HISTORY OF THE CREATION OF

THE COUNCIL OF CANADIAN ACADEMIES

Prepared by
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FOREWORD

The Council of Canadian Academies (the Council) is a not-for-profit organization created under the *Canada Corporations Act*. It was originally incorporated as the Canadian Academies of Science (CAS) in April 2002 by three founding member academies: The Royal Society of Canada (RSC), the Canadian Academy of Engineering (CAE), and the Canadian Institute of Academic Medicine (subsequently to evolve into the Canadian Academy of Health Sciences - CAHS). The purpose of the Council is to conduct assessments, by panels of independent experts, of the science that is relevant to public policy issues. These assessments do not include policy recommendations, but rather describe what is known, and what is not known, about the scientific questions before the panel, and how the scientific facts and implications are relevant to the making of public policy.

The Council did not officially begin to undertake its mandate until the appointment of its first permanent executive officers in February 2006. But the story of its inception and development started long before. The leadership and persistence of many key players, and the sustained commitment of the three founding academies, resulted in a $30 million grant from the federal government in the budget of February 2005 that breathed life into the fledgling organization. With this grant, the Canadian Academies of Science (subsequently re-named the Council of Canadian Academies) came to fruition and the vision of many over the preceding decade finally took tangible form.

The purpose of this paper is to tell the story of the Council's creation – the events, the proposals, and most importantly, the people who contributed their time, talent, effort

and enthusiasm to the initiative. This history has been derived from examination of the seminal documents and enriched by interviews with many of the key players who were directly involved.[1] A chronology of the key events is summarized in the box on the next page. The result, like any history, is a mix of fact with the personal recollections, interpretations and opinions of the participants.

The document was prepared in summer 2007 by staff of the Council of Canadian Academies under the principal authorship of Stavroula Papadopoulos whose unflagging commitment to the project is gratefully acknowledged.

<div style="text-align: right">

Peter J. Nicholson,
President

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[1] See Appendix A for the list of those interviewed. The interviews provided a reasonably representative sample of key players but did not, of course, include all those who made important contributions to the endeavour.

Chronology of Key Events

1966 - 93	Science Council of Canada created by federal statute; eventually disbanded.
1983	Kenneth Hare releases *Acid Deposition in North America*. Reviewed by the Royal Society of Canada (RSC).
1983 - 2004	Period of RSC expert panel reports.
1994	Segal Panel: *Report of the National Academy Review Panel*.
1996	Industry Canada's *Science and Technology for the New Century* recommends use of external expert reviews and advisory bodies in policy-making.
2000	William Leiss proposal: *Providing Independent Expert Advice to Government and the Public: A Memorandum on the Role of National Academies and a Proposal for Canada.*
2000 May	Royal Society of Canada (RSC) and Canadian Academy of Engineering (CAE) proposal: *The National Academies of Canada: Part I, A Proposal to the Government of Canada.*
2000 Oct.	National Science Organization Round Table (Aylmer, Québec; October 4-5).
2001 Feb.	CAE, RSC and Canadian Academy of Health Sciences (CAHS) proposal: *A Proposal to Create a Council to Provide Independent Expert Assessments of Science, Engineering and Technology Issues for the Government of Canada and for the Public of Canada.*
2002 Jan.	National Science Organization Working Group releases *A Proposal for the Canadian Academies of Science.*
2002 April	Canadian Academies of Science (CAS) incorporated as a not-for-profit corporation, but without funds to operate.
2004 April	Arthur Carty appointed as National Science Advisor.
2004 Oct.	Prime Minister Martin announces government's intention to provide funding for the Canadian Academies of Science (October 6, 2004).
2004 Oct.	William Leiss submits draft proposal to Industry Canada: *Canadian Academies of Science, Proposed Annual Steady-State Budget 2005 - 2015.*
2005 Feb.	Federal Budget allocates $30 million to the CAS. (February 23, 2005).
2005 March	Negotiations between government and CAS over terms of funding agreement (February - March, 2005).
2005 Sept.	Inaugural Meeting of the Board of Governors (September 11, 2005).
2006 Feb.	Peter J. Nicholson hired as inaugural President of the CAS (February 6, 2006).
2006 June	CAS renamed the Council of Canadian Academies. (June 20, 2006).

1. EARLY HISTORY: 1966 – 2004

The Science Council of Canada: 1966 – 1993

The history of science assessments and advice in Canada has no distinct beginning but among early antecedents of the Council of Canadian Academies was the Science Council of Canada (SCC), created by federal statute in 1966. The SCC served to inform the government and the public about potential opportunities and problems related to emerging science and technology issues and to assess Canada's scientific and technological resources.

Though the federal statute founding the SCC states that the topics of its studies would be determined by the government, in practice the organization itself sought out and chose its subjects. The SCC carried out diverse work, including literature reviews and formal SCC-initiated reports and recommendations to government and other relevant stakeholders. Additionally, in an effort to engage both the public and private sectors alike, SCC staff often held workshops and conferences to discuss on-going or completed studies.

In 1993, after twenty-seven years of experience conducting assessments and providing science advice to the government, the SCC was forced to close its doors when the government of the day terminated its funding. Although the SCC had been a respected advisory body in its early years, its influence and credibility decreased substantially during the latter part of its existence. By the end, it was no longer conducting original investigation and performed little other than literature reviews. An

impression developed that the SCC "had lost any real ability to access and influence government."[2]

In hindsight – and as documented by the late Professor John de la Mothe – an accumulation of several operational and organizational issues probably led to the demise of the SCC. For instance, most of its major studies ended with recommendations aimed at several different stakeholders. This lack of focus resulted in a significantly diminished impact on the policy-making process. Moreover, the SCC's extensive and time-consuming public and stakeholder consultations meant that its reports were often delayed and the content out of date by the time they were released. Another factor in the SCC's decline was its incapacity to house anything more than a semi-permanent staff. In the end, it may have been an accumulating set of deficiencies that diminished the perceived value of the Science Council and made it a target during the government's budget-cutting exercise in 1993.[3]

Kenneth Hare and RSC Assessments: 1983 – 1993

The late Kenneth Hare must be credited with much of the early involvement of the Royal Society of Canada (RSC) in conducting science-based assessments. Professor Hare, a Fellow of the RSC, began his eminent career as a climatologist, and held a number of prominent university positions throughout his career, including Professor and Dean of Arts and Science at McGill University, President of the University of British Columbia, Chancellor at Trent University, and Professor at the University of Toronto. He was a

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[2] John de la Mothe, "A Dollar Short and a Day Late: A Note on the Demise of the Science Council of Canada." *Queen's Quarterly* 99 (4), 1992, p. 876.
[3] Ibid., pp. 875-881.

leader in environmental science and had a particular interest in climate change, decades before its current vogue.

