriculture.....	3 ring—flexible, vinyl.....	8½ x 11	\$.75
Canadian Broadcasting Corporation			
(a) Management Manual.....	3 post expandable—fabricoid.....	8½ x 11	\$5.60
(b) Office Standards Manual.....	3 ring—hard cover—plastic.....	8½ x 11	\$4.01
Post Office—All Manuals.....	22 ring—flexible.....	8½ x 11	\$.88
Public Works.....	Acco-press.....	8½ x 14	\$.60
Unemployment Insurance Commission			
(a) Old Style.....	4 post—hard cover.....	6½ x 9½	\$2.35
(b) New Style.....	4 hole split prong—hard cover.....	6½ x 9½	\$4.25
National Defence			
(a) Canadian Army Orders.....	4 post—latchlock—hard cover.....	7¼ x 10}	\$2.50
(b) General Orders (Navy).....	4 post—latchlock—hard cover.....	7¼ x 10}	
Defence Research Board.....	16 ring—hard cover.....	7¼ x 10	\$3.50

in ten or twelve different places throughout as many as five years' accumulation of circulars.

14 With the exception of the Canadian Broadcasting Corporation, the review of systems is generally neglected. Management audit techniques can determine whether directives are accepted and followed, whether implementation problems exist and systems improvement is feasible or necessary, and whether sets of directives are properly maintained. Directives writers are often remote from field operations and fail to appreciate local problems. Even when feed-back from the field is encouraged, individuals will not always report difficulties for fear of being thought incompetent.

15 Most departments surveyed practise the "need to know" basis of determining distribution lists. However, directives are generally over-distributed because the practice of placing sets of directives in strategic positions for reference purposes is largely ignored. Almost invariably, individuals are given copies to

maintain even if they are in adjacent offices. No cases were observed where directives are circulated within locations, signed as having been read and understood, and placed in a common reference binder for future use.

16 An efficient, simple directives system will reduce the cost of the development, reproduction and distribution of directives. For example, it should no longer be necessary to develop and maintain some thirty different personnel manuals currently in existence. A common manual, properly developed, should suffice, with provision for the insertion of departmental instructions as supplements. Standardization of production will permit the Department of Public Printing and Stationery to buy and stock materials in larger quantities of fewer types, and use more economical printing processes.

17 Clear and concise directives, issued within a common framework, simplify administration and beneficially affect morale, costs and efficiency.

4

MAIL

1 The management of mail involves:

- Receiving, sorting, opening, routing, controlling and distributing incoming mail.
- Collecting, preparing and despatching outgoing mail.

2 The circumstances that govern the handling of mail vary materially. Volume is the principal consideration, but the degree of centralization of mail handling facilities, the organization of the file rooms and the geographic dispersion of the organization served are also important. These considerations apply, not only in Ottawa, but throughout Canada, wherever groups of public servants work.

3 This study was limited to eleven major departments in Ottawa, but observations and conclusions are relevant to all mail-handling activities in the public service.

INCOMING MAIL

4 All departments studied arrange a mail pick-up from the central Post Office, either by their own trucks or by contract. Most de-

partments schedule the morning pick-up to ensure that some, if not all, mail is ready by opening time.

5 Mail is initially sorted into three major categories:

- Mail addressed to the minister or marked 'personal' is delivered unopened.
- Mail that requires classifying and indexing is delivered to the registries.
- Routine repetitive material that does not require preclassification is delivered directly to action desks.

6 Mail opening is not necessarily restricted to mail rooms. For example, in the Department of Agriculture, mail is opened in each of the eight independently operated registries, not in the three mail rooms; in Customs and Excise, mail is opened in all of the fourteen section registries, and by secretaries, clerks and even chiefs of divisions.

7 Electric openers are used in only eight of eighteen mail rooms examined, although an envelope opening machine is justifiable when

over five hundred or more letters a day are to be opened, and most registries or mail rooms exceed this volume.

8 Some average costs for mail opening and initial sorting are:

- Citizenship and Immigration
\$ 4.60 per thousand letters
- National Defence
\$ 7.20 per thousand letters
- National Health and Welfare
\$ 10.20 per thousand letters
- Veterans Affairs
\$ 5.70 per thousand letters

9 In all departments, costs can be reduced by consolidating the opening of mail in the mail room. Even the relatively low cost in the Department of Citizenship and Immigration can be further reduced by transferring the manual mail-opening activities of the Indian Affairs Branch to the departmental mail room.

10 There is an excessive amount of routine time-date-stamping of mail. For example, six of the eleven departments studied time-stamp all mail and another time-stamps over ninety per cent. Mail is sometimes serially numbered automatically by the stamping machine; however, some departments serially number mail by hand to maintain volume statistics and, in two departments, these numbers are transcribed to an index and then endorsed on file folders. If mail statistics are required, statistical sampling will provide cheap, satisfactory results.

11 Mail to be processed through registry to action points, or to be delivered direct, is sorted a second time after it has been opened, time- and date-stamped, and volume-numbered. The lack of routing information in most departments results in both errors and delays. While some departments have attempted to produce routing guides for distribution of

material direct from mail rooms to action offices, only the Department of National Defence guide is effective.

12 Mail rooms handle much personal mail that should be directed to a home address. In a few departments, such as National Defence, External Affairs, and Citizenship and Immigration, some use of the departmental address is required by officers moving within Canada and abroad. This privilege is sometimes abused, and adds to the volume of mail handled by mail staff, who should be processing only official mail. Statistics maintained in National Defence showed personal mail volume to be:

1958—7800 per month
1959—7200 per month
1960—7000 per month
1961—5000 per month

13 The Post Office Department reported that a departmental directive, stating that the practice of addressing personal mail to the Department was wasteful and would result in disciplinary action if continued, had reduced personal mail to a negligible volume.

14 Mail is summarized or briefed in some departments as an additional finding aid to supplement the main file classification system and index. Usually, mail is summarized if the subject is not clear, or if there is a danger of loss through the regular file classification plan. This procedure has been carried to excess in the Departments of External Affairs, National Revenue (Customs and Excise Division), Transport, and Public Works.

15 The Department of External Affairs, in particular, needs a completely new classification system for its subject files to eliminate both the "brief-record" substitute and most of the elaborate finding aids which now increase the time required for delivery to action offices. External Affairs records include:

- A daily briefing sheet.

- A 4" x 6" individual in-and-out letter card.
- Letter-serial identification books for all missions.
- Microfilming the 4" x 6" cards.

16 In the Departments of Transport and Public Works, briefing is on a selective basis in conjunction with a control of important mail, but could be eliminated without loss of control. In the Customs and Excise Division of the Department of National Revenue, eighty per cent of the mail classified for files is briefed, a procedure which could be eliminated without loss of control.

17 The total time required to deliver incoming mail to an action desk varies from a few minutes to nine working hours or more. Where incoming mail bears a file number, processing time can be less than one hour, but up to one full working day may be required to process mail that requires classifying or indexing. If mail is sent to a sub-registry, processing time is lengthened to as much as a day and a half.

18 In most departments, mail is processed throughout the day and is generally delivered on the same day it is received. An exception is the Department of Veterans Affairs where the sub-registry system lengthens processing time to the extent that mail may not reach the action desk until the day following receipt.

19 The operating statistics and costs of processing incoming mail in ten departments are summarized in Table 5. It reveals that the lowest total processing cost is \$79 a thousand pieces in the Department of Veterans Affairs, and that the cost is \$472 a thousand in Public Works. The average total cost is \$192.10 a thousand pieces, excluding delivery from the registry to the action desks.

OUTGOING MAIL

20 Outgoing mail is received in mail rooms throughout the day and, generally, depart-

ments bag and despatch to the Post Office at least twice a day. In six departments, outgoing mail is metered, bagged and despatched to the Post Office after normal departmental working hours, so that all mail can be cleared daily. Mail despatch is generally effective, although more frequent daily delivery would ease the burden on the Post Office.

21 In preparing mail for despatch, most departments surveyed follow a number of standard steps, such as accuracy checks, insertion of mail into envelopes and bulk mailing, metering, and bagging of mail. In some departments, the mail room checks to ensure that the:

- Proper enclosures are attached.
- Correspondence is signed.
- Envelope address is in agreement with that indicated on the outgoing letter.
- Copies of original letters are not enclosed in the envelope.

22 The majority of mail rooms are responsible for inserting mail into envelopes, even when the envelope is typed in the action office and attached to the outgoing letter, and most departments utilize bulk mailing. In some departments, the mail room holds large, pre-addressed envelopes, and sorts and inserts the mail. In others, the pre-addressed envelopes are held in registries, or sub-registries, or even in the offices that prepare the correspondence.

23 At the present time, four methods of affixing postage are used by departments:

- A metered impression of the name of the department, the signature of the deputy minister, and the appropriate postage cost, or "00" on all mail enjoying free delivery privileges.
- A rubber stamp impression of a deputy minister's signature on an envelope is accepted by the Post Office, and mail thus franked is carried free.

Table 5 — MAIL OPERATIONS STATISTICAL DATA — INCOMING
All figures are computed on a daily basis.

DATA ITEMS	Agriculture	Citizenship and Immigration	External Affairs	National Defence	National Health and Welfare	Customs and Excise	Post Office	Public Works	Transport	Veterans Affairs	Unemployment Insurance Commission	Low	High	Average
1. Total Daily Volume Received	5,701	5,460	6,700	8,545	3,473	4,426	5,513	864	3,278	9,390	734			
2. Volume Delivered at First Sort	2,332	500	Nil	4,000	910	3,096	503	144	787	3,160	104			
3. Total Daily Staff Salary Cost	\$28.96	With 10	\$12.67	\$15.90	\$15.68	\$8.94	\$29.28	\$2.13	\$7.14	With 10	With 10			
4. Total Daily Hours Expended and Staff	16:5	With 11	8:2	8:4	9:9	6:3	12:4	1:1	3:1	" 11	" 11			
5. Hourly Production Rate	356	" 12	788	1,005	366	738	459	864	1,093	" 12	" 12			Units
6. Total Cost per Thousand Pieces	\$5.10	" 13	\$1.90	\$1.90	\$4.50	\$2.00	\$5.30	\$2.50	\$2.20	" 13	" 13	\$1.90	\$5.30	\$3.20 ⁷⁸⁻⁸
7. Volume Opened	3,260	5,060		4,545	2,066	1,330	5,010	720	2,491	2,500	630			
8. Volume Time or Date Stamped	3,142	5,060		Nil	885	1,330	Nil	720	2,491	2,500	630			
9. Volume Serial Numbered	1,873	5,060		Nil	570	Nil	4,840	720	2,491	Nil	Nil			
10. Total Daily Staff Salary Cost	\$22.05	\$24.92		\$23.94	\$11.82	\$20.03	\$34.56	With 16	\$35.87	\$53.46	\$5.43			
11. Total Daily Hours Expended and Staff	15:7	16:6		18:4	6:4	7:8	18:6	" 17	17:17	27:7	3:1			
12. Hourly Production Rate	217	330		253	344	177	278	" 18	147	348	267			
13. Total Cost Per Thousand Pieces	\$6.80	\$4.60		\$5.30	\$5.70	\$15.10	\$6.90	" 19	\$14.40	\$5.70	\$7.40	\$4.60	\$15.10	\$8.00 -9

Table 5 – MAIL OPERATIONS STATISTICAL DATA – INCOMING – Concluded
 All figures are computed on a daily basis.

DATA ITEMS	Agriculture	Citizenship and Immigration	External Affairs	National Defence	National Health and Welfare	Customs and Excise	Post Office	Public Works	Transport	Veterans Affairs	Unemployment Insurance Commission	Low	High	Average
14. Volume Delivered at This Point	2,184	459		1,546	1,016	Nil	671	Nil	Nil	3,500	Nil			
15. Volume Classified to File and Routed	1,326	3,541		1,759	1,050	878	1,875	720	2,491	2,655	1,266			
16. Total Daily Staff Salary Cost	\$90.71	\$174.58		\$144.53	\$150.48	\$75.30	\$80.50	\$141.90	\$303.80	\$52.52	\$62.70			
17. Total Daily Hours Expended and Staff	47:13	86:17		70½:17	66:18	30:6	70:10	66:11	140:20	26:6	38:6			
18. Hourly Production Rate	28	41		25	16	29	25	11	18	102	33			
19. Total Cost Per Thousand Pieces	\$68.40	\$49.30		\$82.20	\$143.30	\$85.80	\$42.90	\$197.10	\$122.00	\$19.80	\$49.50	\$19.80	\$197.10	\$86.00-10
20. Volume Delivered at This Point	898	107		Nil	542	181	183	Nil	Nil	Nil	327			
21. Volume Recorded	41	215		1,821	Nil	697	398	180	335	Nil	119			
22. Volume Briefed	Nil	Nil		Nil	Nil	508	Nil	180	335	Nil	Nil			
23. Total Daily Staff Salary Cost	N/A	\$4.80		\$53.90	N/A	\$89.25	\$13.32	\$33.08	\$21.84	N/A	\$9.66			
24. Total Daily Hours Expended and Staff	N/A	3:2		38½:7	N/A	42½:13	6:1	17½:3	13:3	N/A	7:2			
25. Hourly Production Rate	N/A	72		48	N/A	16	66	10	26	N/A	17			

26. Total Cost Per Thousand Pieces	N/A	\$22.30	\$29.60	N/A	\$128.00	\$33.50	\$183.80	\$65.20	N/A	\$81.20	0	\$183.80	\$77.70 -7
27. Volume Filled Before Delivery	1,220	3,434	1,759	736	166	1,691	720	2,491	2,655	939			
28. Total Daily Staff Salary Cost	\$47.79	\$209.98	\$58.80	\$19.19	\$5.40	\$42.00	\$64.26	\$104.14	\$142.09	\$28.29			
29. Total Daily Hours Expended and Staff	294:8	1134:17	42:10	94:4	4:1	25:25	42:6	634:13	784:24	204:6			
30. Hourly Production Rate	41	30	42	77	42	68	17	39	34	46			
31. Total Cost Per Thousand Pieces	\$39.20	\$61.10	\$33.40	\$26.10	\$32.50	\$24.80	\$89.30	\$41.80	\$53.50	\$30.10	\$24.80	\$89.30	\$43.20-10
32. OVER-ALL TOTAL COST PER THOUSAND PIECES	\$119.50	\$137.30	\$152.40	\$179.60	\$263.40	\$113.40	\$472.70	\$245.60	\$79.00	\$168.20	\$79.00	\$472.70	\$193.10

NOTES:

- (1) Items 1 to 6 are Primary Sorting.
 - (2) Items 7 to 13 are Mail Opening.
 - (3) Items 15 to 19 are File Classification and Action Routing.
 - (4) Items 21 to 26 Record /Briefing.
 - (5) Items 27 to 31 are the Correspondence Placed on File.
 - (6) Statistics for External Affairs were not forthcoming other than for the Primary Sorting.
 - (7) The DVA figure of 3,500 at Item 14 are Hospital Treatment copies which are processed through direct to the files as put away papers.
 - (8) The UIC figures of 734 and 1,266 at Items 1 and 15 reflect bulk mailing from District Offices.
- (9) Salary costs have been calculated on the basis of an 1890 hour work-year.
- (10) Item 32 is the sum of Items 6, 13, 19, 26 and 31.
- (11) Where the word "With" appears, this means that the two operations were so interlocked that separate calculations could not be made; these calculations are made from the higher basic figure.

- A postage stamp overprinted with a "G" is used in government offices where there is no postage meter or deputy minister's signature-stamps are not issued.
- The Department of Finance merely pre-prints its official envelopes with "Department of Finance" in script, and the Treasury Office for the Department of Veterans Affairs uses a pre-printed envelope indicating "OHMS" and "Free only if mailed in Canada".

24 The present procedures require such operations as: justifying and procuring postage meters; renting and repairing meter heads; requisitioning and purchasing meter credit; assessing postage required; affixing stamps; and requisitioning, purchasing, distributing and accounting for over three-quarters of a million dollars worth of "G" stamps, both in Ottawa and the field.

25 Your Commissioners believe that all departments should pay for the cost of mailing and that the method of settling with the Post Office could be simplified. All federal government mail could be despatched with some other appropriate identifying mark, such as "Postage and fees paid", an extension of the method used by the Department of Finance. A saving would be realized in salary costs necessary to account for postage, in purchase cost of meter machines, and in rental charges. The compensation of the Post Office could be based upon a statistical sample of volume from each department. This method is employed by the United States Government.

26 In two departments, outgoing mail control practices appeared to be excessively costly. In Customs and Excise, in addition to a diary copy of all outgoing letters, details of the letter are entered on an index card that contains particulars on the related incoming letter. In External Affairs, an elaborate control system is used for diplomatic mail, including a transit form in multiple copies

listing all documents in a diplomatic bag. The form is used to check the contents of the bag on receipt, to acknowledge receipt to the originating officer, and to obtain receipt for mail from the final receiving office. With a better file classification plan and more selective control of mail, a more economical system could be developed.

27 The volume and cost of processing outgoing mail are shown in Table 6. The Departments of Agriculture and Citizenship and Immigration operate at the lowest costs, approximately \$2.40 and \$1.70 a thousand pieces respectively. The rate of \$7.00 a thousand pieces at External Affairs would be lower if security control of diplomatic mail were not rated as imperative. The high cost of \$28.20 a thousand at the Unemployment Insurance Commission is partly due to the manual folding and envelope stuffing. The next highest costs of \$13.90 and \$16.50 a thousand pieces at Customs and Excise and Public Works is caused by some expensive practices. For example, nine people at the Clerk 3 level in Customs and Excise separate the copies of outgoing correspondence, fold by hand, and stuff envelopes before transmitting them to the mail room.

MESSENGER SERVICE

28 Messenger services may comprise:

- Vehicles to provide pick-up and delivery of mail at the Post Office, or at different buildings occupied by a department, or at other departments.
- Service within a department for pick-up and delivery of both files and mail.

29 The departments studied had vehicles for pick-up and delivery of mail, and frequency of call appeared satisfactory.

30 For the purposes of assembling the data shown in Table 7, the term inter-office mail includes the delivery of both incoming and

Table 6 — MAIL OPERATIONS STATISTICAL DATA — OUTGOING MAIL
 All figures are computed on a daily basis and are based on a 1961 sample.

DATA ITEMS	Agriculture	Citizenship and Immigration	External Affairs	National Defence	National Health and Welfare	Customs and Excise	Post Office	Public Works	Transport	Veterans Affairs	Unemployment Insurance Commission	Low	High	Average
1. Total Daily Volume Despatched	12,143	9,720	8,500	9,773	3,100	4,500	3,167	775	5,510	3,600	550			
2. Volume Recorded or Copy Filed	Nil	Nil	5,200 diplomatic	Nil	Nil	672—both	Nil	775	5,510	Nil	Nil			
3. Volume Briefed	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil			
4. Volume Copied	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil			
5. Total Daily Staff Salary Cost	\$29.14	\$16.56	\$59.40	\$36.08	\$16.07	\$62.40	\$18.10	\$12.78	\$29.75	\$26.46	\$15.50			
6. Total Daily Hours Expended and Staff	15½:4	12:6	33:9	22:6	10½:10	32:14	10:3	6:1	17:6	14:4	12½:5			
7. Hourly Production Rate	783	810	258	444	267	141	317	129	324	257	44			
8. Total Cost Per Thousand Pieces	\$2.40	\$1.70	\$7.00	\$3.70	\$5.20	\$13.90	\$5.70	\$16.50	\$5.40	\$7.40	\$28.20	\$1.70	\$28.20	\$8.80

Table 7 -- MAIL OPERATIONS STATISTICAL DATA -- MESSENGER SERVICE AND INTEROFFICE MAIL
 All figures are computed on a daily basis and are based on a 1961 sample.

DATA ITEMS	NO FIGURES							NO ORGANIZED SERVICE					Average	
	Agriculture	Citizenship and Immigration	External Affairs	National Defence	National Health and Welfare	Customs and Excise	Post Office	Public Works	Transport	Veterans Affairs	Unemployment Insurance Commission	Low		High
1. Total Daily Volume Handled	17,560	22,610		64,937	7,908		10,099	3,119	8,788	18,912	1,439			
2. Daily Interoffice Volume	5,085	7,688		46,619	1,334		1,419	1,480	No rec.	7,312	155			
3. Interoffice Volume Time or Date Stamped	Nil	119		Nil	Nil		92	Nil	Nil	Nil	Nil			
4. Interoffice Volume Recorded or Briefed	Nil	Nil		Nil	Nil		Nil	Nil	Nil	Nil	Nil			
5. Total Daily Staff Salary Cost	\$86.72	\$98.48		\$202.88	\$69.86		\$72.00	\$104.78	\$204.75	\$84.53	\$24.30			
6. Total Daily Hours Expended and Staff	704:12	974:13		1164:15	514:7		60:11	824:11	1574:21	524:7	224:3			
7. Total Cost Per Thousand Pieces	\$4.90	\$4.40		\$3.10	\$8.80		\$7.10	\$33.60	\$23.30	\$4.50	\$16.90	\$3.10	\$33.60	\$11.80

outgoing mail. The inter-office mail volume was particularly high in the Department of National Defence, as shown in item 2 of Table 7. This table also shows that:

- The lowest cost of just over \$3.10 a thousand pieces is achieved by National Defence for delivering incoming, transmitting inter-office, and picking-up outgoing mail.
- The highest cost of \$33.60 a thousand pieces is at Public Works.
- The average cost per thousand pieces is \$11.80.

31 As stated earlier in this report, the majority of incoming letters are attached to files. This results in literally tons of paper being transported daily by messengers, despite the fact that a great part is not needed. An experiment in R.C.A.F. headquarters demonstrated that seventy per cent of the mail could be acted on without the file. A study by all departments should be undertaken with the objective of:

- Reducing the volume and weight of material transported by messengers.
- Speeding the movement of mail.
- Reducing clerical costs.

32 Little consideration has been given to the installation of built-in mechanical aids, such as conveyor belts, vacuum tube systems, and dumb waiters, to move mail and files in government buildings. Many private concerns have installed such equipment in recent years, including a large company in Ottawa which installed a conveyor belt system. Built-in mechanical aids should be considered when planning future office accommodation.

33 In a number of departments, publications are distributed in volume by means of mailing lists that remain relatively stable. The Department of Public Printing and Stationery prints these publications and could do the mailing, thus eliminating the necessity of transporting publications from place to place.

CONCLUSION

34 It is estimated that over 100 million pieces of incoming mail are processed annually at a cost exceeding \$20,000,000, with files operations accounting for over seventy-five per cent of the cost. At least \$2,500,000 is spent to handle 200 million pieces of outgoing mail; \$5,500,000 is spent annually for postage; and \$5,750,000 worth of mail is carried by the Post Office free of charge. Thus, approximately \$34,000,000 is spent annually by mail rooms, registries and the Post Office to handle government mail.

35 Part of this large cost can be reduced in the mail room and part in the file room, and departmental management should determine the degree of service that is necessary and economical. Mail should be processed by methods that ensure quick and accurate handling and, at the same time, provide adequate, low-cost controls. Success will depend, however, on active participation and support throughout the department. In particular, senior officials must maintain an interest in mail operations as one of the department's important systems. Significant economies should result from a detailed review of mail handling practices carried out in each department by its management services group.

5

FILES

1 Office files are sometimes called the business memory of an organization. They hold the records of transactions of the past and the information required for present and future decisions. The millions of individual facts and decisions contained in the files must be maintained in an orderly fashion so that vital information may be obtained accurately, quickly and economically. The continuing growth of office files results in a never-ending demand for more equipment and space and for more people to service them.

2 In evaluating the effectiveness of filing operations in government departments, your Commissioners considered the following questions:

- Is there within departments sufficient control over all records to provide uniform classification and filing systems, standard procedures, forms and equipment, and manuals for the guidance of registry personnel?
- Does the classification, indexing and filing system facilitate the speedy recording, locating and distribution of complete rec-

ords to the user with minimum use of auxiliary finding aids?

- Are records so located as to be easily accessible to the user and to minimize the number of staff required to sort, file, store and find them?
- Are registry personnel numerically commensurate with volume of records handled, and are they properly trained?
- Does a plan exist to control the creation of records, identify dormant records, transfer dormant records from high cost active working areas to cheaper storage, and safeguard permanent records?

3 The holdings of government records were surveyed in 1959 by a sub-committee of the Public Records Committee, which studied twenty-three departments and twenty-nine agencies. Only spot checks of field offices were made, and departments themselves compiled the statistical data; therefore the Committee stated emphatically that all figures should be considered conservative. Nevertheless, statistics compiled by the Committee revealed that the filing operation in the fed-

eral government is big business, as illustrated by:

- Salary costs: \$27.5 million annually for 12,000 employees.
- Space costs: \$4.5 million for the fiscal year 1958-59.
- Space occupied: Ottawa — 1,123,000 square feet; other parts of Canada — 1,357,000 square feet; total — 2,480,000 square feet.
- Volume of records held: Ottawa — 911,000 cubic feet; other parts of Canada — 1,254,000 cubic feet; total — 2,165,000 cubic feet.
- Approximately thirty-eight per cent of government files were dormant.

4 The report on the 1959 survey also contains the following statement:

Without including capital costs for equipment, the annual expenditure for records services of the agencies and departments surveyed by this committee is over \$32 million and there is some question in our minds whether this money is used to best advantage. Inefficiency, as shown by wastefulness and poor service, occurs in many different ways but it appears to have one basic cause: neglect of the records services by senior departmental officials.

