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Advancing Knowledge at the Frontier

The AAAS and the Saga of Science Societies in Canada

Paul Dufour

Fellow, Institute for Science, Society and Policy



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Note from the Series Editor

The ISSP is pleased to publish this excellent report on the history of science societies in Canada and their relation to the AAAS. We would like to thank Paul Dufour, an ISSP Fellow, for producing this very informative piece which we hope will contribute to a greater understanding of science policy in Canada and its history.

Marc Saner
Director, ISSP

About the Author

Paul Dufour has been senior adviser in science policy with several Canadian agencies and organizations over the course of the past 30 years. Among these: senior program specialist with the International Development Research Centre, and interim Executive Director at the former Office of the National Science Advisor to the Canadian Government advising on international S&T matters and broad questions of R&D policy directions for the country.

Born in Montreal, Mr. Dufour was educated at McGill, the Université de Montreal and Concordia University in the history of science and science policy, and has had practical S&T policy experience for over three decades having been with such bodies as the Science Council of Canada, Ministry of State for Science and Technology, Foreign Affairs, and special adviser to the Prime Minister's Advisory Council on S&T.

Dufour lectures regularly on science policy, has authored numerous articles on international S&T relations and Canadian innovation policy. He is series co-editor of the Cartermill Guides to World Science and is the author of the Canada chapter for the UNESCO 2010 Science Report released in November 2010.

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Executive Summary

Considerable debate has taken place over the years as to why Canada is unable or unwilling to maintain a sustainable, viable professional organization for the advancement of science and technology. While French Canada has its own association, l' Association francophone pour le savoir ACFAS, English Canada has had several aborted attempts to establish its own society for the advancement of science. The facile arguments for this failure are that the US-based American Association for the Advancement of Science (AAAS) (and its magazine *Science*) is a default mechanism for Canadian scientists; or that there is a weakness within Canada's scientific communities in collectively agreeing to championing these efforts; or simply that there are lack of resources and support from both the communities and political leaders who continually talk a good line about promoting science but do little. While these are contributing factors, the matter remains more complex.

This paper lays out the context behind the various efforts to develop an organization to promote the advancement of science in Canada, while examining some of the historical attempts in launching a national society with a larger public purpose. In particular, the AAAS meetings that took place in Canada over a long period ranging from 1857 to 1981 often served as a catalyst to bootstrap debates about a domestic national society. Both the first two AAAS meetings in Montreal in 1857 and 1882, and the 147th annual meeting of the AAAS that took place in Toronto in 1981, provided triggers for a debate that laid bare the difficulties in creating and sustaining such national associations.

This paper examines the debate around these meetings of the AAAS in Canada and cites various attempts to mobilize a wellspring of support for Canada's own science association. The SCITEC umbrella of professional societies in the 70s tried valiantly to develop a platform of support for such a national vehicle and indeed, for a brief period in the 80s, there was an Association for the Advancement of Science in Canada that produced its own magazine. Ultimately it failed for lack of support by the Canadian science community at large despite champions by the name of David Suzuki, D. Allan Bromley and J. Tuzo Wilson. In the end, Canadian scientists have neither their own association nor have they opted for a Canadian branch of the AAAS. As the paper argues, a great deal of this has to do with the inability of the scientific community in English Canada to define a value proposition that would make a national association self-sustaining. The national discourse over a science association as a vehicle for enhancing science culture continues today.

Acknowledgments

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Advancing Knowledge at the Frontier

The AAAS and the Saga of Science Societies in Canada

Introduction

“The traditional role of the scientific societies in Canada continues to be a very important one because of the geography of the country and the influence of the dominant scientific effort in the United States. In particular, communications on science in Canada and between Canadian scientists, as promoted through annual meetings, symposia, lectures, journals, society news magazines, etc., have made [,] and will continue to make [,] an important contribution to the growth, identity and quality of science and technology performed in Canada and to its relevance to Canadian problems.”
(Science Council of Canada, Special Study No 25, 1972)

I still have some copies of *ACCESS*, the short-lived magazine of the Association for the Advancement of Science in Canada (AASC). I also retain archives of *SCITEC Bulletin*, the newsletter of the Association of the Scientific, Engineering and Technological Community of Canada, predecessor to the AASC - they are collectors' items today. It is a quirk of Canadian science policy that the country remains one of the few developed societies without some form of national association to promote the cause of science at least in English Canada. Not so in French Canada, where ACFAS, l'Association canadienne-française pour l'avancement des sciences (now l'Association francophone pour le savoir) is celebrating its 80th anniversary meeting this year.¹ The Canadian condition is odder still given the breath and scale of Canadian science's growth over the past century, not to mention the constant calls for promoting a more effective science culture across the vast country.²

To be sure, Canada has seen all manner of science promotion and advocacy ventures over the decades (ranging from the Canadian Association of Scientific Workers and its *Canadian Scientist* of the late 40s,³ to *Science Forum* of the 60s and 70s, to *Science and Technology Dimensions* (Canada's Science Newsmagazine), but SCITEC and then AASC were probably the most visible and active in engaging the scientific community to promote their interests, and organize public and political awareness of science campaigns.

¹ For a history of ACFAS, see Yves Gingras, *Pour l'Avancement des sciences: Histoire de l'ACFAS 1923-1993*.

² The latest of a long series of federal S&T strategies, unleashed in 2007 by the Conservative Government, repeats this mantra, Government of Canada, *Mobilizing Science and Technology for Canada's Advantage*, Ottawa, 2007.

