



THE ENGINEERING INSTITUTE OF CANADA

and its member societies

L'Institut canadien des ingénieurs

et ses sociétés membres

EIC's Historical Notes and Papers Collection

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EIC HISTORY PAPER #31

“More EIC Memorabilia: 1946-1975”

by Andrew H. Wilson

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EIC HISTORY AND ARCHIVES

Abstract

The Engineering Institute of Canada's *Engineering Journal*, published between 1918 and 1987, is an excellent source of information on the growth and development of engineering in Canada, and of the profession itself. It can be 'mined' in a number of ways, and already has been. This present attempt is the second (and most likely the last) to be based on extracts from editorial comments, news items, biographical entries, papers and articles taken from the issues of the *Journal* that appeared from the end of World War II up until 1975. It includes the years of spectacular growth in the Institute's membership and activities and the formation of its constituent (now member) societies. The intent is, again, to describe some of the activities, traditions and concerns of the Institute and its members in an anecdotal and episodic way without pretending to be definitive or to follow specific issues from beginning to end. Some representative illustrations have been added.

About the Working Paper Series

In June 1995 the Council of the Engineering Institute of Canada agreed that Working Papers on topics related to its history and development, to the history and development of other institutions serving the engineering profession in Canada, and to engineering generally should be published from time to time.

These Papers have limited initial distribution, but a supply is maintained by the EIC History & Archives Committee for distribution on request. They are listed and summarized in the History & Archives section of the EIC's website (www.eic-ici.ca) and electronic copies may be obtained through this same source. The individual Papers may also be published later, in whole or in part, in other vehicles, but this cannot be done without the expressed permission of the Institute. The series is presently administered by the Publications Sub-Committee of the main Committee in co-operation with the executive director of the Institute.

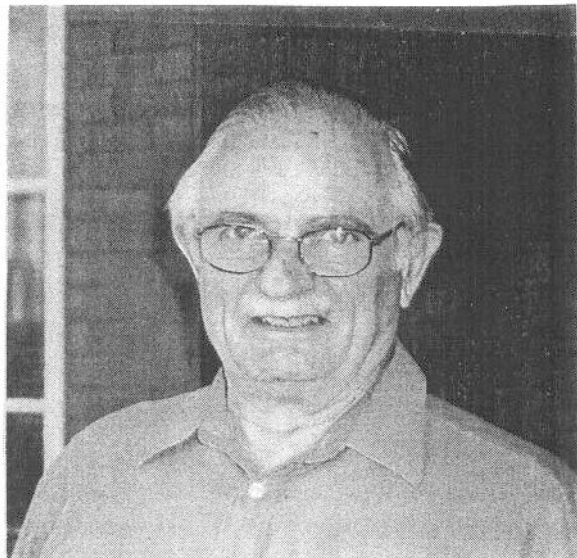
Opinions expressed in the Working Papers are those of the authors and are not necessarily shared by the Engineering Institute of Canada or its History & Archives Committee.

The editor of this present Working Paper was Peter R. Hart

About the Author

Since 1975, Mr. Wilson has been associated with work on the history of engineering in Canada. However, most of it has been done since his retirement from the federal public service in 1986. Professionally, he is a mechanical engineer but also has academic training in economics and history. He served for many years as chair of the History Committee of the Canadian Society for Mechanical Engineering. He has also been a member of several Engineering Institute of Canada committees dealing with the history of the Institute itself and of Canadian engineering generally, and recently stepped down from the chair of its Standing Committee on History & Archives. He has also served as president of both CSME and EIC, as well as in a variety of other positions. He is the author of over 200 published reports, papers and articles on a wide range of subjects.

Mr. Wilson's contributions to the study of the history of civil engineering were recently recognized when he was presented with the W. Gordon Plewes Award for 2003 by the Canadian Society for Civil Engineering.



Introduction

The Engineering Institute of Canada (EIC) was formed in April 1918 when the Parliamentary Charter granted in June 1887 to the Canadian Society of Civil Engineers (CSCE) was amended to permit the Society to change its name. Its objectives remained the same, namely, "to facilitate the acquiring and interchange of professional knowledge among the members and to encourage investigation in connection with all branches and departments connected with the profession." Essentially, today, the Institute and its member societies still pursue these same objectives ¹.

From the beginning, this pursuit has involved the Institute, its branches across the country, and now its societies, in the organization of such activities as technical meetings, conferences, social gatherings, study and policy committees, and publications. The *Engineering Journal*, for example, appeared monthly from May 1918 until 1972, bimonthly until 1977, and periodically from then until 1983. It became a multi-page insert in another magazine - the commercially-published *Engineering Digest* - from 1984 to 1986. A single, centennial commemorative issue appeared in 1987.

Four EIC History Working Papers have presented material previously published in the *Journal*, the most recent of which was the immediate predecessor of this present paper (WP 16/2003)². The main purposes of the two *Memorabilia* papers - covering 1918 to 1945 and 1946 to 1975 - have been to draw attention to the variety of EIC traditions, programs and concerns in years past, for the benefit of those members of the Institute and its societies who did not experience them, and to refresh the memories of those who did. They have been chronologically structured, are anecdotal and episodic, and make no pretense whatsoever of being definitive. The extracts and direct quotations from editorial and news items, articles and so on are presented in their language of origin. For clarification and continuity, information has also been added in the form of commentary and, less frequently, *in parentheses* to quotations. Some illustrative material has been included, and the individual items have been separated by asterisks.

The period chosen for this present paper begins after the end of World War II, after a paper shortage had affected the size of the late-war issues of the magazine and seemed to influence the size of the remaining issues during the 1940s. But, from 1950 until 1962, the *Journal* grew in size, reaching an average of 200 pages of text and advertisements. From then until 1975 - in view of the financial and advertising constraints experienced by the Institute - it diminished in size to around 60 pages per

¹ A recently published booklet *The Engineering Institute of Canada...A short history/L'Institut canadien des ingénieurs...Un survol historique* by Andrew H. Wilson and his collaborator, André Rollin, briefly describes the development of the original Society and the Institute since 1887. Copies may be obtained from EIC headquarters (see its website: www.eic-ici.ca)

² Working Paper 1/1995, *The Engineering Journal, 1918-1987: Some Notable Highlights*; Working Paper 6/1998, *The Engineering Journal as a Source for the History of Engineering*; Working Paper 7/1998, *Historical Extracts from Papers Published in the Engineering Journal*; and Working Paper 16/2003, *Some EIC Memorabilia: 1918-1945* - all written or selected by Andrew H. Wilson

issue. By 1975 the constituent societies were developing their own publication vehicles and the volume of information about activities etc. within the Institute as a whole that was being submitted to the *Journal* was diminishing. In view of these trends, it is unlikely that a third paper on *EIC Memorabilia*, bringing them from 1976 to 1987, will be published.

Readers will find relatively few references in this present paper to the Institute's presidents, medal and prize winners, senior executives and Annual Meetings, to the activities of specific committees, regions and branches, or to financial matters, and especially to the permanently contentious matter of branch rebates. The technical side of engineering has also been sparsely treated. Nor is there much about the 'great issues of the day' - for example, the relations between EIC, the Canadian Council of Professional Engineers (CCPE) and its provincial associations, by-law changes, and the attempt made in the late 1950s-early 1960s to 'confederate' the engineering profession in Canada. Each of these subjects deserves at least one paper to itself. Nor has much been said about the EIC's societies or their activities. This is *their own* responsibility, and most of them have already exercised it.

One final point. The original Canadian Society of Civil Engineers (1887-1918) has been identified above as 'CSCE' and the Institute as 'EIC'. But another 'CSCE' - the Canadian Society for Civil Engineering - was formed in 1972 as a constituent society of the Institute. Sometimes, in papers similar to this one, the former has been referred to as the 'old' or 'original' CSCE and the latter as the 'new' CSCE. This distinction appears a few times in the later pages of this present paper. Otherwise, 'CSCE' by itself refers to the original one.

1946-1949

The very first issue for this period, in January 1946, included the report of a CBC radio talk given a month earlier by Major Royd Beamish on the post-war rehabilitation service developed by the Institute. In it Beamish said, in part:

"...tonight I'd like to tell you about a rehabilitation program that strikes me as being particularly noteworthy. It has two or three notable features. In the first place, the plan wasn't drawn up by employers in several scattered localities, but by a national organization. Secondly, it deals with a group of ex-servicemen who are going to need a lot of top-drawer technical guidance. And thirdly, it's been operating long enough now to show pretty conclusively that it really works.

"I'm referring to the Engineering Institute of Canada and its rehabilitation scheme. The Institute embraces all branches of engineering - civil, electrical, mining, mechanical and all the rest. It has over 7000 members and probably 2000 of them were on active service during the war. They were practically all technical experts - building bridges for the Royal Canadian Engineers, keeping tanks and electrical equipment operating for RCME, directing the work of survey regiments with the artillery, handling problems

of design and modification of equipment with the Ordnance Corps. There were engineers in every branch of the services - navy, army and air force. And their contribution to victory was virtually immeasurable.

"Now those engineers are coming back, back to Canada and back to civil life. And they have a lot of problems to contend with on the way. Problems peculiarly their own.

"A good many of them were employed before the war and their old jobs are waiting for them now. Well, that's fine for the engineers whose service life was spent in the same type of work they did before the war. But military engineering doesn't cover the same sort of problems you meet in civil life. And some engineers feel they've gone rusty and need refresher courses before they go back to work. Particularly the lads just out of college when they enlisted. And then there are a lot of undergraduate engineers. They'll either have to finish their university training or go into some other business or profession.

"The Engineering Institute of Canada anticipated those problems a long time ago. And the members discussed the best way to meet them. This spring they put the plan into operation.

"First thing they did was to appoint a Rehabilitation Committee. It has thirty members, with at least one living in each of the main industrial centres of Canada. Major-General Howard Kennedy was made chairman and Major Donald McCallum of Montreal was appointed full-time director of rehabilitation and personnel services... It's Major McCallum who is applying the Institute plan, working, of course, under the strategic direction of the committee.

"Step two...was to prepare a questionnaire and send it to all Institute members in the armed forces. The Institute was able to reach 1200 of its members, and most of them sent back replies.

"It was really those questionnaires that worked out the rest of the plan... For instance, a large percentage of replies asked questions about university training privileges and things like that. To answer them, the Institute prepared a booklet called *The Engineers' Return to Civil Life* and sent it out to all members in the forces...

"The second major demand was for some means of contact between engineers in the three services and the employment situation at home. To meet this demand, the Institute published an *Employment Page* in its monthly *Journal* and pre-printed the page, sending a copy to every member in advance of publication.

"In addition, the Rehabilitation Committee has kept an eye on all government rehabilitation measures and made recommendations where they saw fit. I was particularly interested to see that they endorsed the petition of several university veterans' groups

urging an increase in maintenance allowances, particularly for married veterans...

"...getting back to the booklet. I've seen a lot of booklets and pamphlets dealing with the demobilization theme, but this one has a number of unique points. It starts out, like all the rest, by listing all the various government benefits a veteran can get on discharge. But then it goes a lot further.

"Under the heading of university training, for instance, the booklet lists all the standard information. And then it goes on to discuss the problem as it applies to engineers. I'd like to quote a couple of its more pertinent paragraphs. This one seems particularly sound: 'It is natural that engineers who have been absent from their civilian occupations for a long time should feel they've forgotten a great deal. But it should be remembered that training in engineering is a fairly general background, designed to teach men how to think rather than what to think. This sort of thing is not easily forgotten and if you realize that even after a refresher course you'll still have to learn the particular line of your eventual employer, the loss of time and earnings may offset the value of any such course.'

"Later on, the booklet sums it up this way: 'It is not, in general, considered advisable to undertake refresher and brush-up courses because: (a) men who are entering a new field will have to learn on the job anyway; (b) men who are returning to their previous line of work will find that they have forgotten far less than they think they have. And their experience will enable them to pick up new methods quickly. And (c) the universities will be unable to accommodate all the engineers who want to take such courses. Their capacity will be stretched to the limit by undergraduate personnel.

"...I mentioned a few minutes ago the *Employment Page*... Any firm seeking to employ an engineer is permitted to announce its vacancy through the monthly *Journal*. And the announcements are very specific as well as amazingly diversified. A pre-print copy is sent to every member in the services, and the Institute reports that this has resulted in more than 100 pre-discharge applications being received every month.

"In addition, between 80 and 100 engineer servicemen are being interviewed every month, with a view to placement in jobs. Each man reporting for interview and guidance is given at least six likely firms to contact. Somewhere between 15 and 20 confirmed placements result every month, but as many are not reported. The Institute believes the real total would be nearer 40 or 50.

"...This Institute plan has the added merit that it works out in practice as well as in theory... And one thing it shows above everything else, I believe, is the tremendous advantage that lies in having a national organization like EIC. It would almost suggest that Dominion-wide organizations in other trades and professions could accomplish similar things in their own fields. I wonder how many such organizations do have a plan

like this one?"

The April 1946 issue of the *Journal* included reports on the brief submitted by the Institute to the Dominion Royal Commission on Administrative Classification in the Public Service, related especially to senior personnel. The main report was prepared and presented by the EIC's Committee on the Engineer in the Civil Service, chaired by Norman B. McCrostie. This was the third time since 1919 that the Institute had made formal representations on this same subject.

In particular, the main report said that the Dominion Government, through its remuneration policy, had done serious injury to the engineering profession - "the evil effect of low wages" - and the provincial and municipal governments had tended to follow suit.

This brief stressed three points: (a) the need for immediate and substantial increases in the remuneration of professional workers in the civil service; (b) the desirability of adding to the Civil Service Commission an additional commissioner who will be a professional technical employee; and (c) the advantages of setting up an Interdepartmental Technical Panel to consider and advise on all matters relating to the use and welfare of professional workers.

The Royal Commission's report was issued in July 1946 and the *Journal* carried comments in the August issue. In summary, in regard to the EIC's three main points: the ceiling recommended by the Commission for professional worker salaries was far below what had been proposed; there was no mention of a change in the number of commissioners; and personnel officers were to be appointed to each department. These people might, in time, become an Interdepartmental Technical Panel but its members were unlikely to be technical or professional people or to have the competence to deal with professional engineering matters.

The April 1946 issue of the *Journal* also carried a news item that underscored a second Institute concern on the remuneration front: that rigid Canadian wage controls were driving more and more professionals, including engineers, to seek work in the United States. As estimated in the 1 April issue of *Time* magazine, if present trends continued, some 20,000 Canadians would migrate southwards during fiscal year 1945-46. Of those who had emigrated in the first six months of that year, there had been a sharp increase from the previous year in the visas issued to the professional, clerical and other white-collar categories.

The September 1946 issue of the *Journal* included a paper by W. E. P. Duncan, chief engineer of the Toronto Transit Commission (TTC), on the 'Proposed Rapid Transit System for Toronto.' It is essentially about the proposal to build the Yonge Street subway.

In January 1942 the TTC submitted a report to the mayor and Board of Control proposing the construction of a rapid transit system for the city as a partial solution to its growing traffic problems. At that time, the metropolitan population was approaching 1 million, with three-quarters of it in the City of Toronto. Traffic congestion in parts of it had developed, thanks to narrow streets designed for horse-drawn traffic, and the ever-growing numbers of commercial and passenger motor vehicles. Regularity of service by TTC vehicles and reasonable speeds for other vehicles had been compromised. Apart from the widening of University Avenue, there had been no major improvements to the downtown core for 30 years. The City Planning Board was also involved in finding solutions to the problems. Subways were seen as a part of these solutions.

In 1943, the TTC created a Rapid Transit Department, which hired consultants to make detailed investigations and to develop final plans for the system. The actual planning and designing was done by TTC engineers. The original proposals had been predicated on the operation of surface-type street cars through subways. But it became evident that speeds on the Yonge Street subway, if operated by these cars, would provide only limited improvement over the present surface cars. The solution appeared to be to include the construction of two subway lines in the downtown core, one to be built immediately to run parallel to Yonge Street, from Front Street to Eglinton Avenue, and the other to be built later under or near Queen Street. The cars to be used would be subway rather than street type. Mr. Duncan's paper dealt principally with proposals for the construction of the Yonge Street subway and the design of stations and equipment for it. It was completed in 1954. The Queen Street subway was not built, but one parallel to Queen, along Bloor Street and Danforth Avenue, about two kilometres to the north, was subsequently constructed.

Beginning in the early 1930s, the Institute took considerable interest in water problems in the Prairie provinces. Discussions were held during its Annual Meetings and a committee was established to examine these problems and make recommendations. It continued to operate until 1941. Its report was forwarded to the federal and provincial governments concerned, the centrepiece being the proposal for the St. Mary and Milk Rivers' development in Alberta. The Dominion government appointed a committee to study this report. It, too, recommended that this irrigation project be constructed by the Dominion and Alberta governments.

A news item in the December 1946 issue of the *Journal* announced that this project had indeed gone ahead with the participation of both governments and, in particular, of the Alberta crown corporation created for the purpose and the federal Prairie Farm Rehabilitation Administration (PFRA). The item went on to say that, ultimately, the Belly and Waterton Rivers might be included in this development, and possibly also the Bow River, in Alberta.

An Institute staff-written paper titled 'Research Council Reconverts to Peace' appeared in the February 1947 issue of the *Journal*. The reversion process was completed by the end of 1946.

Just as the original conversion by the National Research Council from peace to war had been a major task, so - too - was the one in the reverse direction. Huge war research facilities had to be discontinued or modified. Most of the additional wartime staff had to be absorbed into the peacetime establishment, but many of the younger members left to complete their pre-war academic studies. Other mature and skilled scientists with years of intensive research training on the Council staff joined the service of Canadian industries, thus indirectly extending the influence of the Council. The Council then had to recruit the necessary high calibre personnel to fill its peacetime establishment.

During 1946, NRC established three new divisions and several new laboratory sections. Radar and other war equipment was adapted to commercial use. Hundreds of new research investigations were started. The Council was also actively engaged in the promotion and co-ordination of scientific research throughout Canada. As well, an Atomic Energy Research Division was established at Chalk River to investigate the application of atomic energy and the use of its products in industry and medicine. A Division of Medical Research was set up and another, for Building Research, was to be started the following year. A Prairie Regional Laboratory was built at Saskatoon to study the utilization of farm surpluses. An Electrical and Radio Branch was created. The activities of the Chemistry Division were regrouped into two new branches, one for fundamental and one for applied chemistry. Jointly with the RCAF, a Flight Research Section was set up at Arnprior. A new section of the Mechanical Engineering Division was established to deal with problems in gas dynamics.

The paper provided details of these and other institutional changes, and of the work being undertaken in the various laboratories under these headings: atomic energy research; information services; radio research; general physics; heat studies; photographic research; industrial uses for agricultural products; chemistry; industrial applications; aeronautical engineering; engine research; hydraulics; fuels and lubricants; structures and building research.