5 During the present study, some improvement in the general efficiency of the registry operations was noted. However, the "neglect of the records services" still exists.

6 As a result of a lack of adequate control within departments, there are many different index systems, file classification plans and filing methods. These differences cause wide variation in the quality of service within departments. There is duplication of files, index cards, charge-out cards, and other such forms used in registry operations; and there is ineffective use of space and staff.

7 Departmental organization charts generally show that there is central control over

the custody and maintenance of records; however, such control exists in only two departments, and only two departments have any degree of effective control over field records outside their Ottawa offices. In Customs and Excise for example, the organization chart indicates that all records are centrally controlled, but there are actually fourteen independent uncontrolled registries in Ottawa, and there is no headquarters control of records in the field.

8 Another aspect of departmental control is the effect of the position accorded to the files managers in the organization structure. In the Department of Agriculture, there are eight independent registries; the supervisor of the departmental administration registry is the unofficial records expert and is sometimes called upon to provide guidance and assistance to other registry supervisors. In particular, he was "semi-officially" charged with the task of implementing a uniform departmental file classification plan developed with the assistance of the Civil Service Commission, Management Analysis Division, in 1957. Thus, a principal clerk from one branch was expected to sell the plan to eight branch chiefs. Although he received support from the Administration Branch, only three registries have adopted the system; they are well satisfied, proving that increased efficiency and simplified files classification can be achieved.

9 Two serious problems face the records manager in the Administrative Services Division of the Department of External Affairs, namely, a completely inadequate and outdated file classification plan, and the staff rotation policy of the department. Prior to 1940, a file was opened each year by subject as received; for example, the first letter received in January, 1939, was assigned file number 1-39 and indexed according to subject. The first letter received on a different subject was assigned file number 2-39. In 1940, due to staff shortage, it was decided to drop yearly opening of files, and those created

in 1940 became permanent. Since there is no planned grouping of subjects, the system is inadequate and requires many additional "crutch" indexes to locate information on file.

10 Under the Department of External Affairs' staff rotation policy, registry operations are continually understrength by twenty to thirty employees, because of overlap in postings, home leave, etc. The Registrar, realizing that operations are inefficient, has repeatedly drawn attention to the need for a new file classification plan and other changes. Unfortunately, no action has been taken.

FILE SYSTEMS

11 The file classification plan is the most important component of a filing system. If the plan does not facilitate the classifying, filing and, more particularly, the finding of information, it engenders tedious, lengthy and costly processes. Plans now in use are based on such systems as Dewey decimal, subject numeric, or subject block numbering. The effectiveness of the systems observed ranged from poor to excellent, and the labour cost of classifying ranged from nine cents to thirty-five cents a letter.

12 The file classification plan used in the Department of External Affairs has been mentioned earlier. Subject file numbers have little meaning and, with no subject grouping, headings are so indefinite that a classifier may place a letter in any one of a number of different files. Each classifier processes sixty-seven letters a day, compared to one hundred and fifty a day in most other registries. Five index systems are required to assist in locating correspondence:

- Alphabetical listing by subject title of all files, indicating file number.
- Cross-reference subject card index.
- Numerical index of subject.

- Alphabetical name index of individuals relevant to the subject of a letter.
- Every numbered letter received from and sent to missions abroad is recorded on a "chronological" card and filed by post and letter number.

13 Eighty per cent of correspondence charged out in the Department is placed on a false docket file to speed up action by avoiding use of the main file. The creation of false dockets, which involves attaching and charging out correspondence, removal of correspondence from returning false dockets, and subsequent filing of paper on main file, requires the full time of three clerks, plus additional time by the classifier to check returning false dockets to ensure completeness and correctness of classification. The use of false dockets causes backlogs. At the time of this survey, 4,500 pieces of mail awaited attachment to main files. Despite the special indexes and the use of false dockets, locating correspondence sometimes takes many hours or, in some cases, days. The Registrar estimated that at least half of his own time is spent tracing correspondence.

14 The file classification plan used in the main registry of Customs and Excise is such that eighty per cent of the letters are handled loose. Files are created by tariff item number, and it is common to find more than seventy volumes of one file, making it almost impossible to locate quickly a ruling or specific letter on file. Thus, the Department has created:

- A 700,000 card index of all rulings.
- An incoming and outgoing correspondence index, arranged alphabetically by name of individual or company, containing the date, the departmental file and volume number, and a short description of content.
- An additional file of all outgoing letters by page number and date.

15 The installation of an adequate file classification plan would produce a workable file where rulings and letters could be easily located. This would eliminate the correspondence index and achieve a significant reduction in labour.

16 Generally, index systems are employed to help locate information which cannot be found because of inadequate file classification plans. Some indexes are simply over-control of paper; for example, recording all incoming and outgoing letters by date, originator and subject content. The Department of Veterans Affairs utilizes:

- Card index by regimental number of veteran to provide name.
- Card index arranged alphabetically by name of dependants to identify name of veteran.
- Card index by name of veteran to establish if there is a file.
- Ledger index by pension allowance number to provide name of veteran or dependants.
- File listing by subject indicating subject file number.
- Alphabetical card index for file cross-references.

Registries in the Post Office Department operate with some freedom from central control, and there are:

- Seven separate index systems by subject.
- An index by Post Office number.
- An index by alphabetical listing of post offices.
- An alphabetical staff name index.
- An index by service; for example, rural delivery.

There is little doubt that half the indexes of the two departments could be eliminated, saving labour, equipment and space.

17 File inspection is required when correspondence is attached to a file by the user, or when charge-out systems are neglected. However, in many cases, file inspection is over-elaborate and tends to relieve the user of responsibility for sloppy handling. In addition to the extra cost, file inspection delays the return of files to cabinets, in many cases by as much as half a working day. Most file supervisors admitted that file inspection detected few errors, but all believed inspection was essential to ensure that files are kept in good condition.

18 An example of over-elaborate file inspection was observed in the Department of Transport, where ten clerks are employed full-time on this work. In addition to the usual inspection of the condition of the file, they check to ensure that: the 'bring forward' is recorded; that there has been no misfiling by user; that the routing action is completed; and that there are no classifying errors. It was estimated that errors were detected in only five per cent of files examined, and the greatest benefit derived was the replacement of torn file covers.

PERSONNEL

19 Because of the routine, repetitious work in the registries, training is restricted and opportunities for advancement are few. As a result, registry positions tend to attract applicants of limited capacity, and morale is poor. The average person starts on records work at a salary of \$140 per month, and may in time achieve the position of Clerk 3 at a maximum salary of \$335 per month. About eighty-five per cent of the registry positions in the departments studied were clerks grade 3 or lower. Within this range, there are many variations in the salary classifications for persons doing the same job. For example, in National Defence, there are twenty-six subject classifiers; one is a Clerk 4, eleven are Clerks 3, ten are Clerks 2, three are Clerks 1, and one is a Clerical Assistant.

20 There is no standard for determining the classification of supervisors. Instances were observed where Clerks 2 and 3 were carrying out the same duties and responsibilities as supervisors classified Clerk 4. The following inconsistencies in the Post Office Department are cited as examples:

- The supervisor of the Engineering and Development Registry is a Clerk 3, responsible for supervising all registry functions, indexing, coding and filing, with a staff of four clerks.
- The supervisor of the Transportation Registry is a Principal Clerk, responsible for supervising and directing all registry functions, indexing, coding and filing, with a staff of seven clerks.
- The supervisor of the Filing and Attaching Services in the Administration Registry is a Principal Clerk, responsible for supervising all file activities and the messenger service, with a staff of twenty-six clerks.
- The indexers in the Administration Registry are Clerks 3, who code, classify, index and allocate incoming mail, and have no supervisory duties.

Very little difference exists in duties and responsibilities of filing clerks in the registries examined, yet their classification ranges from Clerical Assistants to Clerks 2, a difference of \$100 a month. An orderly and systematic reclassification of these positions throughout the service is required.

RECORDS DISPOSAL

21 A programme for the orderly disposal of records is required to prevent unnecessary accumulation of dormant and useless records occupying costly space and filing equipment, and slowing down reference to active records. The retention of records which have permanent or historical value must also be planned on a systematic basis. None of the departments studied has a fully effective records

disposition programme in operation. All but one make some attempt to schedule their records and take steps to destroy some records and transfer others to the Public Records Centre in Ottawa. Some have small permanent staff groups which transfer dormant records to the Public Records Centre, strip files of extraneous material, or destroy them. Generally, however, departments only give active attention to this problem and destroy records when forced to do so by space limitations.

22 In most departments, records scheduling is assigned to the registry supervisor. This official normally lacks sufficient authority to require users to permit him to dispose of records. The following are examples of the differences in records disposition activities:

- In the Department of Agriculture, there is no attempt to schedule records, files are not systematically destroyed, and there are no plans to do so. Files are transferred to departmental dormant storage either during a special review or when space becomes a problem. No staff is assigned to records disposal work.
- In Customs and Excise, approximately fifty per cent of the records are scheduled, but no staff is assigned to the disposal function. Few files have been destroyed, because of rulings contained therein, and file reviews are undertaken only to relieve overcrowding. Many scheduled retention periods are unrealistic; for example, copies of all outgoing letters are presently held for five years, and even simple requests from the public for customs forms are held three years. This Division's total file volume is estimated at 32,750 cubic feet, including 20,500 cubic feet of semi-active and dormant records stored in basements. Probably eighty per cent could be destroyed or transferred to the Records Centre.
- In the Post Office Department, ninety-five per cent of the records have been scheduled,

and a very active programme of file review, stripping and destruction is carried out by a file retirement and library unit of three full-time clerks. A comprehensive retention and disposal schedule has been drawn up for the guidance of the staff involved. Since 1945, it is estimated that over seven million file folders of documents and forms of all types have been destroyed. Over 3,400 cubic feet of records are stored at the Public Archives Records Centre and, in 1960, 46,120 files and 1,685 bundles of miscellaneous forms were destroyed. This records programme is in startling contrast to the apathetic approach found in other departments where most senior officials show little interest in requiring a planned programme of records retention and disposal. Consequently, there is an incomplete understanding of what constitute active and

dormant records, with most departments adopting the attitude of "keep it in case".

CONCLUSION

23 Suitable legislation would give emphasis to the departmental responsibility to document activities and would establish a continuing control over the creation, maintenance, use, and disposition of records. When proper principles and techniques are established and utilized, the benefits to the government will be substantial. The destruction of useless records, the removal of inactive records from office space, and the use of sound filing practices, could bring annual savings of over \$3,000,000. The benefits to be derived from more rapid and accurate access to files and information defy monetary assessment.

6

LIBRARIES

INTRODUCTION

1 Libraries play an indispensable role in providing material to public administrators in making decisions or advising on policy. The libraries in the federal public service share the same library skills and techniques that have contributed to a growing professionalization of the librarian's craft throughout Canada. In so far as many exist to serve the special needs of departments or agencies, the standards of financial support, acquisition and administration differ somewhat from their counterparts in universities and elsewhere.

2 Excluding branch libraries, there are in Ottawa some forty libraries in departments, agencies and Crown corporations. Outside the capital, there are approximately twenty-five branch libraries and military college libraries. In addition, there is the National Library of Canada, created in 1953 and ultimately to be housed in quarters of its own. The Library of Parliament is outside this Commission's terms of reference.

3 Libraries must be accessible to users and must normally be housed in prime office

space. But libraries devour space: a good research library, for example, may double in size in less than twenty years. Libraries building national collections in special fields may also increase rapidly. Most of the major departmental libraries are now short of space, and even some of the medium-sized will require more space within the next five years.

4 The space problem can be sketched in a few words. Annually, about 160,000 books, pamphlets and documents, and more than 400,000 individual issues of periodicals are added to the libraries covered in this review. A conservative estimate sets the amount of new shelving required each year at nearly ten miles.

5 It is difficult to make a precise estimate of the cost of libraries in the public service, but the salary budget runs to more than two million dollars, and another million is spent on books, periodicals, and so on. Costs of space, binding and library furniture are substantial.

6 The library of the National Research Council has the most extensive collection and

employs the largest staff. The National Library stands second in size of staff, though third in total of collection. The Department of Agriculture, which has maintained a library for half a century, now has the second largest collection. Altogether, the forty libraries in Ottawa are staffed by some 125 professionally qualified librarians and an additional group of 250 clerical workers, translators and editors.

7 The resources of these libraries are substantial. They include 2,250,000 bound volumes, 30,000 periodical titles, and more than one million pamphlets and documents. Five of them have significant holdings of maps, the largest collections being in the Geological Survey Library and in the Public Archives. The latter, along with the National Library, has the only significant holding of historical newspapers. Microfilm or microcard is used extensively by only nine libraries, although others are equipped to provide such service.

8 These impressive resources, subject to certain necessary restrictions, are in the main accessible to both the civil service and the public at large. Visitors from Commonwealth countries, research workers sponsored by UNESCO, and students from Canadian and foreign universities make wide use of these facilities and materials. Such use is particularly marked in the fields of agricultural research, statistics, communications, health and welfare, labour relations, forestry, science and technology. Needless to say, the Library of the Public Archives and the National Library have contributed in important measure to scholarly research in the humanities. All of this is in the good tradition of library service and helps to account for the excellent public relations enjoyed by federal libraries.

STAFFING

9 In the forty libraries reviewed, there are about 125 positions which normally should be filled by professionally trained librarians.

Ten of the libraries, mostly smaller collections, were not headed by professional librarians; eight library positions were filled by clerical or technical officers; and three Librarian 1 positions were reclassified recently to clerical positions.

10 Librarians are in short supply throughout Canada, and this shortage has been reflected in the federal government's difficulty in attracting qualified personnel. The scale of salaries authorized does not provide attractive starting salaries. In practice, initial recruits are brought in at a mid-point in the range for Librarian 1 in order to match comparable rates paid in the larger cities. Normal progression, starting at \$4,560, is to move after two years into Librarian 2, thence by steady increments to Librarian 4, carrying a top salary of \$6,900. Few reach the Librarian 5 class and fewer still find outlets beyond in the "Administrative Officer" or "Chief Librarian" classes. A career of twenty to thirty years can be expected to bring the employee to a salary level of \$7,500.

11 Some comparisons give point to the salary position of the librarian in relation to his colleagues in other classifications of the public service. Three young people, two with a university B.A. in history and the third without university education, may decide to enter the public service. One university graduate is engaged as an Archivist 1; the other goes to library school and after gaining his Bachelor of Library Science in an additional year enters the public service as Librarian 1. The latter will begin at a lower starting salary and will never reach the archivist's salary; after eight years he will be earning \$1,000 less. At the end of fifteen years he will have reached the top which is some \$900 less than double his starting salary. Meanwhile, the archivist will be earning more than double his initial salary and still will not have reached the ceiling. The third student, entering directly from high school as a Technical Officer 1 at \$300 less than the librarian, can look for-

ward to a career that may pay him a salary of \$360 more than the librarian can hope to attain.

12 While such salary conditions have significant repercussions on recruitment of librarians and their career prospects, equally important is their recognition as professionals in the public service. Here, the most impressive feature is the unevenness of standards. For one large library collection containing more than 28,000 items, in a field requiring special knowledge and librarian skills, there is no professional head. In another smaller library, approval was granted for a professional head and a Librarian 4 was appointed. At the same time, the head of a large and active library serving all Canada has a professional staff of four, but is himself classified as a Librarian 4. These illustrations can be readily multiplied.

13 The rising demand from all quarters for librarians, in spite of the recent founding of two new library schools, is certain to bring about a serious shortage of librarians over the next decade. Government must seek promptly to rectify its uneven standards, low salaries and poor career prospects if it is to provide adequately for its needs in the future.

14 An essential first step is to establish a clear definition of a library in the public service, for not every collection of books warrants the designation. Certainly, such obvious yardsticks as physical size of collection, variety of duties, level of responsibility, reference and research functions, and the degree of professional judgment required need to be considered. Departmental managers must clarify their own conceptions of the status and role of libraries, so that operation does not bog down in clerical routine.

15 A differentiation between a library and a "collection" should also strengthen the professional content of librarian work. For smaller collections, clerical workers assisted

by professionals in the National Library should be adequate. The decision to raise the status of a collection to that of a library should only be taken after certain standards have been applied and met.

16 Present library salary classifications appear to be descriptively accurate, but the series might well be carried to a higher rank than at present, as a means of raising the professional tone of the work performed. At the same time, starting salaries and the whole pay range should be reviewed in the light of competitive salaries paid outside the service.

17 There is much to commend a scheme of recruiting applicants with general arts degrees as Technical Officers 1, employing them for a year in a library and, where careful assessment reveals genuine competence, sending them to an accredited library school. This scheme has already had limited application and might well be continued on an expanded basis.

ADMINISTRATION

18 Departmental libraries are commonly supervised by library committees appointed by the deputy minister and consisting of the deputy or his immediate assistant, the administrative head directly in charge of the library and one other, usually a branch head. These committees review the library budget, annual reports, general policy of main library and branch libraries, and any specific matters referred by the librarian.

19 In departments or agencies where library service has been introduced relatively recently, library committees tend to busy themselves in detailed appraisals of book purchases and day-to-day administration. Library committees have a proper function as advisers on policy, but it is costly for them to become involved in day-to-day management of the library, and derogatory to the professional capacities of the librarian.

20 Three of the main activities of libraries offer opportunities for centralized operations. These are cataloguing and classification, book purchases and binding. Centralized reference service, on the other hand, is obviously inconsistent with the purposes of departmental libraries. The trend, in fact, is toward excessive decentralization that may, if carried to excess, disperse the central heart of the collections.

21 Centralized cataloguing and classification services work well when libraries have common needs and similar collections, and desire reasonably uniform coverage. However, the subject range of materials in federal libraries is such that there is little duplication of titles. On the whole, apart from a central catalogue service maintained by the National Library (to be discussed later), there is much merit in permitting each library to do its own cataloguing, oriented to the special requirements of its users.

22 In April, 1955, a centralized system of book purchasing, previously administered by the Department of Public Printing and Stationery, was transferred to the National Librarian. Certain specialized classes of purchases were left within the direction of departments, subject to report to the National Librarian; all other purchases required his prior approval.

23 This arrangement was helpful in enabling the National Library to maintain a complete union catalogue of books in federal government libraries, though the libraries of Crown corporations fall outside the system. In practice, where libraries were professionally staffed, the National Librarian soon delegated his authority for book purchases. In September, 1957, a regulation was passed which, while reserving to the National Librarian general direction of purchasing policy, permitted the purchase of books by departmental libraries without his prior approval. It is suggested that the system, which

appears to work reasonably well, might now be improved by requiring advance approval of the National Librarian for any work the purchase price of which exceeds fifty dollars. Under such moderate controls, librarians would be allowed a degree of discretion that will fully recognize their professional skills and standards.

24 There is no standard procedure for purchasing books and, while no two departments have the same requirements, there is room for developing common forms and procedures. A manual, setting out the standard steps in requisitioning, approving, ordering and paying for books and like material, could be readily prepared and would be most helpful in co-ordinating varying departmental practices.

25 The purchase and handling of periodicals raise special problems. Federal libraries purchase annually 30,000 periodicals at a subscription cost of around \$100,000. The cost, in terms of staff time, of shelving and routing periodicals is high. Binding and storage add further to the total cost of this class of material. Departmental library committees should review annually the needs of their departments for periodicals, and should similarly examine the routing and retention policies. No standard procedures can be laid down but, without periodic review of purchasing policies and administrative practices, the not insubstantial costs cannot be properly controlled. These are basically matters for departmental decision but co-operation with the National Library, as noted below, should be sought.

26 Responsibility for determining the quality of binding and the place where binding is to be done has been assigned to the Department of Public Printing and Stationery. Departmental libraries have occasionally been permitted to send out binding to federal penitentiaries and even to private binderies but, in the main, close control has been exercised.

27 This arrangement has been criticized for the long delays and high cost. The quality of work is often higher than circumstances warrant. No invoice scanned in the course of this inquiry showed the Queen's Printer able to match either price or delivery time of competitors. If central storage of back copies of periodicals and other publications is developed, and if there is proper control of the numbers to be retained, the need for individual libraries to maintain bound runs will lessen. Periodicals destined for storage should be inexpensively bound or not bound at all, and worth while savings can be effected through proper planning in this area.

THE NATIONAL LIBRARY

28 Consideration of those aspects of library administration which, to some extent, lend themselves to a degree of centralization leads naturally to some account of the status and functions of the National Library.

29 The National Library of Canada came formally into existence on January 1, 1953, on the proclamation of the National Library Act. On that date the Canadian Bibliographic Centre, the forerunner of the Library and active since 1950, was absorbed into the new institution. The National Library is housed temporarily in the Public Archives Records Centre at Tunney's Pasture, Ottawa.

30 The general purpose of the National Library is to gather a national collection of books and other materials. It is to compile and maintain a national union catalogue in which the holdings of libraries throughout Canada are listed. It is to be responsible for the compilation and publication of a national bibliography in which books produced in Canada, written or prepared by Canadians, or having special interest or significance to Canada, may be noted and described. It is to be responsible for the compilation and/or publication of other bibliographies, checklists and indexes. Finally, the National Li-

brary is to make available, to the greatest extent consistent with sound administration, the resources of the Library to the people of Canada.

31 The institution has now been in existence for eight years. During the whole of the period it has had no home of its own. It has had to recruit and train staff to positions of responsibility and, in common with federal libraries, it has been at a disadvantage in competition for scarce skills. The National Library and the Library of Parliament, working in the closest harmony, have arranged a transfer of a vast number of books and other materials from the Library of Parliament to the National Library. A great volume of material has come in from other sources and not all offers of donation could be accepted until the new building was assured. A comprehensive microfilming project has been undertaken, a seemingly endless cataloguing programme begun, and a heavy editing and publishing commitment undertaken. Moreover, the institution has begun to function as a national centre for reference and inter-library loans and as a clearing house for the location of books and materials sought by research workers.

32 The National Library has begun the collection of books and materials and now has a holding of nearly 250,000 books, with another 100,000 awaiting listing. There are 70,000 periodicals, 50,000 documents, 25,000 pamphlets and 50,000 microprints. Annual accessions are at the rate of 33,000 items, not including 2,000 periodical titles. The card catalogues of all important libraries of a reference or research nature have been filmed and the resulting cards added to the national union catalogue. The publication of a national bibliography, *Canadiana*, has been a fact for some years.

33 When the National Library was created the Dominion Archivist was given the responsibility of directing the preliminary

work and was appointed National Librarian. The two offices continue to be held by the same person. Over the past decade, each institution has taken on its own special characteristics. Although a number of common services have been developed to serve both institutions, there has been no loss of identity or any blurring of the essential objectives of either.

34 The last ten years have seen an unprecedented development in both the archival and library fields. With the emergence of the National Library as a full-fledged national institution, with its own staff and resources, and with the assurance of proper physical facilities, the offices of Dominion Archivist and National Librarian should no longer be the responsibility of a single person.

35 There are two special spheres of interest where the National Library should seek the closest collaboration with other federal libraries. First, the libraries of the Public Archives, the National Museum and the National Gallery, because of their stature, their subject fields and their common interests, are veritable extensions of the national collections. Absorption of these libraries in the National Library may not be feasible, but co-ordination of book purchasing policies is desirable to avoid duplication.

36 Secondly, there is need for co-operative arrangements to be established between the National Librarian and those departmental libraries which have acquired over the years unique collections of national interest. Foremost in this category is the collection of scientific material assembled by the National Research Council. Already, by informal agreement, this library has been designated a national collection, which means, in effect, that the National Library has entrusted the National Research Council library with responsibility for developing and servicing this special field of interest. A more formal arrangement, setting out clearly the condi-

tions under which a departmental library might be entitled to the status of a national collection and assume the consequent responsibilities, would permit the extension of such arrangements to other departments. The Department of Agriculture has a large collection in the living sciences which might be given the status of a national collection. By such means, a sensible and economical division of labour could be worked out between the National Library and specialized departmental libraries of high quality.

37 Attention should now be given to making the most effective use of the central specialized facilities that are becoming increasingly available as the National Library expands. Central storage facilities for little used material in federal libraries is one obvious area to be explored. The National Librarian, bearing in mind the subject emphasis of each departmental library, should negotiate the transfer of such material to central storage. This would have a marked effect on the space needs of individual libraries and yet, by providing a pooled service for items infrequently required, would continue to meet the reference needs of the public service.

38 Extra professional staff should be recruited for the National Library to make possible the rendering of expert and continuing advice to the smaller libraries in departments and agencies which are currently not under the direction of professionally-trained librarians.

39 Federal libraries render essential service in the conduct of the nation's business. Many of them, as noted, form part of our national heritage, and the Canadian public benefits to a marked degree from their resources. Provision for the continued orderly growth and development of the National Library will create a focus for these services and an instrument for effecting economies of operation and improving efficiency of performance in the varied departmental libraries.

7

RECORDS AND ARCHIVES

RECORDS

1 The disposal and custody of public records should be securely founded on clearly formulated programmes for records scheduling and records appraisal. Records scheduling, which provides for the flow of records from origin to final disposition, is a proper function of departmental management; appraisal of records is a task for the archivist. Between these separate but closely related functions, there is the intermediate task of records storage.

SCHEDULING

2 In Chapter 5, FILES, it is stated that there are wide variations in departmental records scheduling practices. In the main, this situation stems from the lack of qualified personnel in central departmental registries; from the absence of appropriate standard procedures for filing and records administration; and from the lack of interest by top officials in assuming responsibility for a planned programme of records retention and disposal.

