

# WHY CANADA NEVER HAD A NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

by Yves Gingras

For a historian, it is never easy and always risky to try to answer negative questions such as “Why Canadian scientists never managed to create a viable ‘Canadian Association for the Advancement of Science’ (CAAS) as most of their counterparts in other countries did between 1831 and 1950?” But the question is intriguing and it is worth inquiring further into the reasons for this continued peculiar absence of a National organization speaking in the name of all Canadian scientists irrespective of their particular disciplines.

This question is more than simply academic as the following recent event illustrates. Having no national scientific magazine in which to voice their concerns on national matters, a group of Canadian scientists was left with publishing their complaints on the “Problems with Co-Funding in Canada”, in a long letter in *Science*, the magazine of the AAAS, to which the National Science Advisor to the Prime Minister of Canada had to respond to defend government policies<sup>[1]</sup>. In short, lacking proper tools to communicate, they had to “wash their dirty linen” in a foreign journal. But the same month the National science advisor could use *Découvrir*, the magazine of the French-Canadian Association for the Advancement of Science (ACFAS), to present his views on the role of Canadian R&D in the world context<sup>[2]</sup>. The contrast is striking and comparing the many failed attempts to create a

Canadian Association for the Advancement of Science with the successful creation of ACFAS in 1923, sheds some light on the lack of the cohesive elements that could have precipitated the creation of a Canadian AAS.

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It is well known that the British provided the model for the many Associations for the Advancement of Science (AAS) by creating in 1831 the British Association for the Advancement of Science (BAAS), an organization still active today<sup>[3]</sup>. It was inspired by its German predecessor the Gesellschaft Deutscher Naturforscher und Ärzte of 1822, and it covers all scientific fields of knowledge, social sciences and humanities included. In addition to organizing an annual meeting moving from town to town where scientists, social scientists and humanists present the results of their research, these AAS provided scientists with an organizational platform for speaking with one voice on all matters related to science in its broadest meaning. The model was rapidly imitated and, as shown in Table 1, the Italian association was the first to follow suit in 1839 while the American one (AAAS) was created in 1848. Using the same acronym, the Australasian emerged in 1888 after the Association française pour l’avancement des sciences (AFAS) which was created in 1872 – the Association scientifique de Paris appeared in 1862 and merged with AFAS in 1886. In the first half of the 20th century similar associations emerged in South Africa (1902), India (1912), Japan (1925), Argentina (1933), China (1947), Brazil (1948), Uruguay (1948) and Pakistan (1949). In the British Commonwealth alone, there were six such associations in 1950, none representing Canada as a whole. Interestingly, French-Canadian scientists in the Province of

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TABLE 1

## FOUNDING DATES OF ASSOCIATIONS FOR THE ADVANCEMENT OF SCIENCE (AAS)

1831	British AAS
1839	Societa Italiana per il Progresso della Scienza
1848	American AAS
1872	Association française pour l’avancement des sciences
1887	Australasian AAS (Australia and New Zealand)
1902	South African AAS
1912	Indian Science Congress Association
1923	Association canadienne-française pour l’avancement des sciences
1925	Japanese AAS
1933	Argentine AAS
1947	Chinese AAS
1948	Asociacion Uruguaya para el Progreso de la Ciencia
1948	Sociedade Brasileira para o progresso da Ciencia
1949	Pakistan AAS

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Quebec created the Association canadienne-française pour l'avancement des sciences (ACFAS) in 1923, which thus became the eighth such association then existing in the world.

In order to better understand the peculiarity of the Canadian situation, we must go back to the creation of the Royal Society of Canada and then look at the effects of the visits to Canada of the BAAS and the AAAS on the awareness of Canadian scientists of their national identity and their capacity to speak collectively in the name of science in the Canadian context. An analysis of the creation and activities of the French-Canadian AAS (ACFAS) will, by contrast, shed light on the lack of cohesive elements that could have precipitated the creation of a Canadian AAS. As we will see, a Canadian AAS did in fact emerge in the early 1980s but it was never really national and rapidly faded into oblivion.