The announcement of the formation of an Ontario provincial division of the Institute was made in the March issue of the *Journal* for 1947, as provided for in By-law #69. A ballot had been held on this issue among the Ontario members. The Council approved the result - majority support - at its meeting in February. Two earlier provincial divisions had been created, one in Ontario and one in Québec, to deal with specific issues, but both had been discontinued. The March 1947 announcement went on to say:

“Ontario councillors present at the February 1946 annual meeting (*before the ballot*) suggested that the interests of the Institute and the profession in Ontario could be developed more intensively and helpfully if the power to study the possibilities were transferred from the whole Council to a provincial division. It was explained that several things were so local in their implication that those resident in the area were better able to understand them and make recommendations....After all, there are now 12 branches in the province (*more than in any other*) and it is possible that their needs will be better met if some agency of the Institute is established in the area to act as a division of

headquarters.”

The Ontario division remained in operation until 1962, when a new regional structure for all of the branches across the country was put in place.

The practice of EIC presidents to contribute an annual message to the membership at the beginning of their terms continued into the post-war years. One of the first to do so was Leroy F. Grant, who held that office in 1947, which happened to include the 60th anniversary of the founding of CSCE/EIC. His message appeared in the May 1947 issue of the *Journal*:

“For sixty years the Institute has served the engineering profession in Canada, and we may look back with some satisfaction on what has been accomplished since 1887. The service we can render to society, our standing with the public and our fellowship within the profession have all increased, and the material rewards to the individual engineer are far better than they were at the time of the birth of the Canadian Society of Civil Engineers.

“Particularly the status of the young man entering the profession is greatly improved. Sixty years ago he found it difficult to get a good engineering education in Canada; today in every part of the country there are engineering schools which can challenge comparison with any elsewhere. In 1887 the young graduate was a nobody, but in 1947 many of our corporations look upon him as the material from which future leaders will be made, and train him accordingly.

“In both wars, members of the Institute served on the battlefield and in production with honour to themselves and benefit to Canada.

“On the other hand, we must admit that Canadian engineering is much too inclined to copy and not ready enough to originate, and that there are few structures and few trends in engineering which we can claim as peculiarly Canadian. We have been content to remain competent imitators and improvers, rather than audacious pioneers.

“Frequently, too, we have thought more of efficiency and economic excellence than we have of aesthetics, and some of our work has left scars on the natural beauty of our country. There are many honourable exceptions but, as a whole, Canadian engineering has been too ready to sacrifice beauty and grace to stark utilitarianism. Nor have we played a part in conserving the natural resources of Canada that our knowledge qualified us to do.

“As the achievements of the next sixty years will surpass those of the last, in magnitude and in usefulness to mankind, so we may hope that good engineering and satisfying

appearance will be inseparable, and that Canadian engineering may evolve its own characteristics.

“In acknowledging the high honour that the Institute has conferred upon me, I pledge myself to serve it in the fullest measure possible.”

The “next sixty years” to which Colonel Grant referred have almost passed. Could we say that engineering in Canada has surpassed that previous sixty? I believe we should.

The *Journal* for August 1947 reported that, in 1946, the Institute had tried an experiment. It had called together at the Annual Meeting the presidents of all the undergraduate engineering societies in Canada. The conference lasted for three days. Its purpose was to study the student situation to discover additional ways and means whereby the Institute could increase its usefulness, and the best way to do the study was to consult with the students themselves. The experiment was deemed a success and a second conference was called for the Annual Meeting in 1947. Its results confirmed the Institute’s decision to make the Student Conference an annual event. The students set up a preliminary organization to keep the societies in contact, so that the issues could continue to be debated within the societies during the year and progress made between the conferences.

But one of the most useful objectives of the Student Conferences did not appear on the agendas. It brought the participants into contact with senior engineers attending the Annual Meetings in an atmosphere of professional deliberation and fellowship. Such contacts could have far reaching effects on the development and subsequent careers of the students.

Students participated regularly in some way in EIC Annual Meetings through to 1975 and beyond.

Life membership in the Institute was authorized in the by-law changes balloted in 1946. Every member of the Institute would - eventually - be eligible for this honour. The March 1948 issue of the *Journal* had this to say about it, in part:

“This exalted group now numbers about 500, and each January additional names are added to the list. The great advantage is that a life member pays no more annual fees. This is his reward for almost a lifetime of support for the Institute. A person 70 years of age who has been a corporate member for 30 years or one who has been a corporate member for 35 years regardless of age automatically becomes a member of this new ‘club’...

“Many members have taken the occasion (*when acknowledging notice of their life memberships*) to say nice things about the Institute and all seem to be satisfied with their

experience. Doubtless it would be heartening to younger members to see these letters and to know that eventually the burden of fees is lifted. The maintenance of membership is advocated by many...

“The roster of life members reads like the *Who's Who* of engineering in Canada.”

This same issue of the *Journal* reported that, at the end of December 1947 the total membership of the Institute in all classes was just over 9000 - a new high in its history.

During the period covered by these present *Memorabilia*, the presidents of the Institute made extensive annual visits to the branches across the country, as well as attending a variety of meetings and conferences interspersed between the branch visits. They have been reported - sometimes in considerable detail and with photographs - in the *Journal*. The presidents, accompanied for at least some of the trips by their wives and by the general secretary of the Institute, needed considerable stamina to survive, although most of the visits seem to have been more fun (and more fattening) than work! The trips became increasingly onerous as the number of branches increased from 28 in 1948 to over 60 in the early 1960s.

A report on the eastern part of Dean Finlayson's presidential tour appeared in the November 1948 issue of the *Journal*. In these days, Newfoundland was not yet in Canada, and PEI had no branch. Some of the description in the report would, today, be considered rather 'picturesque.' The following is an extract:

“President Finlayson began his tour of the branches with an itinerary that set up a new record. As his home is in Vancouver, it was necessary to do almost all the branches in the east on one trip, the balance remaining until his next trip east to attend the annual meeting at Quebec City. Consequently, the first tour covered everything in Nova Scotia, New Brunswick, Québec and all but two branches in Ontario. The most northerly branches in the west were also included...

“Accompanied by Mrs. Finlayson and the general secretary, his first call was at Arvida on August 27th. For this portion of the trip, the party was pleasantly augmented by the presence of Vice-President Eadie and Mrs. Eadie of Montréal. At Arvida, Vice-President Saunders and Mrs. Saunders of Ottawa joined the party, returning with them down the Saguenay and as far as Quebec City.

“The Sunday was spent at Quebec where Vice-President Larivière took over, showing the party many of the famous features of the district, both of engineering and historical interest.

“Moncton received the president on Monday. Before the branch meeting, the mystery of

the 'magnetic hill' was investigated and 'the Rocks' too were visited. The outstanding feature of course was the huge stack of lobsters awaiting the guests at the yacht club at Shediac. The president being a native of Nova Scotia did ample justice to the fare, but no more than did others of his party who were not so blessed in the place of their birth.

"At Halifax, the usual hospitality was extended. The program included a luncheon at Chester proffered by the officers of the Association of Professional Engineers of Nova Scotia. The branch meeting was held at night at the Lord Nelson Hotel. Here it was a treat to hear the president inform the Haligonians of their own engineering history, most of it known only to a few 'old timers' in the audience who had lived through it.

"From Halifax, Vice-President Macnab accompanied by Mrs. Macnab motored the party to Sydney, where a meeting was held in the evening of Thursday, September 2nd. The 'extra curricular' activities here included a visit to the old fort at Louisbourg, and a luncheon at the summer home of C. M. Anson, a past vice-president.

"Monday, September 6th, was Labour Day, so the long weekend was spent on a tour of the famous Cabot Trail of Cape Breton, with a stop-over at the Keltic Lodge at Ingonish. With Vice-President Macnab still at the wheel, the party continued on to St. Andrews-by-the-Sea, arriving Tuesday evening the 7th.

"At St. Andrews, the president presided at a regional meeting of Council on the 8th. And was the speaker for the dinner on the 9th. And in general took an active part in all phases of a very successful maritime professional meeting..."

The presidential party then returned to Quebec City for a branch meeting and a golf tournament. The next visit was to Shawinigan Falls. Then followed a stop-over at Montréal, en route for Hamilton, where the president made a number of industrial visits prior to the branch meeting. Then on to the London branch and visits at the University of Western Ontario, and to Niagara Falls. The branch meeting there was held on Monday, 20th September. The presidential party then travelled to Toronto en route for Ottawa and the branch meeting on September 23rd, after which the party visited the Peterborough, Cornwall and Kingston branches, this last one being followed by presentations by the president and the general secretary to students at Queen's. Then back to Montréal for the branch meeting, leaving there on the evening of 30th September for Toronto and a 4-day program that included presentations at the downtown campus of the University of Toronto, chaired by Dean Young, a general meeting attended by 200 Institute members, a regional meeting of the Council, a meeting with ex-service students at UofT's Ajax campus, and a train trip from Toronto to Sarnia. Vice-President Vance was host in Sarnia, accompanied by Mrs. Vance. On September 5th, the presidential party toured the industrial section of the community and, later that day, met with the branch executive and members. Then on to Windsor for a branch meeting the following day. From Windsor to Detroit and the trip westwards to Winnipeg, Saskatoon, Prince Albert and Edmonton. The Finlaysons arrived home in Vancouver on 17th October.

At some of these meetings, President Finlayson presented EIC awards to those who had won them during the past year.

Newfoundland became a province of Canada in 1949. The January issue of the *Journal* for that year noted that the EIC Council had earlier approved the formation of a branch in the province, to be centred on St. John's, but to have additional meetings at Grand Falls and Corner Brook.

The September issue of the *Journal* reported that, on August 16, a slate of provisional officers for the new branch was elected. The formal inauguration took place in St. John's on 17 September in the presence of President John E. Armstrong and several officers of the Institute. The presidential party also visited Grand Falls and Corner Brook. The Institute's records showed that, at this time, there were about 50 members in the province. They had previously been members of the Cape Breton Branch.

The First Pan-American Engineering Congress, promoted by the South American Union of Engineering Societies, in co-operation with North American engineering societies, met at Rio de Janeiro, Brazil, from July 15 to 24, 1949. Its theme was 'Engineering in the Service of Peace,' and there were two sides to its deliberations. One was the work of a number of technical committees covering subjects such as transportation and communications, construction, energy, and urban and sanitary engineering. The other included international organization and co-operation within the profession, mineral resources and sources in the Americas, and standards and standardization of technical rules. A report on this Congress appeared in the *Journal* for October 1949, and was written by Mr. G. J. T. Gunn who had represented the Institute.

This Congress was the preliminary step in the formation of what became known as UPADI (the Union of Pan-American Associations of Engineers), whose first conference was held in Havana, Cuba, in 1951.

1950-1959

The January 1950 issue of the *Journal* carried a report of the founding of a Committee on Atmospheric Pollution in Canada, as a result of an initiative taken by the EIC Council. It had evolved from the suggestion of an Institute member, Mr. G.N. Martin, that a committee be formed to study smoke abatement. The Council considered it more appropriate for the committee to examine *all* types of atmospheric pollution and have, as its members, representatives of various national organizations, including the Institute. The first meeting of the committee was held on 12 October, 1949. Its members represented eight organizations, including the Canadian Manufacturers'

Association, ASME, ASHRAE and the Canadian Steam Boiler Institute. The EIC representative was elected chairman.

A report on the Second Conference of the Commonwealth Engineering Institutions, held at Johannesburg, South Africa, from April 11 to 20, appeared in the July 1950 issue of the *Journal*. The participants were: the Institution of Engineers, Australia; the Engineering Institute of Canada (represented by President-Elect James A. Vance and General Secretary L. Austin Wright); the New Zealand Institution of Engineers; the South African Institutions of Civil Engineers and Electrical Engineers and the Institution of Engineers (Mechanical and Mining); and the UK Institutions of Civil Engineers, Mechanical Engineers; and Electrical Engineers. The report began:

“When the representatives of the Commonwealth Engineering Institutions held their first conference in London in 1946, the last piece of business was the presentation of an invitation to hold the next meeting in South Africa... The second conference is now part of history...

“The basic idea back of these conferences is that it is good for the profession that the officers of the societies should get together from time to time to discuss common problems and common opportunities, to review past methods and performances in the light of changing conditions, to exchange experiences and ideas and, where possible, to aid each other in the accomplishment of their objectives.

“In the development of these basic principles many subjects were dealt with. These included libraries, engineering education in terms of qualifications for membership, the value to the public of high standards of admission to the institutions in those countries where there is no registration system, employment conditions, exchange of membership privileges, collaboration with the European and United States conferences, relations with UNESCO, technical abstracting service, exchange of papers, practical training in Britain for overseas junior engineers, collection and administration of special funds and endowments, and so on.

“In addition, plans were made for closer relationships between engineering societies in the Commonwealth and for the future operations of this conference...”

As the report in the *Journal* noted, there were sessions of the South African conference that were not held around a table. For example, the delegates paid a weekend visit to the famous Kruger National Park as guests of the South African Institutions. There was a visit to Vereeniging, where the delegates were the guests of the Rand Water Board, the Electricity Supply Commission, the South African Iron and Steel organization and the Vanderbijl Engineering Corporation. The Transvaal Chamber of Mines also entertained the delegates, including a visit to the Crown Gold Mine. There were two radio broadcasts carried by the South African Broadcasting Corporation, in the first of

which President-Elect Vance was one of three speakers who spoke on the purposes and work of the conference. In the second, General Secretary Wright summed up the conference and its significance for the public.

Including a visit to London for separate business, the Canadian delegates returned to Canada 50 days after they had left it. A formal report appeared in the February 1951 issue.

An extensive biography of Wallace Rupert Turnbull appeared in the September 1950 issue of the *Journal*, in which he was called "a pioneer in aeronautics and aeronautical engineering," and in which Canadians were reminded that he shared this description with the Wrights, Dumont, Blériot, Bell, Langley, Whittle and fellow Canadian J. A. D. McCurdy, and was one of the world's foremost pioneers in research in this field and in others.

Turnbull was born in October 1870 at Saint John, New Brunswick, to a wealthy family. In 1893 he graduated from Cornell University in mechanical and electrical engineering and did post graduate work there and at the University of Berlin. For the next five years he worked as a research engineer with the General Electric Company at Harrison, New Jersey. During this period he corresponded with Langley and Lilienthal and with Eiffel, who had built the first wind tunnel.

In 1902 he returned to Rothesay, New Brunswick, to establish his own laboratory to study heavier-than-air aircraft. He built the first wind tunnel in Canada in this laboratory, using it for tests on aerofoils. He also built a 375-foot experimental track for testing airscrews in the open. The results of this work won him a bronze medal and a fellowship in the Royal Aeronautical Society. Turnbull's contributions to the science of aeronautics included research on wing surfaces, his two fundamental laws of aerodynamics, and his laws of airscrews - work which was done mostly in 1911 and 1912.

In 1914, at the beginning of World War I, he closed his laboratory and went to Britain, where he worked on the design of devices such as propellers, bomb sights and torpedo screens. Returning to Canada in 1918, Turnbull re-opened his laboratory and began work on the development of the controllable pitch propeller, something he had been studying for the past two years. His second model, with electrical rather than mechanical control, was developed and tested by Canadian Vickers Ltd. at Camp Borden in 1927. Patents were subsequently taken out by the Bristol Aeroplane Company in Britain and the Curtiss Wright Corporation in the United States. A model of Turnbull's propeller was donated to the National Aeronautical Museum in Ottawa.

Having first taken an interest in tidal power when in Britain, Turnbull set about studying the opportunities for harnessing the Bay of Fundy tides when he returned to Canada. He presented a paper on this project to the EIC professional meeting at Saint John in September 1919, a paper that was published in the *Journal* in October. However, he did not apply for, and was not elected to, membership of the Institute until 1944. He was named an honorary member in 1951. He died in 1954, at Saint John.

As a postscript, it is interesting to note that, in the 1990s, Turnbull was elected to the Science and Engineering Hall of Fame, which is now a permanent part of the Canada Science and Technology Museum in Ottawa.

Some evidence of the effects of increasing specialization within engineering and within the Institute can be found in the September 1950 issue of the *Journal*. It carried a news item on the formation of technical divisions or sections within the branches, which began with these paragraphs:

“For some time there have been discussions about the possibility of organizing branches into technical divisions or groups through which increased activities of a technical nature could be developed. Past President Armstrong presented this proposal to the executives of all the branches during the course of his tour across the country. Always, there was a lively exchange of ideas and, while there was no complete unanimity on the idea, it was apparent that most branches were interested. It is likely the subject will be up for further consideration during the present presidential year.

“Not all members are aware that for several years the Winnipeg branch has been operating, most successfully, an electrical section. Also, at Ottawa, there is a very successful aeronautical division. The Montréal branch has made a start on quite an ambitious proposal. The branch now meets two nights a week. Although there was no difference last year in the papers for the two nights, it is proposed that, shortly, one night will be devoted to papers of a specialized nature and the other to a more general program. At the time of writing, the executive is canvassing the membership to discover the fields in which specialization would be most popular.

“In the minds of many, this technical division or section idea is essential to the proper growth of the branches and the Institute. It is agreed that not all branches will have the same need of it, nor will those branches that do organize along these lines require the same divisions or the same number of divisions. It may be that one division will be all that is required by several branches, although the signs are that two or three are more likely to be the answer...”

The January 1951 issue of the *Journal* recorded what was thought to be the first organized meeting of engineers in Prince Edward Island. Early in December 1951, EIC President Ira P. Macnab presented an EIC charter to the PEI group, as the 37th branch of the Institute, at a distinguished gathering at the Charlottetown Hotel. This event was recorded in the *Journal* for January 1952.

A paper on 'Transistors' by D. J. Watson of the Northern Electric Company in Montréal appeared in the July 1952 issue of the *Journal*. It had been presented to the electrical section of the Winnipeg branch the previous January. The abstract said:

"The importance of the transistor to electronics can hardly be over-estimated. It is more durable, more reliable, and in certain applications a million times more efficient than the vacuum tube. In this paper, the author explains what it is and what it can do.

"First to be applied for general use for toll dialling in long distance phone circuits, as production increases its use will spread to electronic computers, aircraft radio and radar, and electronic equipment for guided missiles. Smaller and better transistors are on the way. All fields of electronics will feel the impact. They will bring smaller hearing aids, wristwatch radios, vest pocket public address systems, better radar."

Readers of *Some EIC Memorabilia: 1918-1945* will recall the item from the December 1940 issue of the *Journal* which announced that the Institute had been admitted to membership of the (U.S.) Engineers' Council for Professional Development (ECPD), the only Canadian engineering society to join the half-dozen or so American engineering society members. ECPD had been formed in 1932. The principal thrust of its mandate was to enhance the status of the engineer through improved education and continuing training for student and professional engineers.

In its October 1952 issue, the *Journal* carried the news item that EIC Past President Leroy F. Grant had been elected chairman of ECPD, the first Canadian and EIC member to be so honoured. For many years he was an associate professor of engineering at the Royal Military College in Kingston and, after retiring from the army in 1944, held a similar position at Queen's. During World War I he served in France with the Canadian Railway Troops and, in World War II, was a general staff officer based in Kingston.