3 The survey by your Commissioners' staff disclosed a lack of techniques for segregating active from dormant records, for breaking files periodically to separate valuable from ephemeral material, either to facilitate removal of inactive records from office space or to destroy valueless documents.

4 Departmental records personnel were found to be classified at levels which revealed them as the poor relations of departmental administration. In particular, there is need to establish appropriate classifications for senior records officers.

5 In July, 1961, the first training course in records management was conducted, and about the same time a Procedure and Training Manual was published by the Public Records Centre. This initiative needs to be followed up by a more extensive programme of training, if the present deficiencies in records management skills are to be corrected.

6 A Records Management Survey Committee, reporting in February, 1960, concluded that the weaknesses in departmental practices

were attributable to the inadequacies of the over-all control mechanism which had come into being in September, 1945. This mechanism was the Committee on Public Records which now consists of the Dominion Archivist as chairman, and representatives of eight named departments and two named agencies. Although all major departments are represented, none of the government commissions or corporations are included.

7 The powers and duties of the Committee are set out in the Order in Council, P.C. 212, February 16, 1961, as follows:

The Committee shall recommend to the Treasury Board the issuing of directives, as required, on matters pertaining to the maintenance and retirement of records.

The duties of the Committee shall be to keep under constant review the state of the public records; to consider with departments and agencies of government the organization, care, housing and destruction of public records; and to advise such departments and agencies as may be required. In this respect the Committee's principal concern will be with those departments and agencies listed in Schedules A and B of the Financial Administration Act.

The primary responsibility for the care, maintenance and recommendation on the retirement of records rests with the departments and agencies concerned. Each department and agency shall take adequate steps to meet its responsibility for the care, maintenance and retirement of its records.

There shall be no destruction of records, other than excess copies, without approval of the Committee and the Treasury Board.

Departments and agencies should, where practicable, schedule their records for retirement and eventual destruction or long-term retention. All such schedules must be approved by the Committee and the Treasury Board.

8 The only current directive issued by the Public Records Committee is Circular No. 5, May, 1961 which (a) defines "public records" for the first time, and (b) revises procedures for disposal of records. The sincerity of the efforts of the Public Records Committee cannot be questioned, but it is doubtful whether any committee can produce the required results.

9 An effective records scheduling programme must have at least three basic ingredients:

- A statutory base which embodies definitions and delineates functions and responsibilities.
- Standards for the selective retention and disposal of records, promulgated by senior authority.
- Competent staff with sufficient technical skill to put the standards into practice.

PUBLIC RECORDS CENTRE

10 Mid-way between the departments, which create records, and the Public Archives, which permanently houses the historically valuable portion of these records, stands the Public Records Centre. Of the formidable mass of records created by departments, no more than five per cent will find their way to a permanent rest in the Public Archives. A records centre, as a half-way house, must store and service the dormant records until some final disposition can be made, either by transfer to the Archives or by destruction.

11 The Public Records Centre should continue to be the focal point of any records disposal programme. Since late 1955, the Records Centre has occupied a new, modern building specifically designed for the purpose, with about three and one-half acres of floor space and sixty-six miles of shelving for storage of records. Eight of the building's thirty-five storage areas are occupied by the National Library, and two by the Public Archives for records that cannot be accommodated at the Sussex Street site. As at September 1, 1961, 210,739 cubic feet were occupied—nearly all of the usable space.

12 In the near future, some space will be released as the Public Archives transfers its holdings to rented accommodation downtown; the present capacity will be increased

by about half with the addition of a new building now under construction at Tunney's Pasture, Ottawa; and when the National Library building is completed, further space will be released. Space will become critical at two periods in the future; the first, about two years hence, and the second, seven to eight years hence. A third building will become necessary, for it is anticipated that about twelve acres of storage space will eventually be required.

13 The total staff of the Public Records Centre numbers thirty-three. While adequate at the moment, the staff will have to be augmented if the activity of the Disposal Section increases as it should. The total costs for the Records Centre in 1960-61 are presented in Table 8.

14 The basic principle always to be borne in mind is that the Public Records Centre has custodial and not jurisdictional authority over the records in its keeping. Its stated functional objectives are threefold:

- To provide safe, economical storage and service for the dormant records of all federal government departments and agencies.
- To make provision for the security and retention of records of continuing value.
- To assist departments and agencies in the establishment and maintenance of sound records management procedures.

15 The Records Centre does provide safe storage; facilities for the fumigation and cleaning of records have been installed; special security storage has been provided to meet the particular requirements of departments, such as External Affairs and the Royal Canadian Mounted Police. It provides cheap storage and servicing of dormant government records—approximately \$1.00 a cubic foot for the fiscal year 1960-61. The Centre has made economies possible within departments, as indicated by the considerable

amount of storage equipment and space released through its activity (see Table 9).

16 While economy is an important justification for the existence of the Records Centre, there is another of equal importance—the retention of historically valuable material. The policies and practices of the Records Centre are established under these dual objectives.

17 The Accession Section of the Centre is responsible for the transfer of dormant departmental and agency records of continuing value, and for relieving the departments and agencies of dead records which either have historical value or are worthless and should be destroyed. All files are arbitrarily divided into two types—personnel and general—and processing procedures appropriate to each have been established.

18 Personnel files of all federal employees who either left the public service or transferred from one department to another at least three years previously, and who have not reached seventy years of age, have been integrated into a single system irrespective of department of origin. The system has proved efficient, and the inclusion of Armed Forces personnel records is now under active consideration.

19 A transfer of general files is usually initiated by the department concerned. Consultation between the department and the Records Centre ensures that the records are evaluated, arranged and described; the physical transfer is then completed by Centre personnel. The volume of accessions, however, is neither the sole nor the most meaningful measurement of use. A survey by the Records Management Committee in 1960 indicated that 30,920 cubic feet of records were transferred to the Records Centre in 1959. But of the fifty-two departments and agencies circularized, transfers were made by only twenty-five departments and agencies, and

Table 8—TOTAL COSTS OF PUBLIC RECORDS CENTRE, FISCAL YEAR 1960-61

Salaries.....		\$105,554.27
Travel.....		616.85
Equipment and forms.....		17,894.95*
Public Archives Records Centre boxes.....		6,250.00
Stationery, postage, telephone, petty cash, etc.....		1,172.00
Trucks.....		1,839.12
Truck maintenance.....		1,125.02
Building maintenance.....	\$63,062.80	
Less $\frac{1}{3}$ for National Library and Microfilm Unit.....	21,020.93	
		42,041.87
Capital cost including shelving (amortized over 40 years).....	\$42,288.35	
Less $\frac{1}{4}$ for National Library and Microfilm Unit.....	10,572.08	
		31,716.27
Commissionnaires.....	\$14,155.03	
Less $\frac{1}{3}$ for National Library and Microfilm Unit.....	4,718.34	
		9,436.69
Total cost.....		\$217,647.04
Man-years expended.....		27 $\frac{1}{2}$
Total holdings at March 31, 1961.....	190,649 cubic feet	

*An exceptional cost—mostly incurred in processing of backlog of personnel files.

Table 9—EQUIPMENT AND SPACE RELEASED THROUGH THE ACTIVITY OF THE PUBLIC RECORDS CENTRE

	1956	1957	1958	1959	1960	Total
Transfer cases.....	3,107	7,501	3,273	3,013	3,235	20,189
Filing cabinets.....	1,254	1,833	2,290	2,070	2,982	10,429
Shelving (ft.).....	6,698	10,224	3,994	6,929	3,507	31,352
Other space released.....	157	201	219	482	1,059	2,118
Square-footage cleared.....	46,291	21,609	19,742	15,125	23,393	126,160

three accounted for more than half of the total transfer. A concise statement of the work of the Accessions Section appears in Tables 10 and 11.

20 The low and high volume of transfers for the year 1959 were:

Defence Production.....	10 cubic feet
Canadian Commercial Corporation	16 " "
Trade and Commerce.....	45 " "
Veterans Affairs.....	5,089 " "
Central Mortgage and Housing Corporation.....	5,273 " "
Comptroller of the Treasury.....	5,441 " "

21 Up to September, 1961, the Records Centre had received transfers from only thirty-six departments and agencies, and some of these are token transfers. This situation is attributable to departmental inertia, and a lack of understanding of the real function of the Centre. Departments cannot be compelled to transfer their records; the Centre can only demonstrate through service that transfer will relieve unnecessary and unwelcome burdens.

22 The particular functions of the Disposal

Table 10—ACCESSIONS SECTION—OPERATIONAL STATISTICS

	1956	1957	1958	1959	1960	Total
Number of transfers.....	66	74	122	97	130	489
General files (cu.ft.).....	53,471	29,007	31,242	34,410	39,408	187,538
Personnel files (cu.ft.).....	—	553	3,704	4,950	5,695	14,902
Total holding (less disposals) (cu.ft.).....	—	—	—	—	178,237	—

Table 11—ACCESSION LOAD—HIGH AND LOW PERIOD DISTRIBUTION*

Year	High		Low	
	Month	Cu. Ft.	Month	Cu. Ft.
1956	May	12,429	July	332
1957	Aug.	7,587	Oct.	160
1958	June	5,139	Nov.	278
1959	Feb.	8,476	Apr.	620
1960	Feb.	16,301	Apr.	600

*This table shows the unevenness of intake which does not arise solely from the departments, since time of acceptance may depend upon the ability of the Records Centre to cope with a transfer. It does suggest, however, that if greater control over time of transfer could be maintained a more efficient allocation of staff might be practicable.

and Scheduling Section, which is now in process of evolution, are threefold:

- To help departments schedule their current records systematically, transfer dormant records to the Records Centre, destroy worthless records, and transmit records of historical value to the Manuscript Division of the Public Archives.
- To arrange for the destruction of records which have neither historic value nor continuing value to the department creating the record. This applies both to records already transferred to the Centre and to records offered to the Centre by departments.
- To ensure the preservation of records which have either a continuing interest to the department or a future historical value to the Public Archives.

23 The procedures for personnel and general files have been carefully formulated. No records may be destroyed at the Records Centre without proper authority. Destruction may proceed if the department provides the Records Centre with a copy of its authority for destruction from the Treasury Board. The Records Centre will seek Treasury Board approval only with departmental consent. To keep departments informed about records transferred to the Records Centre, frequency of reference figures are kept and sent to the departments, often with the suggestion that consideration should be given to destruction. The economies resulting from disposal are of secondary importance, since the main objective is safeguarding valuable records. The prerequisite for an effective disposal operation at the Records Centre is the existence of proper departmental schedules and, as has already been pointed out, these still leave much to be desired. Table 12 summarizes the work of this Section.

24 While there does not appear to have been any promiscuous destruction of perma-

nent records, the evidence would seem to suggest that there has been too little destruction of useless records. The Public Records Centre has received custody of only a small proportion of the total records holdings of the government and it has disposed of only an equally small proportion. Departments, in 1958, disposed of 122,063 cubic feet in Ottawa, and 11,052 cubic feet of field records, for a combined total of 233,115 cubic feet. This volume was accounted for by thirty-five departments and agencies; one department contributed nearly one-third, and nearly sixty per cent was contributed by the three top disposing departments. The range of disposal is interesting:

Canadian Maritime Commission..	8	cubic feet	
Dominion Coal Board.....	20	" "	
Auditor General.....	85	" "	
Public Works			
Ottawa.....	25		
Field.....	<u>112</u>	137	" "
Chief Electoral Officer.....	13,728	" "	
Comptroller of Treasury			
Ottawa.....	8,349		
Field.....	<u>15,599</u>	23,948	" "
National Revenue, Taxation.....	35,860	" "	
Citizenship and Immigration			
Ottawa.....	1,151		
Field.....	<u>74,800</u>	75,951	" "

25 Service to the departments and agencies whose records are in the custody of the Records Centre is of prime importance; the justification for the existence of the Centre, from a departmental point of view, stands or falls by the quality of service. In consequence, policies and practices in the Records Centre generally revolve about the Reference Section's service in three areas:

- The loan of records to the originating department.
- The provision of facilities for research in the records by departmental representatives and by students (the latter only with the consent of the department).

- The search of records for information.

26 The reference function is impressive, both quantitatively and qualitatively. Ninety-five per cent of the Section's work is loaning and inter-filing additional departmental transfers. Records are maintained of files charged out to departments and, if a department wishes, a file can be restored to its own central registry and struck off the Records Centre. About ninety-eight per cent of the reference work is of departmental origin, and only two per cent from the general public. Operational statistics for this Section are reproduced in Table 13.

REGIONAL RECORDS CENTRES

27 Since more of the federal records are held in the field than in the Ottawa headquarters area, and since the preponderance of the field records tends to be centralized in a few cities, the applicability of Regional Records Centres merits consideration. The data acquired by the Records Management Survey Committee, to which previous reference has been made, are summarized in Tables 14, 15 and 16.

Two conclusions emerge from a scrutiny of the present situation:

- The wide disparity in the ratio of floor space for the storage of dormant records (in Montreal, .7 cubic feet to 1 square foot, and in Vancouver, 1.9 cubic feet to 1 square foot) suggests an immediate need for an examination of uneconomical use of floor space, and a close scrutiny of the cost of the present floor space compared to the cost of a regional records centre.
- A regional records centre becomes a viable working unit for a minimum staff of three if it holds 30,000 cubic feet of records, has annual accessions of 8,000 to 10,000 cubic feet, annual disposals of 4,000 to 8,000 cubic feet, and from 10,000 to 15,000 references a year.

28 On this basis, the establishment of regional centres would be warranted in Toronto and Montreal, assuming that peripheral areas are included; and consideration should be given to the possibility of similar establishments in Vancouver, Winnipeg, and in some central site in the Maritimes. Since service is a prime consideration, the site selection is

Table 12—DISPOSAL AND SCHEDULING SECTION — OPERATIONAL STATISTICS

	1956	1957	1958	1959	1960	Total
Number of transactions.....	3	24	16	15	32	90
General files (cu.ft.).....	240	7,425	4,640	5,790	3,141	21,244
Personnel files (cu.ft.).....	—	—	—	—	—	—

Table 13—REFERENCE SECTION — OPERATIONAL STATISTICS

	1956	1957	1958	1959	1960	Total
Requests.....	3,777	15,404	35,758	34,669	57,700	147,308
Research (hours).....	136	196	190	585½	827	1,934½
Inter-filing (items).....	1,421	7,838	63,715	63,710	55,571	192,255
Personnel files (items).....	—	4,765	79,234	101,600	96,300	281,899

Table 14—THE VOLUME OF PUBLIC RECORDS HELD IN OTTAWA AND IN FIELD AGENCIES, IN 1959—
DISTRIBUTED BY TYPE OF RETENTION EQUIPMENT AND BY CATEGORIES OF RECORD (ACTIVE OR DORMANT), WITH COSTS EXPRESSED IN THOUSANDS OF DOLLARS

	<i>Active</i>	<i>Dormant</i>	<i>Total</i>	<i>Cost (est.)</i>
				(\$000's)
1. FILING CABINET DRAWERS				
Ottawa.....	171,566	36,420	207,986	
Field.....	262,794	47,063	309,857	
Total.....	<u>434,360</u>	<u>83,483</u>	<u>517,843</u>	
Cost (est.).....				\$ 6,179
2. SHELVING (LINEAL FEET)				
Ottawa.....	180,931	314,445	495,376	
Field.....	267,129	367,412	634,541	
Total.....	<u>448,060</u>	<u>681,857</u>	<u>1,129,917</u>	
Cost (est.).....				\$ 1,581
3. TRANSFER CASES				
Ottawa.....	3,669	36,422	40,091	
Field.....	10,190	25,996	36,186	
Total.....	<u>13,859</u>	<u>62,418</u>	<u>76,277</u>	
Cost (est.).....				\$ 915
4. INDEX CABINETS (DRAWERS)				
Ottawa.....	53,385	5,072	58,457	
Field.....	106,282	34,359	140,641	
Total.....	<u>159,667</u>	<u>39,431</u>	<u>199,098</u>	
Cost (est.).....				\$ 1,046
			Equipment S/Total	<u>\$ 9,721</u>
5. PUNCHED CARDS				
Ottawa.....	39,268	18,224	57,492	
Field.....	68,683	32,108	100,791	
Total.....	<u>107,951</u>	<u>50,332</u>	<u>158,283</u>	

Table 14—THE VOLUME OF PUBLIC RECORDS HELD IN OTTAWA AND IN FIELD AGENCIES, IN 1959 —
DISTRIBUTED BY TYPE OF RETENTION EQUIPMENT AND BY CATEGORIES OF RECORD (ACTIVE OR
DORMANT), WITH COSTS EXPRESSED IN THOUSANDS OF DOLLARS— Concluded

	<i>Active</i>	<i>Dormant</i>	<i>Total</i>	<i>Cost (est.)</i>
				(\$000's)
6. OCCUPIED SQ. FOOTAGE				
Ottawa.....	689,320	433,209	1,122,529	\$ 2,040
Field.....	1,101,710	255,441	1,357,151	\$ 2,678
Total.....	1,791,030	688,650	2,479,680	
Cost (est.).....	Sq. Footage S/Total			\$ 4,718
7. STAFF ESTABLISHMENT				
Ottawa.....	2,747	133	2,880	\$ 7,931
Field.....	9,243	189	9,432	\$19,817
Total.....	11,990	322	12,312	
Cost (est.).....	Staff Establishment S/Total			\$27,748
GRAND TOTAL (Est.)				\$42,187

Table 15—DATA FROM TABLE 14 EXPRESSED AS A PERCENTAGE

<i>Type of Equipment</i>	<i>Per Cent Outside Ottawa</i>			<i>Per Cent Dormant</i>		
	<i>Active</i>	<i>Dormant</i>	<i>Combined</i>	<i>Ottawa</i>	<i>Field</i>	<i>Combined</i>
Filing cabinet drawers.....	60.5	56.4	59.8	17.6	15.2	16.1
Shelving.....	59.6	53.9	56.2	63.5	57.9	60.3
Transfer cases.....	73.5	41.6	47.4	90.8	71.8	81.8
Index cabinets.....	66.6	87.1	70.6	8.7	24.4	19.8
Punch cards.....	63.6	63.8	63.7	31.7	31.9	31.8
Square footage.....	61.5	37.1	54.7	38.6	18.8	27.8
Staff establishment.....	77.1	58.7	76.6	4.6	2.0	2.6

Table 16—RECORDS HOLDINGS AND SPACE REQUIREMENTS IN THE FIELD—EXPRESSED IN THOUSANDS

	<i>Volume of Records (cu. ft.)</i>			<i>Floor Space (sq. ft.)</i>		
	<i>Active</i>	<i>Dormant</i>	<i>Total</i>	<i>Active</i>	<i>Dormant</i>	<i>Total</i>
Toronto.....	94	56	150	151	40	191
Other Ontario.....	129	102	231	185	75	260
S. /T. Ontario.....	223	158	381	336	115	451
Montreal.....	65	27	92	116	38	154
Other Quebec.....	62	66	128	77	18	95
S. /T. Quebec.....	127	93	220	193	56	249
B.C.....	108	71	179	135	37	172
N.S.....	82	72	154	76	40	116
Manitoba.....	77	43	120	102	27	129
Total.....	617	437	1,054	842*	275*	1,117*
National Total—Field Offices.....				1,101*	255*	1,356*

*Data are not available to reconcile the discrepancy between these two figures.

important, as are any projected plans for decentralization of other federal government operations.

GENERAL CONCLUSIONS

29 The goal to be achieved is the maximum economy in the flow of records from the department or agency of origin through the Public Records Centre to the Public Archives, with proper screening along the way to ensure the elimination of useless records and the retention of all valuable historical records. These two latter considerations must be given simultaneous and equal significance. To protect the Public Records Centre from a deluge of useless material, destruction must be authorized by departments. The function of a records centre is primarily custodial; it is the archivist who should select the material for permanent retention and, in consultation

with departments, determine the extent of public access to the records.

30 In this process of selective disposal, the responsibility of the Public Archives must be paramount. It is fundamentally an archival and not a managerial responsibility, and has to be effectual at all points in the process. Departmental schedules should be scrutinized by the Public Archives, with the right of examination of the records preserved. All requests for permission to destroy records should be approved by the Public Archives and its decisions should prevail.

31 No records should be destroyed at any point within a plan without due authority. At present, that authority is vested in the Treasury Board acting on the recommendation of the Public Records Committee. Pre-supposing the establishment of a sound rec-

ords disposal programme based upon statute, with provision for the promulgation of standards by senior authority and the existence of competent staff, it would appear to be more consistent to allocate to the Dominion Archivist the authorization for records destruction.

32 In this connection, the question of mandatory transfer arises. In Canada, the Dominion Archivist has a statutory power to commandeer public records, which has never been invoked. In general, a policy of friendly persuasion and informal agreement has been followed. The Public Records Centre, through its Disposal Section, has already demonstrated its ability to render service to departments. As departmental records scheduling programmes improve, the voluntary transfer approach can work quite satisfactorily.

33 A consideration often stressed by departments in resisting transfer of records is the alleged loss of control over determining the right of public access. This departmental reservation is unfounded, because the Public Archives and the Records Centre can safeguard the right of access as effectively as any department. The aim should be to secure the most rapid transfer consonant with the inherent character of the records transferred. No general prescription to cover the right of access can be satisfactory; a flexible policy, devised by the Public Archives in close consultation with the department and based on mutual appreciation of the desired objectives, is the preferred solution.

34 A complicated problem in records scheduling and disposal arises with the downgrading of the security classification placed on records. Departmental management should be responsible for making the essential decisions; nevertheless, it is a time-consuming and costly procedure for departments to deal with each individual record or file. The introduction of two procedures might ame-

liorate the problem. First, at the time the record is created, a security rating should be assigned to it; the second and preferable solution is to automatically downgrade blocks of categories of records after a fixed number of years, with provision for review and segregation of privileged documents within these categories. There are substantial economies in downgrading records, for the moment this is done they can be housed in much cheaper storage space.

ARCHIVES

35 The archival holdings in Canada are concentrated in the Public Archives, although three other departments have historical sections with sufficiently similar functions to warrant special consideration.

THE PUBLIC ARCHIVES

36 The Public Archives of Canada had its origin in an Order in Council of 1872 appointing an officer of the Department of Agriculture to take charge of a "Public Archives", and a later Order of 1903 directing that public papers "be assembled in one place and put into the custody of one person". A Department of Public Archives was established by statute in 1912 and placed under the jurisdiction of the Secretary of State. In 1954, the Minister of Citizenship and Immigration became responsible for the Public Archives.

37 The Public Archives Act provides for the appointment of an officer called the Dominion Archivist (having the rank and salary of a Deputy Minister) who, under the direction of a Minister shall "have the care, custody and control of the Public Archives" and "oversee and direct all officers, clerks and employees appointed to assist him in the performance of his duties". The Public Archives consists of "all such public records, documents and other historical material of every kind, nature and description as, under the provisions of this Act, or under the authority

of an Order in Council made by virtue thereof, are placed under the care, custody and control of the Dominion Archivist". In addition, general provisions establish the procedures by which material may be acquired by the Public Archives.

38 The resources of the Archives are unusually rich and varied, and for the most part well-representative of the chronological, geographical, political, economic, social and cultural aspects of the nation. The services rendered by the Public Archives to departments of government, to serious research scholars and to the general enquirer alike, are usually generously acknowledged, and the institution merits the general approbation it receives. The materials contained in the Public Archives are not all strictly archival and some of the functions still performed are not normally associated with archives. Nevertheless, Canada is immeasurably the richer for the effort made to preserve our heritage, particularly during the period when no other appropriate national institutions were in existence.

39 The physical facilities offered by the present headquarters on Sussex Street (built in 1906 and extended in 1925) are now woefully inadequate; overcrowding is obvious and archival materials are now located in the Public Records Centre at Tunney's Pasture, and elsewhere in the city in rented storage space. This situation should not be unduly prolonged; the plans for the new joint home for the Public Archives and the National Library have been devised to meet the particular requirements of the two different, though compatible, institutions. The plans make provision not only for current needs, but also for anticipated expansion for some considerable time to come.

40 As of December 31, 1960, the actual strength was one hundred and six against an approved establishment of one hundred and fifteen. The allocation of people throughout

the various divisions in the Public Archives appears equitable, and the classifications enable the institution to perform effectively and efficiently.

41 There is no indication of overstaffing; the morale is good; and the staff merits commendation. There is evidence of planning of joint service undertakings; the accounting and personnel operations for both the National Library and the Public Archives have been integrated; the bindery service and the Central Microfilm Unit provide service to all government departments and agencies at cost.

42 The Public Archives is now, in contrast with even a decade ago, receiving financial support commensurate with its status and responsibilities as a national institution (see Table 17). Salaries constitute the major expenditure. The funds spent on the acquisition of historical material may appear small, but much of the material is acquired by transfer from government departments and from private individuals.

43 The significant services of the Public Archives are provided by four divisions: the Library, Manuscript, Picture, and Publication Divisions.

Table 17—EXPENDITURES ON THE PUBLIC ARCHIVES BY FISCAL YEARS

<i>Year</i>	<i>Expenditures</i>
1938-39.....	\$158,697
1943-44.....	123,335
1953-54.....	264,264
1954-55.....	286,702
1955-56.....	334,450
1956-57.....	407,904
1957-58.....	477,408
1958-59.....	524,087
1959-60.....	533,262
1960-61 (forecast).....	598,752
1961-62 (estimate).....	716,268

Library Division

44 Research scholars have always been grateful for the ease of access, to both manuscripts and books, provided by the close proximity of the Library and Manuscript Divisions of the Public Archives. It can be argued that this collection of books is not truly archival, and with the development of the National Library a careful re-examination of this function has been made. Nevertheless, our historical resources are the richer for the activity of the Public Archives in collecting Canadiana long before the National Library was established.