### THE NATIONAL ROLE OF THE ROYAL SOCIETY OF CANADA

The first national organization of scientists was the Royal Society of Canada created in 1882. It was created, not by scientists, though, but by the Governor General, the Marquis of Lorne, who convinced academics like Daniel Wilson from the University of Toronto and William Dawson from McGill to help him in this endeavor at nation-building<sup>[4]</sup>. Though they suggested that there were very few "eminent" scientists in Canada to man such an honorary body, they finally accepted to play the game. From then on, an annual meeting was organized every year in Ottawa, where members read papers, which were then printed in the annual volume of *Proceedings of the R.S.C.* The Society was first divided into four sections: section I, devoted to French literature and social sciences; section II, to English literature and social sciences; section III, to physical sciences (astronomy, chemistry, mathematics, physics) and section IV to biology and geology. In 1918, the latter was divided in two, section IV devoted to biology and section V to geology. As a select organization, it was not really a meeting place for all the scientific community, who was then small and dispersed across the country, though with strong concentrations in Montreal and Toronto.

It is only after the First World War that the National Research Council (NRC) – created in 1916 – would provide fellowships for graduate training and grants for scientific research in universities, thus stimulating the growth of a Canadian scientific community<sup>[5]</sup>. The increased number of graduate students presenting papers in the scientific sections then led some members of these sections to raise the problem of the integration of young researchers into the activities of the Royal Society. At the beginning of the 1920s, a committee recommended that the maximum number of members per section "be enlarged sufficiently to permit increase in the number of active workers of recognized ability"<sup>[6]</sup>.

In this context of development, the most radical proposition for responding to the problem of the "rising generation" of scientists came from a member of the Biology section, Robert Thompson, who suggested to the Council of the Society in May 1923 that the Society study the possibility of forming a Canadian association for the advancement of science where:

"The younger scientific men might meet with the older ones, to their mutual advantages, and where businessmen and others interested in science, as well as the public generally, might be brought together for the advancement of the common cause.<sup>[7]</sup>" Although they opposed the creation of such an organization, the sections did favor "the extension of an invitation to junior scientists to the Royal Society of Canada". According to a proposition, this could be done "by the creation of an Associate Member class which in each section might provide a place for all serious workers in the subjects dealt with by the respective section"<sup>[8]</sup>. Nothing concrete emerged from these discussions<sup>[9]</sup> but the fact that they took place was an expression of the rapid growth in research following the First World War, which gave rise to a young generation of researchers trained in Canadian universities. It was also confirmed that outside the RSC, which was an elite organization, there was no general association to promote science across the Country and to create a sense of identity in convening scientists every year to present the results of their research. The lack of dynamism of the RSC is also visible in the fact that it is the NRC which, from 1931 to the present, "on behalf of the Canadian scientific and engineering community" has been in charge of official contacts with other international organizations, by being member of the International Council for Science (ICSU) and many other such international organizations, in close collaboration with the corresponding Canadian organizations which provide delegates to meetings<sup>[10]</sup>.

### THE CREATION OF THE ASSOCIATION CANADIENNE-FRANÇAISE POUR L'AVANCEMENT DES SCIENCES (ACFAS)

Given its timing, Thompson's suggestion may also have been a reaction to the news that their French-Canadian colleagues in Montreal were just preparing the creation of a French-Canadian Association for the Advancement of Science (ACFAS). Whereas Thompson's proposition went nowhere, the ACFAS was officially founded at a meeting on June 15th 1923 at the University of Montreal, with the objectives of stimulating the development of teaching and research in French-Canada (in practice that meant the province of Quebec) by means of popular lectures, prizes and congresses. Interestingly, the organizers contemplated for a moment calling their organization 'Association canadienne pour l'avancement des sciences', but decided to limit themselves to French Canadians, a realist move that surely contributed to their success by focusing their actions on local matters. During the first ten years, ACFAS essentially organized popular lectures in colleges and universities and gave a few small grants to assist the publication of papers. In 1933, it organized its first annual meeting of more than eighty scientists, humanists and social scientists. Since that time, the congress has been organized every year without interruption. After a period of exponential growth from the mid 1950s to the mid 1980s, the meeting now attracts over 4000 participants each year<sup>[11]</sup>. In May 2007, ACFAS will celebrate the 75th anniversary of its annual meetings. Starting with a liaison Bulletin in 1959, ACFAS launched its *Interface* magazine in 1984, now published under the title *Découvrir*. It provides an outlet in which scientists can learn about activities going on in Quebec, and the magazine also voices their concerns in an

op-ed page, "Paroles de scientifiques", where, as we have seen, the National science advisor to the Prime Minister did write in August 2005.