The November 1955 issue of the *Journal* noted that, for the second time in its existence, ECPD had held a meeting in Canada - in Toronto, in October - which coincided with the end of Colonel Grant's term as chairman. The arrangements for this meeting were handled by EIC's Toronto field office.

The November 1952 issue of the *Journal* carried the news item that the presidents and senior staff members of three British engineering institutions - the civils, mechanicals and electricals - had paid an eleven-day visit to Canada in September as guests of the Engineering Institute of Canada, following the U.S. Centennial of Engineering celebrations in Chicago. The invitation had been extended to foster the close relations that had been developed since 1946 between EIC and the British institutions through the Commonwealth Engineering Conferences.

The tour was confined to the provinces of Ontario and Québec. The arrangements were made by Institute representatives in Windsor, Sarnia, London, Hamilton, Niagara Falls, Toronto, Ottawa, Montréal, Shawinigan and Quebec City. The visitors spent almost as much time in Canada as they did in the United States.

The names C. D. Howe and Robert H. Winters are recognized even today as belonging to engineers who became Members of Parliament and subsequently members of the federal Cabinet. The name Grote Stirling, who was both an engineer and a cabinet minister, has been forgotten, most likely because he held office for less than a year, in 1934 and 1935. His obituary appeared in the *Journal* in March 1953.

Grote Stirling was born England in 1875 and graduated in civil engineering from the Crystal Palace School of Engineering in 1895. Between then and 1911, when he came to Canada, he divided his time between railway work and consulting. Once here, he settled in the Okanagan region of British Columbia, starting an orchard and continuing with his engineering work. He practiced there for many years.

In 1924, Stirling was chosen conservative candidate for the federal B.C. riding of Yale, which he won. During the period when the Prime Minister R. B. Bennett was in power, he was appointed Minister of Defence and acting Minister of Fisheries in November 1934, serving in the latter portfolio until August 1935 and in the former until Bennett's defeat in the general election the following October. Stirling retained his seat until 1947, when he resigned due to ill health. He died in January 1953.

Grote Stirling was elected an associate member of the British Institution of Civil Engineers in 1901. He was also one of the early members of the Association of Professional Engineers of British Columbia. He joined EIC as a member in 1927, and was elected to honorary membership in 1937.

In June 1953, the *Journal* carried this news item:

"The Institute was greatly honoured by an invitation for the president to attend the Coronation, with a seat in the Abbey. Mr. Ross L. Dobbin who took over the presidency on May 22nd has accepted and will be in England before this issue of the *Journal* appears...

"The officers of the various British institutions of engineers have arranged an elaborate program of events for Mr. Dobbin, including the Queen's garden party, the Trooping of the Colour, the Royal Aeronautical Society's garden party, the Royal Tournament, a reception at the Royal Institute of British Architects, the Institution of Mechanical

Engineers' Annual Conversazione, the Derby, and so on. He will also be the guest of the Lord Mayor of Belfast for a time."

The August 1953 issue carried further news of President Dobbin's visit to Great Britain in May and June. The engagements listed in the previous paragraph were fulfilled. In addition, the president was entertained to luncheon by the presidents of the Institutions of Civil, Mechanical and Electrical Engineers. In company with Her Worship Mayor Charlotte Whitton of Ottawa, he visited the grave of Colonel John By, the builder of the Rideau Canal, at Frant in Essex. He travelled to Scotland as well as Northern Ireland, attended the Spithead Naval Review, near Portsmouth in England, and was invited by the Canadian High Commissioner to a reception at Canada House in London. Mr. Dobbin also had a number of other engagements of a more personal nature. He left Canada on May 25 and arrived home six weeks later. He credited the great success of the trip as a whole to the high regard in which the British institutions held the Engineering Institute of Canada.

As reported in the *Journal* in July 1953, the Spithead Naval Review was also attended by Mr. C. K. McLeod, a senior member of the Institute, in his capacity as president of the Navy League of Canada. Six Canadian warships took part in it: an aircraft carrier, two cruisers, a destroyer and two frigates.

The August 1953 issue of the *Journal* also carried the announcement that H.R.H. the Duke of Edinburgh had consented to accept honorary membership in the Institute. The certificate was presented to him on July 29, 1954, at a ceremony at Rideau Hall, Ottawa, attended by the Rt. Hon. Vincent Massey, Governor General of Canada, and the president, vice-presidents and general secretary of the Institute. A photograph appeared in the September 1954 issue of the *Journal*.

This event, together with the invitations to the president to attend the Coronation in London and for the Institute to be represented in the Governor General's party at the Coronation Ceremony on Parliament Hill in Ottawa, prompted the *Journal* to suggest that 1953 would stand out in the Institute's history.

The first issue of the *Journal* in January 1954 carried a report of a reception at the Statler Hotel in New York City the previous December hosted by the Institute. It was apparently the fifth such EIC event, timed to coincide alternately with meetings of the American Civil and Mechanical Engineering Societies and designed to attract Institute members in the U.S.A. On this particular occasion, the president and past president received the guests, who numbered just over 100.

The report went on to comment that Institute membership in the United States tended to be made up of American engineers who had worked north of the border for some substantial period. Some others had come to Canada for their education and had joined the Institute as students.

Going backwards for a moment, the April 1950 issue of the *Journal* reported that Leroy F. Grant, a past president of the Institute, had accepted the position of EIC field secretary, which had become vacant after the nine-month tenure, and sudden death, of the first field secretary, Charles E. Sisson. In this new appointment, Colonel Grant would assume the direction of the Institute's field office at 350 Bay Street, Toronto, and subsequently at other downtown Toronto addresses. From there, he would be available to assist all EIC branches and, in particular, those of the Ontario division. He would visit branches throughout Canada and meet with their executives and members under more relaxed circumstances than during presidential visits.

A report from Colonel Grant, was included in the Report of the Council for 1953, published in the February 1954 issue of the *Journal*. It illustrated the importance of the role played by this member of EIC staff in making and maintaining contact, not only with branches across the country, but with groups of members located where no branch then existed - which Grant called 'orphan' groups. Some of these would later become branches.

During 1953, the field secretary had made two trips to Western Canada. The first was in April and May, when he visited the executives of nine branches, as well as four orphan groups. The second was in November and December, when he visited five branches and 12 orphans. In Ontario, he visited seven branches and two orphans and, in Québec, the branch at Quebec City. He had been unable to visit the Maritime provinces in 1953, but promised to do so in 1954. The report went on to say:

"A large part of the work of the field secretary's office has been concerned with the starting of professional development courses. At present, a proposed Dominion-wide program is in preparation whereby good speakers may be obtained for the professional development meetings across Canada.

"Finding engineering positions, especially for young engineers newly arrived in Canada from other countries, is another important feature of the work, and nearly all these young men show their appreciation by becoming members of the Institute in due course."

The March 1954 issue of the *Journal* showed photographic evidence of the visits Colonel Grant paid to 'orphans' at Blairmore, Medicine Hat and Lloydminster, Alberta; Moose Jaw and Yorkton, Saskatchewan; and Flin Flon, Manitoba.

The February 1954 issue of the *Journal* also carried a news item to the effect that Montréal was thinking about building a subway.

Studies on ways to improve transportation within the metropolis had been made from time to time for the past 50 years. When it was set up in 1951, the Montréal Transportation Commission was given two years to produce a report suggesting a better scheme of things for the future. It was

submitted just before the February *Journal* went to press. Already committed to abolishing the street cars and to changing the routes to bus operations, the Commission, to no one's surprise apparently, felt that the only practicable scheme was the construction of a subway. From the description in the news item, and the accompanying map, the Montréal Subway, when it was eventually built, followed the scheme outlined in the Commission's report. Interestingly, the report recommended that pneumatic tires might be used on the cars - if the experiments being carried out by the Paris Metro were successful.

As it happened, the April 1954 issue of the *Journal* published three papers on the construction of Toronto's Yonge Street subway.

Conventional wisdom within EIC usually suggests that the first 'constituent society' within the Institute was the Canadian Society for Mechanical Engineering (CSME), founded in 1970. This is only partly true. The first such society was the Canadian Aeronautical Institute (CAI; nowadays CASI, the Canadian Aeronautics and Space Institute). The principal difference between CAI and the EIC societies was that the societies remained within the Institute, the CAI did not. (Even now, in 2004, CASI is not a member of the EIC Federation.) However, CAI and the EIC societies shared at least two of the 'symptoms' that led to their founding: growing specialization within engineering, and the influence in Canada of foreign societies in the same fields.

The report on the founding of CAI appeared in the September 1954 issue of the *Journal*. It said that, for some years, there had been an interest in setting up in Canada an organization wholly devoted to technical matters associated with aeronautics and aircraft. EIC had been party to the discussions and to the negotiations for setting up a Canadian Aeronautical Institute. The final proposal for it had been approved by the Council, and its support for the new organization was demonstrated by a modest financial contribution. The *Journal* report went on to say:

"For many years the Engineering Institute endeavoured to meet the needs of its members - and others - in the aeronautical field by the operation of an aeronautical section in Ottawa. A partner to this activity was the Royal Aeronautical Society. The Ottawa group functioned excellently but, when war broke out, all activities ceased, for obvious reasons.

"After the war, the Ottawa members of the Institute who were interested in the subject started a study of the post-war position to see if a new co-operative arrangement could be devised. The situation had changed considerably. The chief factor was that Canada was now in the aircraft business in a big way. It was no longer a matter of research, development and design. This meant that many people other than engineers were interested in a society.

"As an indication of the change, it should be noted that the Institute of Aeronautical Science had come into Canada with strong branches at Toronto and Montréal. This

organization had grown to great strength in a remarkably few years, and was doing fine work in the United States. They had definite advantages to the aeronautical people, as compared with the Ottawa activity. One of these of prime importance was that their membership was not restricted to engineers. There are many people here who are not engineers, and the Institute cannot serve them.

“A further factor was...that the situation was confused by the presence and activities of so many societies endeavouring to cater to the same people. Besides the IAS and the RAeS and the EIC, there was the Institute of Aircraft Technicians. In the midst of this overlapping, it seemed only logical that a new all-embracing organization should emerge...”

The first president of CAI was Dr. John J. Green, immediate past chairman of the Ottawa Branch of EIC. Its inaugural meeting and Dr. Green's induction took place at the Chateau Laurier Hotel in Ottawa on 25 May 1954. The best wishes of the officers and the members of the Engineering Institute went to the new society, along with promises of co-operation and help when needed.

By 1956, CAI had 1500 members.

For many of the immediate post-war years, EIC organized regional professional meetings every two years or so, most notably in the Maritimes and the West. They were socially as well as technically motivated and the locations usually had more to recommend them than the hotels - although these were usually very good ones. The 1954 Maritime meeting was held at the Digby Pines Hotel, since it was Nova Scotia's turn to host the event. The Institute and the provincial associations shared sponsorship.

The report of this meeting appeared in the October 1954 issue of the *Journal*. It said that, as usual, everything went off without a hitch and the weather - one of the two crucial factors in the success of Maritime meetings - co-operated. Even Hurricane Edna waited until the meeting was over before hitting the area. The other factor was attendance. In Digby's case, over 300 engineers and their guests registered - a record - including some from Québec, Ontario, Manitoba and the United States..The Council of the Institute also met during the conference. A special newspaper, *The Eager Beaver*, appeared one morning and contained a series of articles spoofing the profession in one way or another.

The report went on to say that the technical program was excellent. The writer gave his opinion that it was the best overall program for the Maritime meetings, including papers on the St. Lawrence waterway, hydraulics, gas turbines and nuclear energy. There was also much feasting, partying and dancing...

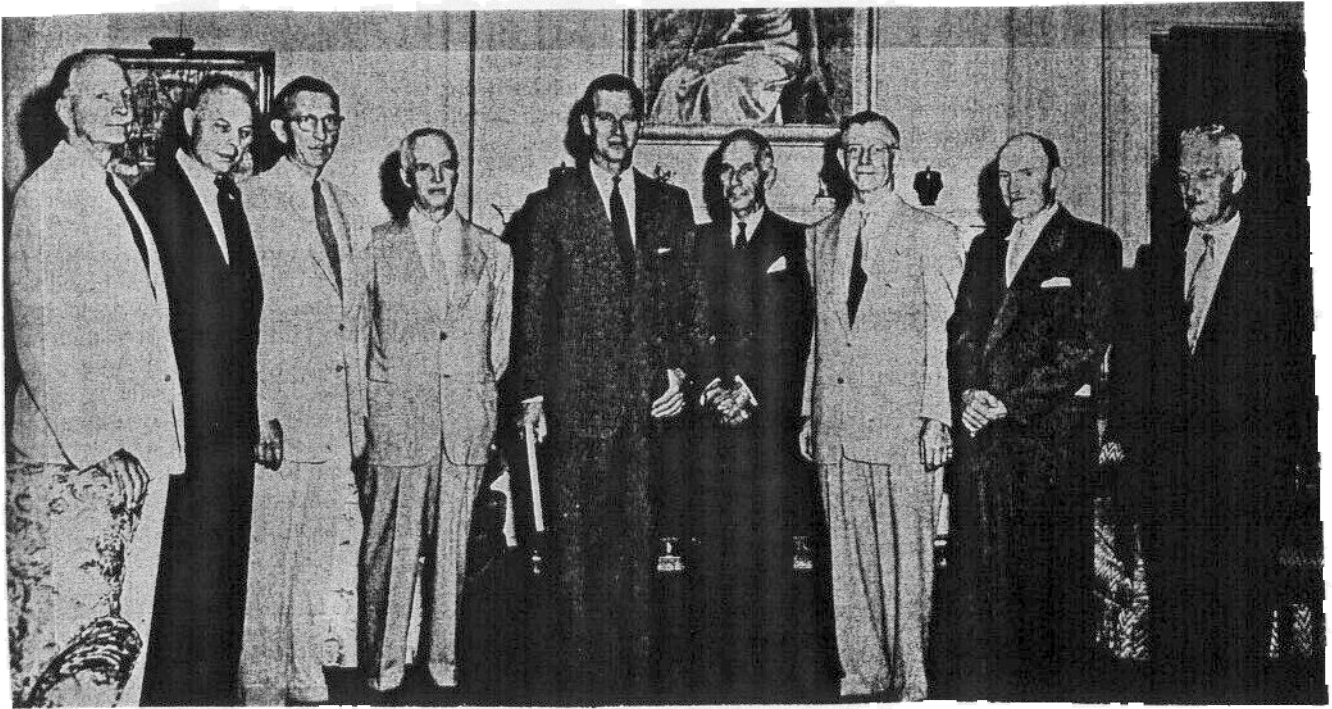


Hon. Grote Stirling
Minister of Defence
1934-1935

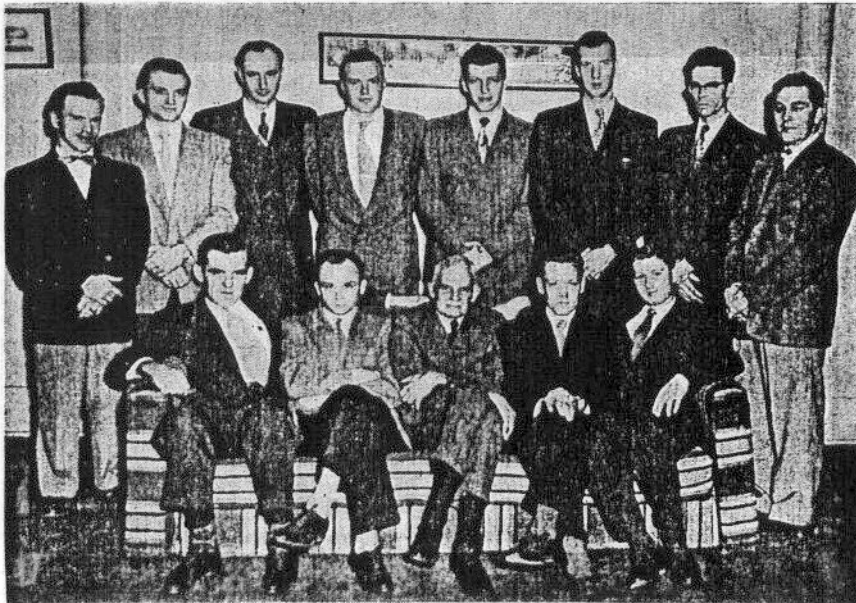


Leroy F. Grant
President
Engineering Institute of Canada
1947-1948





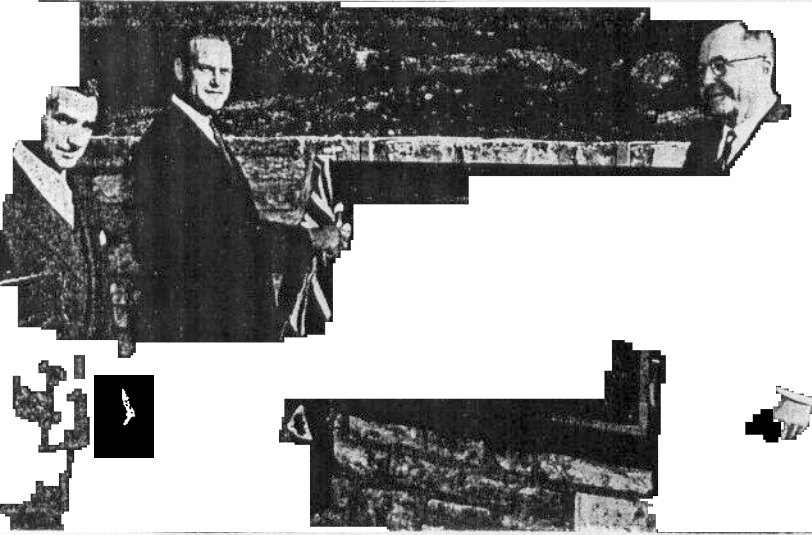
Presentation of Honorary Membership Certificate to H. R. H. the Duke of Edinburgh at Rideau Hall, Ottawa, on July 29, 1954, with Governor General Vincent Massey, President Donald M. Stephens (second from right) and senior officers of the Institute.