³ See Paul Dufour, "The CAScW: The Untold Story", *Access*, vol. 2, no. 4, Sept-Oct, 1984, pp. 15-18.

Considerable debate has taken place over the years as to why Canada is unable or unwilling to maintain a sustainable, viable professional organization for the advancement of science and technology. The facile arguments are that the US-based American Association for the Advancement of Science, AAAS (and its magazine *Science*), is a default mechanism for Canadian scientists; or that there is a weakness within Canada's scientific communities in collectively agreeing to championing these efforts; or simply that there are lack of resources and support from both the communities and political leaders who continually talk a good line about promoting science but do little.⁴ While these are contributing factors no doubt, the matter remains more complex.

This paper lays out the context behind the various efforts to develop an organization to promote the advancement of science in Canada, while examining some of the historical attempts in launching a national society with a larger public purpose. In particular, the seven AAAS meetings that took place in Canada often served as a catalyst to bootstrap debates about a domestic national society. Both the first two AAAS meetings in Montreal in 1857 and 1882, and the 1981 147th annual meeting of the AAAS in Toronto, provided triggers for a debate that laid bare the difficulties in creating and sustaining such national associations. While champions emerged in the 80s by the name of David Suzuki, D. Allan Bromley and J. Tuzo Wilson, the national discourse over a science association as a vehicle for enhancing science culture continues today - the 2012 AAAS meeting in Vancouver, the eighth such meeting in Canada, along with other initiatives underway, will no doubt bring this to a head once more.

Some Modest Science Society Beginnings

“Let selfish interests divide the worldly, let jealousies torment the envious; we breathe a purer empyrean. The common pursuit of truth is of itself a brotherhood. In these meetings, we have a source of delight which draws us together, and inspires us with a sense of unity... We are further led to look onward through the vista of time with chastened assurance that Science has still other and nobler work to do than she has yet attempted.” (Sir John Herschel, British Association, 1846)

Associations for the advancement of science, at least those in Europe and the US, are long-standing.

The German association, established in 1822 is the prototype, with its initial headquarters in Leipzig, arranging annual meetings on science in different cities. The British association (inspired by the German group) dates to 1831, the American (inspired in turn by the British model), to 1848, and the French to 1886 (a merger of the Association scientifique de Paris founded in 1864 with the Association française pour l' avancement

⁴ For some of these arguments, see Yves Gingras, “Why Canada never had a national association for the advancement of science”, *Physics in Canada*, vol. 62, no. 6, pp. 355-359.

des sciences.)⁵ The only other such bodies founded in the 19th century are the Australian and New Zealand organizations, established in 1887 and 1891, respectively. Their common purpose to promote communication between the scientific, technological and engineering communities and their respective publics, along with maintaining the global outreach of the scientific enterprise and cross-memberships⁶ was clear from the outset. Given their similarities, it was merely a matter of time before they initiated contact amongst themselves.⁷

There is little question that organizations and meetings of this sort sought to model good practice around key features; and yes, even led to attempts to prod the creation of new national societies or at least to re-energize them, however temporary.

Associations for Science Advancement - Origins

German - 1822

British - 1831

American - 1848

Australian, New Zealand - 1887, 1891

South African - 1902

Indian - 1912

French Canadian - 1923

Japanese - 1925

Chinese - 1947

Brazilian - 1948

Americas (Interciencia) - 1974

The Early Influence of the AAAS on Canadian Science

Such was the case for example, as early as 1857 and again in 1882, when the (AAAS) met in Montreal for its 11th and 31st meetings respectively, hosted and presided by the McGill University principal, the geologist John William Dawson.⁸ On both occasions Dawson saw the meetings as an opportunity to revitalize a flagging Natural History Society of Montreal (NHS) of which he was its President. The NHS had been founded in 1827 and produced a magazine, the *Canadian Naturalist and Geologist* (later to become the *Canadian Record of Science* until the Society was disbanded in 1925). The NHS,

⁵ There exist various histories of these bodies available to the reader. See Crumpton, Amy and Teich, Albert, "The role of the AAAS in US Science Policy: The first 150 years," in *AAAS Science and Technology Policy Yearbook*, AAAS, 1999, pp. 269-284.

⁶ In 1947, the AAAS for example had members resident in 76 countries.

⁷ For example, in 1950, UNESCO convened a meeting in Paris to bring together the various national associations for the advancement of science. In part, UNESCO was responding to a call to assist some of the associations in linking together and developing a common agenda to tackle global issues affecting the progress of science. Indeed, efforts were made at the meeting to develop a calendar of events, encourage exchanges of scientific films and publications among the associations represented. They even outlined plans to form media panels, designed to offer advice to local press on scientific matters, and in helping science writers improve the quality of their reporting. The meeting outlined several other recommendations addressing visa and other matters of mutual concern, but little emerged in any systematic fashion to keep the dialogue moving. In 1974, the Interciencia Association was founded in Venezuela as a federation of associations for the advancement of science in the Americas (including Canada and the USA) and continues today in publishing its magazine *Interciencia*.

