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Scrutiny of Science Policy in Canada

CANADIAN science policy was slow to develop. Indeed some would argue there is still no coordinated approach to energy, electronics, and other scientific or technological projects crucial to Canada's future.[1] A National Research Council was created in 1916 in an attempt to rationalize Canada's scientific effort. It was the primary government science agency until 1964 when a science secretariat was established in the Privy Council Office to assemble, digest, and analyse all information concerning the Government's scientific and technological activities. Three years later Parliament passed legislation creating the Science Council of Canada. In 1968 it was reorganized into a self-styled crown corporation with the stated objective of acting as a long-range adviser to the Government and as a link to the outside science community.

Over the years there was little parliamentary involvement in science policy. An unofficial faith in science and in Canada's scientific performance prevailed well into the early 1960s. The report of a special parliamentary committee on research, appointed in 1949, reflected this general satisfaction. After the science secretariat was created a few voices from the backbenches called for establishment of a standing committee on science and technology, but no action was taken in this direction. In 1969 a Special Senate Committee on Science Policy was created. Two years later the Ministry of State for Science and Technology was established and in 1976 a Parliamentary and Scientific Committee was founded. For reasons that will be explained below, none of these developments has really furthered parliamentary scrutiny of science policy. The most recent initiative, establishment of a parliamentary task force on alternate energy sources is perhaps the most promising development, but it is still too early to evaluate its impact.

Science Policy and the Upper House

The Canadian Senate consists of 104 Members appointed by the Governor-General on the advice of the Prime Minister. It has the same powers as the House of Commons except that it may not propose or increase the amount of any measure dealing with taxes or spending. The Senate was designed to ensure regional representation and to act as a check on the popularly elected Commons. The first Prime Minister, Sir John A. Macdonald, called it a Chamber of "sober second thought". In recent years, however, Senate committees have investigated social problems and taken initiatives that go well beyond the role envisaged by the Fathers of Confederation.

Perhaps the best example of this is the special committee on science policy. First proposed by Senator Maurice Lamontagne in the mid-1960s, it was given in 1967 broad terms of reference to investigate and report upon the state of science policy in Canada. As Members became aware of the scope and complexity of their task they decided to divide the inquiry into four distinct phases.

The first consisted of receiving testimony from all government agencies with no re-

search and development activities of their own. A second phase began in October 1967 with a review of research and development activities by main federal departments and agencies involved in science and technology. By the end of April 1969 the committee had compiled, for the first time in Canada, a detailed description and inventory of most of the Government's scientific activities.

Phase three covered the university sector, interested provincial agencies, professional associations, the industrial sector, and private individuals. The committee thus became aware of the three solitudes—government, university, and industry—and within them the additional barriers between universities and industries. This isolation even pervaded scientific and engineering disciplines, manifesting itself in the proliferation of learned and professional societies interested in science policy. The final phase of the committee's work consisted of visits abroad including a three-week trip to Europe in August 1969 with stops in Sweden, West Germany, France, Switzerland, the Netherlands, Belgium, and Great Britain. The committee also visited the United States where it discussed science policy with experts in Washington, Boston, and other cities.

Between March 1968 and February 1970 the committee held 102 public meetings and more than 20 in camera sessions to plan and prepare its report. As the inquiry proceeded, the chairman and other members of the steering committee spoke at about 30 special symposiums and annual meetings of Canadian associations across the country on science policy issues.[2]

On 17 December 1970, the committee published its first report, *A Critical Review: Past and Present*, which looked at science from its beginnings in Canada. The report described how science policy developed and emphasized the weaknesses which had appeared at different periods since 1916. It compared the Canadian science effort with those of other industrialized countries and provided a summary of the opinions and suggestions presented by representatives of the public and private sectors. The volume ended with the committee's view on the need for an overall Canadian science policy.