Field Secretary Leroy F. Grant and the "Orphans" at Flin Flon, Manitoba, December 1953

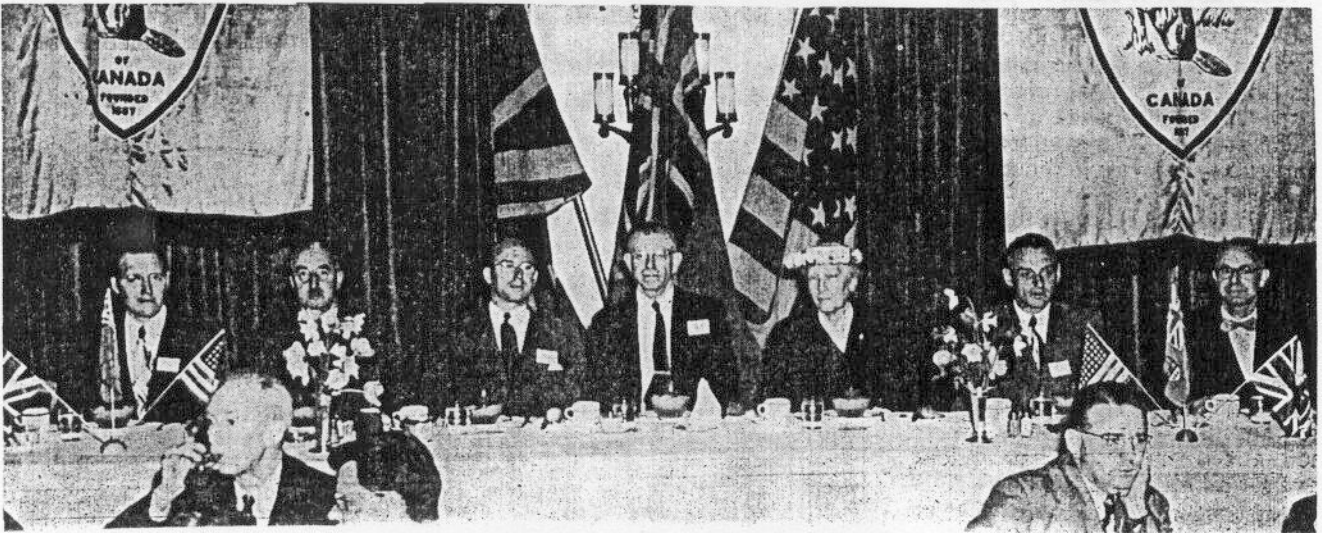


EIC Headquarters Staff, June 1958, with General Secretary Wright, about to retire, in the first row



Dr. Robert F. Legget, the Hon. Robert H. Winters and President Richard E. Hartz unveiling the plaque at the dedication ceremony of the fountain commemorating Colonel John By, the builder of the Rideau Canal, at Ottawa, October 1955

(see page 57)



Head Table at the final luncheon, EIC Annual Meeting in Vancouver, May 1952, chaired by Vice-President I. R. Tait; to his left, Dr. Lilian Gilbreth

President John J. Hanna being shown around the AECL Laboratories at Chalk River by Branch Chairman C. E. L. Hunt (R) and Program Chairman A. H. Wilson (L), April 1960



Going backwards once again, between 1935 and 1937 the Institute undertook to study the possibility of 'consolidating' the engineering profession in Canada by merging, in some way, with the provincial associations. After much discussion and the development of specific proposals - led by the Committee on Consolidation - the Institute's corporate members were balloted on these proposals. But the ballot did not succeed. Instead, the Institute began negotiations with some of the associations individually, with some success. For their part, in 1936 the associations formed the Dominion Council of Professional Engineers (DCPE) to coordinate their activities in discussions with the Institute. The DCPE continued afterwards as the body representing the associations nationally. It later became the *Canadian Council of Professional Engineers* (CCPE), with headquarters in Ottawa.

By 1954, discussions had begun again on the question of 'confederation.' This time, both EIC and CCPE formed committees to spearhead them. The overall objective was the same as before. The January 1955 issue of the *Journal* carried a staff-written article that indicated how the question had resurfaced. It said, in part:

"A recently completed visit to the western branches by the president and general secretary disclosed that the chief interest of the branches there is confederation. Visits with the associations in the west indicated that, with them too, the proposals that may lead to confederation are high on the list of important things to be studied. It is evident that, until this subject is settled, many other matters will have to stand aside...

"There can be no doubt in the mind of anyone that close affiliation which will lead to the elimination of competition, overlapping and some expenses, and which will promote joint actions, better service to the profession and to the public, is a worthy objective. Even without the reports of the committees, that much can be acknowledged, and being acknowledged would seem to be a mandate to the committees and to the Councils of the organizations concerned."

This story took several years to unfold. It will be continued later in this paper.

The February 1955 issue of the *Journal* carried a news item, under the heading of 'Tops Again.' It said that the student membership of the Institute at École Polytechnique in Montréal stood the highest, percentage-wise, of any engineering school in Canada. It numbered 374 out of a total enrolment of 514, or approximately 73%. In the final year, this figure rose to almost 92%. There were 99 new applications for the current academic year.

It was suggested that the reason for these high figures was the interest taken in the Institute by the faculty members and the senior students. It was further suggested that, if this same percentage could be applied to the students at each of the Canadian universities where engineering was taught, it would make a tremendous difference to enrolment in the Institute. Also, those who joined the

Institute as students were the ones who tended to remain as members of it throughout their professional careers. They were also the ones who were most active in carrying out the Institute's policies and programs.

The February 1956 issue of the *Journal* editorialized on the Royal Commission on Canada's Economic Prospects - the Gordon Commission - then sitting, and said, in part:

"Members of the Institute may have noticed that within the personnel of (*this Commission*) there is no engineer. They may have noticed also that the terms of reference of the Commission include a study of the "future developments in natural gas, power...the need for more roads, hospitals, schools and universities, a survey of Canada's energy resources and raw materials..."

"The Council of the Institute also observed this incongruity and instructed the general secretary to draw it to the attention of the Prime Minister... Such a letter was written, but the Prime Minister replied that in his opinion the Commission was already competent to handle the situation satisfactorily....

"The Commission is composed of an accountant, three lawyers and a forester...These gentlemen all enjoy an excellent status. No one would criticize them personally. It is more than likely that they, too, are puzzled to find that they are supposed to study and report on things so foreign to their experience....

"It is apparent that there is still much to be done to impress some influential people with the fact that engineers are the ones best qualified to do engineering work... It is hoped that in spite of this handicap, the Commission may make a useful report..."

The Institute did submit a brief to the Commission, and it was reprinted with comments in the April 1956 issue of the *Journal*. This brief and its supporting documents were presented to the Commission in Ottawa on March 8 of the year by General Secretary Wright, in the enforced absence of the president due to stormy weather. The brief identified the most important single element in the solution of Canada's economic problems as the need for more trained manpower, and suggested how it might be approached. Dr. Wright noted in his remarks that the Institute had studied this problem for many years. He also noted that a great many of the briefs presented to the Commission emphasized the need for more engineers and scientists, as well as more well-trained technicians. This fact had pleased the Institute and its members, who hoped that it would encourage the Commission to bring forward a far reaching recommendation for the solution of the technical manpower problem. The Institute's brief said that it believed a great share of the responsibility for solving this problem rested with the federal government.

It was reported in the June 1956 issue of the *Journal* that the committee co-ordinating the technical activities of civil engineers in the Greater Metropolitan Area of Toronto who were members of EIC, the Institution of Civil Engineers (ICE) and the American Society of Civil Engineers (ASCE) had concluded a year's work. Known as the Joint Area Committee, its extensive program was financed equally by EIC, ICE and ASCE. This committee and its activities continued until 1972 and the formation of the new CSCE, the Toronto Branch of which still continues to serve the area's civil engineers.

In February 1955, the EIC Council established a Committee on Technical Operations (CTO) with the following terms of reference:

- to keep all technical activities of the Institute under constant review;
- to recommend to the Council the establishment of subcommittees to carry out reviews of specific fields of technical activity;
- to recommend to the Papers Committee a particular subject or field which should be treated in one or more papers;
- to recommend to the Publications Committee particular papers for publication;
- to do such work as desirable to encourage the formation of technical sections in the branches.

The establishment of this Committee was predicated on the need for the Institute: to provide for the professional needs of engineers immigrating to Canada; to counter the tendency to look outside the country for consultants for major industrial undertakings; to discourage Canadian engineers from looking to specialized professional societies abroad for technical help; to provide improved opportunities in Canada for the publication of new technical information; and to help establish a distinctive *Canadian* engineering literature.

Perhaps the most important of the early recommendations made by the CTO was accepted by the EIC Council and reported in the February 1957 issue of the *Journal*. It concerned the formation of specialized technical divisions under the joint control of the Committee and EIC headquarters, with links to the technical sections in the branches across the country. The electrical engineering division, for example, would be linked to the electrical section of the Winnipeg Branch. Six divisions were suggested initially, but these could be added to at any time. More than a dozen were subsequently established.

In retrospect, this development became the first stage in the eventual establishment of EIC's 'constituent societies' that began in 1970.

Two centenarian members of EIC died within a year of one another.

F. X. T. Berlinguet was the oldest member of the Institute when he died at the age of 102 in May 1957. Educated at Université Laval, he graduated in 1876. He began his career with the Intercolonial Railway but soon joined the federal Department of Public Works and was employed on the harbours at Québec and Trois Rivières. He later became chief engineer of public works for his district. He also worked on the St. Lawrence River survey. After 46 years with Public Works, he retired to private practice at Trois Rivières. M. Berlinguet joined CSCE as an associate member on its founding in 1887, transferred to member in 1890, and was later a life member. The Institute was represented at his hundredth birthday festivities. His obituary appeared in the July 1957 issue of the *Journal*.

L. S. Pariseau died in June 1958, four months short of his 102nd birthday. He was a member of the first class to graduate from École Polytechnique in 1877 and immediately joined its staff. He later joined the federal Department of Railways and Canals and worked on the Grenville and Lachine Canals and the survey of the Richelieu River. He was appointed superintendent of canals for the province of Québec in 1923 and retired in 1930 after 51 years of public service. He received honorary degrees from Université de Montréal and Université Laval. M. Pariseau joined CSCE as an associate member in 1887, transferring to member in 1917. He later became a life member. Once again, the Institute was represented at his hundredth birthday festivities. His obituary appeared in the August 1958 issue of the *Journal*.

An article that appeared in the June 1957 issue of the *Journal* recorded a very rare event in the Institute's history: the placement of a testimonial tablet. It was dedicated to Henry John Cambie and his considerable achievements in the location, surveying and supervision of the construction of the Canadian Pacific Railway through British Columbia's Fraser River canyons. The ceremony took place during the Institute's Annual Meeting in Vancouver in June 1957. It can still be seen at the old Vancouver railway terminus building.

Henry Cambie was born in October 1836 at Castletown, the family estate in County Tipperary, Ireland. At the age of 16, he came to Canada with his parents and brother. After his retirement from the CPR in 1920, when into his eighties, he was retained by the company as an adviser. A station on the CPR main line was re-named after him and a street in Vancouver also bears his name. He died at the age of 91 in late April, 1928.

The June 1958 issue of the *Journal* listed a new editor and general secretary of the Institute, Garnet T. Page, who replaced the retiring Leslie Austin Wright in both positions. President Clement M. Anson's tribute to Dr. Wright appeared in this same issue. It said, in part:

“That the Institute today enjoys such a high standing not only in our own national field, but of equal consequence in the international field and, further, that the profession of engineering in Canada has reached such high standards and enjoys the respect with which it is regarded, is in no small measure due to the contribution and the 20 years of devoted service of Austin Wright...

“During the years that he has held the office of general secretary, the Institute has grown from twenty-five branches to fifty, and from 4500 members to the present membership of some 18,000. Of far greater importance is that the Institute has greatly expanded the services which it renders, not only to its members, but to the well-being of our country as a whole...

“As general secretary, he has at all times been a loyal friend and devoted helper to all the incumbents in bringing about such success as has attended the office of president of the Institute.”

Austin Wright received an honorary doctorate from Rose Polytechnic Institute, Terre-Haute, Indiana, in 1943 in recognition of his services to engineering in the United States and Canada. He was elected to honorary membership of the Institute at the Annual Meeting in Quebec City in May 1958, and was awarded the Julian C. Smith Medal in 1976.

Garnet Page, who succeeded Dr. Wright, was first appointed to the Institute's staff as deputy general secretary in January 1958. For the previous eleven years he had been the general manager and secretary of the Chemical Institute of Canada in Ottawa. He graduated from the University of Saskatchewan in 1940 with a degree in chemistry and served in the army during World War II in staff and intelligence postings. He was the published author of many papers on subjects ranging from chemical warfare to engineering education and had also acted as a consultant to a variety of federal departments while in Ottawa. He held several honorary degrees.

Speaking of honorary degrees, it is interesting to note that many of the presidents of the Institute during the 1950s and 1960s received these during or just after their terms in office - from the university in the city hosting *their* Annual Meetings, from their alma maters, or from a university near their permanent residence.

The June 1958 issue of the *Journal* noted, for example, that both retiring president Clement Anson and in-coming president Kenneth Tupper had just received degrees, the former from Nova Scotia Technical College, and the latter from Université Laval.

The Institute reached a milestone in May 1958 when President Anson inaugurated the 50th branch,

at Chalk River, Ontario. The general secretary of the Institute and senior members of the Ottawa branch were also present. The founding chairman was Cyril A. Crawford. The occasion involved a dinner, followed by a business meeting, and was reported in the July issue of the *Journal*.

For the record, the following were the first 50 branches, by province or territory:

Newfoundland: Corner Brook; Newfoundland

Prince Edward Island: Prince Edward Island

Nova Scotia: Amherst; Cape Breton; Halifax; Northern Nova Scotia

New Brunswick: Fredericton; Moncton; Northern New Brunswick; Saint John

Québec: Baie Comeau; Eastern Townships; Lower St. Lawrence; Montréal; North Shore Lower St. Lawrence; Quebec City; Saguenay; St. Maurice Valley

Ontario: Belleville; Border Cities; Brockville; Chalk River; Cornwall; Hamilton; Huronia; Kingston; Kitchener; Lakehead; London; Niagara Peninsula; Nipissing and Upper Ottawa; North Eastern Ontario; Ottawa; Peterborough; Port Hope; Sarnia; Sault Ste. Marie; Sudbury; Toronto

Manitoba: Winnipeg

Saskatchewan: Saskatchewan (which had six sections in towns across the province)

Alberta: Calgary; Edmonton; Lethbridge

British Columbia: Central BC; Kootenay; Vancouver; Vancouver Island

Yukon: Yukon

The Ontario Division continued to operate.

The Fifth Convention of the Union of Pan-American Associations of Engineers (UPADI) was held in Montréal in September 1958, and was reported in the October issue of the *Journal*. Seventeen countries were represented. The principal EIC representatives were President Kenneth F. Tupper and Vice-Presidents Albert Deschamps and Irving R. Tait. The Hon. Sydney Smith, Secretary of State for External Affairs in Ottawa, made an address of welcome on behalf of Canada. A special engineering education conference was held as part of the overall proceedings, at which Dean Hugh Conn of Queen's University was the principal Canadian speaker.

Among the main resolutions proposed by the Co-ordination Committee to the Convention were those urging:

- * UPADI representation at the Organization of American States in Washington, D.C.;
- * the appointment of technical attachés to various embassies;
- * regional centres for scientific investigation and specialized technology, especially in Latin America;
- * the use of the decimal metric system in countries not now using it; and
- * the compiling of a dictionary of technical terms in the four languages spoken in the Americas.

The major engineering event in Canada in 1959 was the opening of the St. Lawrence Seaway by Her Majesty Queen Elizabeth II and President Dwight D. Eisenhower on June 26. It was reported in the July issue of the *Journal*.

The St. Lawrence waterway has perhaps been the most-reported engineering entity in the history of the *Journal*, going back to the beginnings of the magazine in the 1920s, but especially after work began on the Seaway. While many of the papers, articles and news items appeared singly in the various issues, several issues published multiple papers on aspects of its design and construction: for example, those of September 1956, October 1957 and September 1958. Coverage continued for some time after the opening in 1959.

The first complete month of operation of the Seaway was in May 1959, when over 2 million tons of cargo passed through it, carried in 980 vessels

1960-1969

In February 1960, the *Journal* listed the members of the Institute's Council and committees, as it did regularly. This particular list included those who were the most active at the national level when the Institute itself was at its most active.

The president in 1959-1960 was John J. Hanna, of Calgary, and he was supported on Council by three past presidents, six vice-presidents, the treasurer and 71 councillors, including six who represented sister societies. The senior members of the staff included the general secretary, the directors of administrative and technical services and the controller. The headquarters were where they had been for a long time, at 2050 Mansfield Street in Montréal, and there were two field

offices in operation, the main one in Toronto and another in Vancouver.

There were six standing committees: Admissions; Finance; Legislation; Library and House; Papers; and Publications. There were also these special committees: Education; Policy; Prairie Water Problems; Professional Development Programs; Professional Interests; Property; Student Policy; the Canadian IAESTE Committee; the Harry F. Bennett Fund; the Committee on Technical Operations; and the Board of Examiners.

The Institute had representatives - one from each province and the Yukon, in addition to the vice-chairman - on the Engineers' Confederation Commission. It had official representatives to: the American Society of Mechanical Engineers and two of its committees; the Canadian Chamber of Commerce; the Canadian Conference on Education; the Canadian Science Fair Council; the Canadian Standards Association and three of its committees; the Civil Defence Engineering Advisory Board; the Engineers' Council for Professional Development and seven of its committees; the International Heat Transfer Conference (1961); the Nuclear Congress (1960); and UPADI. The Institute also participated in the Commonwealth Engineering Societies' Conferences. The general secretary represented the Institute on nine national and international councils, usually in an administrative capacity.

Some months later, an executive committee of the Council was formed to speed the work of the very large Council and to attend to administrative details.

This same February 1960 issue published an obituary for the Rt. Hon. Clarence Decatur Howe, surely the best known engineer of his time in Canada. Mr. Howe was born in Waltham, Massachusetts, in January 1886, and graduated in engineering from MIT in 1907. He taught at Dalhousie University from 1908 until 1913, when he joined the Canadian Board of Grain Commissioners, for whom he designed grain elevators for the Prairies. In 1916 he formed his own company at Port Arthur, Ontario, and specialized in this field, building elevators across Canada and abroad. In 1935, as the Depression curtailed his business significantly, he entered Parliament to sit as a Liberal. That year, he entered the federal Cabinet and was, successively, Minister of Marine and of Railways and Canals, Transport, Munitions and Supply, Reconstruction, Trade and Commerce and Defence Production. He lost his seat in 1957 when his party was swept from office. Mr. Howe had a significant influence on Canadian government policy over a period of two decades. Among the institutions he founded were Air Canada and Atomic Energy of Canada Limited.

Howe's engineering skill, business acumen and political record brought him many honours during his lifetime, including the American Daniel Guggenheim Medal and numerous honorary degrees. He also served as chancellor of Dalhousie University. He joined the Institute as a member in 1922, became an honorary member in 1937, a life member in 1957, and received the Julian C. Smith Medal in 1960. He died in Montréal on the last day of 1960 at the age of 74.

The October 1960 issue of the *Journal* was devoted to the topic, 'Power in Canada.' It was the first of several October issues that were devoted annually to this topic.

The year 1962 brought the 75th anniversary of the founding of CSCE in 1887, and the *Journal* issue in June 1962 was a jubilee one. Upwards of 50 sister societies in Canada and around the world sent their greetings, and many that were in the form of illuminated scrolls and letters have been preserved with the Institute's archival material.