Throughout the 1980s, Hare was approached by a number of government agencies to conduct studies on various scientific issues. He authored two reports under the RSC banner for the Atmospheric Environment Service of the federal government in 1983. Though the RSC was formally recognized as the producer of the reports, the Society's involvement at the time was limited to providing an independent peer review of Hare's work. This remained the case until 1988 when Hare was authorized by the Ontario government to involve the RSC, not only as a reviewing body but as a panel-nominating body as well. Professor Hare had been approached by the Ontario Ministry of Energy to lead a commission to report on the safety of Canada's nuclear reactors. The RSC was assigned the task of selecting the review panel that would examine the work of the commission throughout its progress. It also assisted Hare in choosing contractors to perform various tasks for the report.

It was not until the 1988 publication of *AIDS: A Perspective for Canadians (2 volumes)*, that the RSC produced a self-initiated report without the involvement of Hare. By the end of the decade, Hare and the RSC had succeeded in building the organization's reputation as a solid independent reviewing body (see Box 1). By then, the RSC was being approached directly by the government to conduct studies. And while Hare's involvement in many of the studies continued, he was no longer the only person "bringing in business".[4]

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[4] Michael Dence, *Providing Independent Expert Advice: Summary of studies facilitated or directed by the RSC (1980-1995)*. The Royal Society of Canada, 2000, pp. 2-5.

Box 1
Selected RSC Reviews and Reports: 1983-1989

Acid Deposition in North America, 1983. F.K. Hare. The Atmospheric Environment Service. Report written by F.K. Hare on acid deposition undertaken in an effort to better understand the issue as it relates to Canada – U.S. relations. Reviewed by the RSC.

Long-range Transport of Airborne Pollutants in North America, 1984. F.K. Hare. The Atmospheric Environment Service. An investigation into the transmission of airborne pollutants across North America. Reviewed by the RSC.

The Great Lakes Water Quality Agreement: An Evolving Instrument for Ecosystem Management, 1985. O.L. Loucks & H.A. Regier. The Donner Foundation. Joint U.S. – Canada study reviewed and approved by the RSC in Canada and the National Academy of Sciences in the United States.

Lead in Gasoline: a Review of the Canadian Policy Issue/Du Plomb dans l'essence: Étude pour une politique au Canada, 1985. F.K. Hare. Environment Canada. A review of Canadian policies regarding lead in gasoline.

Lead in Gasoline: Alternatives to Lead in Gasoline (Conclusions en français), 1986. F.K. Hare. Environment Canada. A review of issues around and alternatives to lead in gasoline.

Lead in the Canadian Environment: Science and Regulation (Final Report) / Le Plomb dans l'environnement au Canada: science et réglementation (Rapport final), 1986. F.K. Hare. Environment Canada. A general review about lead in the Canadian environment.

The Safety of Ontario's Nuclear Power Reactors: A Scientific and Technical Review (2 volumes), 1988. F.K. Hare. The Ontario Ministry of Energy. An assessment of the safety of Ontario's Nuclear Power Reactors.

AIDS: A Perspective for Canadians (2 volumes), 1988. M. Chrétien & Horace Krever. The Federal Centre for AIDS. A look at both the medical/research and the social/economic issues surrounding AIDS.

Review of Studies of Health Effects of Long Range Transport of Air Pollutants, 1988. P.T. Macklem, D.V. Bates, J. Hanley, P. Lioy. Health and Welfare Canada. An assessment of and recommendations for the office established by Health and Welfare Canada to monitor the health effects of airborne pollution. (The office had been established in response to F.K. Hare's report on airborne pollutants in 1984.)

Canada and the Changing Atmosphere/Le Canada et l'atmosphère en évolution, 1989. F.K. Hare. The Atmospheric Environment Service. A look at environmental phenomena that had an impact on the Canadian Atmosphere.

Tobacco, Nicotine, and Addiction/Tabac, Nicotine et Toxicomanie, 1989. Harold Kalant. Health and Welfare Canada. An assessment of the impact of tobacco and nicotine on addiction. The findings were to be used by the government in court actions against the tobacco industry.

Early Discussions About an Independent Organization for Science Assessments

Unfortunately for the RSC, its ambition to become a regular review and assessment body

for government was about to lose momentum:

> By the end of the 1980s, there were some signs that the Government of Canada was
> beginning to assign RSC the kind of national role that was common in other countries.
> Unfortunately, things fell apart again shortly thereafter, as a result of an ill-advised
> scheme under which RSC was awarded a federal contract for $1-million per year for each
> of five years (1988-1993) to deliver a number of "services". By the time this episode had
> played itself out, much of the goodwill earned in the preceding decade had evaporated.[5]

In 1992, the Minister for Science, William Winegard, convened a panel, chaired

by Dr. Brian Segal[6], to advise the federal government as to: (i) whether the government

should support the creation of a national academy in Canada; and if so (ii) whether the

RSC could fulfil this role.[7]