45 Taking Canadian history and geography as its field of interest, with related British, French and American material, the Library Division has, over the years, accumulated a significant collection of printed sources. There are approximately seventy thousand books (annual accessions, two hundred to five hundred a year); ten thousand pamphlets and five thousand uncatalogued ephemera; a very good collection of federal government documents from an early date to the present, and a good collection of provincial government documents in their earlier years; an intensive collection of periodicals (eighty titles by purchase, and three hundred and twenty titles by gift and exchange); and an excellent collection of historically significant newspapers. Now seriously short of space, the Library Division is about to be relocated to more commodious quarters.

46 This Division will lose its identity when it is absorbed into the National Library. The strong emphasis on Canadiana in the acquisition policy of the National Library will undoubtedly provide a more complete coverage and, conversely, the collection in the Division will considerably enrich the holdings of the National Library. The result will be a strong Canadian history section within the National Library.

47 The newspaper holdings of the Library Division constitute an invaluable historical asset. The titles are widely distributed by chronology, geography, and language, many are old and obscure, and the runs are of varying length and completeness. Excellent finding aids are now being edited as collation proceeds. In addition to its own holdings, some twenty titles have been transferred from the Library of Parliament, integrated into the archival holdings, and the duplicates discarded. The holdings are scattered over three locations.

48 The two other main depositories of general newspapers are the Library of Parliament and the National Library. The former has the largest and most significant holding of historic and current titles, now dispersed through three storage areas. The source of supply for the Library of Parliament is the Parliamentary Reading Room, which subscribes to no less than seven hundred and sixty-one titles; approximately ten per cent are selected for permanent retention, about equally distributed between Canadian and non-Canadian titles, and between French and English languages. Few weeklies are retained; the assumption is that comparable provincial government agencies are retaining this type. The National Library has a smaller, though rapidly expanding collection, including some significant non-Canadian titles.

49 In addition to general newspapers, there is a variety of holdings of special-interest newspapers. These include:

- Ethnic newspapers—now being retained by the National Library on transfer from the Foreign Language Press Section of the Department of Citizenship and Immigration, and from the Royal Canadian Mounted Police.
- Labour newspapers—the library of the Department of Labour has assumed responsibility for collecting and retaining on microfilm only.

- Farm newspapers—the library of the Department of Agriculture has assumed responsibility for collecting.
- Military newspapers—the library of the Department of National Defence is the most active collector, working in close cooperation with the Public Archives.
- Foreign newspapers—responsibility is divided and at the moment only a few, though significant, non-Canadian titles are being retained.

50 There is every advantage in concentrating the newspaper resources of the federal government in a single agency. Already departments are transferring material to the Public Archives to be held until space is available in the projected National Library, and the Library of Parliament has indicated, by policy and practice, its willingness to cooperate, provided that its particular needs are safeguarded. However, before policy for the National Library has been firmly established, the responsibility of provincial government agencies for preserving weekly newspapers should be assessed. Policies for the preservation of special-interest and foreign newspapers also deserve careful examination to prevent unnecessary duplication.

51 Since newspapers are bulky to store and newsprint is subject to deterioration, the applicability of microfilming is pertinent. In this form it is possible to acquire titles hitherto unavailable and to maintain continuations of current titles, since many newspapers are now available in microfilm edition. Economies in bindery and storage costs can thereby be effected, and a wider range of titles secured without an undue rise in costs. Disagreement still exists as to whether or not a physical file of a newspaper should be retained, even though microfilmed, and users still resist microfilm.

52 The microfilming project of the Canadian Library Association was assisted initially by

a grant from the Rockefeller Foundation, and latterly by the Canada Council. Originally designed to film only historic newspapers, the project now includes historically significant newspapers; it has its own camera, housed in the Public Archives, and the technical work is excellent. Newspapers are collated, extensive searches for missing issues are undertaken, and a high degree of cooperation with libraries throughout Canada and the United States has been secured. Positive prints are sold and the project is self-sustaining, a factor which necessarily influences decisions on the titles to be filmed. The final cost of a positive print may appear high, but not if due consideration is given to the research undertaken and the quality of the end product.

53 The Association is performing a national service which might otherwise be assigned to the National Library. Having in mind the innumerable demands for service facing the emerging National Library, it would be well for that institution to leave the field of newspaper microfilming to the Association, and to take the lead in filming periodicals and journals.

Map Division

54 The Map Division contains not only the finest Canadian collection of historical maps, but it also acquires current maps relating to Canada produced by federal and provincial government agencies and by private sources. As of December 31, 1960, there were 84,600 maps and plans catalogued and on file in the Public Archives, with at least as many more on storage at the Public Records Centre. The Division has worked out its own system of classification and grading of maps, which permits an equitable distribution of costs. Atlases are held in the Map Division and not in the Library Division.

55 The rate of accession varies considerably, for masses of maps may suddenly become

available by departmental transfer. Funds are available for the purchase of rare or early maps. Since maps vary greatly in size, condition and significance, all types of storage facilities are used. Some catalogues of holdings and annotated bibliographic monographs have been issued as a public service. The resources of this Division are well used by departments of government and research students, and there is also a substantial number of inquiries from the public.

56 While there can be no doubt that a map collection relating to Canada is an archival interest—for maps are but a particular type of record or document—there are possibilities of duplicating resources and services where other governmental agencies have similar interests.

57 The Reference Services Division of the Geographic Branch of the Department of Mines and Technical Surveys is authorized to “collect, organize and make available for immediate use” all appropriate material (including maps and atlases) relating to Canada and to foreign countries. Geography is interpreted in its broadest sense to include human, economic, social, political, as well as physical, aspects. The Division acquires privately produced maps and all maps produced by the Governments of Canada, the United Kingdom and the United States; it has also worked out effective exchange arrangements with many foreign countries. The monthly inflow varies between one thousand and two thousand, and approximately two hundred thousand maps have been classified and filed.

58 In addition to meeting intra-departmental reference requirements, other departments of government use its facilities (e.g., briefing personnel for External Affairs and Trade and Commerce), and there is some service to the general public, though usually related to technical aspects of cartography. Fundamentally, it is a collection of current maps, looking to the future rather than the past. Superseded

issues of foreign maps are not retained but, with the concurrence of the Minister, are listed and offered to Canadian universities. Previous issues of Canadian maps are retained for their evolutionary rather than their historical value. Although the collecting of maps by Public Archives and the Geographic Branch of Mines and Technical Surveys results in some overlapping, the division of responsibilities appears to keep the duplication within reasonable bounds. The collection in the Geographic Branch should, however, be regarded as a national asset; acquisition, retention and public service policies should be redefined in keeping with the status of the collection.

Manuscript Division

59 The Manuscript Division with eighteen thousand lineal feet as of 1961, is literally the treasure-house for Canadian historical research, although the statistics give no valid concept of the true worth. Two broad categories of materials are held: “records”, denoting governmental origin, and “manuscripts”, denoting private origin. The extensive holding of manuscripts lifts the Public Archives beyond the limitations of a Public Records Office, by contrast, for example, with the National Archives of the United States. Both categories, records and manuscripts, are held in their original physical form and on microfilm. The Division operates pre-Confederation and post-Confederation sections corresponding to the distribution of its holdings. Present holdings are summarized in Table 18.

60 In recent years, tremendous strides have been made in the acquisition of records and manuscripts. Acquisitions of manuscript in the post-1867 period, and more particularly in the post-1900 period, have been extensive but, for reasons noted elsewhere in this chapter, acquisitions of records in these periods have not been as extensive.

Table 18—PUBLIC ARCHIVES, MANUSCRIPT DIVISION
HOLDINGS (BY LINEAL FEET)

	<i>Records</i>	<i>Manu- scripts</i>	<i>Totals</i>
Pre-Confederation			
Section.....	2,526	2,474	5,000
Post-Confederation			
Section.....	2,847	3,153	6,000
Old Manuscript			
Room.....	1,700*	—	1,700
Room 44.....	1,000*	—	1,000
Public Records			
Centre.....	1,500*	—	1,500
Totals.....	9,573	5,627	15,200

*Not broken down into pre- or post-Confederation and may include a slight proportion of manuscript category. Microfilm holdings not included.

61 The Manuscript Division has earned a good reputation for service; its facilities are made available twenty-four hours a day, seven days a week, to the great advantage of the research student. About ninety per cent of the inquiries by telephone or personal visit stem from the general public and ten per cent from departments. This proportion alters somewhat in time spent on inquiries (general public—seventy-five per cent, departmental—twenty-five per cent), for all serious requests are reviewed to determine depth of search involved. The basic premise is that the Division offers a reference, not a research, service; it makes available, but does not interpret, all pertinent data. There is every indication that departments of government find the services offered both useful and satisfactory, an opinion shared by the general public.

62 From time to time, suggestions have been made for extending the range of activities of the Manuscript Division. One field, that of business records, has already attracted the attention of the Division, although total hold-

ings are not voluminous. Business and industry have moved slowly in the field of organized record preservation, and a national institution, concerned with the economic history of the country, might properly assume the initiative in encouraging a more enterprising attack on this problem. Clearly, more funds and space will be required if the Division were to take on this task.

63 Another activity which has been suggested for the Manuscript Division is a programme of conserving sound recordings—the spoken as distinct from the written record. Modern techniques have made possible permanent retention of the spoken word and, as a consequence, a new form of “document” has now been created. The Canadian Broadcasting Corporation has transferred material and equipment to the Public Records Centre, leaving the Public Archives with the responsibility for establishing an acquisition policy. Clearly, this new form of documentation creates special problems, but the Public Archives should undertake the selection, for permanent retention, of the historically significant portions of sound recordings.

Picture Division

64 The holdings of the Picture Division include an extensive and valuable collection of paintings, prints and photographs. There are several hundred oil paintings, mostly portraits of historical persons, and well over a thousand water colours and drawings; many are used for display or decorative purposes throughout the building. The annual rate of accession varies, but normally is not large.

65 There are no facilities for restoration; the National Gallery is consulted but, because of limited facilities, commercial restorers are normally employed. There are many thousands of prints, including engravings, lithographs, etc. The photograph collection is enormous, in the hundreds of thousands; many of the glass plates and film negatives

are housed in the Public Records Centre. In many instances, no prints are available and only the negatives have been catalogued. For photographs in frequent demand, standardized four-inch by five-inch negatives have been prepared and are readily available for reproduction from the Photographic Section. A start has been made in preparing colour transparencies of some of the paintings, but this is a relatively costly undertaking. The annual rate of accession is heavy for, in addition to purchases, several government agencies (notably the National Film Board, and the Canadian Government Travel Bureau) make extensive transfers.

66 The Division has a little-used filmstrip collection for loan to the general public. Phonograph records, including war recordings, are also assigned to this Division, although they should be assigned more appropriately to the Manuscript Division. On average, four hundred prints a month are requested by the general public and government agencies, notably the National Film Board, the Historic Sites and Monuments Board of Canada and, to a lesser extent, the Canadian Broadcasting Corporation. Copyright regulations are scrupulously followed; when doubt arises, interpretations are sought from the Copyright Office.

67 The nature of the holdings in this Division creates a potential conflict of interest with other national institutions. A painting, and to a lesser degree a print or a photograph, may at one and the same time be an art form (hence of possible interest to a museum) or by virtue of its content a record (hence of possible interest to an archive). The National Gallery has established artistic merit as its basic criterion for acquisition. Its primary concern is quality, and it may properly ignore such subsidiary elements as content, origin or derivation of peculiar Canadian significance. But there are paintings for which these subsidiary elements become legitimately the criteria for acquisition,

although not the responsibility of the National Gallery. The area of conflict arises when both standards of acceptance are met by the same painting. However, the actual custody is relatively unimportant, providing there is considerable flexibility in inter-institution lending policies. This should be the aim and practice of the Public Archives, the National Gallery and the National Museum.

68 The new building for the National Library and the Public Archives is designed to provide limited, though adequate, display areas and facilities. It does not, and quite properly should not, have gallery facilities. However, attention has often been drawn to the need for a National Portrait Gallery and a Gallery of Canadian Historical Paintings; the nucleus of both collections already exists. Admittedly, this function would appear to fall more appropriately within the orbit of an art gallery rather than a museum, but it is difficult to draw precise lines of demarcation.

69 In the design of permanent quarters for the National Gallery, and for the Canadian Historical Museum, the feasibility of including either or both of these two particular-interest collections should be carefully examined; otherwise, plans should be made for the erection of suitable accommodation.

70 Consideration should be given to the role of the Picture Division in the collection and preservation of films, which are records of events of national historic significance in a particular form. In Great Britain, the National Film Library is maintained by a non-governmental agency, the British Film Institute, which receives substantial state aid in compensation for the national service rendered. The Royal Commission on Arts, Letters and Science assigned this task to the National Film Board, but little progress has been made to date, and the passing of time merely compounds the need. It has been estimated that forty thousand dollars annually

for a period of a few years would make a real impression on this problem.

71 Films are of archival interest, and indeed those produced by the National Film Board are government records. It would be folly for the Public Archives to duplicate the technical skills and facilities available within the National Film Board, but the time would now seem opportune for the Public Archives to take the lead in establishing a working arrangement with the National Film Board whereby the film resources of the country would be properly safeguarded.

Publications Division

72 In former years, the Public Archives engaged in an extensive publication programme, including a voluminous annual report, calendars of documents, reproduction of constitutional and other documents, and special bibliographic studies. Many of these publications were costly and had a limited sale. More recently the programme has been restricted to the printing of a slighter, but adequate, annual report, and of inventories and finding aids. The change is commendable, particularly the abandonment of the calendars; the inventories, which are a great boon to scholarly research, should be continued and expanded.

73 It would now appear opportune to expand the programme to include the publication of significant series of valuable records and manuscripts, with which the institution is so well endowed. It should not be the function of the Public Archives to publish scholarly monographs. There are other agencies in Canada both willing and able to assist in the publication of the results of scholarly research which cannot be financed entirely as commercial ventures; but the Public Archives has a national responsibility to produce carefully selected and competently edited documentary source materials.

London and Paris Offices

74 For some time the London and Paris offices of the Archives have been microfilming significant British and French records relating to Canada and, in consequence, the resources of the Public Archives have been greatly strengthened. The microfilming camera in the London office is owned by the Canadian Government, but in Paris, in keeping with French regulations, filming is contracted out. Personnel are engaged locally. At the outset, both offices filmed large volumes of records of governmental origin; now, the filming is more selective. The criteria have been carefully worked out by the Dominion Archivist, who keeps the programme under close scrutiny. In London, particularly valuable non-governmental records have been filmed, a notable example being the records of the Hudson's Bay Company, 1670-1870, which contain the history of Western Canada for two centuries. Not only has Canadian scholarship been enriched by this filming programme, but the Public Archives enjoys thereby an enviable world reputation. An invaluable national service is being rendered, which merits full support.

Museum Functions, including Laurier House

75 It is frequently claimed that a museum should concern itself with objects and an archives with records. This is obviously an over-simplification, for under particular circumstances a record may become an object. Nevertheless, the museum function of the Public Archives, defensible at one time because no alternative was available, is now open to question. The inappropriateness is recognized by the Public Archives itself; it has progressively reduced operations in this field, has not made plans to continue them in the new quarters, and is prepared to withdraw altogether, provided that the function is assumed by a more appropriate agency.

76 The Human History Branch of the Na-

tional Museum might have become that agency, but the recently authorized Canadian Historical Museum would appear to be better suited to assume this responsibility. The specialized numismatic collection within the Public Archives and the philatelic collection of the Post Office should ultimately become the responsibility of the Canadian Historical Museum.

77 Laurier House was bequeathed to the nation by the late Right Honourable W. L. Mackenzie King and placed by statute under the control of the Dominion Archivist. The terms of Mr. King's will were permissive, not prescriptive:—"The residence might appropriately, I think, be given an immediate association with the Public Archives of Canada". Mr. King was also concerned with the inadequate accommodation for scholars at the Public Archives and the Library of Parliament. The new building planned for the National Library and the Public Archives will meet this need to a large measure, and responsibility for the administration of Laurier House might well be transferred to some more appropriate agency of government (e.g., Historic Sites Division, within the Department of Northern Affairs and National Resources), once the pertinent contents of the House have been transferred to the Public Archives and the National Library.

Administration Division

78 The Administration Division provides personnel and accounting services to the National Library and the Public Archives, as well as bindery, photographic and micro-filming services. Since April 1, 1956, micro-filming has been administered on a revolving fund basis, providing service to all government departments and agencies at cost. This arrangement tends to control microfilming throughout the government and makes possible the optimum use of equipment. The bindery exists to meet the particular requirements of the institution—special bindings for

rare and outsized items, repairing books and documents, laminating, map-backing, etc. The Photographic Section not only provides prints, photostats and microfilms for the general public, but also meets internal requirements.

Interdepartmental Liaison

79 The resources of the Public Archives are naturally available to any department of government but, through the person of the Dominion Archivist, more precise and direct liaison is in effect through his membership of the following interdepartmental committees:

Public Records Committee (the Dominion Archivist is Chairman)
 Historic Sites and Monuments Board
 Canadian Board on Geographical Names
 Awards Co-ordination Committee
 Historical Committee of the National Capital Commission
 Canadian Government Standards Bureau (the administrative officer is Co-chairman of the sub-committee on microfilming standards)
 Security Committee
 Suggestion Awards Committee
 Interdepartmental Committee on Publications (the National Librarian is Chairman)

DEPARTMENTAL HISTORICAL SECTIONS AND ARCHIVES

80 Activities similar to those ascribed to the Public Archives are performed by the Historical Sections of the Armed Forces, the Archives Sections of the Department of External Affairs, and the Indian Affairs Branch of the Department of Citizenship and Immigration.

Armed Forces Historical Sections

81 There is little similarity between the strength, function and effectiveness of the three Armed Forces' Historical Sections. It is interesting to note that the combined strength of their staff amounts to one-half of the total permanent staff of the Public Archives, exclusive of the Public Records Centre. Authorized positions are shown in Table 19.

Table 19—ESTABLISHMENTS OF ARMED FORCES' HISTORICAL SECTIONS

	Military	Civilian	Total
Army.....	30	9	39
Navy.....	—	9	9
Air Force.....	3	1	4
Totals.....	33	19	52

82 The physical accommodation for the historic records of the Services varies greatly. The records of the Army Historical Section now occupy about 8,400 square feet of space. The Navy's Historical Section occupies less space in Ottawa, but there is also a Naval Records Centre at Sydney, Nova Scotia, with 20,000 lineal feet of records dating back to the inception of the Royal Canadian Navy in 1910. The Air Force Historical Section occupies 2,000 square feet (sixty per cent devoted to records) in a temporary wooden building which lacks adequate fire and security protection.

83 In the main, the records relate to the operational activity of the three Services. The Air Force holds a considerable mass of its overseas operational records, for the most part unsorted and unorganized. The Army has a much larger volume of records covering World War II; those for World War I have been transferred to the Public Archives. A smaller volume of records is retained by the Navy, but the material in its records centre is unscheduled, and much of it might well be transferred to the Public Archives. The heads of all three Sections are consulted on the preparation of lists for disposal by their central registries, and have direct liaison with the Public Records Committee. All three face the problem of downgrading security records and little has been accomplished to date. In varying degrees, all three have sought to supplement official records from non-official sources.

There is a common feeling that certain types of records should be held permanently in the Sections.

84 The reference services of these Sections are confined to intra-service requests. Research is undertaken with the object of preparing thoroughly documented narrative histories of the war activity of the Armed Forces, as well as for specialized intra-service requirements, such as the preparation of specific studies for staff, and materials for staff officer training programmes.

85 It would appear that the Armed Forces' Historical Sections have tended to assume functions beyond those required for provision of intra-service and interdepartmental reference and research. This is not to deny that certain services should be provided when specialized knowledge can be effectively employed. But they have tended to become subsidiary archives, an undesirable development. Admittedly, direct access to the records is of great convenience in the preparation of the narrative histories but, once those tasks have been completed, the Historical Sections should not seek permanently to retain records that should be integrated into the Public Archives.

Department of External Affairs

86 The Archives of the Department of External Affairs, together with the departmental library and a press clipping service, make up the Historical Division. Because of internal problems in the library, which is also responsible for seventy-nine sub-libraries in embassies and missions, about forty per cent of the time of the division head is spent in routine library administration, to the detriment of archival work.

87 The Division is responsible for retaining and organizing the material that has been committed to it, and for disposing of departmental records of no permanent value. This latter function has been largely inoperative.

88 There is a staff of four persons in the departmental Archives. The major activity has been the collection of policy papers and the inventory of particular sets of records. It is recognized in principle that the records of embassies and missions abroad should periodically be transferred to Ottawa, but little has been accomplished, except from London and Washington. Indeed there has been more success in disposing of embassy records, where shortage of space is a very real impellant, than in disposing of departmental records. The departmental Archives insist upon receiving lists of records for disposal from the embassies for submission to the Public Records Committee.

89 A few significant records have been transferred to the Public Archives, and some dormant records have been transferred to the Public Records Centre; the Department is satisfied with the service received. However, the great bulk of the Department's records remains in the East Block of the Parliament Buildings, either in the central registry or in the departmental Archives.

90 The service provided by the Archives in External Affairs is mainly intra-departmental. There is some interdepartmental activity, but the limited access granted to scholars has been subject to criticism. The access policy is under review, but is not easy to develop. The basic assumption that the public is entitled to know about foreign policy cannot be denied; but complications arise from the inherent secrecy surrounding many records, the fear that public access may adversely affect the candor of internal reporting by officers of the Department, and the general restriction on exposing records without the consent of other governments. In Great Britain, a fifty-year limitation on access is in effect, whereas in the United States, a considerably shorter period is permitted.

91 If more staff of better quality were available, the Historical Division would be

prepared to compile public historical studies and background papers. A few of the latter have already been produced, and some work has been done on a projected publication of a series of State Papers, but these activities are frequently interrupted by other departmental duties. There is interest in the history of the Department itself, as well as in the history of Canada's relations abroad.

92 In general, it can be stated that this departmental archives does not adequately serve the needs of either the department or the serious researcher.

Department of Citizenship and Immigration

93 The Indian Affairs Branch of the Department of Citizenship and Immigration operates an archives section with a staff of two, in close affiliation with the branch central registry, which is archival both as to resources and function in a peculiar sense. Books and government documents are intermingled with records, and many have to be laboriously analyzed for subject content, although not catalogued. Relations with the departmental library are strained.

94 The custodial role of the branch archives is particularly involved. While some very early records have been transferred to the Public Archives, almost all the records of the post-1880 period have yet to be transferred. A considerable volume of records has been transferred to the Public Records Centre, but it is difficult to determine the criteria for selection. Indeed, there is an uncomfortable impression that it is a matter of convenience only, a way of providing sadly needed storage space until the material can be recalled and integrated into the departmental archives. While there has been a concerted and successful effort to bring in records from the field, the departmental accommodation for records in Ottawa is both limited and dispersed.

95 Some historical publications have been prepared, and a great variety of indexes, finding aids, etc., have been made and are being maintained. There would appear to be a considerable volume of intra-branch reference service, but access by other departments or the general public is not encouraged. The objective of this branch archives leaves much to be desired; its function appears to be neither clearly defined nor well directed.

Conclusion

96 The performance of the departmental historical sections and archives does not com-

pare favourably with the work of the various Divisions of the Public Archives. Valueless papers clutter valuable space and equipment; important records are unsorted and unorganized, thereby inhibiting departmental access; and scholarly research is unnecessarily restricted. Departments require active libraries and registries to store material essential for current operations, but archival material should be transferred to the Public Archives where professional methods will be employed to catalogue and store, and where authorized access is relatively simple.

8

AUTOMATIC DATA PROCESSING

INTRODUCTION

1 Automatic Data Processing refers to the use of electronic data processing equipment, including digital computers used for scientific and engineering purposes, punched card equipment, punched paper tape equipment, character recognition and scanning equipment, and data transmission equipment.

2 The Commission's review centred on those data processing operations which account for over eighty per cent of the equipment costs. Twenty-three punched card installations were surveyed in thirteen large departments, as well as installations in two Crown corporations—the Canadian Wheat Board and the Canadian Broadcasting Corporation. The four existing electronic data processing installations were examined, and plans for four new computer systems reviewed. These cover all the electronic data processing operations, except those of Canadian National Railways and Trans-Canada Air Lines.

3 Reviews were made of the scientific and engineering computation needs of the Defence Research Board, the National Research Coun-

cil, the Research Branch of the Department of Agriculture, the Meteorological Branch of the Department of Transport, and the Department of Mines and Technical Surveys.