⁸ For more on Dawson, see Susan Sheets-Pyenson, *John William Dawson: Faith, Hope and Science*, McGill-Queen's University Press, Montreal, 1996.

under the leadership of Dawson and others saw an opportunity to revitalize itself when it made a pitch to the AAAS meeting in Albany, NY in 1856, beating out Baltimore to host the next AAAS meeting; the first in Canada. Indeed, the NHS had debated the pros and cons of having the prestigious AAAS come to Canada with several members doubting its viability. As the NHS proceedings note:

*“The American members would never consent to the Association assembling on this side of the 45 parallel, and it was strongly urged, certainly with more truth than poetry, in the argument, that the NHS, a paralysed, helpless and almost hopeless institution, struggling for its very existence, to invite an Association so active and energetic, so distinguished and so full of vitality, would not only be a shock to modesty, but a proceeding which if favourably received, would place the Society in the most awkward difficulty of providing ways and means in accordance with its obligation to accommodate and entertain the Association so invited.”*⁹

The naysayers within the NHS lost the battle and the AAAS did indeed come to Montreal. The NHS had even viewed the AAAS meeting as an occasion to consider a Canadian association. As the organizers put it:

*“May we not indulge the hope that a Canadian Scientific Association may soon be organized, and take an honourable place alongside of similar institutions in Europe and America.”*¹⁰

One of the founders of the AAAS and its President in 1857 at the Montreal meeting, Alexis Caswell of Brown University, recognized that Canada was also an ideal staging platform to bring together the US and England in matters of science. Indeed, in his address, he made the following argument about linking science more internationally as a tool of diplomacy:

“I think it is also a matter of special interest that we are convened without the limits of the United States. However it may have been in former times, it certainly is not now the case, that mountains or seas interposed make enemies of nations. It is one of the felicities of our times, that, in the onward march of science, little account is taken of the boundaries which separate states and kingdoms. The discoverer of a new law in nature, the inventor of a new process in the arts, or a new instrument of research, is speedily heralded over land and ocean, is put in communication with the whole civilized world, and is everywhere hailed as a benefactor.

There is seemingly a special fitness in our being here at this time. England and America are at this moment preparing to shake hands across the broad bosom of the Atlantic. The electric chain which is to bind them in perpetual friendship has been fabricated, and is now being deposited along the deep bed

⁹ The Canadian Naturalist and Geologist and Proceedings of the Natural History Society, Vol II, 1857.

¹⁰ Suzanne Zeller, *Inventing Canada: Early Victorian Science and the Idea of the Transcontinental Nation*, U of T Press, 1987.

of the ocean, where no surface storms can disturb its repose or impair its energy. Thus united England and America may challenge the world, not, indeed, to the conflict of arms, but to the beneficent rivalry of extending the domain of science, of unfolding the wonderful mechanism of the heavens and the earth, and of rendering the powers of nature subservient to the uses of man."

The second meeting of the AAAS in Canada, also in Montreal in 1882 was another occasion to bring together the US and British science contingents; it would also serve the purpose of spurring yet again a rejuvenation of the NHS and science within a relatively new nation. Not only did the meeting celebrate the golden anniversary of the Society, but the silver anniversary of the first AAAS meeting in Montreal in 1857 as well.¹¹ The British Association for the Advancement of Science (BA), founded in 1831, was also preparing for its own first meeting in Montreal (1884), in part to buttress the growth of scientific enquiry in the new world and to expand the reach of the British Empire into its colonies. Indeed, at the past Montreal event, members of the BA were also in attendance.¹²

Dawson, the first Canadian to ever preside over an annual AAAS meeting, used his opening remarks of August 1882 to underscore the international nature of the meetings:

"It becomes your duty, therefore, for the time being, to merge the character of citizens of the United States or of Canada in that of cosmopolitan men of science. This is what I propose to attempt in endeavouring to perform the duties to which you have called me; and you will, therefore, kindly regard me not as a Canadian, or as an American, in the narrower sense of that term, but as the President of a society which, in meeting here, assumes a continental and international character".

With over 930 registered members and 242 papers, various excursions, public lectures and the opening of the Redpath Museum, the meeting was the most successful of the AAAS to date. Among the memorable papers given was one by Alexander Graham Bell, detailing his electric experiments designed to locate the bullet that had assassinated President Garfield (i.e., a painless method to detect metallic masses in the body - the forerunner to the metal detector). Other papers outlined the potential uses of ballooning for aerial travel, the need for the AAAS to promote science education in the public schools, and measuring the amount of carbon dioxide in the atmosphere, not to overlook an interesting commentary by Daniel Wilson of the University of Toronto on Eskimo art and culture.

¹¹ 1882 was also the year that the Royal Society of Canada was established; see "Creating a Northern Minerva, John William Dawson and Royal Society of Canada," Robert Daley and Paul Dufour, *Scientia Canadensis*, vol. 5, no. 1, 1981, pp. 3-13.

¹² The BA met in Canada in 1884 (Montreal), Toronto (1897 and 1924) and Winnipeg (1909). At the Winnipeg meeting, the BA President J.J Thomson the Nobel laureate in physics, was sure to remind the Canadian hosts that: "Such meetings as these not only promote the progress of science but also help to strengthen the bonds which bind together the different portions of the King's Dominion"; or as he put it, changing the BA from an "Insular to an Imperial Association".