### THE BAAS AND AAAS VISIT CANADA

Though Canada never had its own Association for the Advancement of Science, this did not prevent the visits of foreign associations like BAAS and AAAS. The BAAS came to Montreal in 1884, to Toronto in 1897 and in 1924, and to Winnipeg in 1909. Its American counterpart came to Montreal as early as 1857, in 1882 and in 1964 and also visited Toronto in 1921 and 1981 and Ottawa in 1938. Through these meetings, many Canadian scientists acquired the habit of becoming members of these associations, particularly the AAAS, which was just south of the border. The most eminent were even active on the Board, like William Dawson, Principal of McGill University, who was even president of both AAAS (in 1882) and BAAS (in 1886), a feat he was proud of as he told his son after his nomination: "it might be something to be the first president from the 'colonies' and the only man who has presided over both the American and the British Associations"<sup>[12]</sup>. Much later, in 1921, the Toronto physicist John C. McLennan would be vice-president of the AAAS, thus preparing its visit to Toronto that year<sup>[13]</sup>. As well, the Montreal botanist Brother Marie-Victorin, first secretary of ACFAS, would become secretary of the Botany section of the AAAS in 1938, the year of the Ottawa meeting.

These visits had important symbolic effects on Canadians. As if the presence of Americans were somehow needed to give a sense of identity to Canadians, the preparation of the 1938 visit to Ottawa of the AAAS stimulated the organization of a session on "The Progress of science in Canada" where two French- and seven English-Canadian scientists presented a survey of the historical development of their respective disciplines in their country. These papers were published a year later as a book titled *A History of Science in Canada*, the first volume devoted to taking stock of the state of science in Canada in an historical perspective. As the editor, H.M. Tory, former president of the National Research Council (1928-1935), noted in his introduction, the visit of the AAAS provided a suitable opportunity "to bring to the attention of the Canadian and American public the position attained by science in this country". Organized by Lawrence Burpee, then secretary of the RSC, the session comprised nine presenta-

tions devoted to a particular discipline (astronomy, botany, chemistry, geology, mathematics, physics, zoology and two on medicine respectively under the French and English regime). Tory chaired it and it seems that "the impressions made by these papers on the members of the AAAS was excellent"<sup>[14]</sup>.

Looking back to the past to identify ancestors is a typical way to create a sense of identity. For a British colony like Canada, which had just recently obtained official autonomy (especially in matters of international relations) from Britain through the 1931 Westminster Statute, this session had a symbolic meaning. In a sense, it can be seen as a first realization that Canada had to build its own sense of scientific identity in order not to be considered simply a British colony, or worse a companion or guest of the US.

Though the creation of the RSC in 1882 was a first step in the direction of national scientific awareness, there was still much symbolic work to be done. However, after the publication of the book, nobody seems to have had the energy, time or dedication to create a Canadian equivalent to the AAAS, as if simply participating in the American one was sufficient for scientific purposes. Though it did not seem to disturb most Canadian scientists, the absence of a Canadian AAS was a surprise for Prince Phillip on his visit to Canada in 1951. He was then president of the BAAS and met representatives of ACFAS in Montreal. French-Canadian newspapers were then quick (and proud) to note that the Prince noticed the absence of an Anglophone equivalent to ACFAS. Two years before, in 1949, when UNESCO organized a meeting of all the AAS of the world in order to foster exchange between them, Canada was represented only by ACFAS, which could only describe its activities in Quebec. Since the 1930s ACFAS had in fact developed official relations with its sister associations, AAS and BAAS, sending Quebec delegates to their meetings. In 1947 for example, the Vice-President of AAAS (J.W. Bridge) and the President of BAAS (Sir Henry Dale) were present at the ACFAS Montreal meeting<sup>[15]</sup>.