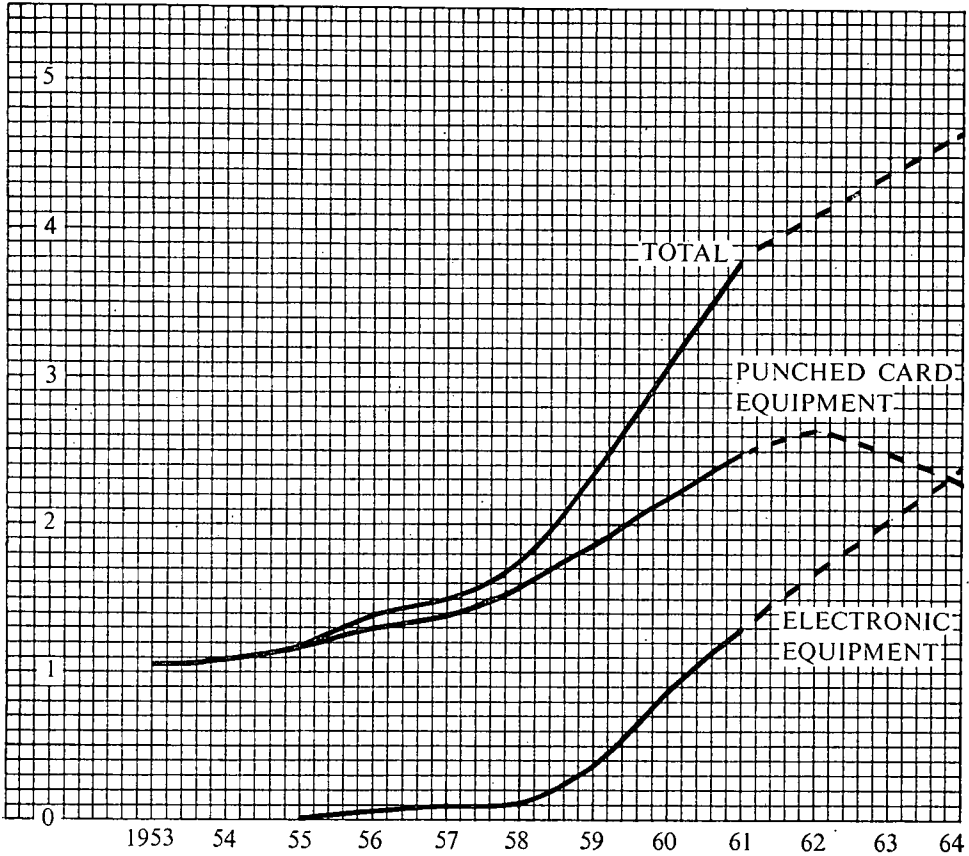
THE GROWTH OF AUTOMATION IN THE PUBLIC SERVICE

4 Automatic data processing in the public service has increased rapidly during the last nine years. The growing use of electronic data processing equipment by the government has not halted the steady increase in expenditures on punched card equipment, which is being increasingly used as an ancillary to electronic data processing systems. Comparative expenditures in terms of annual rentals of equipment show a three hundred and seventy-five per cent increase during this period (see Exhibit 4).

Punched Card Installations

5 As of March, 1961, there were forty-four punched card data processing installations, each comprising one or more tabulators supported by ancillary equipment, in eighteen government departments and agencies. Six

Exhibit 4—GROWTH OF AUTOMATIC DATA PROCESSING EQUIPMENT COSTS IN THE CIVIL SERVICE
(\$ Million) Fiscal Years Commencing April 1st



departments incur about eighty per cent of the total rental cost, and thirty-one of the installations are located in Ottawa and vicinity. In addition, there are thirty-four small groups of ancillary equipment located in nineteen cities or towns. Tables 20 and 21 identify the departments that have such installations and their physical location.

Electronic Data Processing Equipment

6 In April, 1957, the first government data processing computer was installed at No. 1 Army Pay Ledger Unit. This medium-sized IBM 650 system was designed to audit Army payroll and has also been used to a small

extent as a computer service centre for other departments and agencies. In July, 1959, the first large electronic data processing installation (IBM 705) was installed at Air Materiel Command, R.C.A.F., for an integrated stock control system. The Dominion Bureau of Statistics acquired a large IBM 705 computer to be used in compiling the 1961 Census of Canada, and to provide a government data processing service centre for departments and agencies not having their own computer. A small computer was installed to replace existing punched card equipment in the Department of Public Printing and Stationery. The Comptroller of the Treasury will soon install a large computer for use in the Central Pay

Table 20—PUNCHED CARD INSTALLATIONS—
BY DEPARTMENTS

Department or Agency	Number of Installations	Installations Visited
National Defence.....	17	9
Finance.....	7	4
Dominion Bureau of Statistics.....	1	1
Transport.....	2	2
National Revenue.....	3	
Agriculture.....	1	1
Unemployment Insurance Commission.....	1	1
Post Office.....	2	1
Public Printing and Stationery..	1	1
Labour.....	1	1
Civil Service Commission.....	1	1
Board of Grain Commissioners	1	1
Veterans Affairs.....	1	
Defence Production.....	1	
Mines and Technical Surveys....	1	
Northern Affairs and National Resources.....	1	
Citizenship and Immigration....	1	
Health and Welfare.....	1	
Total.....	44	23

Office and Cheque Adjustment Division, while the Taxation Division of the Department of National Revenue is planning a large-scale electronic data processing system to be used for Canada-wide processing of tax returns and related statistics. Two smaller computer systems are planned for the use of the Canadian Wheat Board and the Canadian Army respectively. The extent of electronic data processing in the public service is shown in Table 22.

Electronic Digital Computers

7 There has also been rapid growth in government use of computers for research and scientific work. By the end of March, 1959, four digital computers and ancillary equipment had been purchased at a total cost of \$390,000. Taking into account more recent

authorizations, there will soon be eleven computers in use for these purposes; seven purchased at a total cost of \$610,000, and four leased at an annual rental of \$407,000. Some analogue computers have also been acquired for special purposes. Present or planned installations appear in Table 23.

Table 21—PUNCHED CARD INSTALLATIONS—
BY LOCATION

Location of Installations	Complete	Partial
St. John's.....		1
Sydney.....		1
Halifax.....	1	4
Moncton.....	1	
Cornwallis.....		1
St. Andrews.....		1
Fredericton.....		2
Quebec.....		1
Montreal.....	1	1
Ottawa.....	31	8
Cobourg.....	1	
Toronto.....	3	2
London (Ontario).....	1	1
Shirley's Bay.....	1	
Sault Ste. Marie.....		1
Winnipeg.....	2	2
Regina.....		1
Edmonton.....	1	1
Calgary.....		1
Lacombe.....		1
Nanaimo.....		1
Victoria.....		3
Langar (England).....	1	
Total.....	44	34

NOTE:

1. In some instances, punched card data processing installations are used as satellites to electronic data processing systems.
2. Partial installations comprised from one to seven pieces of ancillary equipment but did not include a tabulator.

8 In addition, these departments and agencies and others, including the Fisheries Research Board and the Department of Forestry, buy time on computers outside the government service. Table 24 gives total expenditures on this account.

Table 22—ELECTRONIC DATA PROCESSING EQUIPMENT—INSTALLED OR PLANNED
(as of November, 1961)

Department or Agency	Equipment	Date of Installation	Cost (\$ Thousands)		Approximate Usage (Shifts)
			Purchase Price	Annual Rental	
EXISTING INSTALLATIONS					
National Defence:					
No. 1 Army Pay Ledger Unit..	IBM 650	April, 1957	—	100	2
Air Materiel Command.....	IBM 705 III	July, 1959	1,890	—	3
Dominion Bureau of Statistics....	IBM 1401	February, 1962	—	280	3
	IBM 705 III	August, 1960	1,960	—	2-3
Public Printing and Stationery....	IBM 1401	June, 1961	360	—	2-3
	UNIVAC Step 90*	October, 1961	—	54	1
APPROVED INSTALLATIONS					
Finance:					
Comptroller of the Treasury..	IBM 7070		—	—	—
	IBM 1401	April, 1962	—	319	1
Canadian Wheat Board.....	IBM 1410	October, 1962	—	200	1
INSTALLATIONS IN APPROVAL PROCESS					
National Revenue:					
Taxation Division.....	Large	—	—	500	1-2
National Defence:					
Directorate of Cataloguing and Equipment Requirements (Canadian Army).....	Small	—	—	100	1

NOTE: Data processing installations at Canadian National Railways and Trans-Canada Air Lines are not included.

OPERATING COSTS

9 Comprehensive annual salary costs and numbers of personnel engaged in data processing are not available, but indications are that a similar increase has occurred in this cost element. The changes in departmental establishments for Punched Card Equipment Operators and Punched Card Equipment Supervisors over the last six years give a sufficient indication of the trend.

10 In addition, at least 180 military personnel are engaged in administrative data processing who are not so classified; further, some clerks, typists, professional grades, and programmers who retain other classifications are actually engaged in automatic data processing work.

11 Substantial additional costs are incurred for accommodation and equipment; for example, expenditures for stationery and supplies include \$375,000 for punched cards alone. Although precise figures are not available, it is evident that, when all these and other hidden expenses are taken into account, the total present cost of automatic data processing in the public service exceeds \$10 million a year.

CONTROL PROCEDURES

Treasury Board

12 Treasury Board approval is required for the rental or purchase of automatic data processing equipment. In the past, each department or agency developed its own punched

Table 23—ELECTRONIC DIGITAL COMPUTERS—INSTALLED OR PLANNED
(as of November, 1961)

<i>Department or Agency</i>	<i>Equipment</i>	<i>Cost (\$ Thousands)</i>	
		<i>Purchase Price</i>	<i>Annual Rental</i>
EXISTING AND PLANNED INSTALLATIONS			
Defence Research Board:			
Suffield Experimental Station.....	Stantec Zebra and auxiliary equipment.....	\$ 73	
Pacific Naval Laboratory (for Medical Laboratory).....	McBee LPG-30 and auxiliary equipment.....	26	
Pacific Naval Laboratory.....	P.B. 250.....	103	
Naval Research Establishment.....	ALWAC III E and auxiliary equipment.....	160	
Canadian Armament Research and Development Establishment.....	ALWAC III E and auxiliary equipment.....	129	
National Research Council:			
Mechanical Engineering Division....	Bendix G15D and auxiliary equipment.....	68	
National Aeronautical Establishment.....	Bendix G15D.....	51	
Mathematical Analysis Group.....	IBM 1620.....		\$ 42
Transport:			
Meteorological Branch.....	Bendix G20.....		284
Mines and Technical Surveys.....	IBM 1620.....		39
INSTALLATIONS IN APPROVAL PROCESS			
Agriculture—Research Branch.....	Small.....		42
		<u>\$610</u>	<u>\$407</u>

NOTE: This excludes electronic computing facilities at Atomic Energy of Canada Limited.

card applications, installations, practices and standards. Submissions for new equipment were made to the Treasury Board, which approved expenditures for initial installations and for subsequent additions or modifications. Each case was considered by the Treasury Board staff on its individual merits; but the technical knowledge available was inadequate to examine submissions in depth or,

later, to check actual results against forecasts.

13 The practice of requiring all expenditures on electronic calculating and computing devices to be appraised by the Treasury Board dates from 1955. The Board, recognizing the need for assistance in the assessment of submissions and in securing properly

trained personnel to operate the electronic equipment, created the Interdepartmental Committee on Electronic Computers in March, 1955, as an advisory committee.

Table 24—EXPENDITURES AUTHORIZED ON OUTSIDE COMPUTING FACILITIES

<i>Fiscal Year</i>	<i>Approximate Cost</i>
	\$
1958-59	70,000
1959-60	90,000
1960-61	250,000
1961-62	280,000
(up to November, 1961)	

NOTE:
These figures do not include contracts authorized for programming and mathematical services; in the fiscal year 1961-62 about \$250,000 has been approved for these items.

Table 25—SUMMARY OF PUNCHED CARD EQUIPMENT OPERATORS AND SUPERVISORS IN THE CIVIL SERVICE (Source—Annual Estimates)

<i>Fiscal Year</i>	<i>Staff Establishment</i>	<i>Approximate Salary Cost</i>
		\$
1956-57	326	858,000
1957-58	622	1,768,000
1958-59	698	2,122,000
1959-60	768	2,249,000
1960-61	915	2,930,000
1961-62	1,005	3,432,000

Interdepartmental Committee on Electronic Computers

14 Membership comprises eleven representatives of eight departments or agencies which are major users of electronic computers, both for data processing and scientific purposes. Significant exceptions are the Departments of Agriculture, National Revenue, and Trans-

port, all of which have large data processing installations.

15 The stated objectives of the Committee are to co-ordinate the selection and training of personnel, to give advice to the Treasury Board on proposals for installing computers, to advise departments on the application of computers, to eliminate duplication and overlap in departmental expenditures on training and programming courses, and to seek out areas for computer application.

16 The Committee has had limited success in achieving these objectives. The Treasury Board has been assisted in evaluating departmental submissions, and unjustifiable proposals for electronic data processing expenditures have been usefully deterred. The Committee has also encouraged greater use of available time on existing installations by other departments, and has applied pressure on the Civil Service Commission to issue class specifications for programmers.

17 Nonetheless, the Committee has not provided leadership and management guidance, or given adequate technical assistance to departments. No written guiding standards have been issued for the justification and use of computers. In November, 1961, only the draft outlines of criteria for the use of punched card equipment had been prepared. No formal reporting procedures have been set up to facilitate co-ordination of automatic data processing activities, and no attempt has been made to measure actual results against forecasts or to assess the impact on departments.

18 Furthermore, the Committee has not taken the initiative in promoting and developing comprehensive plans and policies for the introduction of automatic data processing. There has been no significant promotion of specific application by encouraging computer studies where management has been sometimes slow or reluctant to consider the possibilities. Little attention has been given

to systems integration and multiple use of data, or to providing central computer services on a much larger scale than at present.

19 Instead of co-ordinating, advising, and seeking out potential computer applications, the Committee has been mainly concerned with screening proposals for the acquisition of equipment or the purchase of computer time, and with applications for staff to attend computer courses. The initiative has been left wholly with departments.

Central Management Advisory Services

20 The Management Analysis Division of the Civil Service Commission has participated in studies to determine the feasibility of installing or utilizing automatic data processing equipment, sometimes at the request of departments but usually at the suggestion of the Interdepartmental Committee on Electronic Computers. These studies have ranged from generalized assessments of requirements, without mention of workloads, to thorough and detailed appraisals.

21 Unfortunately, the Division has not been staffed with an adequate number of technically qualified and capable specialists to enable it effectively to control or promote the use of automatic data processing equipment. In 1955, the Interdepartmental Committee on Electronic Computers recognized the need to appoint four technically qualified automatic data processing systems specialists to the Management Analysis Division. Nevertheless, electronic data processing has remained largely the responsibility of one man in the Division.

22 It is little wonder that some departments have expressed dissatisfaction with the services of the Management Analysis Division. Moreover, the Interdepartmental Committee has not always followed the Division's advice. For example, in its report (Assignment 501) on the Department of Public Printing

and Stationery, the Division concluded that there was no justification whatsoever for the use of an electronic computer and expressed doubts whether some of the proposed applications even justified mechanical punched card equipment. Notwithstanding these forceful opinions, a small electronic computer was approved and has now been installed.

Departmental Organization

23 Few departments have given full responsibility and authority to any one senior man to develop and implement a data processing programme. Most have attempted to progress in this field by forming a committee of interested parties or potential users within the department, to examine and make recommendations for the use and acquisition of computers.

24 In most cases, the membership does not include technically qualified people. Departmental committees have done little to foster interdepartmental applications or to encourage integration, and have often delayed, rather than advanced, the use of automatic data processing methods; they have performed a screening function but, perhaps by their very nature, have initiated very little.

25 Responsibility for data processing activity in the departments and agencies studied is placed at various levels in the organization, with no consistency. The relation of the planning function and the data processing operating function, to each other as well as to departmental management, is generally weak and poorly defined. The right climate for developing an integrated systems approach has not been created.

26 For example, at Air Materiel Command, R.C.A.F., no single group has power to cut across lines of authority in order to integrate paperwork and automatic data processing operations; the organization structure was not considered as a factor in the introduction

of an integrated stock control system. The Unemployment Insurance Commission has a large punched card centre in Winnipeg, established as a pilot operation, but has no local planning and development group; headquarters staff in Ottawa have been attempting to develop the system and, for this purpose, in a year travel expenses amounted to \$43,000.

THE NEED FOR CONTROL

27 The government should plan, coordinate and control its automatic data processing. Objectives and policies have not been defined, and the concept of integration has been barely recognized. Technical skills and experience have been insufficient to provide expert advice, and departments have been allowed to install equipment without proper regard to its utilization or the needs of others.

28 Competent technical advice on the planning and use of automatic data processing equipment is essential for both central and departmental management. The combined experience of the many user departments is impressive, but much of it has not been generally made available to others.

A PLAN FOR THE FUTURE

29 Your Commissioners have recommended the establishment of an Administrative Improvement Division to serve the Treasury Board and advise on administrative procedure throughout the public service. The Division should include a small full-time Automatic Data Processing Advisory group, consisting of from three to six senior people, to focus attention on the management aspects of automatic data processing systems. The group requires a high level of technical and administrative competence.

30 The responsibilities of this Automatic Data Processing Advisory group would be to assist in the development, co-ordination and

execution of the policies governing automatic data processing operations. No attempt should be made to discourage departmental initiative, but standard practices are needed to co-ordinate government activities, to provide guidance and assistance, and to eliminate duplication of effort. Formal recognition must be given to these standards, and a central management directive issued to all departments and agencies. Some aspects of the policies and standards to be formulated and controlled centrally are discussed more fully below.

Control Over Acquisition

31 The attention of the Treasury Board and its advisory bodies has focussed on the acquisition of equipment. Lacking other guidance, departments tend to rely on the advice of manufacturers; too little attention has been paid to factors other than the purchase price or rental cost of the equipment.

32 The term "feasibility study", as used in government, comprises the documentation by a department of its submission to the Treasury Board seeking approval for the installation or use of automatic data processing equipment; the study thus includes both establishment of need and development of specific application.

33 At present no guiding principles govern the administrative steps necessary or the criteria required for justification and utilization of automatic data processing equipment. The procedure for conducting feasibility studies has not been specified, and the elements of costs and savings to be considered in such studies have not been defined for departments.

34 For example, Air Materiel Command, in its request for a computer, contended simply that a computer was needed to do a better job for a modern air force. To justify a computer at the Dominion Bureau of Sta-

tistics, an unrealistic estimate of income from "selling" computer time to other departments was included. The computer proposal submitted by the Comptroller of the Treasury showed savings based on a ten-year amortization of the purchase price of the equipment, although the actual intention was to rent the equipment for two years with an option to purchase. Furthermore, in this case, estimated annual savings of \$240,000 might have been achieved through better forms design, better work distribution, and other means, without resorting to a computer.

35 The procedures for conducting feasibility studies for punched card equipment are even more inconsistent. There is limited pre-planning, and economic justification is rarely properly established. The need for some guiding principles and expert knowledge in conducting feasibility studies is obvious if objective appraisal is to be achieved.

Approval of Equipment Expenditures

36 Two basic rules should be adopted in assessing the economic justification for a computer installation. First, equipment rental costs should be used as the basis of comparison with the cost of existing systems; this minimizes the risk attached to miscalculation of savings or obsolescence factors. If the equipment cannot be justified on a rental basis, it is unlikely to be a sound economic proposition.

37 Second, the break-even point should be calculated to determine how long it will take to recover the cumulative costs of planning, installation, conversion, and operation of the computer. Normally, unless the break-even point occurs within about four or five years of installation, the acquisition of equipment for data processing should not be approved.

Procurement Practices

38 The question of whether to purchase or lease is too frequently confused with the

economic justification for automatic data processing equipment. Although equipment rental figures should be used for purposes of economic justification, this does not preclude the possibility that it might be better to purchase the equipment. This is a separate issue. Any decision to acquire automatic data processing equipment should always include consideration of the respective merits of purchase or lease, based on the applications and projected workloads.

39 It may not be practicable to establish a permanent policy in favour of either purchase or lease. As a general guide, the sooner the break-even on a rental basis is reached, the more attractive purchase becomes. Moreover, the choice will depend on three major factors: the availability of capital at any particular time, the type of equipment under consideration, and the planned applications. Each unit of an automatic data processing system will require individual consideration.

40 It has been Treasury Board policy that departments call for tenders to determine which manufacturers should supply the equipment. In principle, this is a desirable practice for a public organization buying in a strongly competitive market, but the policy has not been strictly applied. For example, the Department of Public Printing and Stationery, when replacing existing punched card equipment with a computer, gave no manufacturer other than the supplier of their punched card equipment an opportunity to make specific proposals. In other instances, such as the Taxation Division of the Department of National Revenue, the policy has resulted in delays and frustrations. Considerations other than price are also significant; technical support and assistance, maintenance service, reserve or back-up equipment, staff training facilities, and compatibility with existing equipment are important factors to be evaluated.

41 To ensure that the principle of tendering

is properly applied, the central Automatic Data Processing Advisory group should establish standard procedures and participate in the tendering process by controlling the issue of specifications by departments, and by helping in the subsequent appraisal of tenders. Invitations to suppliers to submit systems proposals and tenders for automatic data processing equipment should include a full job specification and instructions as to the information required. Manufacturers should be required to indicate the guarantees they offer against failure to meet specified delivery dates and against failure of the equipment to meet specified performance. Further, the tender should specify the training facilities available, the extent of assistance to be provided in programming and testing, and the maintenance to be provided, including the use of reserve equipment in the case of major breakdown. Evaluation and selection of equipment should not depend solely on price, though departments should be required to substantiate the reasons for rejection of unsuccessful tenders.

MANAGEMENT OF AUTOMATIC DATA PROCESSING OPERATIONS

42 Control over the use of automatic data processing equipment is a departmental responsibility. The present central control bodies exercise only a limited co-ordinating function, although they maintain close control over any further expenditure commitments. Management of interdepartmental operations, which will become increasingly important, is virtually non-existent.

43 The degree and effectiveness of pre-installation planning has varied considerably between departments. The predominant failing has been the absence of co-ordination with the systems groups of the department during the pre-installation stage. Moreover, little thought has been given to the organizational and administrative impact of a decision to use automatic data processing equipment. All

too often departments are faced with unrealistic time schedules; a sometimes unwarranted sense of urgency induces planning by availability of equipment rather than by the state of preparedness for installation.

44 The importance of this phase, which can significantly affect the success or failure of a computer installation, is not properly recognized in government. Standards should be developed and issued, and the Automatic Data Processing Advisory group should provide all necessary guidance and technical assistance to ensure that departments are adequately prepared for the impact of a planned installation, and particularly to discourage unrealistic time schedules.

PERSONNEL PROBLEMS

45 Notice was taken of personnel problems arising from the introduction of automatic data processing equipment. Wide variations exist in the approach to selection, training and grading of programmers and systems staff, and in the general re-orientation of departmental staff. Although the government has been using computer systems since 1957, it has been slow to adapt to the special requirements of this new technique. The results have been ineffective use of manpower with limited skills, some loss of trained personnel to industry, untimely transfers among departments, and an inability to attract sufficient staff of the right calibre to develop automatic data processing vigorously.

46 The Interdepartmental Committee on Electronic Computers has been given a co-ordinating function with respect to the selection and training of personnel, but the Civil Service Commission retains over-all responsibility and has not succeeded in meeting the needs of the new technology. It has not recruited the electronic data processing specialists recommended by the Interdepartmental Committee in 1956, and a classification for

computer personnel was established only in October, 1961.

Recruitment

47 Departments have received no guidance in recruiting and selecting appropriate personnel, and too much reliance has been placed on academic qualifications and the use of aptitude tests. Careless use of aptitude tests results in large numbers being encouraged to take the tests and then, not being accepted for automatic data processing work, returning to their normal jobs discouraged. Over five hundred and fifty civil servants under the Comptroller of the Treasury were given an aptitude test, of whom only six were taken as programmers. The Taxation Division of the Department of National Revenue gave aptitude tests to more than seven hundred members of its staff; one hundred and fifteen passed satisfactorily, but it was planned to send only fifty for programming courses as part of the further selection procedure.

48 A general policy to guide departments in the recruitment and selection of personnel should be prepared. In particular, all selection panels for programmers, systems analysts, and mathematicians should include at least one person technically qualified in those particular fields, and the indiscriminate use of aptitude tests should be discouraged.

Training

49 Generally, operators have received good training. The more highly technical courses, such as programming, have usually been provided by manufacturers as part of the service offered with the equipment. The Interdepartmental Committee on Electronic Computers has been notably successful in co-ordinating requests for attendance at non-government training courses. Some departments have conducted good training courses as well as providing effective on-the-job training. There

have been few attempts to re-orient non-operational staff, and departments should constantly strive to improve training programmes.

50 A high staff turnover in data processing has been experienced by some departments. In the Dominion Bureau of Statistics there was a turnover of thirty per cent in a two-year period, and similar figures were quoted for military personnel. Data processing is not considered by most Armed Service Officers to afford a career, and the use of civilian machine operators at low organizational levels, with few promotion opportunities, is conducive to rapid turnover and related high training costs. In the Armed Forces, more consideration should be given to the recruitment and retention of civilian staff.

51 There was no evidence of planned rotation of automatic data processing personnel between departments, or between departments and central technical groups. For instance, the electronic data processing and logistics experience of Air Materiel Command is not being used by the Army, which is developing a similar data processing programme. Similarly, the experienced programmers of the Dominion Bureau of Statistics were not available to assist the Central Pay Office, which was located in a neighbouring building. As one means of making better use of existing skills, an effective long-term programme should be built around a plan for rotating departmental appointments so as to spread understanding of the function of automatic data processing.