Table 1: AAAS meetings in Canada

Meeting	Place	Date	President	Papers Read	Attendance
11 th	Montreal, McGill	12-20 Aug, 1857	Alexis Caswell, Brown University	132	351
31 st	Montreal, McGill	23-30 Aug, 1882	J.W.Dawson, McGill University	242	937
38 th	Toronto, University of Toronto	28 Aug – 3 Sept, 1889	T.C Mendenhall, Worcester Polytechnic Institute	211	424
74 th	Toronto, University of Toronto	27-31 Dec, 1921	Eliakim Moore, University of Chicago	813	1832
102 nd	Ottawa, Chateau Laurier	27 June - 2 July, 1938	Wesley Mitchell, Columbia University	466	1104
131 st	Montreal, Queen Elizabeth Hotel	26-31 Dec, 1964	Laurence Gould, University of Arizona		4216
147 th	Toronto, Sheraton Centre	3-8 Jan, 1981	Frederick Mosteller, Harvard School of Public Health		3303

Table 1 lists the AAAS meetings held in Canada since 1857. This does not include various meetings of the AAAS Divisions such as the Arctic or Pacific Divisions where meetings have also previously been held in Canada (usually Whitehorse and Vancouver respectively-see **Table 2**).

Table 2: AAAS Pacific (P) and Arctic (A) Divisions Meeting in Canada

Meeting	Locale	Date	President
P 30 th	Vancouver	1949	Luther S Cressman, University of Oregon
P 45 th	Vancouver	1964	Phil Edwards Church, University of Washington
P-A 67 th jointly with Arctic Division	Vancouver	1986 (June)	Richard Bushey, Yellowknife
P 76 th	Vancouver	1995	T. John Conomos, US Geological Survey
A	Whitehorse	1968	Richard Hill, Department of Indian Affairs
A	Whitehorse	1983	Arthur Pearson, Rampart Development Corporation

Preludes to an AAAS-like Presence in Canada

The Toronto AAAS meetings that followed in 1889 and 1921, as well as the Ottawa meeting of 1938 and that of Montreal in 1964, all served to consolidate the growing Canada-US science partnership, and helped solidify a more continental approach to tackling important issues of security and diplomacy through knowledge exchanges. Among some notable papers from these meetings were:

1889: C. V. Riley on the best methods for subduing injurious insects by intentional importation of their natural enemies; Charles Carpmael on numbering the hours of the day from one to 24, abolishing the necessity for writing a.m. and p.m., a plan adopted by Canadian Pacific Railway; B.E Fernow on the extension of governmental control to forests, irrigation and waterways arguing that these were public goods and that the state alone can represent national interests with comprehensiveness and continuity.

1921: Symposia on the cooperation of Canada and the US in agriculture, and frost resistance, hardiness and winter killing of plants; a resolution on the introduction of the metric system in the United States; an exhibit of the polygraph (lie detector) invented by the Scottish heart specialist Sir James Mackenzie.

1938: A special symposium and book produced on the history of science in Canada depicting the growth of Canadian science in relation to the US¹³; as well as a symposium on migration of salmon and conservation, a subject of great bilateral interest. As *Science* magazine was to note of the 1938 meeting in Ottawa:

“That the association is American in the broad sense of the word could not be better illustrated than it was at Ottawa. The meeting was not international; it was simply American. The science was not Canadian or United Statesian; it was just science, even though the subject was some geological or biological problem of one or the other of the countries.” (*Science*, 29 July 1938)

By the 1964 Montreal meeting, the growth of the AAAS from its meeting of 1882 in that city was underscored. In 1882, the AAAS membership was just under 2000, with no affiliated organizations. 82 years later the membership had climbed to over 100,000 with more than 300 affiliated societies and academies of science.

The Canadian AAAS meetings certainly served to strengthen links both with the US and globally. Indeed, by the early 70s, the AAAS was reviewing its North American connections more closely. In 1973, the AAAS held its first and only meeting in Mexico. Its theme, *Science and Man in the Americas*, led to a renewed focus to develop an Association throughout the Americas (in short, to have the word “American” in the AAAS become meaningful). As a result, the Interiencia Association of 17 countries with its

¹³ The book, *A History of Science in Canada* by the Ryerson Press edited by H.M Tory (former President of the NRC and U of Alberta, and Chair of the AAAS History of Science Section), contains articles by noted Canadians on geology, chemistry, botany, zoology, medicine, astronomy, math and physics.

base in Venezuela was formed with the Canadian representation initially through SCITEC. Discussions also took place about having a trilingual science journal. This was to become *Interciencia* founded in 1974.

Immediately following the Mexico meeting, the AAAS President, Roger Revelle, from the Centre for Population Studies at Harvard, wrote to the then Executive Director of the Science Council of Canada, Patrick McTaggart-Cowan, a respected meteorologist and former President of Simon Fraser University, to explore the notion of a larger presence in Canada. Noting that there were about four to five thousand Canadian AAAS members and subscribers to *Science*, and that the Canadian presence within the AAAS was weak (only one of the 75 members of the AAAS Council lived in Canada)¹⁴, Revelle laid out his suggestions on how to strengthen the Canadian presence stating that he had already written to the Canadian geophysicist, J. Tuzo Wilson with the same ideas. These were:

- A. Organize a Canadian Division of the AAAS;
- B. Establish a policy that at least one meeting out of ten should be in Canada;
- C. Change the AAAS constitution and by-laws to ensure that there would always be a Canadian member of the Board of Directors and the Committee on Council Affairs;
- D. Appoint a Canadian science writer as a correspondent to *Science* to make regular contributions to the News and Comment and Research News sections of *Science*;
- E. Seek more Canadian input at future AAAS meetings; and
- F. Invite various Canadian scientific and professional societies to affiliate with the AAAS and join appropriate sections of the organization.

Revelle also made a pitch to organize a special session in New York at the 1975 AAAS annual meeting to explore these options.