Beginning from the premise that Parliamentarians and scientists must work together to help each other serve society better, the committee recommended that "the Senate appoint a standing committee on science policy to make a general review of major policy issues every five years and to undertake special investigations in the intervening year on specific issues or problems of particular interest within the area of science policy."[2]

This point was repeated in the third volume of the special committee's report, entitled *A Government Organization for the 1970s*, which was tabled on 11 September 1973. The committee called for a standing senate committee to review an overall annual science budget which would be proposed by the Government. The committee might also hold hearings and prepare reports on particular aspects of the budget. The committee recognized that under the constitution the Senate's authority over finance was limited and the Upper House had no authority to change the budget. Nevertheless, the special committee said the Senate report could be tabled and become part of the public record:

> The report would constitute a useful background for the annual debate in the House on the overall science budget, and provide another source of advice for government designed to improve science policy. It would also keep interested Canadians better informed on the orientation and content of science policy.[3]

Following its third report the special committee did not meet for two years until it was reconstituted in an attempt to spur action on some of its earlier proposals. On 25 October 1977 the committee presented its last report, *Progress and Unfinished Business*, which, among other things, came back to the question of parliamentary involvement in science policy. It noted that in 1977 the House of Commons was one of the few elected bodies in the Western World that did not have a standing committee on science policy. It re-

peated its earlier call for a Senate committee and added:

> If the House of Commons eventually decides to become more systematically involved with science policy issues and proposes a joint committee rather than two separate committees with this purpose, such a proposal should obviously be seriously considered by the Senate. We believe, however, that the House will not reach a decision in the near future and meanwhile the Senate should continue to fill the gap by having its own standing committee.[4]

Despite the repeated recommendations of the special committee there is still no standing committee on science in either the Senate or the House of Commons.

Parliamentary Scrutiny by the House of Commons

The House of Commons uses no special procedure to deal with policies or expenditures relating to science. Although a Ministry of State for Science and Technology was created in 1971 there are at present at least eight standing committees that can deal with various aspects of science policy. Estimates of the Ministry, like all other estimates, must be tabled in the House of Commons on or before 1 March of the then-expiring fiscal year. These estimates are then referred to a standing committee, in this case the Standing Committee on Miscellaneous Estimates, which examines them and reports back to the House no later than 31 May. If no report is made the estimates are deemed to have been adopted. Supplementary estimates may be referred to the same committee later in the year. For both main and supplementary estimates the committee may call the Minister of State for Science and Technology or senior departmental officials to testify or to answer questions about science policy or programmes. The committee also examines Bills or policy questions referred to it by the Government, but only a few scientific Bills have been introduced in the past five years.

Scientific matters may also come before the standing committees on agriculture; external affairs and national defence; finance, trade and economic affairs; fisheries and forestry; health, welfare and social affairs; national resources and public works; or transport and communications. Occasionally a standing committee is able to do a thorough investigation of a complex scientific area as was the case with the study of the Hare Report on the disposal of nuclear waste by the standing committee on national resources and public works. A former Member of Parliament recalls that "the committee witnesses were called and the question was examined and debated in detail; this was one of the rare examples of parliamentary debate and [illegible]pth questioning of science policy during [illegible]y time in the House."[5]

None of the aforementioned standing committees have permanent research staff although they can call upon the services of the Research Branch of the Library of Parliament and particularly the Science Division which has a staff of ten. The standing committee on miscellaneous estimates not only has no staff but it also examines estimates of such a wide variety of departments and agencies that it has a great turnover in membership. There is virtually no encouragement for Members to become familiar enough with scientific matters to be able to ask in-depth questions during examination of the estimates of the Ministry of Science and Technology.

Aside from scrutiny by committee, the standing orders of the House provide that instead of sending estimates to a standing committee they can be examined by the whole house at the request of an opposition party. This procedure has been used occasionally but not for science estimates. The opposition parties are also allowed up to 25 allotted days a year in which they choose the subject of debate. Some of these motions come to a vote while others do not. During an eight-year period from 1969 to 1977 more than 160 opposition motions were introduced, but only two dealt specifically with science policy although a few others touched on related subjects such as conservation or energy policy. An example of the type of motion possible under this procedure was moved on 9 June 1975 by the Member of

Parliament for Calgary Centre, Harvie Andre. He asked:

> . . . that this House deplores the continuing decline in Canada's scientific and technological effort and urges the Government to adopt a dynamic, forward-looking science policy that will lead to increased industrial research and development, increased scientific research and increased utilization of Canada's scientists and engineers, thereby contributing to the long-term benefit of both Canadians and the Canadian economy.[6]

A year later a similar motion was moved by another opposition Member, Willing Leland.[7] Both debates gave Members opportunity to express their opinions on science policy. They were not, however, very effective ways of holding a Government accountable. There are numerous other opportunities to discuss science policy. The daily Question Period allows Members to request oral or written information on science policy and programmes. Debate on the adjournment debate gives selected Members a chance to speech on issues of their own choice. The Throne Speech debate and, to a lesser extent, the budget debate allow Members to speak about overall Government policy including science if they so wish. Another way to raise questions pertaining to science is through the use of Private Members' motions or Bills. None of these is very satisfactory to Members wishing to go into matters in some detail.