The Segal panel based its recommendations on an analysis of national academies

in the United States and Europe, an assessment of the mandates of several Canadian

organizations already in existence, and an evaluation report on Industry Canada's support

to the RSC in the 1988-1993 period. It concluded that Canada was indeed in need of a

national academy, but that the RSC was not suited to fill this role for various reasons. The

decision not to recommend the RSC as Canada's "national academy" was informed

largely by a report commissioned by Industry Canada and released in December of 1993

entitled, *Final Report: Evaluation of Industry Canada's Support to the Royal Society of*

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[5] William Leiss, Development of the Expert Panel Process in Canada 1995 – 2005: A report commissioned by the Council of Canadian Academies. February 2007, p. 6.
[6] Dr. Brian Segal was, at the time, publisher of Maclean's Magazine and past-President of the University of Guelph. The other panel members included: Dr. William Cochrane (President, W.A. Cochrane & Associates Inc.), Dr. Bartha Maria Knoppers (Associate Professor, Faculty of Law, McGill University), Dr. Julia Levy (Senior Vice-President Scientific Affairs and Chief Scientific Officer, Quadra Logic Technologies Inc.), Dr. Arthur May (President, Memorial University of Newfoundland), John Panabaker (Former CEO of Mutual Life Canada), Dr. Jean-Guy Paquet (President, Laurentian Life), Dr. Mary Clutter (Assistant Director, Biological Sciences, National Science Foundation).
[7] Brian Segal, *Report of the National Academy Review Panel*, 1994, p. 1.

Canada. In support of its decision, the Segal panel cited: (i) a previous disagreement between Industry Canada and the RSC over how grant money had been spent (i.e. the $5 million grant in the 1988-93 period referenced in the observation of William Leiss noted above); and (ii) a view that the RSC was neither sufficiently multi-sectoral – since essentially only academics and researchers are appointed as Fellows – nor sufficiently multi-disciplinary.

Government officials wanted an assessment body that would be as broadly representative as possible. In light of the profound impact that science and technology were having on people's lives, these officials believed that a broad base of expertise was required in order to make responsible decisions about how to address and manage that impact. John de la Mothe emphasized the growing importance of understanding science and technology issues in *Using Knowledge to Advantage: A Discussion Paper*[8]:

> Canadians will increasingly become concerned, not only with trying to understand or make sense of these rapid advances in knowledge for the purposes of career selection, education and literacy, but they will also be concerned with what science and technology can tell us about issues that affect their health, safety and the environment.
>
> Canadian policy makers and analysts will increasingly need to understand potential issues and impacts in order to design appropriate regulatory frameworks and standards, adjust intellectual property regimes, influence international environmental law and to fulfil other government functions.
>
> Industrial and corporate managers will need assessments so that they can be prepared to better anticipate, face and adapt to the obstacles, unforeseen science-based impacts and concerns of consumer and environmental groups.
>
> Expert, multi-disciplinary, multi-stakeholder assessments can tell us what we know and don't yet know about the knowledge underpinning an issue. They are based on acknowledged expertise in a variety of fields and an understanding of best practice. With assessments, we will be in a position to come to sound judgments that can help us find common ground between competing interests, guide us in future research and allow us to better manage risk and make informed decisions.[9]

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[8] This paper was sent to the National Science Organization (NSO) Round Table participants prior to the October 4-5, 2000, meeting in Aylmer, QC (see Chapter 2 for discussion of the NSO Round Table).
[9] de la Mothe, *Using Knowledge to Advantage*, p. 3.

As one senior government official who had been involved at the time noted: "The initiative [to create a national academy] was being carried through because there was a need for a multi-disciplinary organization to carry out independent assessments – we had to be certain that the money would flow for that specific purpose."[10]

In the wake of the Segal panel's 1994 report, the idea of a national academy that would specialize in science-based assessments began to take shape. The vision was one of an organization that would achieve credibility by virtue of independence and expertise and thus help to boost public engagement in, and understanding of, science-related issues. William Leiss and John Cairney, two prominent academics teaching at Queen's University's School for Policy Studies, observed that two things were required to achieve the vision: (i) an "adherence to a comprehensive, suitable and widely acknowledged set of procedures to govern [assessment] panel processes" and (ii) an organization that is "independent of government and all interest groups".[11] They felt that this was necessary in order to produce accurate reports, particularly regarding scientific or technological issues where a high degree of risk and/or risk-benefit was at issue.

The RSC's Assessment Experience: 1995-2004

Having completed his *Feasibility Study on Expert Panels* in 1995, Leiss provided the report to the President of the RSC at the time, Dr. Robert Haynes, who was enthusiastic and established a Committee on Expert Panels at the RSC, chaired by Leiss. The committee's first task was to produce a manual of procedures that would govern all future

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[10] Unless explicitly noted otherwise, all quotations and comments ascribed to "government officials" are based on interviews conducted by Stavroula Papadopoulos, on behalf of the Council of Canadian Academies, in July-August 2007. See Annex A.
[11] William Leiss and John Cairney, *Feasibility Study on Expert Panels*. Working Paper Series 95-3. Environmental Policy Unit, School of Policy Studies, Queen's University, 1995, p. 10.

expert panels conducted by the RSC. It was also the committee's responsibility to choose

panel members and chairs, and to ensure adherence to the rules of procedure for all expert

panels.[12]

From 1995 – the time the *Manual of Procedures* was produced – until 2004, the

RSC was active in assessment work and completed several studies, all of which complied

with the guidelines the committee had established (see Box 2). But by 1999 it had already

become clear to the RSC that it could not continue to manage its assessments in the same

way. The *ad hoc* procedure was unsustainable.

> Treating every request as a one-time contract, while convenient for potential sponsors, imposed an intolerable burden on the Society and its staff. The lack of continuity meant that no one could be hired and trained on a permanent basis. Many of the key responsibilities, such as panel selection, require types of skill and subtlety of judgment that are very difficult to pick up quickly. RSC's organizational memory and experience base was fragile and could be disrupted at any time…The responsible officials at RSC were all-too-aware of the high standard for "product quality" set by the international peer group, and of the dilemma presented by the thin layer of qualified personnel, which meant that there was an ever-present risk of a serious error being made simply because no one would be available at the critical time.[13]

This realization prompted Leiss to submit a proposal to the Government of Canada in

May 2000 requesting sustained funding to support the RSC's assessment work (see

Chapter 2).