52 The importance of maintaining good staff relations from the earliest stages of computer planning cannot be over-emphasized. Material on experience in industry and in the United States Government is available and should be used wherever suitable. Staff are naturally fearful of the possibility of large-scale redundancy, and ignorance of the facts adds to the fears.

Utilization and Operations

53 No standards have been developed to control equipment utilization, and there is no regular follow-up of departmental utilization or efficiency. It was not possible to compare subsequent results against initial estimates made in submissions to the Treasury Board, due to a lack of recorded cost information. Control over initial acquisition of equipment does not guarantee efficient use, and there is no surety that equipment is used for the purposes advanced to justify its installation.

54 Departmental planning of automatic data processing recognizes that, with the introduction of expensive computers, the use of shift-work will expand, particularly during peak periods. Shift-work should be recognized as a normal operating condition, but no general government policy or central guidance to departments has been formulated.

55 Contracts for rental or maintenance of equipment are generally based on a single shift of one hundred and seventy-six working hours a month, with provision for additional rental for second and third shifts. It is usually more economical to employ additional operators to work the second or third shift at a reduced rental than it is to acquire more equipment and keep staff on a normal working day.

56 Computer personnel in several government departments already accept shift-work as normal, but there is need for more understanding of the problems involved. Punched card equipment is rarely operated other than on a one-shift basis, although rental costs of the larger installations are high.

57 In this regard, utilization figures are often misleading; most statistics are based on the "normal" working hours rather than the total potential operating time. For example, the Royal Canadian Air Force proposed changes in equipment, estimating that only

one hundred and twenty-six hours of machine time are available monthly (i.e., twenty-one working days of six hours), although equipment rental contracts usually allow for one hundred and seventy-six hours of first-shift operation. Thus, plans are being made to expand equipment facilities, with consequent rental increases, when existing facilities are being used well below single-shift capacity.

58 The lack of such fundamental techniques as engineered work standards, utilization charts, procedural manuals, and other administrative tools, often detracts from good performance. Some managers of installations are not technically qualified or well versed in operating techniques and equipment functions.

59. Many of the automatic data processing installations surveyed were rated unsatisfactory from the viewpoint of space, location, layout and surroundings, although the large computer installations of the Dominion Bureau of Statistics and the Air Force are exceptions. Out of nineteen different installations, space utilization was considered to be good in only six instances and four were fair. Nine were classed as poor by standards normally met in industry.

60 Insufficient emphasis is placed on the design of forms serving as sources for automatic data processing. In most areas surveyed, forms design was rated from poor to adequate, with few consistently good cases. In many instances, not enough effort is made to create and maintain procedural write-ups of data processing applications and operations. At nine of the installations surveyed, procedure manuals were either poor or non-existent.

61 To rectify these many shortcomings, proper operating procedures should be established in accordance with guides to practice on which should be developed by the Automatic Data Processing Advisory group;

operating standards for space utilization, forms, directives and reports should also be applied.

Common Use of Equipment

62 Both the IBM 650 at No. 1 Army Pay Ledger Unit and the IBM 705 at the Dominion Bureau of Statistics are used by other departments requiring small amounts of machine time. Although the computer at the Dominion Bureau of Statistics is nominally the service centre of the government, the estimated requirements of other departments in 1962 and 1963 amount to only about three per cent of its capacity.

63 There has been no concerted attempt to provide, promote and control the use of large-scale computer facilities. Existing large computer installations are operating considerably below their effective capacity. Although substantial time is available at these facilities, extensive electronic data processing installations for the Central Pay Office and Taxation Division are in process of being planned. By the end of 1962, this will result in the following computing facilities being located in adjacent buildings at Tunney's Pasture, Ottawa (see Table 26).

Table 26—PROJECTED COMPUTER FACILITIES

Installation	Computer	Number of Magnetic Tape Units	Purchase Price
Dominion Bureau of Statistics.....	IBM 705	12	\$2,056,000
	IBM 1401	4	388,000
Central Pay Office....	IBM 7070	6	816,000
	IBM 1401	2	330,000
Taxation Division....	Large	16	1,700,000 (approx.)
Total purchase price.....			\$5,290,000

NOTE: Excludes all conversion equipment.

64 The new computers are expected to operate on the average for only one, or at the most, two shifts. The best estimates obtainable indicate computer utilization of approximately 7,500 hours in 1963, and 9,200 hours in 1964, for all the work of the three departments. The available time on two large machines operated as a central service would be approximately 12,500 hours each year. Thus, independent and unco-ordinated expansion of electronic data processing facilities may soon result in total idle capacity equivalent to one large-scale unit.

65 Your Commissioners have recommended the establishment of a common Automatic Data Processing Service. At present, the largest volume of requirements is in Ottawa, but there are other large concentrations in Montreal, Toronto, Winnipeg and elsewhere. Wherever possible, automatic data processing facilities should be pooled, under unified management, and made available to the public service as a whole. A practical approach would be to consider all new submissions for automatic data processing equipment in the light of a planned policy for central data processing. Central Pay Office and Taxation Division requirements could be combined into a single machine load, using shift-work; the Dominion Bureau of Statistics computer should also be drawn into the central system on completion of the main 1961 Census work.

66 There will be departmental objections to centralization, but under proper management this need not involve any loss of departmental control over functional responsibilities. Departments should retain responsibility for the development of systems and programmes, control of data preparation, and the form of presentation. The primary responsibility of the central Data Processing Service would be to schedule machine time to the best advantage in meeting departmental output requirements, and to obtain optimum utilization.

Charges for Computer Time

67 The present method of determining charges to departments for using shared government data processing facilities is influenced by the traditional method of writing off capital assets to current expenditures at the time of acquisition. This means that the charges calculated for time used on purchased computers comprise operating costs only, while those developed for leased computers comprise both operating costs and rental. Thus, departments would be charged \$30 an hour for the use of a rented IBM 650 and only \$36 an hour for a purchased IBM 705; the latter machine has at least twenty times more processing capacity, and a more appropriate hourly charge would be \$300. Charges for computer time based on current equipment rental and appropriate overhead costs should be used to justify all new applications for computer processing. Unrealistic rates are particularly dangerous when used to justify new applications, and the establishment of a common Data Processing Service would make appropriate action the more urgent.

PLANNING FOR AN INTEGRATED INFORMATION FLOW

68 One other consequence of leaving departments and agencies to develop their own data processing plans in isolation has been the absence of any concerted attempt to integrate the information needs of the government, both internally and externally. The multiple use of common information has not yet been explored; there has been no planned effort to use information captured in machine language by one department which might be significant to other departments. Even within departments this has received very little attention.

69 Many benefits could accrue to the government through the planned sharing of data, which is facilitated by the increasing use of the electronic digital computer. Many large business and industrial organizations have

benefitted by making the fullest use of machine-recorded data of common interest to various sections of the whole organization. The widely differing nature of government activities places some limit on the scope for integrated information flow, but the statistical and economic analysis fields are potentially challenging. The proposed Automatic Data Processing Advisory group, under the Treasury Board, would investigate existing sources of data within the government service, identify data useful to more than one department or agency as potential areas for integration, and prepare practical plans based on accumulated experience and knowledge in relation to the development of new equipment. This would be a continuing and co-ordinated study, with the object of achieving maximum integration in the multiple use of common data.

70 Because the cost of data transmission systems has been prohibitive to the majority of government users of automatic data processing, limited use has been made of this type of equipment. The Royal Canadian Air Force telecommunications system is being utilized by Air Materiel Command, while the Meteorological Service plans to install the equipment necessary for transmitting data to the proposed computer at Montreal. Increasing use will be made of data transmission systems by government agencies employing automatic data processing, although at present the needs of most departments and agencies have neither crystallized nor been defined. Departmental planning for the use of data transmission facilities will need to be co-ordinated on a government-wide basis if maximum benefits are to be achieved.

71 Communication between machines is essentially a matter of compatibility, and also requires a common language or system of coding. Compatibility of equipment is perhaps a temporary problem; computer manufacturers, realizing the advantages of standardization, are working towards greater inter-

changeability, and the development of a common data processing service should ensure that future government installations will be compatible. Your Commissioners have already drawn attention to the desirability of establishing a uniform code of identification numbers.

ELECTRONIC DIGITAL COMPUTERS FOR SCIENTIFIC AND ENGINEERING COMPUTATION

72 Special considerations apply to the acquisition and use of scientific computers. A computer used for scientific or engineering computations is an individual research instrument, providing the scientist or engineer with a device that extends his productivity. Simple computations can be done significantly faster than by other methods; mathematical problems can be solved which were previously economically insoluble.

73 The effective use of an electronic computer for scientific or engineering purposes calls for the employment of people with skill and experience in numerical analysis. Such people are in short supply, and the government is encountering difficulty in recruiting them. Few departments conduct research in numerical methods, and numerical analysts will not be attracted to the public service unless they are offered challenging careers.

74 The majority of scientific users prefer local computing facilities; a minority prefers to have access to a large-scale computer. Although the use of scientific computing facilities is increasing rapidly in the government service, the installation of a large-scale computer for government scientific and engineering work alone is not justified today. However, if a computer centre is established in Ottawa for data processing purposes, it could also serve many needs of scientists and engineers, but there will be a continuing requirement for small local computing facilities.

CONCLUSIONS

75 The benefits to be derived from these recommendations for the management of automatic data processing in the public service lie largely in the future. Your Commissioners attach great importance to the establishment of an Automatic Data Processing Advisory group within the proposed Administrative Improvement Division of the Treasury Board. In summary, the duties of this group will be to:

- Develop and improve standard practices for all departments and agencies of the public service in the use of automatic data processing equipment.
- Assist the Personnel Division of the Treasury Board in planning personnel programmes designed to encourage the most satisfactory development and utilization of manpower for automatic data processing operations; this would include training courses, interdepartmental exchanges of personnel, pooling of experience, and similar related projects.
- Promote and co-ordinate plans to increase the compatibility of automatic data processing equipment and systems throughout the public service.
- Assess technological developments and their potential effect on government planning.
- Evaluate automatic data processing installations, as a continuing process, including summaries of expenditures on equipment and of actual utilization, as well as projected usage for succeeding years by each department and agency.
- Provide active assistance and guidance to departments on all aspects of planning and preparation for automatic data processing systems.
- Appraise and advise the Treasury Board

on all submissions for the acquisition or use of automatic data processing equipment; scientists with computer experience should be co-opted in appraising all submissions for new scientific computer applications.

- Establish uniform practices for justifying applications, measuring performance, and recording utilization statistics.
- Promote the concepts of integration, multiple use of data, and the use of central computer services.

9

OFFICE EQUIPMENT, FURNITURE AND SPACE

OFFICE EQUIPMENT

1 The government is a large user of adding machines, comptometers, accounting machines, calculators, duplicating machines, facsimile reproduction equipment, dictating and transcribing machines, and typewriters. These, properly used, extend the productivity of the office worker and yield a substantial return on initial investment.

2 Investigation was initially concerned with the justification, procurement, maintenance and disposal of office equipment in general. Subsequently, information was obtained about the use of specific kinds of equipment; typewriters, dictating and transcribing equipment, accounting machines, and photocopy equipment were selected as items most frequently used in all offices. The survey concentrated on thirteen departments which employ eighty-five per cent of the clerical staff in the civil service, and covered selected field offices as well as departmental headquarters in Ottawa.

Equipment in Use

3 Inspection of office equipment showed an accumulation of old and obsolete items in

many departments. Some of this equipment is not used at all and takes up valuable office space; some is used seldom, or for short periods during the day. Obsolete and inefficient equipment is a source of waste and should be scrapped.

4 There is an excess of typewriters in practically all government departments. The Department of Agriculture, for instance, has an inventory of seven hundred and nine typewriters, one hundred and twenty of which are classified as spares and thirty-five as surplus.

5 Good business practice encourages the use of electric typewriters for the repetitive typing required in pool operation, but in the public service electric typewriters are considered to be luxury or "status" equipment and are rarely used for high-volume mass typing or other suitable operations. A notable exception is the Immigration Branch in Ottawa which uses forty-four electric typewriters and ten manual machines in its transcribing pool, the latter being stand-by or special purpose machines. By contrast, in the Customs and Excise offices in Ottawa there are three hundred and eight typewriters, including one hundred and three used in seven

transcribing pools; without exception, the typewriters used in the pools are manual machines. The present policy covering the use of electric typewriters should be revised to allow their extended use under acceptable conditions.

6 Some departments, such as the Post Office and the Immigration Branch, make effective use of transcribing pools, but there is much room for improvement in others. Existing dictating and transcribing machines are not being fully utilized; some, such as wax cylinder dictating machines, are practically never used at all. Improvements in correspondence practices should be supported by providing suitable equipment, and by training staff in its proper use.

7 Little has been done to bring together into central pools the calculators, adding machines, and other accounting aids scattered throughout separate offices; a notable exception is the Economics Branch of the Department of Agriculture, which has benefited substantially from a pooling operation. By this means, work can be assigned to skilled operators using a minimal number of modern machines best suited to the work.

8 There are many instances of inappropriate machines being used at greater cost than necessary. For example, in the Toronto regional office of the Unemployment Insurance Commission, clerks are using adding machines to prepare summaries of statistical forms; comptometer operators could produce the same results much more economically. The Northern Canada Power Commission has two large accounting machines; the work could be done more efficiently by other methods using simpler equipment. There are accounting machines in the Sales and Excise Tax branches of the Department of National Revenue, which cost \$75,000, where the work could be better done manually.

9 Except for a limited amount of dupli-

cating equipment in individual departments for the purpose of reproducing internal forms, memoranda, or classified and high-priority documents, most reproduction for government departments has been taken over by the Queen's Printer. One exception is that the Department of Agriculture maintains a complete duplicating section. All departments availing themselves of the reproduction services provided by the Queen's Printer praise the quality of the work and the excellence of the service. This satisfactory arrangement should be maintained, but departments should be allowed to control reproduction equipment which is tied closely to local systems or operations.

10 Several installations of photocopy equipment were examined, comprising several makes and types, and all appeared to be well run. Problems arise in relation to the location of equipment, the comparative operating costs of centralized and decentralized equipment, the costs of messenger delivery, and service. For example, very few typing pools have photocopy equipment which can be used to reproduce copies of material required in small quantities. Such equipment should be available, as well as provision for a central photocopy service where copies can be more economically reproduced in volume on electrostatic equipment.

11 With some notable exceptions, departmental personnel have insufficient knowledge to evaluate the various types of equipment that are available, or to determine where and how equipment can be used to advantage in operations. Only the Canadian Broadcasting Corporation has a manual of standards for managing small office equipment, backed up by an evaluation programme. Inadequate knowledge, improper use and ineffective management control can be overcome by preparing and disseminating standards and guides, by training, and by placing responsibility on departments. Standardization of

equipment within departments should be a major objective.

12 An Office Standards Manual should be produced for the general use of all who are concerned with recommending, approving and procuring office equipment. The Manual should be constantly revised on the basis of a testing and evaluation programme for existing and new office machines and equipment.

Determination and Approval of Requirements

13 Acquisition of office equipment is often a tortuous procedure. In addition to specific justification within the department, usually at several levels, most items must also be approved individually by the Queen's Printer. For some specialties, such as electric typewriters or photocopy equipment, detailed investigations are conducted by a representative of the Queen's Printer before the request goes ultimately to the Treasury Board, which may demand further information.

14 Budgets are not used as planning and control tools, but are usually bulk figures based upon past experience and possible future expectations rather than on a detailed estimate of needs. Stationery items and office supplies are included with equipment so that an over-estimate in one can be used to offset an under-estimate in another. When the resultant appropriation falls short of actual requirements, the work of the department suffers, while an excess may result in a last-minute scramble for the sole purpose of using up the appropriation before it lapses.

15 It is hard to say whether the irresponsible attitude of some departments and agencies is the cause or the result of meticulous control by the Treasury Board and the Queen's Printer. What is certain is that the control is ineffective. Your Commissioners believe that such common service agencies as the Department of Public Printing and Stationery should not be permitted to exercise

control, and that the users of office equipment should be held responsible for determining their requirements.

Procurement

16 The paperwork and red tape involved in the present system of centralized procurement by the Department of Public Printing and Stationery is formidable. There are many departmental forms for requisitioning, and the correspondence between requesting departments and the approving and procurement agencies is costly and time-consuming. Long delays and substitutions are accepted as normal. To quote one example, the Royal Canadian Navy asked for two dictaphones and one transcriber on February 2, 1959; on April 24, 1961, two dictators and transcribers of a different make were delivered, and accepted under protest, after thirty-eight communications had been exchanged.

17 Substitutions are not always reported in advance to the user and often fail to meet requirements. As an instance, the Taxation Division of the Department of National Revenue, having to replace five condemned electric typewriters used for a special purpose, tested several makes and asked for a particular model; machines of another type were delivered and proved incapable of doing the job, despite conscientious attempts at adjustment; there was no alternative but to continue using the condemned machines until models of the preferred make were delivered many months later.

18 It is evident that price rather than value is the predominant consideration in purchasing, and this results time and again in increased costs far in excess of the small saving in purchase price. Not enough attention is paid to the quality of the equipment and its suitability for the job to be done.

19 The government seeks to give office equipment manufacturers a fair share of business, but orders should not be spread around re-

ardless of whether the equipment offered is suitable or not. The requirements of the public service are so large in total as to permit a certain amount of standardization, at least within branches if not in departments, but this desirable objective seems to carry little weight when orders are being placed through the Queen's Printer.

20 In June, 1960, after extensive tests related to special requirements, the Food and Drug Directorate of National Health and Welfare requisitioned two recorders and ancillary equipment. Cheaper machines of much smaller capacity were delivered. To adapt them to requirements, additional equipment had to be obtained, bringing the total cost above that of the machines originally requested. Later, when further complementary equipment was needed, the Directorate decided to stay with the models substituted, in a commendable attempt to achieve standardization; the requisition was accordingly marked "NO SUBSTITUTIONS" but the order was again placed with a different supplier, who submitted the lowest tender. The equipment delivered four months later was incompatible with the Directorate's installation.

21 The volume of government office machine requirements is such that central procurement offers substantial advantages. But these advantages may prove illusory when the system causes unreasonable delays, or if value and utility are wholly subordinated to price considerations. The practice of calling for individual tenders for each equipment requisition in excess of \$1,000 is a costly delay factor. Consideration should be given to negotiating contracts with major suppliers of office equipment, providing for local delivery against requisitions from departments and agencies.

Control Recording

22 Practices for recording inventories of office equipment vary between departments.

The frequency of stocktaking ranges from once every two months to once every two years; most departments have an annual inventory check as prescribed in Treasury Board regulations. Departmental records usually show quantity of equipment by type and location; some include values, while others show surplus equipment and the condition of equipment.

23 To provide effective control over office equipment, only a perpetual inventory record of quantity need be maintained by each department. A physical inventory should be undertaken every two years to verify the perpetual inventory records. Easily pilfered items, such as cameras, should be placed under tighter inventory control and charged specifically to responsible individuals.

Maintenance

24 All maintenance of small office equipment is the responsibility of the Queen's Printer. Machine maintenance units are established in twelve well chosen centres across Canada; outside contractors are used elsewhere and for some maintenance of more complex equipment.

25 Departments do not regard the service as wholly satisfactory. There is often a delay of two to three days, but many offices have so much idle, stand-by, and surplus equipment that even longer delays cause no inconvenience.

26 The service on typewriters is rated as generally good, but there is much dissatisfaction with the maintenance of complex equipment. For example, over a period of nearly five years, No. 12 Regional Ordnance Depot, Halifax, recorded down-time percentages on three bookkeeping machines. Down-time increased appreciably after maintenance was taken over by the Queen's Printer.

27 Prevention is better than cure, but the

truth of this platitude is not recognized in the current policy which prohibits preventive maintenance contracts, even for the most complex office equipment. No estimate can be made of the resultant cost of breakdowns and lost time, but the policy should be reviewed.

28 All maintenance costs for office equipment are charged to the vote of the Queen's Printer, regardless of who does the work. Repair decisions involving over \$40 are made by the staff of the Queen's Printer in Ottawa for all government offices across Canada. The limit on departmental authority for outside repair expenditure is often evaded by requesting contractors to submit two or more small invoices. Accounts for local repairs outside Ottawa are checked and counter-checked five times before payment.

29 These arrangements have serious drawbacks. Departments and agencies, not being responsible for maintenance costs, are not cost-conscious, and many service calls are made for imaginary or trivial troubles that could be rectified by a properly trained operator. The Queen's Printer records maintenance costs but is not concerned with operating time or utilization of equipment, while users disregard maintenance as a factor in total operating costs. Maintenance costs, and all other operating costs arising from faulty equipment, should be evaluated in relation to all the other factors affecting the acquisition and use of office equipment.

30 The maintenance of office equipment should be a departmental responsibility, accompanied by the necessary authority to incur expenditure. Common service maintenance should be confined to equipment so commonly in use as to justify the employment of highly-qualified mechanics. The cost and quality of the service should be subjected to regular comparison with outside competition. Departments and agencies should be charged for these services, and should enjoy some dis-

cretion when service is unsatisfactory. Where outside contractors are used, maintenance accounts should be paid locally to eliminate paperwork. A continuing programme to train operators in the day-to-day care of their equipment will improve performance and help reduce maintenance costs.

Disposal

31 Surplus, spare and obsolete office equipment is abundant. The Queen's Printer services about fifty-five thousand typewriters—almost one for every clerical position in departments. The twenty per cent surplus in the Department of Agriculture is probably exceptional, but an estimate is that at least three thousand typewriters in the public service are surplus to requirements. In one storeroom, an addressograph machine was found with a tag showing that it had been delivered in 1953, but had never been taken out of the storeroom or used. Many items of equipment were found tucked away and almost forgotten. Frequently, surplus equipment is identical to equipment being purchased for other departments. For example, a systems change in the Air Materiel Command Supply Depot, Downsview, made forty Visirecord cabinets surplus immediately and one hundred later. New equipment of this nature has since been bought for the Department of National Health and Welfare.

32 The present trade-in policy has contributed significantly to the excess of typewriters. To trade in a machine, a department must apply for condemnation by the Queen's Printer and the application may be rejected; it is easier for a department with available funds to requisition a new machine. No standards have been established for condemnation in relation to high maintenance cost or obsolescence. As long as it is possible to procure parts and the equipment has not been damaged beyond repair, it is generally kept in service. As a result, departments have equipment that has, in many instances, exceeded

its economical life. In the Toronto office of the Unemployment Insurance Commission, seventy-five per cent of the typewriters are over fifteen years old. One-third of the seven hundred and nine typewriters in the Department of Agriculture are over fifteen years old. Age is not, of course, the sole criterion for replacement; wear and tear from heavy use or the development of more advanced equipment with additional or improved features are equally important.

33 A comprehensive detailed review should be undertaken and a tally made of all surplus equipment. Selected items should be retained in the departments to meet emergency needs and the rest removed. Lists of surplus equipment should be circulated to all departments periodically, based on departmental notifications of equipment that is surplus because of administrative or systems changes. This would minimize further accumulations and help to eliminate existing surpluses. A change in practice is desirable with respect to trade-ins and disposals.

Conclusion

34 Your Commissioners believe that the adoption of these proposals will lead to significant economies and substantially rectify existing conditions. Implementation, which will take several years, will be contingent on widespread training of office equipment operators and departmental systems groups, and should be a major concern of the proposed Administrative Improvement Division under the Treasury Board.

OFFICE FURNITURE

35 The Government of Canada is the largest purchaser and user of office furniture in the country. With some exceptions, responsibility for the management and control of furniture lies with the Department of Public Works.

36 A survey was made of fifteen departments and agencies employing about eighty per cent of the civil service, and included the headquarters in Ottawa and representative field offices. The review covered a sample of the vast quantities of office furniture and fixtures presently in use, and a number of offices, selected at random, were inspected to obtain a practical evaluation of present management practices.

Furniture in Use

37 Furniture is being reasonably well used in the public service, with some common exceptions. In too many cases desks are being used as stands for typewriters or other machines, or as wrapping tables, and some drafting tables as stands for reference material. In the Department of National Defence, double pedestal desks are in use where single pedestal desks would be more economical and practical.

38 Existing sources of information on the management of furniture are not used. An excellent "Manual of Office Layout", produced by the Civil Service Commission, is not widely used, and some departments do not know of its existence. The Public Works Department issues a furniture catalogue, but its distribution is restricted, being practically confined to furniture control officers. At one time, a furniture sample room was maintained by Public Works to demonstrate certain features of various models; this is now a receiving area for samples submitted by prospective suppliers for testing.

39 Improvements to existing products occasionally originate from suggestions by users or by Public Works staff, but seldom result in changed specifications. For example, damage to clothing from splintered desk legs can be prevented by the use of leg guards and by sanding, but the specification still does not cover this problem. The Department of Public Works occasionally purchases new fur-

niture for experimental purposes, but the initiative nearly always lies with the manufacturers of new products. The Purchasing and Stores Branch usually obtains an assessment report, but has no formal means of reporting findings to all departments.

40 Technical development should be directed to the continual review and improvement of existing products and the search for new products to increase efficiency. A training course for furniture control officers and other key departmental personnel is needed, as well as a furniture display room and a manual on good furniture management, including illustrations, descriptive material, and standards of justification.

Requirements and Procurement

41 Expenditure on furniture is voted in one sum as an item in the Public Works Estimates, and departments are not charged for furniture. Since 1951, the Department of Public Works has attempted to base its furniture forecasts on anticipated requirements, by consolidating individual departmental budgets and then applying an arbitrary percentage cut to arrive at its total Estimates for submission to the Treasury Board.