Whereas ACFAS had rapidly developed since its first annual meeting in 1933, we have to wait until 1964 for a suggestion to create a CAAS to surface again<sup>[16]</sup>. Curiously, the proposition still appears to have been stimulated by the visit in Montreal of the AAAS, its third since 1857. I have, however, found no trace of any action taken to create such an organization. Interestingly, at the ACFAS congress of 1964, which also convened in Montreal, there were more than 1,000 participants and its Secretary-General also participated in the preparation of the AAAS meeting. In fact, among the ten associations co-sponsoring the American meeting, only ACFAS was a general association like AAAS.

### WHO SPEAKS FOR CANADIAN SCIENCE?

Before the end of the 1960s there were few steps taken to create a Canadian Association for the Advancement of Science. Most scientists had their respective disciplinary organizations like the Canadian Association of Physicists, the Chemical Institute of Canada or the Canadian Psychological Association, to name only a few. As we have said, many were also members of the AAAS and participated in its meetings. Outside their specialist interests, these scientists do not seem

**TABLE 2**  
**CANADIAN MEETINGS OF THE AAAS AND BAAS**

1857	AAAS in Montreal
1882	AAAS in Montreal
1884	BAAS in Montreal
1897	BAAS in Toronto
1909	BAAS in Winnipeg
1921	AAAS in Toronto
1924	BAAS in Toronto
1938	AAAS in Ottawa
1964	AAAS in Montreal
1981	AAAS in Toronto



to have been keenly interested in forging a Canadian intellectual space where they could meet on a national basis to defend and promote a general interest for science and scientific culture.

Probably more sensitive than the natural scientists to questions of national identity, the social scientists created the Canadian Social Science Research Council in 1940, on the model of its American counterpart and, in 1943, the humanities created a similar organization (the Humanities Research Council). As noted by Donald Fisher, “the Council was the first national organization in Canada whose main objective was to represent all social science disciplines”.<sup>[17]</sup> Despite its ambitions, however, the organization gradually narrowed down “into a relatively small, mainly Anglophone, body of researchers”.<sup>[18]</sup> As the few Quebec social scientists of the time were already part of ACFAS, they saw no urgent reason to invest in a “national” organization dominated de facto by Anglophones. Nevertheless, Canadian social scientists and humanists were thus better prepared than scientists to defend collectively the interests of their disciplines when science became more visible on the political agenda and “science policy” became a catch-phrase in the mid-sixties. Universities also created their own national organization, The Association of Universities and Colleges of Canada presented itself as providing, since 1911, a “strong and effective representation for our members, in Canada and abroad”<sup>[19]</sup>.

The importance of having a “spokesperson” for science became evident in the second half of the 1960s when governments started formulating science policies. In our representative democracies, governments want to engage with official representatives of every interest group, and science is no exception. Thus, in countries where general associations like AAS existed, scientists were in a good position to discuss with governments and submit their views about the role of science in society. Canadian scientists lacked such a “national” organization and were, in fact, forced to create one when the Federal government asked in 1968 – through a Senate Committee on Science Policy presided over by Senator Maurice Lamontagne – “Who speaks for Canadian Science?” ACFAS presented itself as the representative for Francophone scientists but English-Canadian scientists were divided along disciplinary lines and had no collective voice. Confronted with the question of the Senate Committee they created SCITEC, the Association of the Scientific, Technological and Engineering Community of Canada, on the board of which ACFAS represented francophone scientists. But given the long tradition of the francophone “distinct society” ACFAS did not want SCITEC as a national body “speaking” for Canadian science, for this would have “lost” the voice of the francophones in the “sea” of anglophones’ interests. ACFAS thus presented the Senate Committee with its own brief and SCITEC was then supposed to represent only English-Canadian interests, even though, in fact, it had francophones on its board. ACFAS was already used to these exercises in political representation. As early as 1949 it had presented a memoir to the Royal Commission on arts, letters, and science. Promoting the diffusion of science, it suggested that radio and television were very useful media for the promotion of public understanding of science.<sup>[20]</sup>

After a few years of activity, during which it published a journal, *Science Forum*, essentially devoted to debates on science policy, SCITEC lost its raison d’être. Its origins and aims were only a by-product of the “demand” generated by the Lamontagne Commission and it thus faded away with the debate on a national science policy<sup>[21]</sup>. While SCITEC lay dormant, the Canadian Consortium for Research (CCR) was established in 1976 and now regroups 22 organizations covering the sciences as well as the humanities and the social sciences<sup>[22]</sup>. And as if the 1960s “fever” of science policy was starting again in Canada, another group was created 1995, PAGSE, “at the invitation of the Academy of Science of the Royal Society of Canada to represent the Canadian science and engineering community to the Government of Canada”<sup>[23]</sup>. Both have been lobbying the government on behalf of Canadian science over the last decade but they still have work to do to get a larger visibility among scientists and outside the “corridors of power” in Ottawa.