A Review of Science and Technology Policies in the Federal Government

In June 1994, following the election of a new government, Industry Minister John

Manley and Jon Gerrard, Secretary of State for Science, Research, and Development,

ordered a full review of federal science and technology policies. The purpose was to

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[12] Leiss, *Development of the Expert Panel Process*, pp. 12-19.
[13] Leiss, *Development of the Expert Panel Process*, pp. 21-22.

devise a federal S&T strategy that would help the country benefit from the global

economic shift toward knowledge-based industries. The process had three key elements:

> (i) an internal review of all science departments in the government; (ii) an independent assessment by the National Advisory Board on Science and Technology[14]; and (iii) a series of consultations with interested Canadians.[15]

One of several recommendations put forth in the resulting report – *Science and Technology for the New Century: A Federal Strategy* – was for creation of new institutions and mechanisms of S&T governance. Comparing Canada with other G-7 countries, the report stated that the federal governance system for science and technology should include a provision for external expert advice. It also recommended that to improve coordination of S&T activity among federal departments and agencies, support would need to be sought from external advisory bodies on single issues that concern multiple departments. Finally, the report suggested that all departments that deal with S&T issues should use "expert reviews and advisory bodies to ensure scientific excellence and relevance."[16] The report makes clear that, by the time of its publication in 1996, the government was already well-attuned to the discussions underway regarding the use of independent expert advice to inform science-related policy decisions.

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[14] The National Advisory Board on Science and Technology was established in 1987 to provide advice to the Prime Minister and was chaired by Prime Minister Mulroney. In 1995, Prime Minister Chrétien replaced NABST with the Advisory Committee on Science and Technology. The main difference between the two is that whereas NABST's findings were made public, those of the new ACST were not.

[15] Industry Canada. Science and Technology for the New Century: A Federal Strategy. Ottawa: Industry Canada, 1996, p. 1.

[16] Industry Canada. *Science and Technology for the New Century: Summary*. Ottawa: Industry Canada, 1996, pp. 5-7.

Box 2
RSC Expert Panels: 1996 – 2004

A Review of the INSERM Report on the Health Effects of Exposure to Asbestos, 1996. Health Canada. RSC was asked to review the French report entitled *Effets sur la santé des principaux types d'exposition à l'amiante* (Effects on Health of the Main Types of Exposures to Asbestos), which had been issued by France's Institut National de la Santé et de la Recherche Médicale (the INSERM report).

Recommendations for the Disposition of the Health Canada Primate Colony, 1997. Health Canada. The panel was asked to present the arguments for and against maintaining the government's monkey breeding colony for experimental purposes.

A review of the Potential Health Risks of Radiofrequency Fields from Wireless Telecommunication Devices, 1999. Health Canada. The expert panel was asked to look into potential health risks associated with radiofrequency field exposure from existing and emerging wireless telecommunication devices.

Elements of Precaution: Recommendations for the Regulation of Food Biotechnology in Canada, 2001. Health Canada, The Canadian Food Inspection Agency, Environment Canada. The expert panel was asked to provide advice on a series of questions related to the safety of new food products being developed through the use of new genetic engineering technologies.

Report of an Expert Panel to Review the Socio-Economic Models and Related Components Supporting the Development of Canada-Wide Standards for Particulate Matter and Ozone, 2001. Multi-sponsors: The Canadian Council of Ministers of the Environment, for the Federal/Provincial/Territorial Canada-Wide Standards Development Committee for Particulate Matter and Ozone and its Core Advisory Group of industrial and non-governmental stakeholders, including environmental, health, commercial, and aboriginal organizations. This report addresses the validity of the socio-economic modeling aspects of the Canada-wide standards development process.

International Expert Panel to Review Impacts of Research Infrastructure Investments made by the Canada Foundation for Innovation (CFI), 2001. The Canada Foundation for Innovation. An International Panel was appointed by the RSC (in consultation with Canadian Academy of Engineering and the Canadian Institute of Academic Medicine) to evaluate the impact of the CFI programs to date.

Follow-up Report on the Health Canada Non-Human Primate Colony, 2003. Health Canada. A report to determine if Health Canada had taken appropriate measures to address the recommendations given by the expert panel in 1997.

Report of the Expert Panel on Science Issues Related to Oil and Gas Activities, Offshore British Columbia, 2004. Natural Resources Canada. A review of science issues arising from possible oil and gas activity off the B.C. coast.

World Conference on Science: Budapest; June, 1999

The World Conference on Science in 1999 was organized by UNESCO and the International Council for Science (ICSU). Arthur Carty, then President of the National Research Council of Canada, headed a Canadian delegation of twenty, some of whom were struck by the fact that most of the developed countries present had publicly funded national academies that spoke on behalf of the sciences, while Canada did not. They believed that without an equivalent body, Canada was not only anomalous, but also at a comparative disadvantage. Reflecting on his experience as one of the Canadian delegates, Tom Brzustowski wrote:

> The RSC and the CAE both certainly have the intellectual capacity to represent the Canadian scientific and engineering communities in national debates, and to develop compelling independent advice to government on major issues that they themselves have identified, but they lack the resources and the public attention to play those roles…Canada lacks an authoritative national voice of the Canadian sciences and engineering that is comparable with other countries. As a result, Canada may be lacking the institutional capacity to deal with the big issues involving science and society (e.g. technological risk) in a balanced way.[17]

When William Leiss became President of the RSC in 2000 – and thus came to occupy an ideal platform for promoting his idea for a credible and sustainable science-assessment body – there were many in the science policy field who already shared his belief that Canada was long overdue for such an organization.

