Input volume can be increased simply by adding more typists. To ensure dependable character reading, special smooth and highly reflective paper forms are used to improve the optical scanning of the prepared documents and thus improve input to the system. For the project, however, only the mode of entering data had changed; the method of further processing remained as before.

A master file entry, and master file update printout, is produced for each new record entry, whether input by key tape, ATS or OCR. Three further printouts are also generated: an alphabetical listing by name of locatee; an alphabetical listing by township/town/city; and a listing by date of issue of land transfer instruments and devices. Obviously these three formats or finding aids represent different manipulation or orderings of the data base in the master file.

For each entry, the master file contains the following information or information codes: records source (Crown Lands, Canada Company, or Peter Robinson Papers); volume title; Archives' inventory volume number; page number; line number; name of locatee; location (with specification as township, town or city); date in order of year, month and day; date code as to whether a location or sale was signified; type of transaction (free grant, sale, lease or assignment); type of free grant, sale or lease (whether done under Old Regulations, Loyalist grant, Clergy Reserve sale, School Land sale and so on); and record group and series designation.

Printouts from this data base can provide a wide variety of information for the researcher. In the manipulation of the data into the alphabetical listing by locatee, for example, a printout line would be interpreted as follows: "Catherine Callender (residence unknown) as a United Empire Loyalist received a free grant. The grant was located in Hamilton Township, Lot 23, Concession 3. It was authorized by an Order-in-Council dated 28 February 1799, and location took place on 11 April 1799. All this information was derived from Record Group 1, Series C-I-3, Volume 80, Page 1." In preparing entries to produce ultimately this rich detail, accuracy is of utmost importance. Therefore, the input data are checked at several stages of processing. Because of limited resources, a project of this magnitude will take four years, completion being scheduled for mid-1979. The alphabetical listings by locatee and township will be available as paper printouts in the Archives' Reading Room. In addition, a computer output microfilm (COM) fiche of these two reports may be purchased by archives, libraries and universities. The third report, the chronological format of transactions, will be generated for scholars who wish to pay for the service.

Although the project is entitled "Computerized Land Records Index," it is much more than a nominal listing. While it provides researchers with file references, it also supplies the basic information of each transaction. For many researchers this information will be adequate and there will be no need to check the original records. In short, the system will give researchers a fast and efficient means of searching land records, tracing initial land grants and exploiting fully a valuable source of data that reflect the patterns of Ontario settlement and development.

John Mezaks
Archives of Ontario

Science and Engineering Archives

On 16 September 1977 a meeting was held at the National Research Council in Ottawa to discuss the activities and problems related to science and engineering archives in Canada. At a previous meeting of individuals interested in promoting the history of Canadian science and engineering, it had been decided that one of the most crucial factors determining the direction and nature of historical research in these areas would be the existence of suitable archival material.

The September meeting was chaired by A. Davidson Dunton and each of the five panelists presented a brief paper followed by discussion from the floor. The panelists, in order of appearance, were Norman R. Ball, Science and Engineering Archivist, Manuscript Division, Public Archives of Canada; Sandra Guillaume, Archivist, The Multicultural History Society of Ontario, Toronto; D.W. Thomson, Ottawa, author of *Men and Meridians* and *Skyview Canada*; C.E.S. Franks, Department of Political Studies, Queen's University, Kingston; and Jean-Claude Guédon, Institut d'histoire et de sociopolitique des sciences, Université de Montréal.

Norman Ball stated that, although increased archival activity in Canadian science and engineering was welcome, there were several problems. The first was that an appreciation of science and engineering is not a major component of Canadian culture. Unlike such areas as ethnic studies, it is devoid of obvious short-term political advantage and hence unlikely to prompt government-sponsored crash programmes. He reminded the audience that many research areas were making heavy demands on archival collections and that acquisitions could not help but be influenced by present, as well as anticipated, research needs. There is a limit to how far the archivist can outpace historians and, in times of fiscal restraint, this distance is necessarily short in a new field. It was suggested that if the field is to grow there must also be non-governmental archival activity and that these collections must be encouraged and explored. Ball was satisfied with the researcher response to his recent appointment to the Public Archives staff, but pointed out that this was putting him in a double-bind position. The demand for research assistance has greatly exceeded expectations and necessarily curtails much-needed acquisition and accessioning work.