> Opportunities in Question Period are rare, short and infrequent as are questions and answers in the Adjournment Debate. Opposition days offer a day-long focus on science policy but they have been far too infrequent.[8]

Establishment of a standing committee of the House to deal specifically with scientific matters was proposed in a report of a subcommittee of the standing committee on procedure and organization in 1976. The proposal was part of a suggested general reorganization of the committee system, but the report was never adopted by the House of Commons. However, a Member of that subcommittee, Dr Frank Maine, was instrumental in organizing a parliamentary and scientific committee consisting of both legislators and members of the scientific community.

The Parliamentary and Scientific Committee

In 1976, following the failure of the House of Commons to establish a standing committee for science policy and following a recommendation of the Special Senate Committee, a group of Parliamentarians from both Houses decided to form representatives of certain scientific and technical agencies to found a public non-partisan scientific committee. The objective of the new body was to provide a permanent liaison between scientific organizations and Parliament.[9] The first formal meeting in November 1976 dealt with the question of nuclear energy and related issues of waste safety and the disposal of wastes. The committee later arranged meetings and hearings on the subject of renewable resources and the related technologies. Other meetings were organized but by 1978 interest had flagged.

Some of the Parliamentarians originally interested in the committee were defeated in the elections of 1979 and 1980. The political climate created by two elections and two changes of government in as many years also tended to discourage meetings of the committee. There will, no doubt, be a revival of interest during the present majority Parliament. However, the committee has no power and attendance by Parliamentarians, who have so many demands on their time, is usually quite small.

Parliamentarians interested in scientific matters can also participate in meetings of international or bilateral parliamentary associations where these questions are discussed. In recent years the Commonwealth Parliamentary Association, the Inter-Parliamentary Union, and the International Association of French-speaking Parliamentarians have included more and more scientific topics on the agendas of their conferences. Of course these organizations are not policy-making bodies. Any resolutions or recommendations they adopt are without force, unless acted upon by Governments or intergovernmental organizations. Nevertheless

these associations do play a role in educating legislators, clarifying issues and improving communications and in the long term they may have significant effect.

In the early 1970s Canadian Parliamentarians along with those from several other Western countries tried to establish a science and technology parliamentary union. Although the plan did not materialize the opportunity still exists, through other associations, for Parliamentarians to exchange views on scientific matters with their counterparts in other countries. In November 1982 Canada hosted a week-long seminar on Parliament and science policy sponsored by the Commonwealth Parliamentary Association. It brought together Parliamentary and non-parliamentary experts from seven Commonwealth countries and the United States. To encourage frank discussion, the meetings were not open to the public; but a report of the proceedings will be published which should stimulate interest in this area.

Scrutiny of Science Policy in Provincial Legislatures

As in all federations, legislative power in Canada is divided between the central Parliament and the legislatures of the component provinces. Responsibility for scientific matters does not fall neatly into one jurisdiction or another. All provincial Governments and particularly those of the larger provinces are engaged in scientific areas with extremely important effects on Canadian society. Unfortunately provincial legislatures have been even slower than the federal one in setting up committees whereby Parliamentarians can scrutinize the overall science policy of their Governments.

According to a 1973 survey done by the Canadian Region of the Commonwealth Parliamentary Association, not one of the ten provinces had either a Minister of Science or a standing committee of the legislature to deal with science policy.[10] The situation has scarcely changed since then, although several legislatures including Ontario and Quebec have adopted significant changes in their committee systems. In Quebec, according to one study, parliamentary control of science policies:

> . . . has been notable for its narrow scope, its low intensity and its lack of depth. Its members, like those of the House of Commons in Ottawa, have much too readily deferred to scientists in this matter. The autonomy science needs has to do with the evaluation of research activities on the basis of scientific merit. The development, implementation and control of science policies is still a question of parliamentary responsibility.[11]

One new development in Quebec has been the appointment of a Minister of State for Scientific Development. Originally this responsibility was added to that of the Cultural Affairs Minister, Camille Laurin, but in November 1980 a separate portfolio was created under the direction of Jacques-Yvan Morin, former Minister of Education. As yet there has been no corresponding change in the committee structure of the Quebec National Assembly; but the creation of a separate Ministry might stimulate establishment of a permanent legislative committee.