In his reply of 6 January 1975, McTaggart-Cowan welcomed the idea of a special session in New York and agreed with Revelle that Canadian participation in the AAAS needed strengthening. He responded to each of the suggestions. As to a separate Canadian division, McTaggart-Cowan was clear:

“There would be a sufficient number of people in Canada that would cry colonialism that I think it would be far better to find ways of strengthening our participation in the direction in which it has been developing.”

McTaggart-Cowan was also opposed to the idea of a special arrangement for a Canadian science writer:

“What I would like to see happen is that the Editor of Science is encouraged to seek out a variety of Canadians who from time to time would send in items

¹⁴ It is worth noting here that since its origins, AAAS has only had two Canadians as President—John William Dawson in 1882, and James Playfair McMurrich in 1922. D Allan Bromley (1982) was a Canadian born physicist but was at Yale during his AAAS stint and T Sterry Hunt (1870) a chemist-minerologist working with the Geological Survey of Canada was American born but also was professor at McGill and Laval University.

because they knew the Editor wished to establish a bit of balance and would be sympathetic. In other words, to put a bit of a moral obligation on a number of us without being quite so formal.”

In fully supporting the idea of seeking more Canadian input to AAAS meetings, McTaggart-Cowan was blunt:

“From my activities in the American Meteorological Society, I know the problem. It is not that anyone consciously wishes to ignore people in Canada, it is that the organizers are normally very familiar with their colleagues throughout the United States and the prospect of looking among the Canadian group just does not occur. Curiously enough, the converse is not true, i.e., when one is organizing a scientific meeting in Canada, the organizers do tend to look both at the United States and the United Kingdom for participants.”

We will revisit the issues raised in Revelle’s letter on this subject with Tuzo Wilson emerging as a key player later on; the idea of a Canadian Division of the AAAS would also receive considerable play leading up to the 1981 AAAS Toronto meeting.

Imperialist Ploys? AAAS in Canada or SCITEC

“I sense that some essential factor must be missing in the Canadian scientific community that defeats achieving critical mass, and I can’t help wondering how a connection with AAAS is going to fix that.” (William Carey to D Allan Bromley, 22 April 1980)

At the turn of the 70s, Canadian science policy was at a crossroads with its science organizations. A major Senate Committee on science policy was examining new directions for the government and scientific community to consider; the International Development Research Centre devoted to providing research capacity to the developing world was set up; and a Ministry of State for Science and Technology was established. The Science Council of Canada, a public science policy body established in the 60s to provide advice on the direction of science in Canada, had commissioned a study of the various scientific and technical societies in the country with a view to better understand the reasons for their weak interplay with the science policy debate in Canada.

This study, conducted by a professor of biology at Queen’s University, Allen West, not only provided an inventory of the many societies in Canada, but made several recommendations on how to improve the lot of these organizations. Indeed, one of the recommendations of the study in 1972 was to create a ‘House of science and engineering societies’ (including those in the social sciences) in Canada that could serve as a clearinghouse and platform for the many organizations, especially the disciplinary ones, that were struggling both financially and to have their voices heard on key questions of science and technology.

One of the key groups engaged in the study was SCITEC, Canada's Association of the Scientific, Engineering and Technological Community. Founded in 1970 as a "Parliament of Science", following a major conference on science policy at Carleton University in 1969, it was successful for a period of years as the major forum for Canadian science¹⁵. In part, SCITEC was a response by the science community to mobilize coordinated responses to recommendations issuing from the Lamontagne Senate Special Committee examining science policy in Canada. In one of the Committee's volumes, a recommendation had been made to increase public awareness of science, in part by providing grants to SCITEC.

SCITEC, an amalgam of numerous disciplinary societies, helped establish a Canadian Parliamentary Scientific Committee in 1976 (later to become the Committee of Parliamentarians, Scientists and Engineers, COPSE); represented Canadian interests in Interciencia (the Association of Science Associations for the Americas) with support from IDRC and the Canadian development agency CIDA; and organized various meetings including a series of science weeks across the country. But SCITEC essentially had no effective publication to speak of (aside an irregular newsletter). SCITEC's aims were fairly broad:

- A. To foster interdisciplinary communication among the scientists of Canada;
- B. To learn how better to harness science and technology for social and economic progress;
- C. To marshal and channel scientific judgment and advice to the governments of Canada;
- D. To explain science and technology to the public so that people may learn to live with change and make wise decisions about what kinds of change are in the best interest of Canada; and
- E. To coordinate, on their request, the efforts of scientific and technological organizations currently engaged in these activities.

Hence, SCITEC was keen to establish a "House of Science and Technology" that would incorporate the professional societies and serve as a centralized services operation by alleviating administrative burdens to allow the societies to respond to specific needs. While a proposal was submitted to the Ministry of State for Science and Technology in late 1972, it languished and was never followed through.¹⁶ Things did not improve when Senator Lamontagne was to accuse the SCITEC of being complacent and not responding quickly enough to his Senate Committee's recommendations.

¹⁵ National Science and Engineering Conference discussing how can the scientific and technical community make its maximum contribution to national decisions?, Carleton University, July 31- August 1, 1969.

¹⁶ M.P. Bachynski, "The HOST proposal: a progress report on the house of science", *Science Forum*, vol. 7, no. 1, 1974, pp. 28-31.