The Annual Report of the Council for 1962 - published in the April 1963 issue of the *Journal* - provided information on the situation the previous December. For example, with regard to membership, the following was the breakdown by classes:

Honorary members	48
Life members	- 726
Corporate members	- 17,204
Students	- 6,089
Affiliates	- <u>64</u>
Total - all classes	- 24,131

There were also eight new branches listed, bringing the total to 58. The largest branches were usually in the largest cities - Montréal (5353 in all classes); Toronto (1907), Saskatchewan (1478, including the seven sections of the branch); Winnipeg (1238); Ottawa (1197); and Vancouver (1152).

The statement of revenue and expenditure for 1962 indicated the former was \$582,838 and the latter was \$640,507, leaving a deficit of \$57,669 for the year. On the revenue side in 1962, 36% came from membership fees and 59% from publications. On the expenditure side, administration and direct services absorbed 39% and publication 58%. The balance sheet showed assets and liabilities of \$307,599.

To return to the on-going 'confederation' debate, the discussions within EIC and CCPE continued into 1959 when, in March, a joint report by the Confederation Committees of these two organizations was released. This report called for approval-in-principle of the proposal to proceed with working out the details under which confederation could take place. The corporate members of the Institute (but not the members of the associations belonging to CCPE) were balloted and approved this step. As a result, the Institute and the Council appointed their representatives to the Engineers' Confederation Commission, which proceeded with the task. John H. Fox of CCPE was appointed to chair the Commission, with George Dick, and later Leo Roy, of EIC as vice-chairman.

This Commission worked through to the spring of 1962 to produce its final report, which indicated that there were still differences of opinion between the two 'sides' within the Commission. The April 1963 issue of the *Journal*, which included the EIC Council's Annual Report for the previous year, had this to say:

"On June 9, 1962, representatives of the executive committees of the Canadian Council of Professional Engineers and the Engineering Institute of Canada met to discuss further the possibilities of agreement on their outstanding differences with respect to the proposals made in the Final Report of the Engineers' Confederation Commission. Exhaustive discussion revealed that agreement was impossible. However, it was decided to recommend that the EIC put the issue to its members by ballot if the Councils of the eleven constituent members of the CCPE would put the same question to their individual members on the same date. On June 10, the EIC Council agreed to this and empowered the president to appoint a special committee...to draft a statement of the Council's opinion concerning the proposal for 'unity' by the method set forth in the report, to obtain an opinion of the proposal from our legal counsel, and to develop a suitable question to be used on the ballot paper. CCPE advised EIC officially on October 30, 1962, that the eleven associations and corporation (*in Québec*), which are the constituent bodies of the Canadian Council of Professional Engineers, had agreed to conduct a letter ballot of their membership in accordance with the conditions referred to above. Steady progress was made in the completion of this task, but it was only near the end of the year that the work was near completion."

The differences of opinion between CCPE and EIC revolved around several points - for example: that branches of the Institute would, under confederation, come under the jurisdiction of the provincial associations; that the full proposed fee increase to cover the operation of the unified Institute would not be endorsed by some of the associations; and that there was a strong feeling on the part of several associations that there should be no compulsion for their members to join the new Institute.

CCPE drafted its own statement of opinion for the association and corporation members.

The ballot was finally issued in late May 1963 and the results were reported in the August issue of the *Journal*. The referendum narrowly failed to achieve the required two-thirds majority within the Institute or to meet fully the success requirements of CCPE and its constituents. Confederation was, therefore, a dead issue. It was revived at the exploratory discussion level several years later, but no action resulted.

Technically, there were a number of pioneering developments in engineering reported in the *Journal* during 1962...

For example, the January issue published the paper on the 'DRB Topside Sounder Satellite,' given to the Annual Meeting in Vancouver in May of the previous year, by R.C. Langille of the Defence Research Telecommunications Establishment (DRTE) in Ottawa. This, of course, was to become Canada's first earth satellite - Alouette I.

The August 1962 issue of the *Journal*, in the department called 'Canadian Developments' and under the heading 'First Co-op Engineers' reported that - the previous month - a group of approximately 70 undergraduates received their degrees from the University of Waterloo. They had been among the first to enrol in the University's co-operative engineering program in July 1957. The report added that the majority had accepted positions in industry and, in many cases, with the companies that had been participating in the co-operative program.

Also from the August 1962 issue, a report under the heading 'Rolphton on Power.' to the effect that:

"The first electricity to be produced by a nuclear power plant in Canada was sent into the transmission lines of Ontario Hydro at Rolphton at the beginning of June. Commissioning of the Nuclear Power Demonstration (NPD) station has been under way since the reactor in the station started to "burn" uranium, and thus produce heat, on April 11, 1962. The next stage was to use heat from the reactor to produce steam.

"Finally, with all the complex circuits fully tested, the plant operators opened the steam circuit to the turbine which drives the electricity generator, sending electricity produced from the reactor to produce steam. The station is expected to produce its full power output of 20 MW of electricity within the next few months."

The July 1962 issue of the *Journal* published, for the first time, a message from an EIC president in both official languages. He was Frederic L. Lawton, of Montréal. The October 1962 issue also included a bilingual message from Mr. Lawton on 'The Importance of Membership in the EIC.'

The November 1962 issue of the *Journal* carried a news item of special interest - that the Conference of Engineering Institutions of the British Commonwealth had met in Canada for the first time in September. Earlier Commonwealth Conferences had been held in the United Kingdom (1946), South Africa (1950), London (1954), and Australia and New Zealand (1958). The countries attending the Canadian conference were: Australia, Canada, Ceylon, India, Malaya, New Zealand, Rhodesia, South Africa and the United Kingdom. They were represented by their presidents and senior administrators. The meetings were held in Quebec City, Montréal, Ottawa and Toronto.

The discussions covered such subjects as common rules for professional conduct, standards of professional qualification, reciprocal arrangements for membership, the registration of professional

engineers and relations with other engineering institutions. The major benefit was better understanding by each represented institution in regard to the policies and procedures of the others. The deliberations were stimulated by the significant engineering developments in Canada, some of which were visited.

With the benefit of hindsight, it is possible to speculate that 1962 was the 'watershed' year for the Institute, after which both it and the *Journal* entered a period of continual change that lasted through 1975 and beyond.

While the number of Institute members and the number of branches remained fairly steady over the next few years, as did its energy as an organization, its reputation as an institution and its recruiting activities, EIC had effectively 'peaked.'

For its part, the *Journal* became less bulky and lost much of its advertising. The editorial direction and content changed every so often and, especially, the details of activities within the Institute were less effectively reported. Material of general interest gradually overshadowed what had been principally technical.

The May 1963 issue of the *Journal* carried this announcement, in both official languages. The following was the French version:

Congrès Annuel:

Un service de traduction simultanée a été prévu pour le congrès annuel de l'Institut qui aura lieu à Québec mercredi le 22 mai.

Cette année, le congrès présentera quelques particularités; entre autre:

- * un résumé des travaux inscrits au programme sera publié dans *le Journal* dans les deux langues;
- * les programmes, billets, brochures. Agenda, etc. seront bilingues;
- * les services de la salle de presse, ainsi que le service de publicité seront également bilingues; les communications seront traduites;
- * le président de chacune des réunions techniques sera bilingue afin d'assurer que la discussion se fasse indifféremment dans une langue ou dans l'autre.

The report of the Annual Banquet of the Institute, held during the 77th Annual Meeting in Quebec City, appeared in the August 1963 issue of the *Journal*. In addition to recording the presentations of medals and awards, the report named Fellows, elected for the first time. They were: E. A. Cross, R. L. Dunsmore, J. M. Fleming and A. W. F. McQueen.

The January 1964 issue of the *Journal* published a request from Gaétan J. Côté, chair of the EIC committee preparing a brief for the Royal Commission on Bilingualism and Biculturalism, of which the following are parts:

“L’Institut Canadien des Ingénieurs a été invité à faire des recommandations à la Commission et l’Exécutif de votre Institut est heureux d’informer tous ses membres qu’il soumettra un mémoire à la Commission au début de l’année 1964.

“Quel est le mandat de la Commission royale...

“...pour faire enquête et rapport sur l’état présent du bilanguisme et du biculturalisme au Canada et recommander les mesures à prendre pour que la Confédération canadienne se développe d’après les principes de l’égalité entre les deux peuples qui l’ont fondée, compte tenu de l’apport des autres groupes ethniques à l’enrichissement culturel du Canada, ainsi que les mesures à prendre pour sauvegarder cet apport...

“Votre Comité recommande une franche, honnête et sérieuse étude de ce problème, qui ne date pas d’hier; cette crise canadienne n’est pas non plus unique; elle est universelle.

“Nous demandons à chacun des vice-présidents, dans sa région respective, de former son propre comité et de nous communiquer ses pensées et ses observations le plus tôt possible. Un résumé de tous ses commentaires sera fait alors et le résumé lui sera retourné pour révision. Finalement, à une réunion générale de tous les vice-présidents et de notre dévoué président, des recommandations concrètes et des conclusions précises seront choisies et prises avant d’être soumises à la Commission vers la fin de février 1964.”

Those who attended the Annual Meetings and Congresses of the Institute from the 1930s to the 1970s will recall that there was a tradition involving someone called Muriel, who had a room in the hotel in which the meeting or congress was being held, to which the attending members were invited for sponsored refreshments after their tiring days giving, and listening to, technical papers. For many, the mystery of Muriel’s identity was never solved. But those who read a letter to the editor of the

Journal in the September 1964 issue became the enlightened ones. It went like this:

"Dear Sir,

"I believe it would be interesting to the present members of the Engineering Institute of Canada to know the derivation of the name 'Muriel's Room' for the refreshment room which has been a feature of EIC meetings for several years, except when some committee felt that it was not proper for a lady's name to be associated with such a room.

"First of all - 'Muriel' was no lady. His real name was George Howse, a branch affiliate of the Hamilton Branch at the time but subsequently admitted as a member of the Institute, and this is the story of how he was nicknamed Muriel.

"The local General Committee in charge of the arrangements for the 1929 Annual General and Professional Meeting of the Institute (in Hamilton) decided to arrange for a central refreshment room where all members attending could meet for a social hour, instead of being scattered throughout the hotel in private rooms maintained by individual engineering firms. The local firms supported the idea very enthusiastically, and the Royal Connaught Hotel allocated us the Mural Room for this purpose. The late George Howse was appointed chairman of the Entertainment Committee, and *ex officio* in charge of the Mural Room.

"All went well, except that George kept referring to the Mural Room as the 'Muriel Room.' At length one member of the committee, completely void of imagination, remonstrated: 'George, it's the Mural Room, not the Muriel Room.' Immediately the rest of the committee joined in: 'George, who's Muriel?' - 'George, is your wife's name Muriel?' - and so on. From that moment, George became Muriel and the Mural Room became Muriel's Room.

"Even though the program for the meeting carried such staid announcements as 'Refreshments will be served in the Mural Room' it was not long before everybody was calling it Muriel's Room and the name has persisted to this day.

"How do I know this? I ought to - I was the unimaginative committeeman who kicked in the first place.

Yours very truly,

J. R. Dunbar, PEng., MEIC

The following news item appeared in the November 1964 issue of the *Journal* under the heading

‘First Canada-France Conference Highly Successful’:

“An important group of Canadian engineers contributed to the highly successful first Canada-France Technical Conference held in Paris September 28-30. The Conference was organized jointly by the Engineering Institute of Canada and La Société des Ingénieurs Civils de France.

“Representing the Institute officially was Gaétan J. Côté of Sherbrooke, Québec, vice-president of the Institute and chairman of the Conference organizing committee.

“In all, some 125 Canadian engineers and their wives travelled on the chartered Air Canada jet. The group left Montréal on September 11 to permit free time in Europe before the Conference started.

“The Canadian delegation made a significant contribution to the Conference, which was held in the Paris headquarters of La Société des Ingénieurs Civils de France.”

In 1965, there was evidence of some difficulties being faced by the Institute and its senior officers. The loss of members, the closing, inactivity or loss of some activity in branches, and the annual disparities between new and resigning members had not yet become serious. The concept of grouping branches in 10 regions instead of provinces, introduced in 1962, was showing promise. But it was clear that the Institute was going through a difficult phase, one that would have to wait for significant changes within the organization to make a difference. The *Journal* was affected. As President George E. Humphries explained in a message in the February 1965 issue:

“The *Journal* has been published by the Institute since 1918. At the beginning of 1960, on the advice of the agent responsible for the sale of advertising space, Council approved the free distribution of the *Journal* to all engineers in Canada. This involved the elimination of the yearly subscription fee of \$4 previously paid by members, resulting in a substantial loss of revenue. It was felt at the time that the greater circulation would result in much increased revenue from advertising and that this would more than compensate for the extra expense involved and the loss incurred by no longer charging members for their subscriptions.

“However, the increasing competition for advertising and the generally declining amount of money invested by advertisers in business publications as an advertising medium defeated this aim. The result was that we were thus left with an average yearly reduction in net revenue of about \$60,000, which had been the amount we received from the subscription fees. Attempting to publish a worthwhile *Journal* within the financial resources available from advertising has been a difficult job and has had some adverse results in the quality of the magazine.

“The Publications Committee felt that they should be given an opportunity to produce a better *Journal* without over-emphasis on advertising revenue as the sole determinant of quality and content. It also recommended that the *Journal* should be distributed only to Institute members and paying subscribers. The free distribution of the *Journal* to non-members now costs more than \$45,000 a year.

“The recommendations to reduce the circulation and to make the *Journal* more member-oriented were approved by Council. The new look in appearance and contents of the *Journal* began last month. Although allowance has been made in the budget for a possible drop in advertising revenue, it is hoped that this will be kept to a minimum.”

A news item from the July 1965 issue of the *Journal* concerning the visit to Québec of a party of engineers from France:

“Une des premières tâches du président Côté après l’assemblée annuelle a été de participer officiellement, au nom de l’Institut, aux activités et pourparlers qui ont lieu à l’occasion de la visite d’ingénieurs français dans la province de Québec. Cette visite a débuté le 7 juin.

“Monsieur Côté a décrit cette visite et les discussions comme ayant été ‘très utiles et très pratiques,’ et a fait la remarque que, sans doute, un nouveau champ de coopération internationale était maintenant ouvert.

“La mission était sous le patronage conjoint du Ministère de l’Éducation de la province de Québec et de l’Association des Stages Techniques en France. Cette visite fait suite à celle d’ingénieurs canadiens en France en novembre dernier, et est un des éléments des études continues qui sont faites afin de déterminer les moyens les plus efficaces qui permettront aux ingénieurs français et aux ingénieurs du Québec de s’aider mutuellement...

“Monsieur Côté a affirmé que la visite de la mission française...a été d’une très grande valeur; elle a permis un échange de vues sur les méthodes de travail, le recrutement et les responsabilités dévolues aux ingénieurs en général, et aux ingénieurs conseils en particulier.”

The July 1966 issue also included three items of special interest to Institute members. The first was this item of branch news:

“A forty-year term as branch secretary-treasurer - unequalled in EIC history - has just

come to an end with the retirement of V. C. Blackett in Moncton...

“After graduating from McGill in 1910, Mr. Blackett returned to his native Glace Bay, Nova Scotia, as a mechanical designer with the Dominion Coal Company. In 1915, he joined the CNR on the construction of the Halifax Ocean Terminals and, in 1920 was transferred to Moncton as a structural engineer, from which position he retired in 1951.

“He was admitted to the Institute in 1921 and was elected secretary-treasurer of the Moncton branch in 1926. He was re-elected every year since then...”

The second was an obituary for General A. G. L. McNaughton, who died on July 11 at the age of 79. A 1910 graduate in engineering from McGill, and a classmate of Blackett's, General McNaughton achieved distinction as an engineer, soldier, statesman, administrator of research, and conservationist, received both national and international honours, and ended his active career as chairman of the Canadian section of the International Joint Commission in 1962. He joined the Institute as an associate member in 1914, transferred to membership in 1927, and was elected to honorary membership in 1957. He also received the Institute's Sir John Kennedy Medal.

The third was the announcement of the names of the 25 founding members of the new Science Council of Canada, under the chairmanship of Omond M. Solandt. Dr. Solandt was a medical doctor by training but was widely experienced in both industry and government. He was, for example, the founding chairman of the Defence Research Board and was elected to honorary membership in EIC. He also served for a year as treasurer of the Institute. Of the founders, 14 were scientists or medical practitioners, and 11 were engineers. The Council's principal task was to provide the federal government with advice on policies for, and for the use of, science and technology.

In 1962, a small committee led by past presidents John B. Stirling and Richard E. Heartz was appointed to examine the future accommodation needs of the Institute, the current ones having been deemed “unsuitable and inconsistent with the image of the Institute.” Its deliberations led, in time, to the decision to replace the property at 2050 Mansfield Street in Montréal with a new 16-storey office building. Its construction was completed in 1967. Meanwhile, several interesting items concerning the old and new buildings appeared in the *Journal*. For example, in Garnet Page's editorial in the February 1966 issue, he wrote:

“Today, February fourth, on the last day of the Institute's occupancy of its (*long-time*) headquarters building at 2050 (*formerly 176*) Mansfield Street, we are pleased and proud to welcome two charming ladies to our office. These ladies had been born at 176 Mansfield - as it had been numbered at the turn of the century - and had spent the first few years of their lives in this grand old house.

“Moving slowly from room to room, and apparently oblivious to the stacks of packing

boxes, men moving furniture, and the general unholy mess, these ladies spoke softly of the master bedroom, the family library, and the beautiful gardens at the side and back of the house. They spoke of the times when, as little girls, they romped and played in this house, and of the happy times in their childhood home.

“And then, almost 60 years ago, the house was sold to the Institute to become its proud new headquarters. A large addition was constructed to cover the back garden to house the library on the ground floor and an auditorium above it. The upper floor of the old house was transformed into a members’ lounge and a Council chamber. Offices were constructed in the former salons.

“The house then served as the centre for technical and social events for many years. During two World Wars, its staff and records were of great assistance to the nation. In the decade following the First World War, the auditorium housed the many meetings which drafted the first model acts upon which the subsequent provincial legislations were based, establishing the associations and corporation (*in Québec*) of engineers.

“In the early 1930s, it saw many meetings to discuss ‘consolidation’ of the engineering profession. Literally thousands of the most eminent Canadian engineers have presented papers in the auditorium, and outstanding engineers from all parts of the world have graced it by their visits...On its walls are the pictures of the Institute’s presidents from 1887 to today, and nearby are the plaques bearing the names of its members who fought and died in war...

“The surprise visit of the two ladies reminded us once again of the Institute’s proud past. It also made us more alert to our responsibilities to those who have served Canada so well. The Institute is a permanent fixture in Canadian engineering...”

When the Institute’s staff left the old headquarters, it moved into temporary quarters in another new building in downtown Montréal to await the construction of its own new building at 2050 Mansfield Street. The old building was demolished and the ground broken for the new one in April 1966.

The June 1966 issue of the *Journal* carried the story that, for the first time in Canada, a new type of equipment had been used to speed the installation of excavated large diameter caissons of exceptional bearing capacity for the foundations of the new building. Franki Canada Limited used the ‘Turn Grab’ patented drill for the work. Its essential advantage was that it was designed to drill caissons in unstable soils and could thus be used to complete deep borings irrespective of variations in the subsoil layers.