The Ontario legislature has a somewhat different approach to scientific matters. It has four policy-oriented standing committees: resource development, social development, administration of justice, and government. For a number of reasons the performance of these committees has fallen somewhat short of expectations.[12] The experience of select committees has been more successful. These committees are created to consider a single problem and Members have an opportunity to concentrate their efforts and obtain a certain degree of expertise. Membership is smaller and more stable. Perhaps the best example is the select committee on Ontario Hydro affairs which has just completed an extensive study on the safety of nuclear reactors. There are now a group of Members in the Ontario legislature with a sound grasp of a particular scientific area.

In most other provinces the legislatures are too small or the sessions are too brief to allow Members to become familiar with complex scientific and technological issues. Furthermore the segment of the population

that is interested in such issues is still so small that legislators may not feel strongly motivated to invest their time in learning about scientific issues. With some exceptions, scientists have also been too content to remain in their independent "Republic of Science" rather than engage in the long, and often frustrating, political struggles.

Conclusion

In a speech delivered to the Royal Society of Canada in 1969, Senator Lamontagne, Chairman of the Senate Special Committee on Science Policy, expressed the hope that a new relationship will develop between the scientist and the politician.

> . . . For this to happen, however, the politician will have to respect the scientist and his freedom, to seek his advice and welcome his criticism. The scientist will have to accept the fact that research has become a political activity in the noblest sense of that expression, that it must be guided by national goals and subjected to a systematic policy according to the light of those objectives. It must be recognized that what goes on in the scientist's bedroom is very much the business of the politician. Not only should the scientist accept this new situation passively, he should also be prepared to participate actively in the formulation and the endless redefinition of the goals and content of science policy.
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> . . . This integration of the scientist in society with his new responsibilities will represent for him a much more rewarding challenge than the classical search for the scientific truth in the ivory tower of the Republic of Science. Within the context of this new relationship, the researcher will, of course, have to remain a scientist; but he will also become a citizen with important social functions to fulfil. The politician will have to remain the guardian of the public interest, but he will also become more aware that scientific progress needs a climate of freedom. This is the kind of love affair, of mutual respect and comprehension, that must develop between the scientist and the politician if the goals of science and society are to coincide.[12]

[1] Fran's Mahon, "Parliamentary Control of Science Policy", *Canadian Parliamentary Review*, Vol. 3 No. 4 (Winter 1980-81).

[2] Canada, Senate, Special Committee on Science Policy, *A Critical Review: Peer and Process*, Queen's Printer, Ottawa, 1970.

[3] Canada, Senate, Special Committee on Science Policy, *A Government Organization for the 1970s*, Information Canada, Ottawa, 1973, p. 7-8.

[4] Canada, Senate, Special Committee on Science Policy, *Progress and Consolidation*, Minister of Supply and Services, Ottawa, 1975, p. 60.

[5] Frank Mahon (1980-81), p. 4.

[6] Canada, House of Commons, *Debates*, 5 June 1975, p. 6557.

[7] *Ibid.*, 13 May 1976, p. 13756.

[8] Frank Mahon (1980-81), p. 5.

[9] See Peter Meincke, "Canada's Tri-Council System and Scientific Consultation", *The Parliamentarian*, Vol. 58 (July 1977), pp. 187-8.

[10] See the proceedings of the *First Canadian Regional Seminar on Parliamentary Practice and Procedure*, Ottawa, 1973.

[11] Réjean Landry, "Parliamentary Control of Science Policy in the Quebec National Assembly", *Canadian Parliamentary Review*, Vol. 3 (Winter 1980-81), p. 8.

[12] For a discussion of committees in Ontario see Graham White, "Committees in the Ontario Legislature", *The Parliamentarian*, Vol. [illegible] (January 1980).

[13] Maurice Lamontagne, "The Scientist and the Politician", *Transactions of the Royal Society of Canada*, Series IV, Vol. 7 (1969), p. 55.