In May 1974, during the annual SCITEC forum, Lamontagne argued that: *"I do not believe that SCITEC can play a very useful role if it continues to be the champion of the status quo and a mere lobby to get more public funds."*¹⁷

Sensing that its support base was weakening, and with criticisms mounting of its inability to explain science and technology to the public, SCITEC, along with one of the founding members, ACFAS, and with support of the Royal Society of Canada and Science Council of Canada, embarked on an ambitious campaign to introduce public awareness across Canadian communities. A Task Force on Public Awareness of Science and Technology was established in 1978 with a goal of encouraging communities to form associations that would initiate local science activities and consider science weeks. As SCITEC stated it:

*"This should not only give the community an opportunity to look at the science that is going on in its midst but also to ascertain the problems and fears of the community concerning science."*¹⁸

The Task Force began a pilot and chose five cities in Ontario, namely Ottawa, London, St. Catharines, Kingston, and Guelph. As an added incentive to attract interest, SCITEC engaged David Suzuki to give public talks in each city, then a prominent - and at times controversial - science communicator with the CBC (radio and TV) who was outspoken on the need for some form of a Canadian association for the advancement of science.¹⁹ Suzuki was a geneticist at UBC and had gained attention with his ability to speak clearly on science on the radio show Quirks and Quarks and CBC's Science Magazine.

The Task Force found out that while it was easy to attract people to hear Suzuki in each of the cities, it was another matter to develop and sustain local science associations. OASIS (Ottawa Association for Science in Society) and STAY (Science, Technology and You) in London were examples of local groups that responded to the challenge and survey from the Task Force, but after a few meetings, interest petered out in part due to lack of resources. The inability to follow through with this and other objectives that SCITEC had laid out was met with increasing disinterest.

¹⁷ Jeff Carruthers, The SCITEC forum: when will scientists learn how to play politics?, *Science Forum*, August 1974, vol. 7, no. 4, pp. 20-22.

¹⁸ Task Force on Public Awareness of Science and Technology in Canada; Report to the president of SCITEC on the activities of Phase II, October 1, 1978 - March 31, 1979

¹⁹ At his public lectures for SCITEC, Suzuki lamented that Canada was in a crisis situation because of ignorance and the government's systematic process of total neglect. He went on to argue that: *"it is important for the schism between science and our everyday lives be broken down. In the next decade there must be demystification of the scientific world, so the ordinary person can reflect on the issues and demand answers of his politicians on issues such as the future of the CANDU reactor, the disposal of PCBs, the tar sands, asbestos, mercury and arsenic. These things have to be attacked on all fronts and as many people as possible must be educated."* Kingston Whig-Standard, December 2 1978.

By 1980, its membership base was floundering, its political connections eroding, and financial support diminishing. Worse, its own President had concluded that:

“SCITEC has suffered over the years from a great deal of criticism simply because many of its members and constituent societies have quite different views as to what an organization like SCITEC should do.” (Vivian Abrams, SCITEC Bulletin, 9, No.3 October 1980)²⁰

A Lifeline from the AAAS Toronto meeting

But along came the planning for the 1981 Toronto meeting of the AAAS. SCITEC was not only to figure prominently in the organization of the January 1981 event, but was also the target of those who felt that the AAAS meeting was a golden moment to revitalize SCITEC (as the 1882 AAAS meeting in Montreal had been in temporarily boosting the local Natural History Society).

Letters between D. Allan Bromley of Yale (a Canadian-born physicist and future science adviser to George H. Bush), then on the AAAS Executive, and several key players including William Carey, the Executive Director of the AAAS, show attempts to use the AAAS meeting in Toronto to create a new AAAS chapter in Canada. In his letters, Bromley, who had had discussions with Vivian Abrams, President of SCITEC, felt that SCITEC was the Canadian analogue to AAAS. He was certainly familiar with the Interciencia Association wherein SCITEC was the Canadian member, and like Revelle in 1974, speculated about the potential for some sort of fusion with SCITEC, or even a Canadian Division of the AAAS. He also made a pitch to have more Canadian content in *Science*, the magazine of the AAAS. In April 1980, Bromley wrote to Carey:

*“It does seem to me that with SCITEC obviously floundering, with what I believe to be a very real reservoir of good will as well as a strong desire for help in Canada, we might be able to take somewhat more dramatic action and take over SCITEC. By doing so, and forming it into a Canadian Division of AAAS, we would I think maintain the distinctive features of the Canadian community while providing a much closer linkage between Canada and the US in the scientific and technological arenas that now exists.”*²¹

²⁰ The public awareness challenge that SCITEC began did lead to one outcome. The Minister of State for Science and Technology requested that the Science Council undertake a review of public awareness activities for the federal government and report on how to improve the situation. The result was a November 1980 report to the Minister Public Awareness of Science and Technology in Canada. This issue was to be re-examined almost a quarter of century later when the National Science Adviser to the Prime Minister was requested to examine the state of Canada’s science culture. A portion of the results were imbedded in the 2007 federal S&T strategy, but again with no support or follow through by the government.

²¹ AAAS Archives.

Carey was a little more circumspect in his reply.

“It would suit me very well to have a Canadian Division of AAAS. However, Canadians are deservedly touchy about imperialist ploys from hereabouts, and I think we could very easily become misunderstood in our well-intentioned sympathies for their problems. It has to be SCITEC’s idea from first to last, and I wouldn’t go farther than leaving a light in our window and the latch up.”