At the beginning of the 1980s SCITEC finally transformed itself into the Association for the Advancement of Science in Canada (AASC) – and not CAAS in order to have a bilingual acronym. Like its predecessor, it published a bulletin for a while (*Access*) but rapidly faded into oblivion and the new organizations still lacks a visible national journal. By contrast, ACFAS’ *Découvrir* magazine continues to provide a public space where scientists can exchange and debate, while the organization participates actively in the definition of the evolving Quebec science policy, the government recognizing ACFAS as spokesperson and using it to implement some aspects of its policies. Of course, the level of discussion varies, and it all depends on the willingness of scientists to engage in public debates. The fact that such a medium exists is a necessary, though not sufficient, condition for such debates to take place.

## CONCLUSION

When we compare the history of ACFAS and its activities with that of English-Canadian associations, we cannot escape the feeling that the basic characteristic that explains the very existence of ACFAS is a strong identification with a French-Canadian nation with its own language (French) and its specific institutions. The creation of ACFAS in the 1920s was thus an integral part of the struggle for national existence and economic development of a French-Canadian culture in an ocean of Anglo-American culture. Speaking English, the rest of Canada can hardly distinguish itself from the US despite the existence of political borders. This is not only true in science but also in movies and even in literature. Sharing a common language with the Americans there is no major barrier (even cultural) to their seamless integration in the US market. For scientists in particular, the attraction of the US is strong and difficult to resist. One could point to a large number of Canadian scientists who made their entire careers in the US, some even obtaining Nobel prizes or becoming Assistant to the President for Science and Technology (1989-1993), as did D. Allan Bromley, born in Ontario and trained at Queen’s University before heading south of the border in 1950. One must also recall that in the 1960s a significant proportion of the new university professors were American and that many

Canadians have obtained their Ph.D. in an American institution, thus creating strong links south of the border<sup>[24]</sup>. Whereas the scientific networks of Canadian scientists were mainly British before the Second World War they afterwards have been strongly reoriented toward the USA, as this country became a world leader in most scientific fields<sup>[25]</sup>.

All this suggests that the creation of a “national” organization depends on many factors, the most important being language, geographic situation, and historical tradition and culture. Of course, once created, a national organization would itself contribute to the national identity, but a modicum of cohesion is necessary to counter centrifugal forces. In the case of France, England and the US, to name only a few, a long history of cohesion has provided the basis for a strong national identity. The same can be said for Quebec. Language certainly played a central role in the creation of ACFAS as, by contrast, the cases of Ireland and Scotland, whose scientists participated actively in the BAAS suggest. Sharing their language with their English colleagues, Irish and Scottish scientists could be part of the BAAS, as geographic distances were not an obstacle as was the case for Australia, where geographic isolation favored an autonomous organization for the Australasian Association.

Whatever the reasons behind this situation, there is a price to pay for not having a credible national organization uniting all sciences. For only with a functional equivalent to ACFAS will Canadian scientists really be able to make their voice heard without having to use foreign channels to debate their problems. The Canadian Association of Physicists, for example, knows this reality and has a hard time convincing Canadian physicists to be members of the CAP instead of (or in addition to) the American Physical Society (APS). In 1994, for example, writing to those who were on the APS list, the vice-president of CAP noted that APS could not defend their interests in Canada and that there was a price to pay for being “Canadian”<sup>[26]</sup>.

And as the elite US National Academy of science did not replace the democratic and popular AAAS, so the Royal Society of Canada and its Academies, despite recent reforms, cannot fill this vacant space. As often happened in Canadian history, Quebec could again provide a model for Canada to emulate<sup>[27]</sup>.

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27. I wish to thank the anonymous reviewers for their useful comments and suggestions.