Sandra Guillaume confirmed that ethnic archives were indeed a growth area and generated considerable surprise with the revelation that the programme with which she is associated has a multi-million dollar budget solely for ethnic material from Ontario. She suggested that those in the history of science and engineering be more imaginative in their search for support. Drawing upon her experience at McGill and the University of Toronto, she said that university archives were often extremely rich in science and engineering material, but uneven in their coverage, the result of no clear legal statement regarding what university archives are to save, as well as the inadvertent destruction caused by such disasters as fires. Guillaume pointed out that very few archivists have received any training in science or the history of science. It was also her experience that many accomplished scientists were very modest about their achievements and, consequently, could not see others being interested in preserving their papers.

C.E.S. Franks emphasized the practical difficulties facing researchers wishing to look at the history of Canadian science and technology. These include the lack of pioneering texts, advisory personnel, and guides to existing sources, both primary and secondary. Franks felt that bibliographic aids were an essential first step in order to know where we stand and where we should be going. He also stressed that in the context of Canadian studies the greatest need was to examine not theoretical science but technology, engineering and the impact of the application of science.

D.W. Thomson spoke of the need to present science and technology, especially in the schools, as an important but generally unrecognized part of Canadian culture. His own experience was that Canadians were interested in their scientific and technical heritage but few were given the opportunity to be knowledgeably exposed to it. He had relied heavily on archival material for his books and felt that much could be done with existing sources.

Jean-Claude Guédon spoke primarily on the need for better descriptions of archival collections. He felt that more work on uniform descriptive systems would help to create a much-needed guide to historical scientific and engineering research material.

Several others dealt with the need to keep in touch with various interested individuals and groups outside government and academic circles. After considerable discussion, a

steering committee was appointed: A.W. Tickner, Senior Archival Officer, NRC; Professor Bruce Sinclair, Director, Institute for the History and Philosophy of Science and Technology, University of Toronto; and panelists Ball, Franks and Guédon. Committee members Ball, Franks, Guédon and Tickner met at Queen's University six weeks later to begin planning for a national conference and workshops on the history of science and engineering in Canada. It is tentatively scheduled for Kingston in the autumn of 1978, and will deal in part with archival resources.

Norman R. Ball
Science and Engineering Archivist
Public Archives of Canada

History of McGill Project

The History of McGill Project at McGill University has produced a computerized subject listing of the papers of Sir John William Dawson, educator and naturalist. Dawson, born at Pictou, Nova Scotia, in 1820, served as Superintendent of Education for the Province of Nova Scotia from 1850 to 1853, and as Principal of McGill University from 1855 to 1893. A prominent geologist of his period, he published more than five hundred books and articles on scientific subjects. He served as first president of the Royal Society of Canada and as president of both the British and American Associations for the Advancement of Science. Throughout his career he corresponded with leading scientists in Canada and abroad. He died at Montreal in 1899.

The subject listing will facilitate the work of researchers in the field of the history of McGill University, of education and of science. The listing has been designed also to serve other interests ranging from the development of Montreal and the implications of Confederation for English rights in Quebec to the growth of railways, and the evolution of nineteenth-century social life.

A copy of the index may be consulted by researchers in the McGill University Archives, 3459 McTavish Street, Montreal, Quebec H3A 1Y1, where the Dawson papers are stored. A complementary chronological listing is also available and an author-recipient listing to the Dawson letters is being planned for the near future.

John King
McGill University

FOCUS: The British Columbia Credit Union Archives

The Depression of the 1930s brought about a growth in co-operative organizations to provide members with services not available from local governments. One such co-operative was the Common Good Co-operative Association organized in British Columbia by a group of Burnaby residents and containing units for groceries, market gardening, lumbering and so forth.

In 1936, a member of the Common Good Co-op, Mildred Osterhout, learned about credit unions during a visit to Antigonish, Nova Scotia, and on her return, suggested that a unit be established by the Common Good Co-op. Credit union legislation was lacking in BC at this time and, fearing that it would be illegal to use the term "credit union," the members called the new organization the Common Good Co-operative Credit Unit No. 1. Because of a lack of capital, the initial unit grew very slowly and plans for expansion were dropped.

Co-op members and credit union "study groups" were meanwhile putting pressure on the province's Liberal government to introduce credit union legislation. Dorothy Steeves, a Co-operative Commonwealth Federation MLA, introduced private