And in a later letter to Bromley, he was to add:

“It would be cleaner, I tend to think, if the Canadians could beef up their own inventions and tie into the AAAS as an affiliated or participating organization. The linkage is much looser and less satisfactory than if it were a division, and there would be no financial allocation from AAAS. But it would overcome questions of a takeover by the scientific colossus to the South, and generate some benefits at least” (William D. Carey, 30 May 1980)

Others took hold of the ideas behind the Bromley bid, and in late 1980, several Ontario engineers and scientists, including J. Tuzo Wilson, the then Director of the Ontario Science Centre (and renowned geophysicist), mailed out over 2500 invitations to all Canadian members of the AAAS and others to participate in a special meeting at the AAAS in Toronto to discuss the need for an equivalent English-speaking association. A questionnaire accompanied the invitation asking key questions to help inform the January 6 meeting. Among the questions was the following; “If a member of the AAAS, do you favour forming a Canadian branch of AAAS?” (372 said yes, 156, no and 72 were undecided).

At the open meeting in Toronto during the AAAS event, about 80 of the invitees attended. The meeting was chaired by Omand Solandt, a former President of the Science Council of Canada and well respected scientist and business entrepreneur-policy adviser. The debate, which also included representatives of many scientific societies and organizations, including SCITEC, was vigorous with a number arguing that while it would be easy perhaps to establish a Canadian branch of the AAAS, this would not solve the problem, which is that Canadians have too little identity. Others noted that SCITEC had tried to do too much in trying to improve education in science, increase public awareness and seek political support of science. Several noted the success of ACFAS arguing that a society had to offer members something, especially a journal. A vote was taken at the conclusion of the meeting, with 15 showing support for a Canadian branch of the AAAS, 20 against, 35 in favour of SCITEC, and 12 against SCITEC. Tuzo Wilson also argued in favour of an expanded role for the Ontario Science Centre. Given these outcomes, Tuzo Wilson was subsequently asked by the Chair to organize public awareness groups and the Chair also asked SCITEC to continue its discussions on its own future role as well as its finances.

Evidently, despite these best of intentions, the meeting in Toronto did not go well. In fall 1981, William Carey was writing to William T. Golden (the AAAS Treasurer and science

confidante to US Presidents dating back to Truman) about the fallout from the January 1981 meeting in Toronto:

“The Canadians wrangled fiercely about various alternatives, including both a Canadian AAAS and a Division or “Branch” of the AAAS. They split in several directions, despite Tuzo’s vigorous leadership, and now Tuzo has given up on the whole thing and instead invented something of a local substitute, leaving the larger questions to somebody else. I don’t intend to spend much personal time wooing fractious Canadians, who have their own feudal differences. My position, to which I have adhered stoutly, has been that the Canadians must make their own decisions while understanding that the AAAS would welcome any initiative on their part to become part of the family.” (16 September 1981)

Carey had quite rightly seized the complexities of the Canadian science family drama. Unable to get their act together, and unwilling or unable to support a coordinated leadership, the science societies and others that had attended the Toronto special meeting were incapable of following through and went their separate ways. As a result, Tuzo Wilson went ahead with his own devices and established FOSTER Ontario (Friends of Science, Technology, Engineering and Research).

Wilson argued that while the meeting in Toronto was a good impetus, and a national bilingual body was the most desirable, financial and practical constraints showed that it would be far easier to start a regional, English speaking one. The newsletter of FOSTER Ontario went on to argue that:

“...the essential difference is that it is not another society of experts, but an association of the public, for the public. Here is a paradox. The public want[s] science, the media has failed to meet the demands, and the most prestigious bodies of doctors, engineers and scientists do not know how to help. The basic cause is that science has failed to publicize itself, and there has never been a surplus of scientists entering other occupations to spread the word.”

²²

Wilson invited Bromley to speak at the inaugural meeting of FOSTER Ontario in November 1981. Despite continued efforts to continue, the organization collapsed several years later.

And SCITEC collapsed, but not before it was merged in late 1982 into a new entity, the Association for the Advancement of Science in Canada (AASC). AASC quickly ran into the same trap as SCITEC: its ambitions were too grandiose. By absorbing SCITEC’s assets, AASC led to some confusion with many thinking that AASC was merely a new name for SCITEC (when in fact, its mandate was devoted solely to a public awareness role based on individual memberships and open to both the public and experts).

²² Foster Ontario, 1 December 1981, Newsletter No. 5.

AASC Objectives

Promoting communication between the scientific, technological and engineering community and the Canadian public

Promoting communication among individuals in different disciplines

Promoting the application of science and technology for the betterment of the Canadian and global community

AASC strived valiantly to gather new memberships and created a new bi-monthly journal *ACCESS*, while continuing to manage the program of luncheons of the Committee of Parliamentarians, Scientists and Engineers (COPSE). Its initial membership was about 150 and by 1986 this numbered just under 1000. While it had some regional chapters, its head office was located at the National Museum of Science and Technology in Ottawa. Its first public forum in Ottawa was on the topic of ‘Can we afford modern medicine’? A major forum also sponsored by AASC on “Confronting technophobia” was initiated with the University of Alberta’s group on Women in Scholarship, Engineering, Science and Technology (WISEST)

in 1986. But stable funding proved another matter.

Initial funding came from the federal government’s public awareness program and additional funding from NSERC, but both of these dried up fairly quickly. As a novel method to address financial instability, in 1985 AASC began a partnership with the publishers of *Equinox* magazine, a private sector run discovery magazine that had been launched in 1981 (with a circulation of 170,000), to link subscriptions to that journal with membership in the AASC. Under the proposed arrangement, AASC members would receive *Equinox* and other benefits (publication of *ACCESS* was suspended); AASC was to have an editor on the *Equinox* staff; an AASC editorial page would be available in *Equinox* and a Canadian science annual would be published to augment the six regular issues of *Equinox*.