The new building was ‘topped-off’ on April 10, 1967. The Hon. Jean Marchand, then federal Minister of Manpower and Immigration, spoke at the ceremony, and Past President Côté spoke on behalf of the Institute. However, the new building was not finished in time for EXPO 67 and the Centennial Engineering Conference in Montréal. It was some months later that the headquarters staff

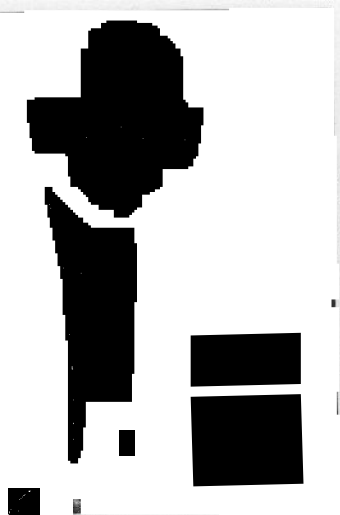
returned to 2050 Mansfield Street to occupy two floors of the building. EIC headquarters remained there until 1991, when it was moved to Ottawa.

In the October 1966 issue of the *Journal*, President J. Mervyn Hambley announced that Garnet Page, the general secretary for the past nine years, was leaving the Institute to assume a position with the new federal Department of Manpower and Immigration, with special responsibilities for scientific and engineering manpower.

President Hambley also announced in the February 1967 issue of the *Journal* that Page was being succeeded by Pierre Bournival, with the title of general manager and secretary of the Institute. Bournival received a BA degree in 1944 and a BASc degree in geological engineering in 1948, both from Université Laval. From 1949 until 1965 he was a member of the staff of the Corporation of Engineers of Québec, and general secretary of it for 10 years. He came to the Institute from the position of manager of business development of SNC, the consulting engineering firm in Montréal. A total of 23 candidates were considered for the position to which Bournival was appointed.

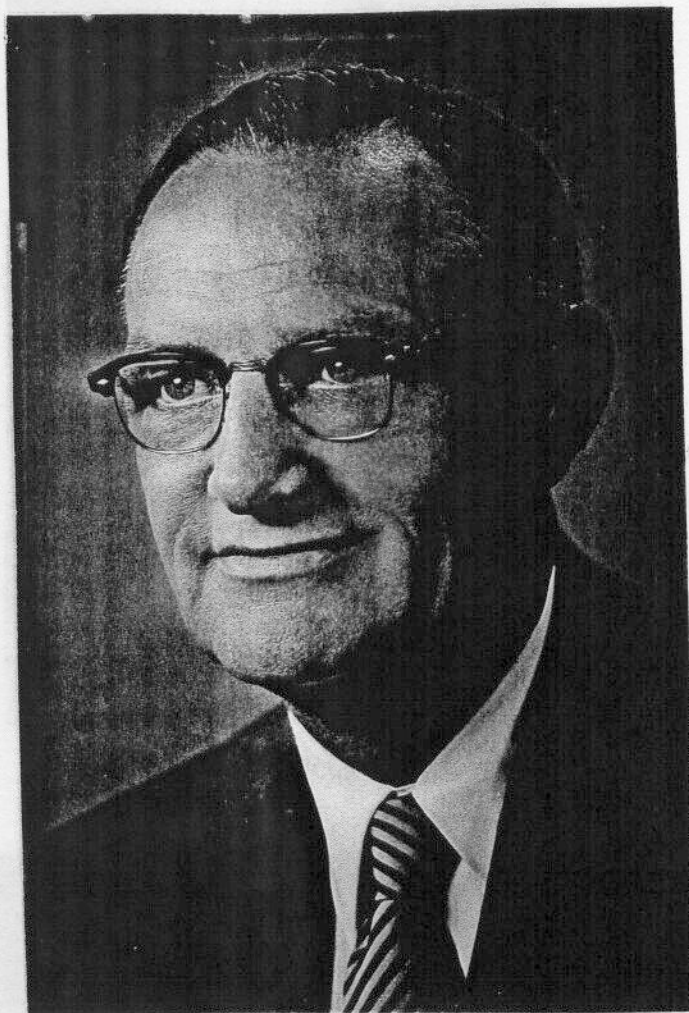
In March 1967, Dr. Hambley presented federal Industry Minister Charles M. Drury with a brief proposing a new national policy for research and development in Canada. Prepared by an Institute committee of prominent Canadian engineers under the chairmanship of Dr. Richard C. Quittenton, it recommended that:

- * Canada pursue a national research policy;
- * support for applied research and development be given first priority;
- * national research and development investment be guided into a distribution of 10% to basic research, 30% to applied research and 60% to development by increasing the expenditures on industrial research and development activities, without reducing the current outlays for basic research, and that priority be given to the support of R&D in science-based industry;
- * the engineering schools be given much increased support;
- * a national computerized technical information centre be established as part of the National Science Library under the NRC;
- * a 'Canada Prize' be established for achievement in technology;
- * the job-generating power of technical doctorates be recognized and programs developed to increase the supply of such people;



Garnet T. Page
Editor, *Engineering Journal*
1958-1967

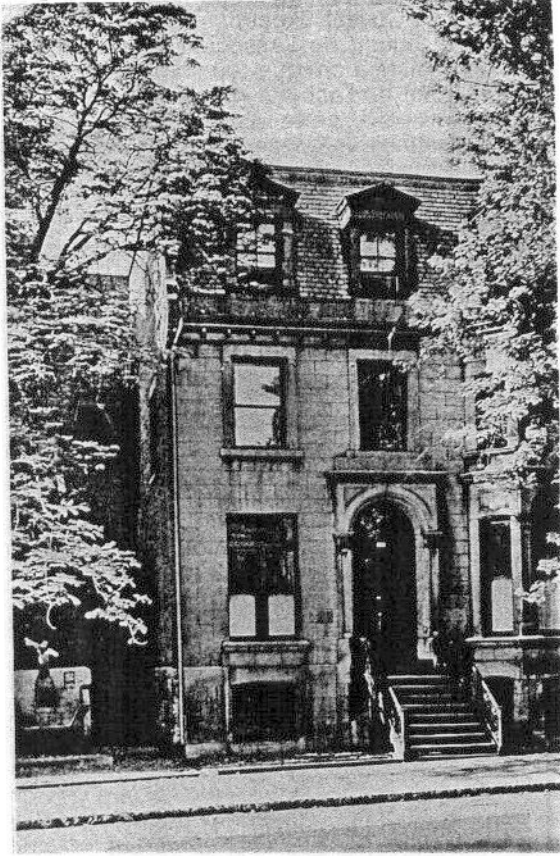
Clement M. Anson
President
Engineering Institute of Canada
1957-1958



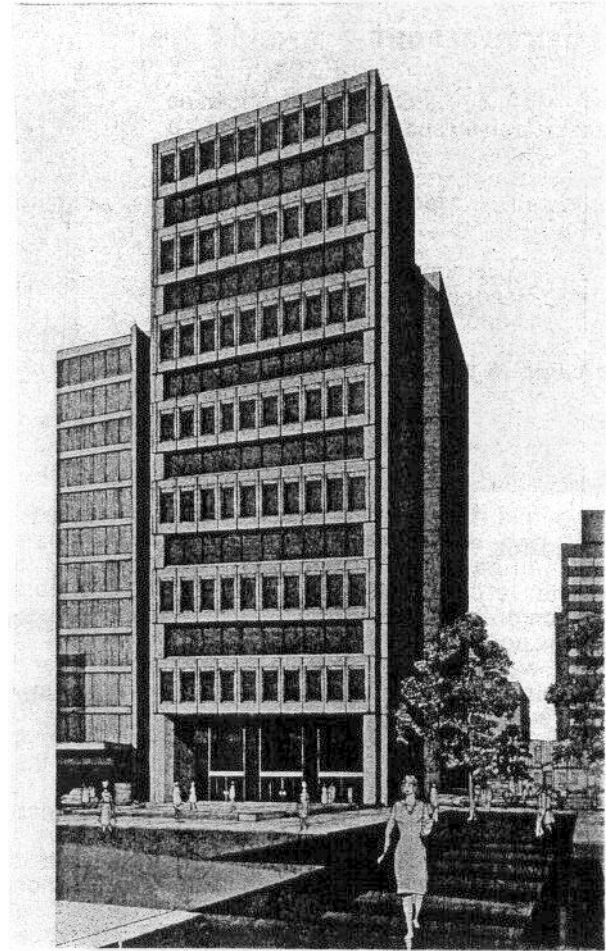
George E. Humphries
President
Engineering Institute of Canada
1964-1965

V. C. Blackett completed
40 years as secretary of the
Moncton Branch of EIC in
1966

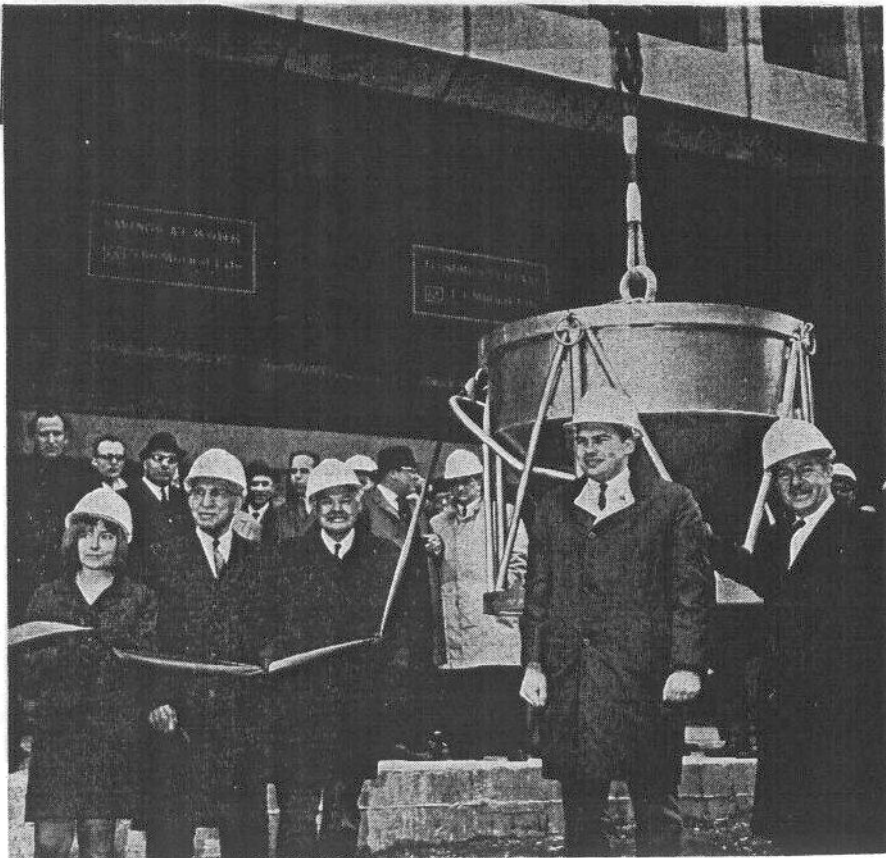




The old 2050 Mansfield Street



The new 2050 Mansfield Street
(architect's drawing)



"Topping off" the new building
April 10, 1967
(Past **President Gaétan Côté** centre,
front; Hon. Jean Marchand, right
front)



EIC Award Winners, June 1967

(President John H. Swerdfeger and Past President J. Mervyn Hambley flanking Dr. Lorenza Feng, centre, who won the Plummer Medal)



Members of 1969-1970 EIC Council who attended the meeting in Vancouver on September 11, 1969
(Front row centre, President William G. McKay; front row right, Pierre Bournival, EIC general manager and editor, *Engineering Journal*)



Presentation to the President of UPADI
by EIC Past President Ian A. Gray
Toronto, October 12, 1974

Clifford N. Downing
Chair of the EIC Committee to establish
the Canadian Society for Mechanical Engineering
1968-1970



G. A. Wilson, president ICE, UK, Camille A. Dagenais, president CSCE, and O. S. Bray, president ASCE, who attended the inaugural Annual Meeting of the Canadian Society for Civil Engineering at Saskatoon, September 1972

- * more effective collaboration between industry and the universities be stimulated;
- * government's intramural expenditures on R&D be held to 45% of the total government sector investment in the field;
- * incentives to stimulate industrial and personal efforts on innovation be strengthened; and
- * a list of technical national objectives be established on a priority basis.

At the time of the presentation, the federal government had already moved on at least one of the above: the study of a national technical information centre, initially by the Science Secretariat of the Privy Council Office alone and later in co-operation with the Science Council of Canada. This resulted in the creation, within NRC, of the Canadian Institute for Scientific and Technical Information (CISTI).

Over the years, most of the other recommendations received some action on the part of the federal government, as well as in some of the provinces. The original EIC report was published in January 1967 in both official languages. It was reviewed favourably in the March 1967 issue of the *Journal*.

1967 was a rather special year in Canadian history, and the Institute took part in the celebrations. The following paragraphs appeared in the Annual Report of the Council for the year, in the May 1968 issue of the *Journal*:

"Engineers proved to be among the most ardent supporters of the manifestations celebrating the Centenary of Confederation. They were of course among the principal creators of EXPO 67, which was an engineering feat in itself. Engineers were also the only profession who made a physical contribution to EXPO 67. It consisted of a symbolic sculpture by Gladstone erected in the centre of an Engineers' Plaza. Three groups sponsored the project and raised the money among Canadian engineers: the Association of Consulting Engineers of Canada; the Canadian Council of Professional Engineers, and the Engineering Institute of Canada.

"EIC also played an important role in the organization of the 1967 Congress of Canadian Engineers, which was held in Montréal under the sponsorship of 11 technical and professional engineering societies operating in Canada... Some 1200 participants registered, of which over half were members of the Institute. The Hon. Robert H. Winters, MEIC, was chairman of the Congress.

The Institute's Annual Business Meeting was held during the Congress, as well as the Awards Luncheon and Annual Banquet, which was graced by an unusual number of head table guests from all over the world."

The report went on to say that, all in all, 1967 had been a year of consolidation of the Institute structures and operations. A financial surplus, the first in ten years, had been achieved. On the other hand, membership in all grades had dropped from over 24,000 in all grades (in 1962) to 19,300, including 5000 students, and the number of active branches from 63 to 54. A new set of by-laws had been introduced. The appearance of the *Journal* was said to have been improved. Member services and the technical divisions had been strengthened. The publication of the report on research and development and progress on the new EIC building have already been mentioned.

The January 1968 issue of the *Journal* introduced the readers of the magazine to another new format and content. Advertisements were few in comparison with those that appeared in the much fatter *Journals* of the 1950s and early 1960s. Business cards, however, were just as numerous and almost exclusively for consulting engineering firms. They included:

C. G. Russell Armstrong Associates Ltd., Windsor, Ontario
 Associated Designers and Inspectors, Fredericton
 Associated Engineering Services Ltd., seven locations in Western Canada
 Beauchemin-Beaton-Lapointe, Montréal
 Canadian-British Engineering Consultants Ltd., Don Mills, Halifax, St. John's
 C. D. Carruthers & Wallace Ltd., Toronto
 W. O. Chisholm & Associates Ltd., Scarborough, Ontario
 G. E. Crippen & Associates Ltd., North Vancouver
 Cross, Styles & Brown, Toronto
 Dames & Moore Ltd., Don Mills, Halifax, Saint John
 De Leuw Cather, Montréal
 M. M. Dillon Ltd., five locations in Ontario, Winnipeg
 Dilworth Secord Meagher & Associates Ltd., Toronto
 J. T. Donald & Company Ltd., Montréal
 Ewbank, Pillar & Associates Ltd., Toronto
 Foundation of Canada Engineering Corporation Ltd., seven locations across Canada
 Friedman, Duquette, Angus, Chauvin, Montréal
 Frost Lindsay & Associates, Montréal
 Gamma Engineering Ltd., Edmonton
 General Engineering Company Ltd., Montréal, Toronto, Vancouver
 Geocon Ltd., Dorval, Toronto, Vancouver
 H. Q. Golder & Associates Ltd., Cooksville, London, Ottawa
 Golder, Brawner & Associates Ltd., Vancouver
 A. W. Huffey, Cornwall, Ontario
 Hurter Todd & Meyer, Montréal
 Kilborn Engineering Ltd., Toronto
 N. D. Lea & Associates, Vancouver, Toronto, Montréal
 Lindsay, Cosgrove & Associates, Montréal

James F. MacLaren Ltd., Toronto, London, Moncton
 A. D. Margison and Associates Ltd., Don Mills, Halifax
 Cedric Marsh, Montréal
 Marion, Robic & Robic, Montréal
 Marshall Macklin Monaghan, Don Mills and five other Ontario locations
 McAdam, Magor & Associates, Montréal
 O. J. McCulloch & Company, Montréal
 Morrison Hershfield Milman & Huggins Ltd., Toronto
 C. C. Parker & Associates Ltd., Hamilton, London, Ottawa, Port of Spain
 Peto Associates Ltd., St. Catharines, Kitchener, Windsor, Ontario
 Proctor & Redfern, Toronto and eight other locations across Canada
 J. L. Richards & Associates Ltd., Ottawa, Hull
 Ripley, Klohn & Leonoff Ltd., Vancouver, Calgary, Winnipeg
 Roof Engineering and Inspection Company Ltd., Toronto
 Swan Wooster Engineering Company Ltd., Vancouver and four other locations in Canada
 TDS Ltd., Oakville
 B. B. Torchinsky & Associates Ltd., Saskatoon
 William Trow Associates Ltd., Toronto, Hamilton, Sudbury
 Underwood McLellan & Associates Ltd., seven locations across Canada
 Vance, Needles, Bergendoff & Smith Ltd., Woodstock, Ontario

In his editorial in the March 1968 issue of the *Journal*, General Manager Pierre Bournival discussed the lack of participation of French-speaking EIC members in the Annual Meetings of the Institute and the incidence of the use of French at branch meetings in Québec and the need for more of both. He wrote, in part:

“Dans les milieux canadiens à prédominance française, les activités des sections de l’Institut canadien des Ingénieurs, sont surtout de caractère mondain exception faite de la section de Montréal.

“Tout espoir n’est pas perdu cependant. Ici et là, des points clairs paraissent. À titre d’exemple, citons le réveil spectaculaire de la section associée de Montréal (c’est à dire la section des jeunes membres). Il a été orchestré par Laurent Mondou...à la tête d’une équipe d’anglophones et francophones travaillant à l’unisson en vue de leur perfectionnement mutuel et de l’avancement de notre profession, surtout chez les étudiants universitaire.

“Les membre qui lisent ces signes sont évidemment déjà convaincus de l’avantage qu’il y a à faire partie de notre Institut. Fasse qu’une fierté nationale bien sentie, les pousse à un peu de prosélytisme auprès de leur trop nombreux confrères qui sont indifférents ou qui souvent n’attendent qu’un coup de pouce pour devenir membres actifs de l’Institut.