42 Realistic forecasting is frequently penalized, for throughout the year the furniture appropriation is spent almost on a "first come, first served" basis. For example, towards the end of 1960-61, the Taxation Division of the Department of National Revenue asked for shelving which had been specifically budgeted for its Toronto office, but was unable to obtain this necessary material because the Public Works furniture appropriation had been used up.

43 As with office equipment, the approval and procurement procedures for office furniture are cumbersome and expensive. Delays of five to thirteen weeks for delivery are not abnormal, although furniture amounting

to approximately \$400,000, on the average, is held in stock at all times. Inventories are unnecessarily high for certain items. The inventory of twelve-inch electric clocks represents six months' usage although they are available on short notice from suppliers' stocks. Non-stock items are purchased as required, either by invitation bid or by tender, according to dollar value. Approval at many departmental levels is followed by detailed investigation in Public Works for requisitions over \$300; specified items are further subject to Treasury Board approval. In general, the paperwork is prodigious in volume.

Maintenance

44 The Department of Public Works provides a decentralized maintenance service across the country. Office furniture is generally in good condition and the quality of repairs carried out by the Department is in the main satisfactory.

45 There are no preventive maintenance programmes for office furniture except in the Department of Veterans Affairs. These could be used to advantage and procedures for minor repairs could be simplified. The average period for major repairs to furniture is two months, and there is a delay of approximately three weeks before a condemnation notice is sent to departments. Although policy calls for a desk to be scrapped when repair costs amount to forty per cent of replacement value, costing of a representative sample showed that the current cost of renovating a standard desk in a Public Works shop is forty-five per cent of replacement value.

Records and Disposal

46 Inventory taking presents problems of identification. Inventory clerks experience difficulty in distinguishing between furniture and operational equipment, which must be listed separately. For instance, shelving for

the storage of stationery is classified as furniture, but similar shelving used by the Department of Transport for the storage of radio parts has nothing to do with Public Works; sometimes an item of furniture is combined with a piece of equipment in one unit such as a drafting board. Much time is consumed in taking and maintaining inventories of many low cost articles such as ash trays.

47 The detailed records kept by the Comptroller of the Treasury on behalf of Public Works do not give effective control. The location analysis is insufficient to assist an inventory audit, and posting errors and inventory movements cause discrepancies; the latter are not always recorded. Most departments keep no day-to-day records, although they do have the record of physical inventory required by the Treasury Board. Four departments keep perpetual inventory records, duplicating in part those of Public Works.

48 These practices are costly and have limited value. Where it is impossible to account for a deficiency, it is often impractical to trace the item and the department usually receives authority for write-off. Physical inventories are needed for statistical purposes once every five years, but pilferable and comparatively costly items, and certain operational equipment whose location must be known at all times, should be recorded and physically verified at least annually.

49 Surplus furniture is to be found in expensive office space. Slow reporting by unit supervisors, extensive paperwork connected with the return of surplus furniture, and delays in removal all contribute to this situation. The used-stock warehouse of the Department of Public Works at Ottawa contains approximately one hundred and eighty non-repairable double pedestal desks which have been in stock for at least five years, and one hundred and ten double pedestal drop-bed desks, few of which are repairable and for which

there is no demand at present. These are occupying about six hundred and fifty square feet of floor space. The Crown Assets Disposal Corporation is slow in disposing of obsolete furniture. Delays may extend from two to five months; six forms are involved, and their cost exceeds the proceeds from sales of office furniture, which average only \$2 per item.

OFFICE SPACE

50 The practice of providing office space for the public service by a Department of Public Works vote leads to wide variations in accommodation standards. Your Commissioners believe that substantial economies and improved standards can be achieved by charging users an equitable rate for space occupied and holding them accountable for its effective use.

51 Good building design and layout are of great importance, but even some of the more recent government buildings are open to criticism. There are many instances of poor layout. Files are often located far from the points of greatest use, as in the central registry of the Department of Public Works. In the Taxation Division office in Montreal, three counters take up valuable floor space in offices having few visitors. An inefficient paper flow in the Central Pay Office of the Comptroller of the Treasury results from originators and checkers of material being located at opposite ends of the room. The Management Analysis Division of the Civil Service Commission has produced an excellent "Manual of Office Layout" as a guide to accommodation officers in analyzing and solving office layout problems, but it has been little used.

52 The Management Analysis Division also provides assistance, at the request of departments, in solving such problems. However, accommodation officers have not availed themselves of this service to any great extent;

only seven Management Analysis Division reports out of the hundreds prepared have dealt extensively with office layout, and these have not all been used to full advantage. For example, in 1957, a study was undertaken in the Dominion Bureau of Statistics. Coupled with a need for expansion, there was evidence of overcrowding in some offices, although investigation disclosed the average use of one hundred and sixty-four square feet for each person employed. The report recommended an office lay-out which would reduce the average used space to one hundred square feet each, thereby making adequate provision for the projected increase in staff. Little was done by way of implementation and an additional floor was eventually added to the building.

53 Some excellent work has been done in providing good office space in new buildings. The new Post Office Department Building in Ottawa is well laid out and provides maximum flexibility with large open floor areas and the use of movable partitions. The building occupied by the Cheque Adjustment Branch

in Ottawa was designed and constructed after a thorough office layout study had been made, taking into account work flow and future expansion. This is one of the few instances where the "Manual of Office Layout" and the services of the Management Analysis Division were used in the design stage. The practice should be extended, and departmental accommodation officers should be trained in layout techniques. It is estimated that a vigorous programme along these lines would save ten per cent of the space now in use.

CONCLUSIONS

54 In general, the supposedly tight control has failed to promote efficient use of space and proper furniture management. The remedies are similar to those applicable to office equipment—departmental responsibility, delegation and decentralization of authority, common procurement divorced from control, training programmes, and constant attention by the proposed Administration Improvement Division under the Treasury Board.

10

WORK STUDY

1 The annual salary cost of civilian clerks, stenographers, office equipment operators and telephone operators in the departments and agencies is probably \$325 million. In addition, an estimated \$50 million in salaries and allowances is paid to uniformed clerical personnel in the Armed Forces. Adding the cost of supervision and fringe benefits, the clerical labour cost of the Government of Canada exceeds \$400 million a year.

2 For many years, industrial engineering techniques have been employed to reduce manufacturing costs by analyzing methods and measuring the work content of tasks. More recently these techniques have been adapted successfully to measure and control the quality and quantity of clerical work. Large-scale government clerical operations offer great potential for economies through the use of work study; that is, work measurement and methods analysis.

3 The principle of relating the quantity of work done to a unit of time is being applied in a large part of the public service. Of seventy-nine departments and agencies questioned, thirty-five are using some form of produc-

tivity measurement, usually by comparing performance, period by period. Although this is not a scientific method, it does indicate that productivity is assessed.

4 There is general acceptance of the importance of measuring output, and officials are eager to make more use of the available techniques. This positive attitude is remarkably widespread, and no case of bad experience with work measurement was observed.

5 While the principle is accepted, the true methods of measuring work are not generally understood. This is shown by the large number of departments and agencies that use historical records as standards. There is little understanding of how scientific work measurement should be developed, where it should be applied, the benefits to be gained, and the costs involved. There are exceptions to this general picture, such as the work of the Customs and Excise Division of the Department of National Revenue, and of the Ordnance Depots of the Canadian Army.

6 There is always a potential danger that the techniques of scientific work study will be

badly applied in the general enthusiasm to reap the benefits. The use of work study by unqualified persons can produce unfortunate results, as is clearly demonstrated by the history of industrial applications. A sound policy is needed, both to govern the use of work study and to capitalize on the present receptive climate.

7 In industry, the primary objective of a work study programme is usually the reduction of costs by increasing the productivity of the worker. The emphasis in government is more often on the justification of requests for additional personnel. This perhaps explains why departments tend to regard work measurement as an analysis of past performance figures, which are not a satisfactory standard for controlling labour costs, since they record only what costs have been without measuring what costs should be.

8 There are three principal methods of developing work standards: by observation and stop-watch timing; work analysis and predetermined standard times; and work sampling. Competent analysts should be able to apply all three, although the stop-watch method is most used in the public service, particularly in the Customs and Excise Division of National Revenue, the Canadian Army Ordnance Corps, the Unemployment Insurance Commission, the Department of Veterans Affairs, and the Management Analysis Division of the Civil Service Commission. Little use is made of predetermined-time systems and standard data; Methods Time Measurement was the only predetermined-time system found in use and then not on clerical work, for which it is particularly suited.

9 The use of standard data is a recent development particularly appropriate for economical measurement of clerical work. The Canadian Broadcasting Corporation seems to be the only agency in the public service using this technique. Manuals of time elements for clerical work, for maintenance

work, and for factory activities, are now available. Properly applied, such data speed development of standards, and departments should utilize this method of increasing productivity.

10 The work-sampling method utilizes random observations of one or more workers as a means of measuring the time expended on each of a number of tasks. This method is particularly useful for measuring the work of a group of people with a similar and highly variable workload, such as clerks who work at desks and also serve the public at a counter. Work sampling can be a quick, inexpensive means of developing standards for tasks that would be uneconomic to measure by other methods.

11 With one exception, there are no work-study training facilities within the public service. Most of the qualified personnel have been recruited from industry. The one exception is the Army Ordnance Corps School, located at No. 25 Central Ordnance Depot, in Montreal. In this school, a good training manual has been developed; the course material is well prepared, suited to the purpose, and based on sound principles. As a result, the Canadian Army Ordnance Corps has probably the best work-study programme in the public service.

12 There is no adequate government source of trained work-study analysts and the number available is too limited to satisfy government requirements. Training should therefore be the first major phase of a programme designed to introduce work study throughout the public service. Highly qualified instructors should be employed to ensure that analysts are properly taught, techniques are not distorted, and human relations problems are properly presented. This training programme will be extensive, because the public service probably requires as many as two hundred and fifty to three hundred qualified work-study analysts.

13 The benefits to be derived from a work-study programme can be illustrated by three specific examples from within the public service: first, the present work of Royal Canadian Ordnance Corps; second, the Customs and Excise Division of the Department of National Revenue; and third, a special pilot-study conducted during the course of this investigation.

14 The Directorate of Ordnance Services defines policies and co-ordinates the work study programmes of the Ordnance Depots. The excellent programme at No. 25 Central Ordnance Depot has almost all of the components essential to the improvement of labour productivity by the application of work standards, namely:

- The full support of and continuous participation of the senior management people in the organization.
- A sufficiently senior position in the organization for the work measurement group to be independently effective.
- A recognized work measurement technique to establish reliable standards.
- Facilities to train qualified work measurement analysts, and to train supervisory personnel in the use of the controls provided.
- Reporting procedures designed to assist supervisors in the daily control of performance, and to give management over-all control of productivity.
- Clearly identified work units related to specific jobs which, in turn, are related to authorized procedures and to the organization structure.

15 The Depot Control group has an authorized strength of six, which is adequate for a total establishment of one thousand. The supervisor reports directly to the controller, a senior civilian responsible to the commandant. Production volumes, earned times, and

actual times are reported for each work centre each day. Progressive summaries carry pertinent data to the management level as monthly summaries of total time utilization. The reports are effective, understood and used. The commandant believes that without work study, he would require thirty per cent more people to meet current workloads.

16 The work-study programme of the Customs and Excise Division, Department of National Revenue, is another of the more competently administered programmes in the public service. Consistent, orderly application of policies and procedures has produced significant cost reduction. The Division had used job analysis for some years to estimate staff requirements. However, in 1957, proper work study, based on time study, was introduced by personnel recruited from industry into a Methods and Procedures group. This new group was given broader objectives, namely, methods improvement and cost reduction, and was given authority to conduct studies in any part of the Division, providing proper lines of authority were respected. In the ensuing four years, more than thirty studies have been completed, which have reduced costs by an estimated \$2 million.

17 The sequence of steps taken to develop a work-study programme is clearly defined. While the Methods and Procedures group under the authority of the Director of Port Administration has access to any area, many projects are conducted at the request of operating personnel. Each project is reported separately in a form that facilitates understanding and installation.

18 Of particular interest, and a most commendable approach to the problem of introducing work study, is the use of a formal manual, which covers the concept of work measurement, deals with policies and procedures to be followed, and generally encourages the acceptance of work study by management and supervisors.

19 However, three work-study analysts are hardly adequate for a Division of eight thousand employees. An increase in the number of analysts should not only produce more economies but also make it possible to introduce the application of predetermined-time systems.

20 A special study of clerical activities in a government department was conducted by your Commissioners over a period of five days to demonstrate the application of clerical work measurement techniques, to validate general observations of the potential for productivity improvement, and to assess the time required, in terms of jobs per analyst per week, to introduce work study into government operations.

21 Pay and Allowances (Air), an audit group under the Comptroller of the Treasury, located in Ottawa, was selected for the study. This section comprised twenty clerks who audit pay records for R.C.A.F. personnel; each clerk does substantially similar work and is responsible for a particular portion of each card. Audit procedures are generally considered difficult to measure; therefore, successful application of the technique to this activity would indicate the ease of application to routine operations such as typing and filing.

22 Under direction of the supervisor of the section, three selected clerks maintained records of their activities for three days; they recorded time spent on each job and quantity of work completed. The jobs were identified as follows:

- a. post assigned pay
- b. audit clothing accounts
- c. post and audit Daily Routine Orders entries
- d. audit pay accounts
- e. audit miscellaneous vouchers
- f. verify pension deductions payment
- g. post-audit.

23 The supervisor then wrote a detailed description of each job; the times and quantities from the task sheets were averaged to determine the time actually used for each work unit and the proportion of the total time spent on each job. Each clerk was interviewed to ascertain the methods followed for each of the seven jobs; these methods were then divided into work elements according to the clerical standard data manual used for the exercise. Work element times were applied and totalled, and fifteen per cent allowance was added for personal factors, fatigue, and delay to arrive at standard or allowed times.

24 This analysis was done only on jobs a, c, d, g, and on the separate job of raising observations, which all clerks must do when errors are located. It was not considered economical to analyze and set standards on jobs b, e, and f, which accounted for only 2.5%, 3.1%, and .4% respectively of the total time used; for these, average times were used.

25 By applying the developed standards to the number of work units produced during the three-day study period, the performance of the three clerks was measured as 76%, 75%, and 71% of standard for that period, i.e. a group performance of 74%. This is a reasonably high performance level. A target for this type of work is usually set at about 85%, but most uncontrolled groups operate at a 45% to 55% level.

26 The new standards were applied to the production of the whole group of twenty clerks for the month of October, 1961, and their performance was 53% of standard. The 74% performance attained by the three clerks during the three days of observation indicates that the work being done in the month studied could be done by fourteen people, a 30% reduction in personnel.

27 Commercial experience indicates that performance levels of 85% can be attained

regularly. However, in order to reach and maintain such levels, supervisors must give constant attention to the correction of the things that prevent people from working, such as:

- Deviation from proper method.
- Inadequate training.
- Poor distribution of workload.
- Unauthorized work.
- Late starts and early stops.
- Unduly extended break periods.
- Poor working conditions.
- Improper maintenance of machines and equipment.

28 It is important to note that none of these items refers to the work pace of the employees; no speed-up, no special effort, is required of the employees while they are working, to achieve performance targets.

29 Sound policy, central guidance and advice, and a vigorous training programme will enable the government to take advantage of the existing receptive climate for work study and produce substantial economies. It should be noted that a ten per cent reduction in clerical costs would save \$40 million annually. In addition, an effective, well-managed programme can be a source of inspiration and assistance to Canadian industry. Maximum utilization of labour in the public service can become a national policy of importance to a future which demands a highly competitive Canadian labour force.

11

QUALITY CONTROL

1 Sampling is perhaps the most useful of all the statistical methods available to management. The mathematics of probability are used to assess the representativeness of samples, the precision with which estimates can be made, and the risks involved in making decisions based on sample data. Until comparatively recently, the use of statistical methods was generally restricted to scientific research. It was not until after 1920, with the expansion of mass production methods, that applications began to appear in industry. As productivity and competition increased, the problem of product quality gained prominence. In an attempt to control the quality of products reaching the market, inspection systems were introduced whereby each product unit was examined and the poor quality items were screened out. It was soon realized that, although these inspection systems improved quality, they also increased operating costs and, more significantly, the systems were not directed toward rectifying the cause of the defects. Statistical quality control techniques were developed to identify and eliminate the causes of poor quality and, at the same time, to reduce the cost of inspection.

2 Although the use of statistical techniques to measure and control product quality is now relatively common in industry, only within the last ten years has much thought been given to the possibility of applying the same techniques to clerical or office operations. It is now well established that such applications are feasible, particularly where large volumes of like documents are being processed; and large volume is a characteristic of many government clerical activities.

3 Little use is made of statistical techniques to improve paperwork operations in the public service, although the statistical approach is implicit in many management actions; for example, attempts to reduce checking costs result in some test checks being applied, or conclusions are drawn from an examination of only a part of a mass of data.

4 Four basic verification methods were noted. By far the most prevalent method used in government is the one hundred per cent check, which is based on the erroneous assumption that checking every item will ensure that all errors will be detected and

perfection achieved. It has been proved that the fatigue and monotony of this type of verification results in the checker missing from five per cent to fifteen per cent of the errors. In addition, this approach does not take into account the relative seriousness of the possible errors, for the cost-versus-value concept is ignored.

5 The spot check is frequently used by supervisors. It is a haphazard verification of a small portion of the total and is of marginal value, except perhaps to induce some peace of mind.

6 The fixed-percentage check method acknowledges the possibility of sampling, but the sample is not scientifically selected. Often the percentage chosen is arbitrary and bears no relationship to the error rate of the documents verified. It is quite common to find that the manner of selecting the sample—the most important part of any sampling scheme—is not specified. Checking one day's work out of ten may produce an entirely different result from checking ten per cent of each day's work.

7 For a selective check, only pre-selected items on a document are verified; this method is based on the concept that errors are most likely to occur on specific items.

8 Sometimes departments employ more than one method of verification, or use duplicate checks in the hope of eliminating errors. The Comptroller of the Treasury clerks attached to the Data Processing Service of the Department of Agriculture sum and check quantitative data from reports of farmers' shipments of eggs; cards are subsequently punched and verified. Since deficiency payments made to farmers are based on these shipment statistics, Treasury personnel in the Department conduct a subsequent check on the accuracy of the calculations from a tabulation of the punched cards. During the course of this investigation, discrepancies

indicated the ineffectiveness of earlier checks, and your Commissioners are pleased to note that one of the check operations has been eliminated and another is being re-examined with a view to further simplification.

9 It is necessary to distinguish between two basically different checking functions: first, internal verification to ensure quality in the paperwork generated within government, where quality is controllable; second, external verification to ensure quality in paperwork created outside the government, where quality is generally beyond direct control. Examples of typical internal verifications are:

- The pre-audits conducted by the Comptroller of the Treasury as part of the control of expenditures. Many of these pre-audits duplicate checks already performed by the departments. The Comptroller of the Treasury attempts to check all items.
- The check of import entry documents by the Appraisers Branch of Customs and Excise. The purpose is to detect errors made at ports of entry and to initiate the recovery of revenue lost because of these errors. Here, the verification is a combination of the fixed-percentage check, the one hundred per cent check, and the spot check. Prior to this investigation, there was no programme to collect error statistics and to use this information to improve port performance. A recommended programme for improving port performance is now well under way and much has already been achieved.
- The checking, by twenty-five audit clerks, of changes made to pay records by eighty-six ledger clerks at the Central Pay Office. The ledger clerks are grouped into four sections and within each section audit clerks check the work of ledger clerks. This type of activity could be termed "inspecting quality into the product", since emphasis is placed on error correction rather than on error prevention. By concentrating on

quality problems, supervisory personnel could minimize the incidence of errors, and a selective check procedure could reduce the amount of checking required by as much as fifty per cent, which represents a potential saving of \$40,000 to \$50,000 in audit clerk salaries.

10 The purpose of verifying paper originating externally is to ensure that the data received on a form, claim, invoice, etc., are accurate, complete or valid. Although the purpose of such checks is still quality assurance, the possibility of controlling errors is slight because the data are originated from outside. Typical examples are:

- The one hundred per cent check by the Claims Section of the Department of Labour on monthly statements of disbursements made by provincial Workmen's Compensation Boards to federal employees on behalf of the federal government.
- The check of all Trans-Canada Air Lines waybills by the Air Mail Way-bill Section of the Post Office. The way-bill information is reconciled with a monthly statement submitted by Trans-Canada Air Lines for payment for air mail services rendered.
- The check, by the Traffic Branch of the Board of Transport Commissioners, of all railway claims for reimbursement of freight charges under the Maritime Freight Rates Act. Under the terms of this Act, railways operating in the Maritimes, which elect to charge reduced freight rates as an incentive to Maritime shippers, are entitled to reimbursement by the government. The verification of a claim, usually composed of several hundred way-bills, involves the computation of each entitlement for each shipment made during the claim period.

11 In none of these verifications of external paperwork has the possibility of using statistical sampling been explored.

12 One important factor that inhibits the application of statistical methods to verification systems is the interpretation of statutory responsibility for paperwork quality. In the majority of systems investigated, a rather severe interpretation of quality requirements accounts for the one hundred per cent verifications being conducted. This attitude is not difficult to understand; in government a glare of publicity may be focussed on minor mistakes. However, protection can be achieved in more than one way. In assessing the need for and logic of such a stringent interpretation of statutes, the following two points should be considered:

- The high quality supposedly provided by one hundred per cent verification is, in most cases, never actually attained. All checking procedures are subject to human error. Furthermore, an indiscriminate approach gives the insignificant item the same attention as the large and important item.
- In the collection of revenue and the disbursement of funds, statutory requirements differ.

13 The Department of National Revenue is responsible for collecting all moneys due to the government under particular taxing statutes. The terms of the various Acts are specific on this point. For example, the Income Tax Act provides that:

46. (1) The Minister shall . . . examine each return of income and assess the tax . . . if any, payable.

In practice, the Department does employ some statistical checks and generally gives priority to moneys due that are economical to collect.

14 On the other hand, the Financial Administration Act provides that:

33. (1) Every payment pursuant to an appropriation . . . shall be made under the direction and control of the Comptroller. . . .

This is interpreted as requiring the Comptroller to ensure the accuracy of every disbursement, regardless of value.

15 This difference in interpretation influences application of statistical sampling schemes in government. In complying with their statutory responsibilities, managers should realistically relate the costs against the expected accuracy of results, keeping in mind that even a one hundred per cent check has many imperfections.

16 However, the primary factor inhibiting the application of statistical techniques to the paperwork function is the lack of trained government systems personnel. Since paperwork verification is, in most instances, an integral part of a larger system or procedure, improved methods of conducting such verifications would logically come under the pur-

view of the departmental management services groups.

17 Managers have received too little exposure to the possible uses of and benefits from applied statistical methods. The statisticians in many government departments are competent to advise in the use of sampling, but are not necessarily management oriented, and they are not in a position to identify administrative applications. There is need for the extensive use of scientific statistical methods both to assure quality and to collect information. To meet this need, to promote a proper understanding of the value and use of these techniques, and to provide training, the proposed Administrative Improvement Division of the Treasury Board should encourage the introduction of scientific statistical methods throughout the public service.

12

SYSTEMS AND PROCEDURES

1 A century ago practically all information was posted by clerks with the aid of only the most rudimentary business equipment. Management information was at a bare minimum and systems were relatively simple. With the rapid development of office machines, leading up to the punched card era, more and more information could be processed for the benefit of management. Systems concepts expanded, demanding more objective and more comprehensive attention at a higher level of management than ever before and leading to the development of full-time staff to co-ordinate individual systems into the most practical and economical whole.

2 With the introduction of electronic computers, the ability of the machine to file and process information has been enormously increased. The task has become more complex, but the benefits to be derived have increased in the same proportion. With this unlimited potential, it is more important than ever before that systems be examined in relation to the needs of the government as a whole rather than to the isolated requirements of one department.

3 Your Commissioners have found little or no recognition of this need for a comprehensive approach to systems in the public service. Within departments there is a general acceptance of existing conditions, a lack of knowledge or interest in related activities of other departments and no appreciation of the high cost of triviality. No attempt was made to review this problem in every department and agency, but the principles involved are illustrated by a few specific case studies.

UNEMPLOYMENT INSURANCE COMMISSION

4 About half the workers covered by the Unemployment Insurance Fund are in industries using the bulk payment plan for contributions, under which employers keep track of pay deductions on a standardized form and mail it to the Commission at the year-end of the government or the firm. This is a relatively simple process, if somewhat cumbersome. The other half of the working population is involved in an unwieldy system that relies on the use of books and stamps or metered impressions. There are fourteen denominations of stamps an employer may re-

quire, depending upon the length of service for which he is paying and the gross wages of the employee. Instead of calculating contributions as a percentage of gross earnings, both systems depend on the use of tables supplied by the Commission, which show the contributions payable if an employee is paid every:

- week or less
- two weeks
- three weeks
- four weeks
- semi-monthly
- monthly.

5 These fine distinctions complicate both the preparation of payrolls and the audit by the Commission. The book and stamp system is defended on the ground that small employers cannot be relied upon to remit unemployment insurance contributions and deductions, although the Department of National Revenue is content to rely on them for income tax deductions. Your Commissioners have recommended, in their report on *Financial Management*, that the audit of both sets of remittances be combined; this would be facilitated by a simplification and standardization of the Unemployment Insurance contribution and deduction system.