While some progress was made in this joint venture through a trial basis, the financial solution that AASC hoped for did not materialize. In publicity material, the AASC President reminded new members that: “No doubt you are aware how difficult it is to build a large bicultural association from the ground up.” He was prophetic. Both AASC and *Equinox* were to go out of business shortly thereafter.²³

²³ Full disclosure - the author was a member of AASC until its dissolution.

Epilogue

“There is no readily evident solution to the problem of competition provided by U.S. societies, and it is safe to predict that some degree of competition will always exist. The communication that can be provided by the usually larger U.S. society may be difficult for the Canadian society to match. It may be that, as in so many other areas of human activity, competition should be regarded as a healthy thing, although there is some feeling that it inhibits the development, strength and prestige of Canadian societies. Certainly, there exists in Canada the challenge to provide services that will attract members and to become involved externally, creating an environment that individuals will want to be a part of.”²⁴

This quote from the 1972 Science Council-sponsored study on national scientific engineering and technological societies, aptly sums up the issue in Canadian science policy circles when it comes to understanding the lack of an identity for English language science culture in the country. Struggling from the weight of the enormous knowledge elephant south of the border (in English Canada), experiments continue with novel attempts for a unique solution.

When the Science Council produced its report on improving public awareness of science and technology in Canada (for the federal Science Minister) in 1980, it concluded that it would be a mistake to establish de novo a Canadian Association for the Advancement of Science based on the US or UK models. Public awareness activity was sporadic, piecemeal, uncoordinated and un-focused and required a new focus. Despite its potential, SCITEC, it commented, had limited success reflecting a lack of financial resources, organizational ability and obvious benefit to scientists. The report also recommended that there was a need to undertake a benchmark review of S&T public awareness activities and development of special and continuing programming designed to increase public awareness.²⁵ Thirty-five years later, in 2007, a similar report from the Office of the National Science Advisor was to conclude the same thing.

There are lessons in all of this for any future vision for some form of science association in English Canada. It is often useful to have outside groups spur a debate on Canadian science policy. The OECD in 1969 did just that when it examined the state of Canadian science.

Similarly, meetings of the AAAS in Canada have served to trigger considerable soul-searching and have drawn political and policy attention to a major gap in the country's knowledge-based society. The AAAS meetings have also increasingly strengthened the bond of Canada-US partnerships. As AAAS delegate to a Royal Society meeting, American geologist, Persifor Frazer said in 1884:

²⁴ SCITEC and Allen West, National Science, Engineering and Technological Societies in Canada, Science Council of Canada, Special Background Study No. 25, 1972.

²⁵ Public Awareness of Science and Technology: Report to the Minister of State for Science and Technology, Science Council of Canada, November 1980.

*“Canada and the United States are bound together by many and strong bonds. They have had the same wilderness to reclaim; the same problem of the new western life to solve. Our borders separate no hostile people[;] some of the names which shed the greatest luster on science, literature and art[,] are those of Canadians. Is it not noticeable that the dictionary of the people of the United States, so fecund in expanding itself to meet the wants occasioned by new conditions of things, has but one adjective to specify the nationality of our own illustrious men, one which will apply equally to those in Canada - American”*²⁶

Not that Canada and the US were identical in areas of national competition. As John William Dawson was to riposte to this charge by Frazer:

“It would be too much to expect that this powerful neighbour and those who enjoy for the time its advantages, should always be generous, forbearing, or even just, or that they should fail to use to the utmost their superior vantage in the race for distinction. Practically, while Canada has had much reason to be grateful for the friendly and generous sympathy of the naturalists of the United States, it has had occasion, in some happily exceptional cases, to smart under their vigorous competition, and in some instances to deprecate a spirit of detraction or of unfair rivalry”.

Canada continues to explore its continental science space with the US, and indeed, on occasion, looks to its models for inspiration. The Council of Canadian Academies, established in 2005, takes its model in large part from the US National Academy of Sciences. The AAAS annual S&T colloquium was looked upon as a potential model when in 1985 a Canadian delegation was paid by the AAAS to explore the functioning of their S&T policy colloquia. Of course, Canada did assume its national identity as its own institutions of science grew. Today, Canada is a major power in science.²⁷ Its talent pool is considerable, deployed to address national missions and international challenges. Its response to assist the US with the scientific challenges of terrorism following 9/11 is but one example of how this expertise can be mobilized.

But there remain critical gaps. Canada’s weaknesses are largely ones of governance and tend to be structural, especially with the lack of investment by the private sector in R&D. And then there is the matter of building capacity for a national approach to science awareness. Canada can continue to look to the US here, and to the AAAS efforts, but as we have shown, the solution must come from within.

²⁶ Cited in Vittorio de Vecchi, *The Dawning of a National Scientific Community in Canada, 1878-1896*, *Scientia Canadensis*, vol. 8, no. 1. June 1984, p. 57.

²⁷ Paul Dufour, Canada, *UNESCO Science Report 2010*, Paris, 2010, pp. 61-76.

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Institute for Science, Society and Policy
Simard Hall
60 University Private
Ottawa, Ontario, Canada
K1N 6N5

Address inquiries and comments to:
issp@uottawa.ca



uOttawa

issp.uottawa.ca