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[17] Tom Brzustowski, "The World Conference on Science in Budapest". 1999, pp. 2-3. Brzustowski was appointed President of the Natural Sciences and Engineering Research Council of Canada (NSERC) in October 1995 and served until 2004. He is currently a member of the Scientific Advisory Committee of the Council of Canadian Academies.

2. TOWARD THE CANADIAN ACADEMIES OF SCIENCE

Several proposals to the federal government regarding creation of a national academy were developed between 2000 and 2002. The first of these was prepared by Professor William Leiss and submitted on behalf of the RSC to Industry Minister, John Manley, and to Gilbert Normand, who had succeeded Jon Gerrard as Secretary of State for Science, Research and Development.

Leiss was motivated to advance his proposal in order to address the unsustainable conditions under which the RSC had been conducting assessments. According to Leiss, the biggest problem was with respect to "the *ad hoc* funding the RSC receives for conducting expert panel assessments, and an inability to have qualified standing committees to help in the selection of panels and the development of topics."[18]

Initially, the proposal was offered solely on behalf of the RSC. This reflected Leiss's belief that the RSC was the uniquely qualified body to conduct science assessments because, at the time, it was the only organization in Canada that had the required experience.[19] The idea of including the Canadian Academy of Engineering (CAE) arose from discussions between Leiss and Gilbert Normand. Dr. Normand was to become the main political supporter of a science assessment body for as long as he remained Secretary of State for Science, Research and Development.

With the CAE on board, the proposal was revised and officially submitted to the government on May 4, 2000 as *The National Academies of Canada: Part I, A Proposal to the Government of Canada*. The preceding version of the proposal, on behalf of the RSC

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[18] William Leiss, *Providing Independent Expert Advice to Government and the Public": A Memorandum on the Role of National Academies and a Proposal for Canada. Part II: A Memorandum on the Role of National Academies*. Ottawa: The Royal Society of Canada, 2000, p. 6.
[19] Leiss, *Development of the Expert Panel Process*, pp. 22-23.

alone, had suggested direct administration of funds by the RSC. But with the addition of

the CAE, it was decided that "a third entity had to be created to serve each group's

common purpose, but at the same time ensuring the separate identities of the two

academies."[20] It was proposed that the partnership of the RSC and the CAE would lead

to a newly-incorporated organization, the National Academies of Canada (NAC), that

would carry out duties similar to national academies around the world. The NAC was to

consist of four members: the three branches of the RSC – the Académie des Lettres et des

Sciences Humaines, the Academy of Humanities and Social Sciences, and the Academy

of Science – together with the Canadian Academy of Engineering. The objectives of the

new body would be to:

- provide independent expert advice to government and the public;
- provide a Secretariat to support the corporate members in carrying out the administrative functions; and
- participate in the joint activities of national academies around the world.

The member academies, meanwhile, would "retain their existing corporate identities,

mission statements, and organizational structures."[21]

The proposal included an outline of the staffing and budget needs of the NAC.

The Secretariat was to be made up of four full-time employees in addition to secondment

staff from the RSC and CAE who would contribute half-time to the NAC. It was

suggested that the Secretariat would serve as the main support staff for the Expert Advice

Group. This latter body would consist of eight staff members charged with providing

support for the activities of a Committee on Expert Panels and its scientific boards, as

well as to support the work of the expert panels themselves. (It was assumed that at least

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[20] Leiss, *Development of the Expert Panel Process Canada*, p. 24.
[21] Ibid., p. 4.

five panels would operate concurrently.) Consequently, the NAC was to have twelve

permanently dedicated staff as well as some half-time secondees from the RSC and CAE.

The NAC would include fifteen different "boards" based on areas of expertise.[22]

"Boards are responsible for setting policy in the maintenance of current rosters of

expertise; for identifying policy-relevant issues within their fields that may result in the

appointment of expert panels; and for assisting the Committee on Expert Panels in its

oversight functions."[23] Finally, the Committee on Expert Panels would serve as the

oversight and management body to ensure that the expert panels adhered to NAC

standards.[24] The chairs of each of the various boards would sit on the Committee on

Expert Panels, in addition to members with ample experience in conducting assessments.

The proposal estimated an annual operating budget of approximately $2.1 million for

staff support and expert panel expenditures.[25]

Part II of the May 2000 submission consisted of a memorandum by Leiss on the

role of national academies entitled, *Providing Independent Expert Advice to Government*

and the Public: *A Memorandum on the Role of National Academies and a Proposal for*

Canada. It focused on what the RSC would need if it were to become the equivalent of

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[22] The fifteen Boards proposed by Leiss were: Biological Sciences; Chemical Sciences; Physical Sciences; Earth, Ocean and Atmospheric Sciences; Civil, Mechanical and Biomedical Engineering; Electrical and Computer Engineering; Chemical and Metallurgical Engineering; Mathematics and Statistics; Epidemiology; Toxicology; Risk Assessment and Management; Law, Policy and Administrative Services; Social Sciences; Cultural Sciences and Humanities; Lettres et des sciences humaines.
[23] Leiss, *The National Academies of Canada: Part I, A Proposal to the Government of Canada*, p. 7.
[24] This model bears close resemblance to the National Academies set-up in the United States. The National Research Council – the assessment-performing body of the NAS/NAE – comprises a large number of Boards that are grouped into five major Divisions, plus a staff body associated with the Institute of Medicine. This operating organization is overseen by the National Research Council Governing Board which is chaired by the President of the National Academy of Sciences with the Presidents of the National Academy of Engineering and the Institute of Medicine as members, among others. The Committee on Expert Panels in the proposed Canadian model was designed to be analogous to the Governing Board of the NRC.
[25] Leiss, *The National Academies of Canada: Part I, A Proposal to the Government of Canada,* p. 9.

other national academies around the world, particularly those in the U.S., U.K. and France.[26]