6 Procedures relating to employers are not co-ordinated between departments and agencies. There are many separate card files in existence, and much of the information on these files is duplicated. For example:

- There are twenty-three clerks in the Employers Index group in the Administrative Services Branch of the Unemployment Insurance Commission. They keep alphabetical and numerical card files and addressograph plates on all employers with Unemployment Insurance licence numbers (313,000 employers).
- There are twenty-two clerks in the Statistical Division of the National Employment Service, who obtain statistics on the num-

ber of hirings and separations by all employers having ten or more employees. There are 66,000 employers and establishments in this group, all of which are included in the above Employers Index file. The total number of employees is regularly posted to these cards.

- The Unemployment Insurance section of the Dominion Bureau of Statistics has recently developed a punched card file of a similar nature (120,000 cards). This is used to code the hiring and separation data supplied by the Statistical Division of the National Employment Service.
- The Employment section of the Dominion Bureau of Statistics has two files, both alphabetical and numerical, of certain types of employers. One has about 34,000 cards and the other 12,000 cards. With some few exceptions, the employers in this file are included in the three files described above.

Information is regularly being sought from many of these employers by two or more of these groups acting independently.

7 The statistical functions covering unemployment insurance and employment are not well co-ordinated. Unemployment Insurance Commission procedures do not incorporate statistical preparation as a fundamental part of the system, and most of the people interviewed had little knowledge of Dominion Bureau of Statistics products or how they are prepared.

8 Conversely, Dominion Bureau of Statistics officials regard the work they do as a service to the Unemployment Insurance Commission. Neither agency appears to have accepted full management responsibility for the preparation and output of statistics. A co-ordinating committee which includes the Department of Labour, determines what statistics are to be produced but has failed to co-ordinate the systems by which they are prepared.

9 Department of Labour statistical staff have little knowledge of what is being done in the National Employment Service statistical group; for example, both groups simultaneously summarize the employment situation by industry and by province. There are many other areas of common interest leading to duplication. Theoretically, the Department of Labour handles the policy aspects of employment, while the National Employment Service handles the practical aspects. In practice, there is insufficient co-ordination and consultation.

10 The piecemeal application of automatic data processing to these requirements is evidence of the need for a thorough systems review of the information required from employers. A single return, giving all the information required by the various departments and agencies concerned, could accompany Income Tax and Unemployment Insurance remittances, and could be used as the raw material for the preparation of all statistical requirements. It is estimated that an integrated system of this kind, coupled with the use of a computer, would save the government more than \$4,000,000 a year. A much larger amount would be saved by Canadian employers.

AGRICULTURAL STABILIZATION BOARD

11 The Agricultural Stabilization Board was established to stabilize the prices of cattle, hogs and sheep; butter, cheese and eggs; wheat, oats and barley grown in areas not subject to the Canadian Wheat Board Act; and other commodities designated from time to time by Order in Council.

12 Price stabilization may be effected in one of two ways:

- By purchase at a prescribed price and subsequent sale on the market. Administration of these programmes involves a relatively small amount of paperwork, for the commodities are dealt with in bulk and the

number of individual transactions is comparatively small; handling and management are substantially done by the trade and the Board maintains records of inventories and movements.

- By payment to producers of any deficiency between the average market price for the crop year and the prescribed price, subject usually to an upper limit on the quantity to be so supported. This method, exemplified by the egg and hog programmes, involves detailed reporting and recording of sales by producers; for these purposes, registration schemes have been introduced and extensive data processing operations undertaken.

An interesting but complicated variant of the first method is the support programme, established by Order in Council, for milk used in manufacturing; prescribed payments to producers are made by the processing plants and reimbursed by the Board. This is in accordance with the general policy of the Board, which is to make use of trade channels as far as possible in the administration of stabilization programmes.

13 Disbursement and operating costs, as will be observed from Table 27, have risen rapidly in recent years:

Table 27—AGRICULTURAL STABILIZATION BOARD—DISBURSEMENT AND OPERATING COSTS

	<i>Years ended March 31st</i>			
	<i>1958</i>	<i>1959</i>	<i>1960</i>	<i>1961</i>
Operating Costs (\$ thousands)	64.7	73.2	224.2	408.1
Stabilization Expenditures (\$ millions)	6.0	15.1	60.2	69.5

The above operating costs are far from comprehensive. They do not include the cost of the related operations of the Comptroller of the Treasury or of the extensive services provided by the Department of Agriculture.

14 There is no distinct organization for the Board's operations. The Board members are all senior officers of the Department of Agriculture with other departmental responsibilities. Direction of these programmes involves the field offices of the Production and Marketing Branch; for example, from a limited test of time reports submitted by inspectors in the Poultry Division, it would appear that up to ten per cent of their time is involved in checking the egg synoptic sheets prepared by packing stations to report shipments. In the Data Processing Service of the Department, there is an extensive clerical unit handling and processing reports to the Board from grading stations and packing houses; the cost of the data processing is not included in the operating costs quoted above.

15 Attention was focussed on the egg and hog programmes, which affect more than 400,000 producers and involve approximately 5,000,000 separate transactions a year. In both programmes a considerable burden is placed on trade channels in collecting and reporting information to the Board.

16 There is some overlap of the hog deficiency payment programme with the concurrent hog premium programme. The hog premium is essentially designed to encourage the production of high grade hogs, and the hog deficiency payment programme applies only to top grade hogs.

17 A characteristic of deficiency payment programmes is that payment will only be made when the average market price for the year falls below the support price; this has never happened with hog prices. Thus, all the work done in collating information in preparation for payment to hog producers was redundant, other than as a source of statistical information. Substantial costs may well be incurred in up-dating all these records, which may never be used for their primary purpose.

18 For the egg programme, report sheets are prepared by the trade every two weeks, showing name, address, registration number, and the quantity of eggs shipped in each category. Some attempt has been made to facilitate the work of packing stations by supplying pre-printed listings of the names, addresses, and registration numbers of producers who normally ship to that particular packing station. While this accounts for most of the regular shippers, there are frequent additions to and deletions from these lists, and a producer may ship to several different packing stations. The burden of this work on the trade is extensive; precise estimates are not available but an estimated annual cost of one million dollars would not appear unreasonable.

19 Deficiency payment programmes involve registration by the farmer, and there is a separate registration scheme for each commodity. Thus a farmer producing eggs and hogs and other commodities will have a different registration number for each application. To ensure that everyone is coded for data processing purposes, special registration numbers are assigned to farmers who have not applied, and there is a constant problem of ensuring that new applicants have not already been numbered. This basic confusion in the coding or numbering of producers seriously affects the subsequent mechanical processing of information.

20 From the records maintained, statistics are extracted for purposes of formulating policy and checking results. This ancillary requirement is sufficiently important to warrant consideration in the systems design, but the extraction of information on a sample basis would be sufficiently accurate for the purpose.

21 Operations are characterized by peak loads offset by slack periods. The seasonal nature of the industry creates peaks in shipments and in the handling of related data.

Other peak loads have been imposed by sudden changes of policy such as the decision to make an interim payment for eggs. Another result of this interim payment was that over-payments made to certain producers could not be recovered in the final payment.

22 The entire system as it is operating is fraught with error, despite all the precautions taken to check registration numbers, to establish pre-printed registration numbers on the egg synoptic sheets, and to assign control numbers and registration numbers where these were not shown on reports. The frequency of egg shipments and the ability to pre-print some of these data have improved the situation by constant cross-checking, but this has not been as simple for hogs; shipments are much less frequent and the packers do not normally have any direct contact with producers. The inspectors of the Production and Marketing Branch make extensive efforts to ensure that registration numbers are applied to all documents, but there is no certainty that these are accurate.

23 It is estimated that, taking all factors into account, the true administrative cost of operating the egg and hog deficiency payment programmes is approximately \$420,000 a year. Various possible alternative systems would afford savings of at least \$100,000 a year, increasing in inverse proportion to the number of payments to be made. For example, payments could be based on claims submitted directly by farmers; this would eliminate all administrative procedures in years when the average market price exceeded the prescribed price.

24 If there is a continued need for coding producers, the present separate registration systems should be reviewed with the object of integration. If it is found desirable to continue to receive reports from the field for each individual shipment, further attention should be given to more positive identification at the time of recording. This might be done

through the use of pre-printed lists, unit tickets, or punched cards, or perhaps the development of charge-plate identification.

25 The possibility of decentralizing operations to various regional locations should also be considered. For example, if Data Processing Centres were established in regional areas, or if the Department of Agriculture itself has a data processing operation established, say at Winnipeg, such facilities could be used for any data processing work required in the stabilization programmes.

26 The Department of Agriculture recognizes the need for a thorough examination of the systems and procedures associated with the deficiency payment schemes. Such an examination should embrace the over-all problems of organization, the use of data processing services, and all other potential areas for improvement. In such a study, the close co-operation of the trade will be required to develop the best method for each individual commodity, although standardization should be sought wherever practicable.

27 (Since the foregoing was written changes have been instituted in the chicken and hog deficiency payments, which should produce substantial administrative savings.)

FAMILY ALLOWANCES AND OLD AGE SECURITY

28 All families may register eligible children under sixteen and receive Family Allowances; at ten years of age the monthly rate increases from six dollars to eight dollars. Under the Old Age Security Act, eligible persons over seventy years of age currently receive a pension of sixty-five dollars a month. In 1960-61, Family Allowances payments amounted to about \$506 million and Old Age Security to about \$592 million.

29 Both programmes are administered by the Welfare Branch of the Department of National Health and Welfare. The Family

Allowances and Old Age Security Division consists of a national office in Ottawa and ten regional offices, each located in a provincial capital with ready access to vital statistics. A regional office for the Yukon and Northwest Territories is incorporated in the national office in Ottawa.

30 The Ontario Regional office is the largest, with about thirty-five per cent of the total number of active accounts; and the larger offices achieve the lowest costs, as shown in Table 28.

31 Associated with each of the ten regional offices is a District Treasury Officer under the Comptroller of the Treasury in Ottawa. The Treasury Officers provide accounting services and are responsible, under the Financial Administration Act, for checking all applications to establish legality before placing the account in pay (pre-audit), and for issuing Family Allowances and Old Age Security cheques.

32 The Management Analysis Division of the Civil Service Commission is currently con-

ducting a work measurement study in the Quebec regional office. Preliminary results indicate that estimated annual savings of \$100,000 will be achieved when work measurement techniques are introduced. This study is being extended to the Ontario regional office and, ultimately, it is planned to apply this technique to all offices. It is expected that the national savings will be in proportion to those in Quebec, and may exceed \$300,000 a year.

33 The work measurement study does not include the Treasury operations, although a sample study indicates that additional savings of over \$100,000 a year might be achievable. In fact, since the inception of these programmes, no concerted attempt has ever been made by the two departments concerned to rationalize the systems followed in their related activities.

34 There is a wide area of potential economy in improved work distribution, cycling of payments, and better use of addressing equipment. Evidence of lower cost in larger offices suggests that the location of regional

Table 28 — FAMILY ALLOWANCES AND OLD AGE SECURITY — REGIONAL OFFICE COSTS — 1960-61

<i>Regional Office</i>	<i>Total Staff</i>	<i>Number of Active Accounts</i>	<i>Average Cost Per Account</i>
		(000's)	\$
Newfoundland.....	49	82	2.98
Prince Edward Island.....	17	21	4.00
Nova Scotia.....	72	147	2.46
New Brunswick.....	59	113	2.94
Quebec.....	374	914	2.28
Ontario.....	467	1,240	2.04
Manitoba.....	75	186	2.18
Saskatchewan.....	75	188	2.14
Alberta.....	91	260	2.07
British Columbia.....	113	349	1.84
Head Office, including N.W.T. and Yukon.....	65	7	—
	1,457	3,507	2.26

offices in provincial capitals should be reviewed in relation to modern communications and methods of data transmission.

35 The Welfare Branch also administers the Old Age Assistance programme, under federal-provincial agreements, which provides financial assistance, subject to a means test, to eligible persons between sixty-five and seventy years of age. Individual payments are made by provincial authorities, but the Welfare Branch maintains a separate field organization across Canada for the purpose of checking provincial claims for federal subventions under this and similar programmes, such as Unemployment Assistance. There is reason to believe that these checking operations are unnecessary.

36 Immigrant children are not eligible for Family Allowances until they have been in Canada for a year. To fill this gap, the Family Assistance programme, which is administered by the Department of Citizenship and Immigration at a present total cost of \$80,000 a year, provides grants of five dollars a month for each child. Your Commissioners are of the opinion that administration of this programme might advantageously be transferred to the Department of National Health and Welfare.

DEPARTMENT OF NATIONAL REVENUE — CUSTOMS AND EXCISE DIVISION

37 Excise taxes fall on a wide range of commodities, whether of domestic origin or imported. Exact figures are not available, but it is estimated that about fifteen per cent of the revenue from this source is collected from imports. Domestic excise taxes amounting to approximately \$1.3 billion are collected from some 40,000 firms when goods are sold or removed from warehouse for consumption.

38 The Customs and Excise Division of the Department of National Revenue maintains a distinct Excise Tax Audit field organiza-

tion, with offices in twenty-one cities across Canada, but tax evasion is a continuing problem. A systems review should be undertaken, with particular attention directed to the possibility of achieving economies and desirable improvements by transferring the collection and audit of excise tax to the district offices of the Taxation Division of the Department. While the combination of excise and income tax audits in a single inspection may not be practical, combining the collection of excise and income taxes under a single administration would produce substantial advantages.

39 Nearly two billion Excise Duty stamps were printed and sold in 1960-61 to tobacco manufacturers, and 130 million ageing strip stamps were distributed to distillers. The printing cost exceeded \$500,000. Playing cards, unlike most other articles subject to Excise Tax, also require stamps; about 4,000,000 were sold in 1960-61. An alternative would be remittances by manufacturers based on production records, subject to subsequent audit. Experience in many other countries indicates that discontinuance of present practice would not lead to a loss of revenue, and there are substantial savings involved in simplifying administrative procedures.

BOARD OF GRAIN COMMISSIONERS

40 The Board is responsible, under the Canada Grain Act, for the supervision and regulation of grain handling, and for the inspection and certification of grain shipments as to quality and quantity, with regulatory activities including the issue of licences and establishment of maximum rates for elevator operations. The Board does some research with respect to the milling and baking qualities of grain, and also manages the Canadian Government elevators.

41 The Board produces an excellent statistical digest of the grain trade each week, based on data emanating from the inspection

and weighing services and from returns independently submitted by grain companies. This digest forms the basis for other reports prepared by the Canadian Wheat Board and the Dominion Bureau of Statistics. Attention was drawn to the duplication between the Board's digests and the Canadian Wheat Board's reports, and your Commissioners are gratified to learn that the latter have now been discontinued.

42 Inspection and weighing of grain are done by two independently organized divisions operating in parallel. Procedures are as follows:

- The producer delivers grain to a country elevator, where the agent of a grain company grades and weighs to establish the initial payment; if the producer appeals this preliminary grading, a sample is sent to the nearest office of the Board for inspection.
- Grain delivered to the country elevator is normally mixed with similar grades, and is ultimately shipped to terminal elevators; the country elevator agent places a two-pound sample bag in each freight car, supposedly representative of the contents of the car.
- All eastbound freight trains carrying grain are intercepted at Winnipeg, and westbound trains at Calgary or Edmonton, where the sample bags are removed and inspected by the Board's inspector (Primary Inspection); an unofficial grade certificate is issued to the grain company, and the car is tagged accordingly.
- The samples are generally re-inspected by the agent of the grain company concerned.
- At the terminal elevators at the Lakehead, Vancouver, or elsewhere, the grain in each car is weighed and inspected at the time of unloading; this constitutes Final Inspection by the Board and an official certificate determines the price to be paid by the Canadian Wheat Board.

- All grain moving out of the terminal elevators and loaded in vessels or into freight cars for further shipment is again weighed and inspected by the Board's representatives for certification of proper grading.

43 The organization of inspection and weighing in separate divisions, independently managed, is wasteful of manpower, particularly at terminals such as Fort William, where large inspection and weighing staffs work side by side on parallel operations; the elaborate preparation of vessel loading records culminates in the issue of numerous certificates by each division almost identical with those of the other.

44 This duplication of paperwork extends into separate divisional procedures in the head office in Winnipeg. Furthermore, grain companies' records almost wholly duplicate those of the Board. There has been no attempt to integrate these various records. Moreover, the Board requires paperwork from elevator operators which does not readily fit in with the latter's operations. A revision would produce substantial savings for the Board and the grain companies alike.

45 A review should be directed towards the integration of inspection and weighing activities so that documentation can be simplified and combined at the earliest possible stage. Documentation required from the grain companies should be reviewed simultaneously; it may well be found that, with some adjustments and the introduction of simple procedures for verification and audit, the Board could establish the companies' records as its official documentation.

46 Substantial clerical work arises in the conversion of pounds weight into bushels. All actual measurements for purposes of purchase, movement, and sale are in terms of weight (pounds, hundred-weights or tons). By tradition, the trade uses a volume measure, the bushel, which is useful when relating a

variety of grains to storage or carrying capacities. The conversion is at standard factors. Throughout the marketing process there are normally fifteen conversion calculations.

47 The bushel basis of measurement is traditional, but there appears to be little justification for converting pounds into bushels in the certification of grain loaded into vessels. The Board of Grain Commissioners should objectively assess the relative merits of bushel and weight standards, working closely with the Canadian Wheat Board and the grain trade in general.

48 The Primary Inspection involves intercepting trains, checking way-bills, opening box cars to remove samples, inspecting the samples, completing necessary paperwork to issue an unofficial certificate indicating the grade of each sample collected, and storing samples for re-inspection by the grain companies' and the Board's inspectors upon request. The estimated monthly salary cost of

the primary inspection at Winnipeg, Calgary and Edmonton is shown in Table 29.

49 Consideration should be given to the abandonment of the primary inspection, which has no bearing whatsoever on the ultimate certification of grade as it affects either the producer or the purchaser. In many cases, the sample bags placed in the cars by country elevator agents are not representative of the contents. It has been established that about 18% differ in grade from the official samples taken when the cars are unloaded at the terminal.

50 The Board presently charges a fee of two dollars a carlot for all inspection services, but related expenditure exceeds receipts by some \$775,000 a year. The elimination of the primary inspection, or the imposition of an additional optional fee for grain companies requiring continuation of the service, would narrow the gap.

Table 29—ESTIMATED MONTHLY SALARY COST OF PRIMARY INSPECTION*

Location and Grade of Personnel	Average Monthly Salary	Staff and Cost					
		Winnipeg		Calgary		Edmonton	
		No.	\$	No.	\$	No.	\$
RAILROAD YARDS—							
Clerks, etc.....	220	14	3,080	—	—	—	—
Samplers.....	220	67	14,757	11	2,420	10	2,420
Foremen.....	318	15	4,765	3	954	4	1,272
CENTRAL OFFICES—							
Inspectors.....	447	15	6,704	3	1,341	3	1,341
Assistants.....	347	8	2,781	—	—	—	—
Samplers.....	220	2	440	1	220	1	220
Clerks, etc.....	250	6	1,500	1	250	1	250
TOTAL.....	—	127	34,027	19	5,185	19	5,503

TOTAL:—\$45,000 per month or \$536,000 per annum.

*These figures do not include the cost of additional clerical work at the terminal point in handling and indexing primary inspection certificates, or the cost of the freight-car tagging operations by twelve men.

13

MANAGEMENT SERVICES

1 Good management, like good coffee, depends on the quality of the raw material and the care devoted to its preparation. Your Commissioners are unable to recommend any formula for instant management, but attach high importance to the establishment and development of a Management Services group in every large department and agency.

2 A number of such groups already exist, under varying designations; many are limited in scope because they form part of a single branch or division, and some departments and agencies have more than one. The Canadian Broadcasting Corporation, for example, has two, and the Department of Citizenship and Immigration, six. Among the disadvantages of this fragmentation, the most serious is the dispersal of the limited talent that is available; this work requires specialists whose techniques are of general application, and it is wasteful to confine them too closely.

3 Attention has been drawn to the importance of integral systems design and the establishment of sound standards and practices for commonly used equipment, facilities and

procedures; even within a department or agency it is necessary to have a central focus for Management Services. Each deputy head needs a Management Services group; if the deputy controls an operation too small to justify a group of its own, contractual arrangements should be made with a larger unit.

4 Existing Management Services groups are severally attached to administration, accounting, personnel, or a variety of operational branches. Consistency is to be seen in only one respect; all are placed too low in the hierarchical structure and remote from the deputy head. If deputy heads are to be held fully accountable for the operations under their control, they will have to make full use of the modern techniques and practices that exist and are being developed. For this, experts must be readily available, and the Management Services group should respond directly to the deputy head.

5 The concept of Management Services is not new. In the Canadian public service it has been recognized and used for more than fifteen years, but the Civil Service Commis-

sion has not yet established any classifications for this type of work. With few exceptions, no job descriptions exist and no attempt has been made to define duties and responsibilities, with the result that specialists are often used on routine departmental work that could be done as well by others.

6 The proper size of a Management Services group depends on many factors, and no universal formula can be applied. Nonetheless, most of the existing groups are too small to be truly effective; their misuse is therefore the more to be deplored. The governing consideration in the size of a Management Services group is that it should not generate recommendations at a rate faster than they can be absorbed and implemented.

7 Suitable classifications and proper remuneration provide only a partial solution to the problem of staffing. There is a general shortage throughout Canada of people with suitable knowledge and experience. If the government is to be adequately served in this respect, the only remedy is a massive programme of training and development.

8 Training has generally been left to departments and agencies, with unsatisfactory results. There is too much emphasis on theory, and external training courses are largely ignored; a prominent exception is the Canadian Broadcasting Corporation, which has sent a number of junior executives to attend university courses in administration. The Management Analysis Division of the Civil Service Commission provides a three-week course annually, which forms a good basic introduction to principles, but there is an urgent need for practical instruction in work simplification and measurement, systems design, and many other subjects to which attention has been drawn in this report. Your Commissioners believe that the most important responsibility of the proposed Administrative Improvement Division under the Treasury Board, at least in its early years, will be the

planning and development of suitable training programmes for management services, in collaboration with the Personnel Division.

9 Equally important is the development and retention of trained staff. Development is jeopardized by rapid turnover, and the cost of training is too high to permit the dissipation of its benefits through the misuse, dispersal and loss of trained men. Too often competent men have been transferred to higher managerial positions, or have secured more remunerative appointments elsewhere, before the benefits of training have matured. One instance is the Unemployment Insurance Commission, which has filled at least fifteen senior appointments in recent years from the ranks of its Management Services group, although less than half the already inadequate number of positions in the group are filled.

10 Wastefully rapid turnover can only be minimized by equating rewards to responsibilities and competence; and to maintain a proper level of management services, it will be necessary for departments to treat the development of trained staff in terms of careers. Equally important to the public service as a whole is the cross-fertilization of ideas and experience between departments and agencies in this specialized field, by staff rotation and other means.

11 More than 500 major studies have been undertaken by the Management Analysis Division of the Civil Service Commission, often with good results, but the emphasis has generally been on specific problems and remedies rather than on the broad problems of organization structure and integrated systems planning. As with internal departmental studies, too little attention is directed to measurable economies as a guide to the validity of recommendations—savings are seldom recorded initially and never cumulatively.

12 In management consultancy practice, a

universally recognized principle is that the ground must be prepared for implementation in the course of conducting the study. Successful implementation is nearly always dependent on the indoctrination and agreement of the operatives and supervisors affected, and acceptance of recommendations at the executive level does not guarantee effective implementation. In many cases, particularly in studies by the Management Analysis Division, too much reliance has been placed on reporting, and too little on the value of discussion and partial agreement as the study progresses. Even a report of the highest quality is seldom persuasive enough to secure full understanding by top management, and acceptance without understanding is a poor start for implementation.

13 Studies undertaken by departmental groups often deal with simpler and more restricted problems than those allotted to the Management Analysis Division of the Civil Service Commission. But this does not wholly account for the significantly different degree of acceptance and implementation revealed by a detailed study of a number of reports from both sources, which were selected at random and are summarized in Table 30.

14 These figures support the recommendation that departmental Management Services groups should be strengthened. Being closely associated with operating groups under the direction of the deputy head, they are in a position to secure acceptance of their recommendations at all levels during the course of the study, and to advise and assist in the subsequent process of training and implementation.

Table 30—ANALYSIS OF ACCEPTANCE OF MANAGEMENT STUDIES

	<i>Studies by Departmental Groups</i>	<i>Studies by Management Analysis Division</i>
Reports fully accepted and implemented.....	65%	17%
Reports fully accepted but not fully implemented.....	11%	24%
Reports partially accepted....	18%	35%
Reports totally rejected.....	6%	24%

15 In emphasizing the importance of departmental Management Services groups, your Commissioners do not wish to detract in any way from the importance which they attach to the need for establishing an Administrative Improvement Division under the Treasury Board. The development of management techniques, the proper selection and use of equipment and facilities, the planning of systems and procedures, are all highly technical matters requiring expert knowledge and wide experience. The primary functions of the Administrative Improvement Division will be to know where to find the necessary specialists, either within the public service or from outside, and to ensure their availability wherever and whenever their services may be required; to disseminate management information and foster the exchange of ideas and experience throughout the public service; to contribute to the central assessment of departmental performance; and to assist the Treasury Board in ensuring that the people of Canada get a fair run for their money.

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