Que tous participent aux activités des sections de l'Institut, qu'ils en lisent les diverses publications et qu'ils s'offrent comme membres de comité; enfin, qu'ils se sentent bien chez eux dans cet organisme qui ne demande qu'à les mieux servir. Tel est le voeu de chaque président et secrétaire de section, du Conseil et du personnel permanent de l'Institut."

The April 1968 issue of the *Journal* included the news item announcing a major policy change affecting the structure of the Institute. At its January meeting, the Council - on the recommendation of the Committee on Technical Operations (CTO) - approved the motion that the Institute should encourage the development of the technical divisions supervised by the CTO into specialized constituent societies with their own publications, dues and specialized services. Among the reasons for this change were the competition the Institute was feeling from new, very specialized technical societies and the inroads being made into its membership potential by foreign-based engineering societies through their recruiting activities in this country. This paragraph was included in the statement of policy:

"The EIC believes that the interests of the engineering profession and the public will be better served by exploitation of the technical division structure of the Institute, including the possibility of its evolution into a group of constituent societies, than it will by the formation and proliferation of new specialized technical societies. The Institute will endeavour through publication to make the division organization more widely known, and will foster the formation of constituent societies from divisions in those cases where member interest justifies the change."

In June 1968, the CTO approved the setting up of a steering committee to develop a proposal for the establishment of a constituent society in mechanical engineering. The discussions were to involve the technical division associated with that discipline, as well as the thermal and nuclear and the welding divisions, and representatives of EIC, the American and the British mechanical engineering societies. The new society would be established two years later.

The September 1968 issue of the *Journal* was the commemorative one celebrating 50 years of publication. It was the 604th to be published. In his editorial, Pierre Bournival recounted some of the history of the *Journal* and made these comments:

"In the years between 1918 and 1968, the *Journal* has published several thousand articles. Together, they represent a considerable library of Canadian engineering information and techniques. Technical articles continue to form the bulk of the *Journal's* content, but today there is a growing realization that engineering is not a world apart and the 1968 *Journal* seeks to reflect the growing participation of the engineer in modern

society in all its aspects.”

The September 1968 issue noted the establishment within the Institute of a class of ‘Sustaining Members’ to add to its financial strength. Under the policy established for it, a standing committee of eminent Institute members was to be set up to determine which organizations were to be invited to join it on the basis of their support for EIC’s objectives. The committee would also maintain contact with them. A schedule of annual fees for those invited to join was suggested, based on the number of each organization’s engineering employees, and varying from \$100 for those with 0-25 employees up to \$1000 for those with 501 or more. Sustaining members would receive copies of the Institute’s Annual Report. The initial list contained 64 names.

With modifications since 1968, this class of membership still exists within the Institute.

The Committee on Road Safety Research was one of the longer-established, active EIC committees that made use of grants from ‘outside’ agencies. The July/August 1969 issue of the *Journal* noted, for example, that a quarter of a million dollars had been provided in 1967 by the Donner Foundation to fund projects that followed two guidelines: one, that a variety of professionals, including engineers, would be involved; and the other that the money would be used for specific research projects.

The Donner grant had been used to establish three accident investigation teams, two of them employing summer students. It had also been used for specific projects, such as the co-ordination of accident investigations and statistics, the study of the use of polaroid headlights, bringing Swiss automatic photo-radar instruments to Canada and determining the economic and ethical implications of the use of the Swiss instruments, the investigation of the public’s reaction to the marketing of vehicle safety equipment, the analysis of pedestrian road tragedies and the economic cost of these in Canada.

In addition to this work, the Committee conducted annual competitions among engineering students for bright ideas that might increase road safety. This competition was financed by the North American Life Assurance Company.

In the report of the highlights of the EIC Annual Meeting, the December 1969 issue of the *Journal* said that the Institute’s by-laws were to be changed to reflect the potential formation of the new constituent societies. Among other things, the societies were to be equitably represented on the main EIC Council and its executive committee and the standing committees of the Institute were to be restructured to reflect the existence of the societies. Also, the fee structure would include a basic rate

for all members according to their class, plus an increment levied by each of the societies to finance their individual activities.

At the end of 1969, there were 53 branches in the 10 regions, and the number of members in all grades was 18,100, of whom 5,100 were students

For many years, the Institute participated annually with a half-dozen or more American technical societies in the Joint Engineering Management Conference (JEMC). As with ECPD, it was the only Canadian organization to do so. The 17th JEMC Conference was held in Montréal in October 1969, and the arrangements for it were made by a committee led by James G. Ripley, an EIC member. Over 400 engineers attended, 225 of them from Canada.. The opening address was delivered by EIC member Jean-Paul Gignac, the president and chief executive officer of SIDBEC and of DOSCO. Gignac's paper, an editorial by Ripley, and a number of photographs appeared in the December 1969 issue of the *Journal*.

During 1969, the *Journal* announced the sudden death of the Hon. Robert H. Winters. He had gained national prominence the year before as the principal opponent of Pierre Elliott Trudeau for the leadership of the federal Liberal Party. Shortly before he died, he was awarded the Julian C. Smith Medal of the Institute.

1970-1975

The March 1970 issue carried a news item about the establishment earlier in the year of a new kind of national organization. This was the Association of the Scientific, Engineering and Technological Community of Canada - referred to usually as 'SCITEC.'

There were more than 120 delegates from the national societies in science, medicine, engineering and technology at the founding conference in Ottawa. The stated objectives of SCITEC were: to speak for the community as a whole; to advise government on science policy in the national interest; and to explain science and technology to the general public. The main stimulus for its establishment came from the Special Committee on Science Policy of the Senate of Canada, chaired by Senator Maurice Lamontagne, which had undertaken hearings involving many organizations on matters associated with national science and technology policies. The Senator had complained out loud that the Committee was receiving advice of different kinds from the individual scientific and engineering organizations, which it found confusing. So, could not the community get together and speak with one voice?

The first president of SCITEC was Dr. Norman S. Grace, then president of the Chemical Institute of Canada (CIC). EIC, along with CIC and the Canadian Association of Physicists, were the original organizations involved. They were joined by the Canadian Medical Association in sponsoring the January conference that led to the establishment of SCITEC. Individuals as well as organizations could be members of it. Dr. Richard C. Quittenton, who had chaired the EIC committee that had produced its science policy report, represented engineering on the executive committee of SCITEC. He was also a member of the founding Council of the Association, along with EIC President, W. G. McKay, and Past President Jean-Paul Carrière. Mr. McKay later chaired this Council.

The item ended by inviting all readers of the *Journal* to become members of SCITEC, and provided an application form for this purpose.

The May 1970 issue of the *Journal* contained an editorial by Clifford N. Downing, who had chaired the steering committee responsible for the establishment of the first of EIC's constituent societies. Downing wrote, in part:

“On March 7, 1970, a group of engineers drawn from all the provinces of Canada met in committee as the first national executive of the Canadian Society for Mechanical Engineering... This Society was not suddenly produced out of a hat; it had been in the discussion and development stage since May 1968. This major step towards establishing a broad new role for the EIC was formally announced in Canada, the U.K. and the U.S.A. on 11 April 1970...

“Many members have been aware of the need for change and, contrary to the situation in prior years, these members and their representatives on the committees of the Institute have been working towards a new role and a new image for the Institute for a number of years. But change in a democratic institution is not easy to achieve or rapid in its execution; all aspects of the problem have to be considered and many members have to be consulted. Valuable links with the past need to be retained and it is no easy task to determine a structure which meets the former requirements without inhibiting progress.

“Most of the readers of this *Journal* are aware of the constituent society concept, which could serve engineers and technical affiliates of all disciplines and major specializations. This may not be a problem in the highly industrialized centres of Toronto, Montréal and Vancouver, but it is a very real problem in the areas of low engineering density and in the remote communities that have been established to develop natural resources. I believe the constituent society concept has been structured in a manner that will meet the needs of all of the above and that, where a choice has to be made, preference must be given to a technical society structure which anticipates and challenges future needs.

“CSME, the first of the constituent societies, is still a fledgling organization and needs

the unstinted support of all mechanical engineers to bring it to maturity as an effective and influential voice for its members and as a source of essential technical services...”

The *Journal* published in May 1971 was a special issue to salute the establishment of CSME, which EIC President W. Leslie Hutchison in his editorial called “the outstanding highlight of the recent history of the Institute.” Among other things, this issue also recorded the Society’s activities during its first year of operation³.

The report by CSME’s president, Hugh G. Conn, identified several of the basic problems faced by the new Society when he wrote:

“As I know you will appreciate, burdens fall heavily on all of us, both as individuals and as a technical society. In the early days when numbers are relatively small and start-up expenses are heavy, operating funds are required from sources other than fees. To support us in this area, the councils of EIC, ASME and IMechE have made a significant contribution. EIC has also provided an interest-free loan.

“One answer to the financial problem lies in the size of our membership. We are now approximately 1900 strong, including some 300 students and over 100 applications in process. When this is compared with a potential of 16,000 mechanical engineers in Canada, it is seen that our membership committee has plenty of room for activity, but a Society such as CSME cannot survive for long on mere numbers. We must, of course, go after numbers through an aggressive membership campaign, but at the same time we must build sound technical foundations so that the papers, meetings, conferences and the resulting publications and transactions gain the respect and admiration of our colleagues. The success of CSME will depend on the success of this three-pronged attack on the fronts of membership, program and publications.”

One of the regular ‘departments’ of the *Journal* was the listing of the up-coming conferences and technical meetings with which the Institute was associated as a sponsor or co-sponsor. The

³ The stories of the establishment of CSME and of its first 25 years of operation have been told in essays in *From Steam to Space...Contributions of Mechanical Engineering to Canadian Development* published by the Society in 1996 and edited by Andrew H. Wilson. The histories of the Canadian Society for Civil Engineering and the Canadian Geotechnical Society - both established in 1972 - have been recorded in *A Civil Society: A Brief Personal History of the Canadian Society for Civil Engineering* by Peter R. Hart, published by the Society in 1997 and in *Geotechnical Engineering in Canada: An Historical Review*, edited by Cyril E. Leonoff, which appeared in Volume 15, Number 4 of *Geotechnical News* in October 1997. While it was not a member society of EIC at the time, the Canadian Society for Chemical Engineering published a 25th Anniversary Volume, *Chemical Engineering in Canada: An Historical Perspective*, in 1991. It was edited by Leslie W. Shemilt.

July/August 1971 issue included the following:

In 1971:

- * September 15-17; the 85th Annual General and Professional Meeting of EIC (and CSME), at Quebec City
- * October 4-5; the 19th Joint Engineering Management Conference, at Los Angeles (co-sponsor)
- * October 12-14; the Canadian Engineering Design Conference, at Toronto (co-sponsor)
- * October 14-16; the EIC Region X/APEN Technical Conference, at Grand Falls, Newfoundland
- * October 26-27; 1971 Refining Symposium on Rotating Equipment and Power Recovery, at Toronto (sponsor: EIC Toronto Branch, Petroleum Section)
- * November 18-19; EIC Region II Technical Conference, at Regina
- * December; Workshop Seminar on the Social Responsibility of the Engineer, at Winnipeg (sponsors: University of Manitoba, APEM and EIC Winnipeg Branch)

In 1972:

- * February 11-12; Region IV Technical Conference, at Hamilton
- * Spring; Region V Technical Conference on Transportation, at Kingston
- * May 11-12; Symposium on Panelized Structural Assemblies, at Montréal (sponsors: SGWU and EIC Montréal Branch)
- * May 29-31; Fourth Western Canadian Heat Transfer Conference, at Winnipeg (sponsors: CSME and University of Manitoba)
- * May 31-June 2; First Intersociety Transportation Conference, at Washington, D.C. (EIC a co-sponsor)
- * June 1-2; Conference on the Finite Element Method in Civil Engineering Structures, at Montréal (sponsors: EIC Bridge and Structural Division and McGill University)
- * July 10-14; 13th International Coastal Engineering Conference, at Vancouver (sponsors: EIC and NRC)
- * August 14-17; Third Inter-American Conference on Materials Technology, Rio de Janeiro, Brazil (co-sponsor)
- * September 13-15; 86th Annual General and Professional Meeting of EIC (and CSME), including the formal establishment of the new CSCE, with guests from ICE and ASCE, and of CGS, at Saskatoon
- * Fall; 25th Canadian Geotechnical Conference, at Ottawa (sponsors: EIC and University of Ottawa)

The October 1955 issue of the *Journal* included a report on the dedication earlier that month in Ottawa of a fountain commemorating Colonel John By of the Corps of Royal Engineers, the builder of the Rideau Canal. The principal participants in the ceremony were the Hon. Robert H. Winters, the federal Minister of Public Works, President Richard E. Heartz of EIC and Robert F. Legget, chairman of the Ottawa Branch. Her Worship Mayor Charlotte Whitton of Ottawa spoke at the luncheon preceeding the ceremony. The idea behind this memorial fountain originated with the Ottawa Branch, with the support of EIC Council. Its erection was the work of a committee chaired

by Dr. Legget. It had originally 'played' in Trafalgar Square in London, England, from 1845 to 1948, and had been gifted to the National Gallery of Canada.

The October 1971 issue of the *Journal* carried a report of the unveiling on 14 August in Ottawa by Governor General Roland Michener of a bronze statue in memory of Colonel By. Standing on its massive granite base, the statue was erected on the high ground overlooking both the eight flight locks at the north end of the Rideau Canal and the Parliament Buildings. The sponsor in this case was the Historical Society of Ottawa. President Hutchison of EIC was among the guests at the ceremony.

In his editorial in the December 1971 issue of the *Journal*, President John H. Dinsmore announced that Pierre Bournival was stepping down after five years as general manager of EIC and, in early March, would take a position in the newly-created Ministry of State for Science and Technology (MOSST) in Ottawa. Mr. Dinsmore said that Pierre's tenure at EIC corresponded with a period of great change within the Institute, coupled with such 'outside' influences as the rapid growth of new technology, growing concern for the physical environment, and the search by engineers for a more meaningful public identity. His contributions to the Institute and its members had been significant.

In the January/February 1972 issue, President Dinsmore announced that Byron T. Kerr would succeed Pierre Bournival as general manager. The April issue carried a short biography of Mr. Kerr. Born in New Brunswick, he graduated from Nova Scotia Technical College in 1947. From then until 1950, he worked for the Shawinigan Engineering Company as an assistant resident engineer. He next joined the P. N. Thomson Organization and, over the next 19 years, held a number of senior executive positions, including president and director of the Warnock Hersey Company in Montréal. During this period, he also spent some time on loan to Defence Construction Ltd. in charge of its projects in Québec. He had served as an alderman and as mayor of St. Lambert, Québec. Mr. Kerr was a long-time member of the Institute and was its treasurer and chairman of the Finance Committee.

The same January/February issue of 1972 carried the announcement of the death of Dr. Lilian M. Gilbreth. An invited speaker at several EIC Annual Meetings, a regular participant in the Joint Engineering Management Conferences, and a honorary member of the Institute since 1949, Dr. Gilbreth did pioneering work with her husband, and continued on after he died, in the fields of scientific management and industrial engineering. She was professionally active until 1969, when an accident confined her to a nursing home. She died in Phoenix, Arizona, at the age of 93.

Continuing education has been a recurring subject in the pages of the *Journal*. The Institute was actively involved, especially at the regional and branch levels, and it offered courses at the Annual

Meetings. One of these articles, simply titled 'Continuing Education for Engineers,' appeared in the January/February issue in 1972, written by Professor Raymond E. Chant of the University of Manitoba. In last part of this article, he says a number of things about the EIC programs in his province and in Saskatchewan:

"The continuing education programs organized by the local committees of the Engineering Institute of Canada covering Manitoba and Saskatchewan have been an unqualified success for the last eight or nine years. These programs have consisted of two types: one called the Technical Development Program, which consists of a series of short courses arranged by a committee of the EIC with the Extension Divisions and the Engineering Faculties of the Universities of Saskatchewan and Manitoba, was presented every year, alternately at the two universities, until 1970. Since then, Manitoba has attempted to run them in consecutive years... These courses generally attract from 100 to 125 engineers registered in 6 to 10 different courses. Success has been due to the fact that the programs have essentially been planned by the practising engineers themselves; the EIC committee makes a survey from time to time to ascertain the exact interests of the participants...

"In addition to the Technical Development Programs, the local committees have arranged regional conferences of a mission-oriented type, which have also been most successful. One of these was on resource management. Considering that 18 months lead time is required for planning, it turned out to be the most topical subject for the fall of 1970. During the summer of that year, the news media had spent most of their time criticizing technology for its misuse of natural resources...

"Local committees also run courses throughout the academic year, covering a variety of subjects, from a review of mathematics to subjects of an almost purely technological nature. Many different formats have been used in operating these courses, but there appears to be no way of predicting success. One course offered in May 1971 on noise control failed to attract a sufficient number to justify proceeding. It was re-offered in November and was oversubscribed."

The Canadian Society for Civil Engineering (CSCE) and the Canadian Geotechnical Society (CGS) were officially established as self-governing constituent societies of the Institute on 1 June, 1972, although both began to operate and to contribute news and other items to the *Journal* in the months before then. In fact, the front page of the May issue for that year commemorated the founding of both the "old" and the "new" CSCEs. The founding president of the latter was John Bell, who was followed by Camille A. Dagenais. The founding national chairman of CGS was G. Geoffrey Meyerhof. This Society presided over the Geotechnical Conference in Ottawa in December 1972,

which was actually the 25th in an annual series that had begun under the EIC umbrella and continued under the CTO's geotechnical division, which formed the nucleus of CGS.

Both societies joined CSME in having their headquarters in the EIC Building at 2050 Mansfield Street, Montréal.

The issue of the *Journal* for September 1972 included a general paper by Peter Collins commemorating the centennial of the beginning of engineering education at McGill University. The first Dean of the Faculty of Engineering there (1878-1908) was Henry T. Bovey, who was also the founding secretary of the original CSCE, and president in 1900.

The front cover of this issue reproduced a photograph of the engineering class of 1873 at McGill. The six men in it included Clement H. McLeod, later a McGill professor, who also was secretary of Society on a part-time basis for 22 years.

This same issue carried the announcement of a joint program involving the Institute and the Department of Indian Affairs and Northern Development, then the 'home' of the federal government's heritage activities, to "identify and record the surviving, tangible remains of engineering and technological achievements throughout Canada." The Canadian Engineering Heritage Record (CEHR), as it was called, was also concerned with recommending the preservation of "non-stationary objects and documentary sources" that merited it. A national committee was formed from Department and Institute representatives to guide the work, assisted by committees throughout the regions of the country. Specifically, the EIC's role was to encourage engineers to participate in the program, to identify, record and study the achievements, to provide advice on the significance of each, and to assist in their commemoration. Funding was to be made available by the Department to cover expenses.

Activity continued under CEHR for several years but was then abandoned, for a variety of reasons. One formal report was issued by the national committee. By the early 1980s, the Institute's historical activities were centred on a study committee with representatives from across Canada, supported principally by the Life Members' Organization.