The Leiss proposal caught the attention of many who would later help in promoting and shaping the development of a new science-assessment body. Indeed, Philip Cockshutt expressed a widely held view when he noted that: "The Canadian Academies of Science (now the Council of Canadian Academies) would not exist had it not been for the vision and determination of Bill Leiss."[27]

Government officials, on the other hand, were not easily convinced by the proposal. At first sight, the RSC-CAE proposal appeared "elitist" to many inside the government and therefore unsuitable for tax-payer support. From the outset, there was reluctance to allow the RSC and CAE to control any publicly-provided money that might be made available to the new institution. The government had already shut down various advisory bodies, including both the Science Council and the Economic Council of Canada. The public servants involved believed that the organization proposed by Leiss was not very different from the bodies the government had already ceased to fund. Moreover, Industry Canada officials were overseeing several science-policy advisory bodies and believed that there was little or no need for another one [28]. Others did not see the need to create and fund a new organization to perform science assessments when the RSC had already made significant progress and was gaining credibility in that role. The

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[26] It was in this part of the proposal that Leiss talked about the difficulty experienced by the RSC in carrying out assessments without sufficient funding to retain a permanent, qualified staff.

[27] Interview with Philip Cockshutt. Philip Cockshutt was the Executive Director of the Canadian Academy of Engineering from 2000-2006. He was present at the National Science Organization (NSO) Round Table and was also a member of the NSO Working Group. In 2004/2005, he was the official liaison between the three member academies and the government. He was a member of the Implementation Task Force in 2004 and served as Interim President of the CAS between February 13, 2005 and September 11, 2005.

[28] These included the Advisory Council on Science and Technology (ACST), the Council of Science and Technology Advisors (CSTA), the Canadian Biotech Advisory Council (CBAC), among others.

government's reservations were articulated officially by the Minister of Industry, John

Manley, in a letter to Leiss regarding the submission of the RSC-CAE proposal:

> The current "pay-as-you-go" process ensures that panels are established only when there is a need. It is not clear from your proposal what advantages there are for the federal government in moving away from this approach. Would a permanent capability generate an artificial demand for panels? How would such an ongoing capability relate to the established advisory process, both in support of ministers of science-based departments and those of a more horizontal nature (e.g. the Advisory Council on Science and Technology and the Council of Science and Technology Advisors)?[29]

At the same time, there were some inside government who saw value in the Leiss

proposal and took up the task of figuring out how to sell it to their reluctant colleagues.

The National Science Organization Round Table

The RSC-CAE proposal won the support of Gilbert Normand, which gave the idea the

political champion it needed to get off the ground. At Minister Normand's initiative, a

national conference was held in Aylmer, Québec, on October 4-5, 2000. The purpose of

the National Science Organization Round Table was "to reach a practical consensus on

whether the Government of Canada and Canadians could be usefully served by creating

an independent, credible national academy for the sciences and humanities, and to discuss

the various issues related to the creation of such a body."[30] The Round Table was

attended by 94 individuals and representatives from science-related organizations,

industry, academia, and other stakeholders from across the country.[31]

The participants agreed:

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[29] John Manley. Letter to William Leiss. May 9, 2000.

[30] National Science Organization Round Table. *Using Knowledge to Advantage: The Need for a National Science Organization*. Proceedings from the National Science Organization Round Table in Aylmer, October 4 and 5, 2000, p. 1.

[31] See Appendix B for a list of Round Table participants.

- on the need for the creation of an independent, credible national academy that has adequate funding and sufficient resources;
- that assessments would be used to understand the implications of science and technology on society and would provide "a core of knowledge that defines what is known and what is not known";
- that assessments would not endorse products or policy;
- that the organization must have "a strong focus on communications and dissemination of information" and focus on educating the public on science issues;
- that the organization should be independent, multi-disciplinary and multi-stakeholder-based;
- that it was important for the organization to play a proactive role in responding to policy issues, as opposed to simply a responsive one;
- that an endowment funding model would be most appropriate and would allow the organization to operate at arm's-length from government and industry. It would also enhance the organization's credibility by ensuring its independence.[32]

The Round Table failed to agree on a structure for the proposed organization. While some championed the idea of forming an entirely new organization, others advocated building the proposed National Science Organization (NSO) around the mandate of an existing body. Still others liked the idea of a broadly-based umbrella organization that would be, "a consolidation of existing organizations, with an expanded and separate mandate and new governance structure."[33] The participants could not reach consensus on who should be involved in assessments. Some believed that the conduct of assessments should be restricted to scientific experts, while others called for involvement to include all stakeholder groups.[34]

It was at the NSO Round Table that the government first formally articulated its expectations regarding the creation of a new national science organization. In a major speech at the Round Table, Marie Tobin – then Director General of the Innovation Policy Branch at Industry Canada – emphasized that the government's interest was in backing a

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[32] National Science Organization, *Using Knowledge to Advantage*, pp. 1-2.
[33] Ibid., pp. 9-10.
[34] Ibid., p. 2.

new organization to carry out science *assessments*, but not in creating yet another advocacy group. Tobin went on to define precisely what the government meant by "assessment":

> First, assessment is not advice. There are many institutions, agencies, councils and organizations that give government advice on science and technology issues. Assessment involves understanding what we know about an issue, and perhaps more importantly, what we don't know. Assessment establishes a holistic view of complex issues and clarifies the lines of debate. At its best, the assessment process builds a common base of understanding and establishes a consensus of what remains to be answered. Advice should be based on assessment.[35]

Among the participants at the NSO Round Table was Dr. Eliot Phillipson, then President of the Canadian Institute of Academic Medicine (CIAM). Shortly after the Round Table, Phillipson was approached by Leiss and the Executive Director of the Canadian Academy of Engineering, Philip Cockshutt both of whom believed that in order to have a science assessment body that was sufficiently broad in representation, medicine and the health sciences generally had to be included. This idea would eventually be reflected in the transformation of the CIAM into the Canadian Academy of Health Sciences (CAHS).[36,37]

A Parallel Proposal

The NSO Round Table was quickly followed, on February 28, 2001, by a proposal initiated by the CAE – *A Proposal to Create a Council to Provide Independent Expert Assessments of Science, Engineering and Technology Issues for the Government of*

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[35] Ibid., p. 4.
[36] Interview with Eliot Phillipson.
[37] Interestingly, the adoption of the name 'Canadian Academy of Health Sciences' was complicated by the fact that the same name was owned by a health food store in London, Ontario. The store went out of business sometime around 2002, but under Canadian legislation, the name cannot be re-used until two years have elapsed. (Communication with Jean Gray, December 3, 2007).

Canada and for the Public of Canada. It was submitted on behalf of the CAE, RSC and

CAHS[38] to respond to what had been learned at the NSO Round Table and also to set out

the CAE perspective on the vision of the new organization. It called for the creation of a

new organization to be called the National Advisory Council (NAC). It echoed most of

the suggestions put forth by the participants at the Round Table – i.e. that it be an

independent, multi-disciplinary and proactive organization. The proposal also stated that

the RSC and CAE were the "logical nuclei" to found this new organization: [39]

> Both the CAE and the RSC have a mandate, a history and a tradition for carrying out
> independent scientific assessments of key issues, and of providing independent advice to
> Government. Both have established and maintained international links with similar
> organizations in other countries and actively participate in international meetings.[40]

The relationship envisioned by the member academies and the NAC was to be a mutually

beneficial one in which the strength of the NAC relied on the vitality of its member

academies:

> The CAE, RSC and CAHS remain the major links to the international scientific,
> engineering and technological academies, as well as providing key management
> functions to the NAC, and must be supported in carrying out these functions. As well, the
> NAC will support specific activities of the CAE, RSC and CAHS in areas such as science
> awareness/literacy; it may also support studies where the NAC has a special interest, but
> where the activity already logically falls within the mandate of the CAE, the RSC or the
> CAHS. Support for the activities of the Partnership Group on Science and Engineering
> (PAGSE)[41], building effective communications between the science/engineering

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[38] Though the CAHS did not formally exist until 2004, both Eliot Phillipson and Philip Cockshutt recall
that it was already assumed in 2001 that the CIAM would be replaced as a member of the CAS by a more
broadly-constituted health sciences academy – i.e. the CAHS.

[39] Noteworthy here is that there is no mention of the CAHS as one of the "logical nuclei". This may have
been due to its "non-existence" at that time and the CIAM's primary focus on its own expansion. But the
proposal does refer to the prospect of including the health sciences – "…discussions are underway with the
CIAM to establish a CAHS, to be a third founding corporate member." (p.2)

[40] Canadian Academy of Engineering, *National Advisory Council of Canada: A Proposal to Create a
Council to Provide Independent Expert Assessments of Science, Engineering and Technology Issues for the
Government of Canada and for the Public of Canada*. February 28, 2001, p. 2.

[41] PAGSE is a cooperative association of more than 20 national organizations. Its membership includes
representatives from industry, academia, and government. It was formed in 1995 by the Academy of

community and parliamentarians, is also envisioned. Support to the founding academies will be in an appropriate combination of financial and in-kind resources. [42]

At the time, the CAE anticipated that the new organization would be a "jointly-owned" subsidiary of the member academies.[43] It was assumed by the academies that some money – approximately $75,000 per academy – would be allotted each year to help sustain the support staff of the member academies so that they, in turn, would be in a stronger position to help support the NAC. It was also believed that the member academies would be sharing support staff to help run the NAC.[44]

The National Science Organization Working Group Proposal

Meanwhile, in 2001, Secretary of State Normand established an NSO Working Group to respond to the recommendations put forth at the NSO Round Table.[45] The Working Group undertook extensive consultations with academics, science organizations, NGOs, and the federal government.[46] The Working Group drew upon seventy-one submissions to inform its eventual proposal. An official who was with Industry Canada at the time recalled that, because the vast majority of the submissions were positive, a strong message was sent to the government that there was enough interest in the idea of a science-assessment body to merit an in-depth look at the proposal.

Science of the Royal Society of Canada. Its mission is to represent the science and engineering communities to the Government of Canada. (http://www.pagse.org/en/main.htm).
[42] Canadian Academy of Engineering, *National Advisory Council of Canada*, p. 7.
[43] Interview with Philip Cockshutt.
[44] Interview with Ron Nolan.
[45] See Appendix C for the list of NSO Working Group members.
[46] National Science Organization Working Group. *A Proposal for the Canadian Academies of Science*. January 2, 2002, p. 2.

The NSO Working Group proposal (January, 2002) called for the creation of the Canadian Academies of Science (CAS), "to ensure that Canada can conduct assessments and maintain the international linkages critical to capturing the opportunities and meeting the challenges resulting from advances in the sciences."[47] The proposal noted that Canada was in need of a national science organization that would be recognized as representing Canada in all areas of science – including the natural sciences, engineering, the health sciences, the social sciences and the humanities – and that this organization was not meant to duplicate the mandates of existing organizations, but instead would aim to complement and build upon them.[48] This fundamental mission and scope remained unchanged through subsequent generations of the NSO concept and has been inherited by the Council of Canadian Academies.

The proposal made only brief mention of the envisioned relationship between the new CAS and the member academies. It stated that close collaboration is required between the CAS and its member academies, and access to the diverse memberships of the academies is essential in order to ensure that the CAS carries out its mandate. The proposal also characterized the member academies as "shareholders" of the CAS.[49]

Recalling the difficulty experienced by the RSC in conducting assessments on an *ad hoc* contract basis, the proposal argued that without an organization having a specific mandate and permanent capacity to carry out expert assessments, Canada "increasingly lacks the ability to keep pace with the impacts and implications of advances in the

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[47] Ibid., p. 1.
[48] Ibid., p. 4.
[49] Ibid., pp. 8-9.

sciences." The proposal requested $31 million over ten years to ensure the stability of the

organization. The money would fund between five and six assessments per year.[50]

It is not entirely clear how the NSO Working Group envisioned the relationship

between the CAS and member academies in respect of the division of responsibilities to

perform assessments – i.e. would assessments be within the exclusive mandate of the

CAS or would some continue to be carried out directly by member academies, and if so,

how would the assignment be decided? The proposal was silent on that important detail.