The October 1972 issue of the *Journal* reported that the 86th Annual Congress of the Institute, held for the first time at Saskatoon earlier that month, had been one of the most successful of these meetings...ever. A big factor was the unusually large attendance - over 1000. The University of Saskatchewan suspended classes during the five days of the Congress to allow faculty and students to attend. The three constituent societies - CSME, CSCE and CGS - also held their annual meetings

during the Congress. The Rt. Hon. John G. Diefenbaker, the former Prime Minister, received honorary membership of the Institute at the opening luncheon and conveyed his thanks in a “rousing speech” that earned him a standing ovation. The technical sessions were of high quality and, at several, there was standing room only.

The March 1973 issue of the *Journal* carried the announcement that Camille A. Dagenais and Colin D. diCenzo had been appointed Officer and Member, respectively, in the Order of Canada. M. Dagenais was, at that time, president of CSCE and president and director of Surveyer, Nenninger et Chênevert Inc. of Montréal. Professor diCenzo was a member of the Department of Electrical Engineering at McMaster University in Hamilton and later president of both the Canadian Society for Electrical Engineering and the Institute. M. Dagenais was later promoted to the rank of Companion in the Order. They were by no means the first, or the last, engineers or EIC members to be appointed to the Order.

The April 1973 issue of the *Journal* included a paper, under the CSME banner, by Fred P. J. Rimrott of the University of Toronto on ‘The Canadian Metrication Program.’ It began by noting that, two and a half years earlier, the Government of Canada had tabled a White Paper which concluded that the eventual adoption of the metric system should be an objective of Canadian policy. It noted also that the main opposition to metric conversion had come from the mechanical engineering industries, which had made significant investments in design and production know-how and skills and in physical plant. Nevertheless, Rimrott maintained that these industries had much to gain from metrication. They should therefore be planning ahead for the day when it became a reality.

This paper went on to discuss the metric system and metrication in some detail. It ended by concluding that professional engineers were exceptionally well equipped to take a leading role in the adoption of the system in Canada, not only at their places of work, but also in public affairs and as consultants and advisors to all levels of government. They should participate in such issues as the timing of the introduction of metrication and in promoting its adoption in the schools.

The *Journal* for September 1973 published an article by the new general manager of EIC, Byron Kerr, titled ‘The EIC on the Move.’ It had two principal parts. One was to record the concluding of an agreement between CCPE and its constituent associations and EIC and its constituent societies. The other was to provide details of the changes in administrative procedures within the Institute to take account of the requirements of its new societies.

CCPE and EIC agreed that there would be a clearer division of responsibility between them. Further, CCPE and its constituent associations would encourage each of their members to support actively

at least one Canadian-based technical society, would assist in the development of such societies whenever possible, would collaborate in the development of their technical programs, and would refrain from competing with the societies in these activities. For its part, EIC and its constituent societies would recognize the statutes governing the practice of engineering in the provinces and territories and avoid statements that would be in conflict with these statutes. There would be regular joint meetings between the executive committees of CCPE and EIC, and other means of cooperation and mutual assistance would be developed as quickly as possible.

The responsibilities of CCPE and its associations were identified as: registration, licensing, discipline and enforcement; accreditation and/or recognition of Canadian and foreign engineering programs; provincial and federal legislation and policies; engineering and technical manpower studies and planning; the professional employment and general welfare aspects of engineering; and international representation in all except specialized technical or scientific fields.

The responsibilities of EIC and its constituent societies would include: diffusion and development of technical and scientific knowledge; the encouragement and recognition of technical excellence; and international representation in specialized technical and scientific fields.

There would be joint responsibility for: engineering education and training; international representation on bodies concerned with both technical and non-technical matters; codes and standards; and any other matters not previously specified.

With regard to the changes to the administrative procedures within the Institute, Kerr wrote that the Montréal office of the Institute and the constituent societies had been re-organized in keeping with the new structure, and would now be referred to as the Central Service Centre. In this process, services such as the insurance programs and employment services had been terminated since they had been adopted by the provincial associations and/or CCPE. As a result of these and other changes, the Service Centre staff had been reduced from 27 to 16 people and floor space reductions had been made, resulting in substantial financial savings. Under the general manager, and in the charge of their own senior staff, would be five units - for administration, communications, membership and technical services and constituent society liaison.

Mr. Kerr went on to say that the branches were being reorganized so that their executives would include elected representatives of EIC and the societies. In the larger centres, however, the Institute and the societies could form parallel executives, as well as a branch council that had representation from all of the parallel executives. The new regional structure, which followed the usual five provincially-based regions across the country, would have elected representation from the Institute and the societies, and possibly also from the provincial associations. The EIC's own executive committee would include the presidents of the Institute and the societies, as well as the EIC past president and treasurer. The Institute's finance and other operating committees would have also have EIC and society members. The EIC Council would include representatives from all the components of the Institute.

The October 1973 issue of the *Journal* carried the announcement of the establishment in Montréal of the Canadian Society for Electrical Engineering - the fourth constituent society of the Institute. Dr. T. J. F. Pavlasek was elected the first president of CSEE. Those EIC members who did not join a constituent society were, by now, assigned to the General Members' Group, which was administered by the Institute.

The November/December issue published a keynote address given by Robert F. Shaw, who had been appointed the first deputy minister of the new federal Department of the Environment in 1971. Mr. Shaw had a distinguished career, serving as president of the Foundation Company of Canada, deputy commissioner-general of EXPO 67, vice-president, administration of McGill University, and president of Monenco Pipeline Consultants Ltd. He was president of the Institute in 1975-76.

This same issue included a report with regard to the activities of the Canadian branch of *La Société des Ingénieurs Civils de France (SICF)*, which made its headquarters with EIC at 2050 Mansfield Street in Montréal. The connotation of 'civil' was identical with the 'non-military' one that applied to the original CSCE and to the Institute. The report said, in part:

“Si l'on se retourne sur les 12 mois qui viennent de s'écouler, nous avons la satisfaction de voir combien les activités de la SICF ont été intéressantes et diversifiées.

“Plusieurs déjeuners-causeries ont permis à d'éminents conférenciers de traiter des problèmes aussi divers que: 'Banques et Affaires; Ports de Québec; Baie James; Coopération Université de Sherbrooke; Marine Industries; Loi cadre des Municipalités; etc.

“Dans le cadre de ces déjeuners-causeries s'est tenue l'Assemblée Annuelle au cours de laquelle M. C. Herselin (Délégué Général de la SICF à Paris) nous a parlé du rôle prépondérant des Associations Internationales d'Ingénieurs.

“Tous les sociétaires ont présent en mémoire le dernier Symposium dont le thème 'Transports' a attiré plusieurs participants. Six conférenciers, venus d'un peu partout, ont abordé divers sujets d'avenir depuis l'avion de ligne supersonique jusqu'au train de propulsion et suspension magnétiques en passant par l'application de la recherche opérationnelle aux problèmes de circulation urbaine...

“Nous rappelons qu'au mois d'octobre auront lieu en France les activités commémoratives du 125ème anniversaire de la SICF. Il est prévu une très large participation internationale.

“Nous invitons tous nos membres à retenir la date du 5 novembre où la section Canadienne aura l'honneur de recevoir monsieur Paul Bourrières, Président de la SICF.”

At the Annual Meeting of the Canadian section, an 11-person management committee for the next two years was elected, to be chaired by M. Gaétan J. Côté, president of EIC in 1965-66.

The Niagara Peninsula Branch of the Institute celebrated the 50th anniversary of the granting of its EIC charter at St. Catharines on 9 March 1974. As reported in the May/June issue of the *Journal*, EIC Senior Vice-President Donald L. Mordell attended, along with the vice-president of the Ontario region, the presidents of CSCE and CGS, the chairman of the branch, and several senior officers of the Association of Professional Engineers of Ontario (APEO). The *Journal* report included the following account, written many years ago and found in someone's attic, of the beginnings of the branch:

“Early in the 20th century, engineers were assuming a prominent place in the development of the Dominion of Canada. Industry was increasing. Hydro-electric plants were being built to generate power as required, and the new Welland Ship Canal was begun in 1913.

“Many members of the EIC were drawn to the Niagara Peninsula by those projects, but the nearest branch was in Hamilton. In August 1918, a few Niagara Falls members looked into the question of establishing a branch at the Falls. There were not sufficient members resident in that city, so a branch covering the entire Niagara Peninsula was decided on, and an enlarged gathering was planned. Proper documents had been received from HQ, listing all members resident in the Falls, St. Catharines and Thorold. On March 11, 1919, a well attended meeting was held at the Falls, (including) General Secretary Fraser S. Keith from Montréal, who explained fully the scope and functions of a branch...

“The EIC Council approved the founding of this branch at its next meeting on March 31, 1919...”

The charter itself was granted five years later, on March 5, 1924. The branch was still very active in 1974, having approximately 150 members. As part of the celebrations, a display was assembled, showing some of the significant engineering works built there in the last 50 years. The secretary of the branch, Homer Lundy, was also working on a history of engineering in the Niagara Peninsula, which was later published.

Under ‘Coming Events,’ the May/June issue also carried the notice of the triple convention to be held in Toronto the following October. The 88th Annual Congress of the Institute was to coincide

with the 13th biennial meeting of UPADI (and its 25th anniversary), the second to be held in Canada, and the 6th Pan-American Conference on Engineering Education. The Fall issue of the *Journal* published reports and many photographs of these meetings. They attracted around 950 delegates, 180 from the 20-odd UPADI members outside North America, 70 from the U.S., and the remainder (mostly EIC) from Canada. The local arrangements were made by the EIC's Toronto Branch.

The fall issue for 1974 also included a paper by Dermot Mulrooney of St. Mary's University in Halifax on 'Engineering Courses for Non-Engineering Students.'

The author's thesis was that society in general, and engineers in particular, could no longer afford to have the universities turn out increasing numbers of liberal arts graduates ignorant of technology or biased against it. Technological illiteracy was not an option in the case of the well-educated person. Therefore, engineering schools had to contribute to making the technology/humanities interface real and relevant.

ENGCON '75 was the first of several annual conferences jointly sponsored by the Institute and its Ontario constituent societies and the Association of Professional Engineers of Ontario (APEO). But this three-day event, in early April 1975, was the only one of them to have a freak snow storm on its opening day. Yet, according to the report of it in the May/June issue of the *Journal* by Jim Hilborn and Ian Reid, two-thirds of the 400 pre-registrants managed to get to it. The conference also included a two-day session on metric conversion, and business meetings of APEO and the newly-formed Consulting Engineers of Ontario.

The theme was 'Coping with Change.' As noted in the report, the ENGCON '75 program covered an extraordinarily wide variety of topics ranging from education to retirement. Reflecting growing social concerns, there were sessions on energy conservation, conversion and utilization, and the recycling of resources. Subjects of topical interest included pipeline design, urban housing and transportation. An interesting innovation was a panel discussion at which advocates of organized groupings for salaried engineers had an opportunity to express their views. Management personnel had a chance to broaden their horizons in a session on the motivation of human resources and in another on feasibility studies. Innovations in engineering materials, biomedical engineering, and industrial noise were among the other special topics covered.

The keynote speaker was the Hon. Arthur Meen, Ontario's Minister of Revenue, who spoke on 'An Engineer's Approach to Change.' Mr. Meen was, at the time, one of two engineers in the Ontario Cabinet.

Between 1963 and 1975, the *Journal* went through a number of changes in appearance, content, editors, size and frequency, each one intended to improve it as a product acceptable to the members of the Institute. Some emanations were short-lived; others lasted longer. By the July/August 1975 issue, the production of the magazine had been contracted out to Corpus Publishers Services of Toronto and an editorial team of Jim Hilborn, Ian Reid, Hugh McIntyre, Mary Schmieder and Colleen Isherwood. While the general manager of the Institute remained in place as editor, and the EIC Communications Committee retained oversight, Hilborn was the managing editor. His background was in chemical engineering and industry, including 10 years in technical journalism. He was, along with Reid, a member of the Institute. This team also had access to as many as 50 researcher-writers in the field, including then familiar names like Charles Law, the founder of Corpus, and Gordon Hutchison. The heading of the article introducing Corpus and its people in that July/August issue said that the “*Engineering Journal* is now drawing on the talents of a unique organization of Canadian industrial journalists.” Changed days!

This same July/August issue included a one-page, bilingual account of the EIC Life Members’ Organization activities. It said, for example, that there were then just over 1000 members of LMO and that its activities were concentrated on the provision of prizes to engineering students and the administration of a benevolent fund to help members who were in straitened circumstances. There were, the report said, three groups of retired engineers who met regularly, including a Life Members’ Club in Hamilton. The LMO held an annual meeting every year, followed by a dinner to which ladies were invited.. In 1975, this function was held in Winnipeg..

The LMO sponsored prizes at all the degree-granting universities and schools. The plan was to try to increase their prestige in the future by boosting their individual value while reducing their number. The benevolent help was to provide special medical treatment and such things as wheel chairs and orthopaedic devices rather than regular living allowances.

To finance its activities, the LMO relied on the generosity of its members, and was not subsidized by EIC. Its funds were also kept separate from those of the Institute.

An article in French by Past President Donald L. Mordell appeared in the *Journal* issue of November/December 1975. It was titled ‘Note aux Ingénieurs: Pourquoi devrais-je joindre une société technique?’ He wrote, in part:

“Pourquoi m’affilier à telle ou telle société? Que vais-je retirer en retour de ma souscription? Est-il avantageux pour moi de m’y inscrire?”

“Nous pourrions essayer de répondre à chacune des questions individuellement, mais il vaudrait peut-être mieux présenter une seule réponse: On devrait s’inscrire parce que les

avantages à retirer valent le prix de la souscription...

“La Société technique est le seul groupement à vous donner l’occasion de prouver votre propre avancement en tant qu’ingénieur et de vous faire juger par vos pairs quand vous avez atteint les échelons les plus élevés. Après avoir commencé par exemple comme membre associé, le temps viendra où le jeune ingénieur aura acquis suffisamment d’expérience pour mériter de monter à l’échelon de membre. Mais il n’est pas de société où un membre devient automatiquement Fellow’ avec le temps. C’est là une décoration décernée par les membres d’une société pour accomplissement exceptionnel en génie. Il y a 80,000 ingénieurs au Canada qui possèdent un permis d’exercer leur profession, mais il est douteux qu’il y ait plus de 300 d’entre eux qui aient été élus “Fellows” d’une société canadienne de génie. C’est sûrement là un honneur auquel peut aspirer un jeune ingénieur, un honneur qui mérite d’être recherché et dont on peut être fier à juste titre, mais il n’est pas décerné qu’à un membre d’une des sociétés canadiennes de génie qui a prouvé sa valeur dans l’exercice de sa profession ainsi qu’auprès de la société...”

Colleen Isherwood of the Corpus staff wrote an article on ‘Women in Engineering’ which was published in the November/December 1975 issue of the *Journal*. Its thesis was that female engineers were a boon to the profession. 1975 was, among other things, International Women’s Year.

She first drew attention to a number of women engineers who had achieved eminence within the profession, such as Danielle Zaikoff, who was the president of the Order of Engineers of Québec in 1975, and Joan Eaton, who was the first woman to win the E. G. M. Cape Scholarship for Engineering at Queen’s University. On the other hand, she found the available statistics on the number of women in the profession varied between sources and were generally incomplete. The 1971 Census, for example, indicated that women made up 3.3% of ‘industrial engineers.’ In that year, 101 women were registered as members of the provincial associations, but more were practising. One finding was clearer: from the statistics for some other countries, such as those of Eastern Europe, there were proportionally many more women engineers than in Canada.

Isherwood quoted Dr. Dormer Ellis, an expert in such matters, on the reasons for the low Canadian figures, the principal one appearing to be that the majority of women ready to begin university studies did not have the necessary academic backgrounds for engineering courses. On the other hand, by the 1970s, more women were remaining in the work force after marriage. However, many of those currently practising were immigrants, not educated in Canada, or their children. The attitude of governments, the public and the profession was slowly changing. Young women were being encouraged to enter professions such as engineering. The numbers enrolling in engineering courses in Canadian universities were increasing. For example, at Queen’s University, three women registered in 1957 and 47 in 1975. The University of Toronto had 128 women registered in 1975, 5% of the total engineering registration. The biggest drawback was still the attitudes within the profession.

This article also included reports of interviews with Danielle Zaikoff and Joan Eaton, as well as a report by Dormer Ellis on the 'Women in Engineering' conference held in September 1975 in Poland, a short article by Elsie Gregory MacGill, then probably Canada's best known woman engineer, and a report of an on-going task force study within the British Columbia Department of Highways on the opportunities for women in the engineering profession..

Finally, the November/December issue published a brief Annual Report for the Institute. It included: individual reports by the EIC president and general manager, the presidents of the CSME, CSCE, CGS and CSEE, the chairs of the Technical Operations Board and the Membership and Information Processing Committees, the treasurer and the auditor; the list of EIC Council members, committee chairs, regional vice-presidents and directors-at-large, and the corresponding lists for the four constituent societies; the conferences in which the Institute and the societies participated during the year 1974-75; the EIC honours, awards, fellowships and prizes presented during the year.

The various reports appeared in both official languages. The following paragraph has been taken from the EIC president's report. Dr. Mordell wrote:

"The EIC, in its great transformation over the past five years, has now become a federation of, at the moment, five different groups of engineers. These are the members of CSME, CGS, CSCE, CSEE and the group of general members, who might be better regarded as members-at-large. The Canadian Society for Chemical Engineering collaborates with us closely and its president sits on our executive committee, as do the presidents of the (*EIC's constituent*) societies. Thus this committee presently represents some 80% of all engineers who belong to a Canadian 'learned society' in engineering. It is hoped that the other independent societies in Canada will find it valuable to them to make some arrangement with us whereby they can contribute to our executive - without losing any of their own autonomy. If this comes to pass, it will mean that the regular twice-yearly meeting of the executives of CCPE and EIC will truly be representative of all the provincial associations and all the Canadian learned societies of engineering. It would then only require the presence of representatives of the Association of Consulting Engineers of Canada and we would have a fully representative national Engineers' Council. But this must await the future. Much progress has already been made and it is hoped that the final steps can soon be taken..."

The revenue and expenditure report of the auditor for the year ending on 31 May 1975 indicated that, between fees and other revenue, the Institute's total income for the year was just over \$507,000, and its expenditures almost \$466,000, resulting in a surplus of \$41,000.

The number of active branches within the Institute in 1975 is difficult to estimate. On the one hand, some among the smaller ones were in the process of being closed while, on the other, the constituent societies were in the process of establishing their own networks. However, the total membership

of the four societies and the group, in all classes, in 1975 can be more easily estimated to have been in the neighbourhood of 17,000. The actual figures varied throughout the year as new members (including students) were recruited and existing ones resigned, died, or lost their good standing for non-payment of dues. Of this number, the General Members' Group and CSCE accounted for 33% and 32% respectively, CSME for 25% CSEE for 6% and CGS for the remaining 4%.

Amen. So be it!