The U.S. National Academies as Role Model for the CAS

Although several international models were studied and consulted, the CAS was, from

the date of Leiss's May 2000 proposal, closely modelled on the National Research

Council (NRC) in the United States. Leiss states:

> The legal structure under which that [U.S.] system operates ensures that the National
> Academy of Sciences is the "big brother" in that four-member family. The "Canadian
> version" of that system, as shown in the May 2000 version, designed the NAC to be just
> like US-NRC in a legal sense: RSC and CAE representatives would control the board of
> NAC; furthermore, the RSC members would make up a majority on the board,
> mimicking the predominance of NAS in the U.S. arrangements.[51]

Leiss goes on to say that not only was the proposed Canadian organization to be

modelled after the American system with regard to legal framework, but also in an

administrative sense as well:

> The administrative model most relevant to the final form of the Canadian proposal is the
> U.S. one, where the US-NRC provides administrative support and staff expertise for the

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[50] Ibid., p. 11.
[51] Leiss, *Development of the Expert Panel Process,* pp. 25-26.

joint roles of the three national academies there with respect to the production of expert assessments.[52]

Government and academy representatives shared the view that the Canadian Academies of Science should be modelled on the U.S. National Academies. (See Appendix E for a summary of the U.S. organization). Philip Cockshutt said that the CAS was supposed to function as an "operating arm" of the member academies, "like the NRC's relationship within the National Academies."[53] A senior government official concurred, saying they chose the U.S. model to sell the idea within government, "because it works. It's easier to convince Cabinet when you show them something that works."

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[52] William Leiss, *The Development of the Expert Panel Process in Canada*, p. 34. Note that the reference to "three national academies" in the U.S. is to the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The latter, formed in 1970, was not designated as an "academy" *per se* though, in every practical sense, it functions as though it were.
[53] Interview with Philip Cockshutt.

3. POLITICAL CHAMPIONS

As Secretary of State for Science, Research and Development, Gilbert Normand attended the "Carnegie" meetings, an informal forum for G8 science Ministers and their advisors. The meetings date from 1991 and have the goal of enabling "countries to develop a closer working relationship, to increase their understanding of various national perspectives, and to exchange views on science issues."[54]

As a participant in these meetings, Gilbert Normand noticed that the other countries' government participants were accompanied by one or more advisors from their national academies. Normand believed that Canada, lacking a single body that could speak on behalf of the full spectrum of the sciences, was an anomaly and weaker internationally because of it. While the RSC might have served as the sought-after national academy, Dr. Normand believed that the RSC was not sufficiently representative of the broad spectrum of the sciences to fulfill the needed role.[55]

In 2000, when Professor Leiss first approached Minister Normand about supporting the concept of a national academy that would perform science assessments, Normand was urged by one of his close advisors at the time, Paul Dufour, to take on the file. Drawing on Dufour's particular interest in the history of science and science research, Normand had many discussions with him about undertaking the initiative. Another influential early champion of the initiative was Michel Chrétien, a physician and accomplished medical researcher, and brother of Jean Chrétien, the Prime Minister at the

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[54] Department of Business, U.K.. "Carnegie meeting of G8 Ministers". Retrieved September 6, 2007 from www.dti.gov.uk/science/uk-intl-engagement/global_si_policy/global_policy/carnegie/page18327.html
[55] Interview with Gilbert Normand.

time. But despite the fraternal encouragement, Normand recalls that Prime Minister

Chrétien was "polite, but never enthusiastic," about the CAS concept.[56] Undeterred,

Minister Normand decided to push the proposal developed by Leiss and the RSC. Before

moving forward, it was decided that sponsorship of the proposal needed to be broadened,

and this resulted (as previously noted) in inclusion of the Canadian Academy of

Engineering. At the request of Leiss, Normand hosted the NSO Round Table in October

2000, to launch discussions about the formation of a national science organization.

Dr. Normand's involvement in, and enthusiasm for, the CAS initiative was

crucial. Though there were many drivers and supporters along the way, Normand was the

only one to carry the political torch as a top priority. He was respected for his efforts by

government officials and member academy representatives alike. "He latched onto this

idea. He was unbelievably tenacious and wouldn't let go," commented one government

official. "Gilbert Normand deserves great credit. He was very engaged. He was present

at all meetings. As a result, when Normand was shuffled out [of his Cabinet post], the

idea lost momentum," recalled Eliot Phillipson.

Normand relinquished his position in January 2002, the consequence of the

Cabinet shuffle after the 9/11 attacks in the U.S.. With the government's priorities

strongly focused elsewhere, the CAS idea lost considerable political momentum for the

next two years until Paul Martin, as Prime Minister, gave new life to the CAS with a

funding pledge in his Reply to the Speech From the Throne on October 6, 2004.

One of the most striking aspects of the CAS initiative is how the idea went from a

"legacy issue" championed by a junior minister at Industry Canada (Gilbert Normand) to

a request for funding made by the Prime Minister of Canada. Eliot Phillipson said that the

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[56] Interview with Gilbert Normand.

important lesson he learned in the aftermath of the January 2002, Cabinet shuffle was that: "You can have a great idea, but without political support, it will not get anywhere. You need a political champion."[57]

The CAS eventually found its new champion in Prime Minister Martin who, according to Normand, had expressed an interest in a science assessment body from the time he had been Finance Minister. As Prime Minister, Paul Martin's interest was rekindled by the insistent advice of his new National Science Advisor, Arthur Carty – the result of which was the Prime Minister's funding pledge in October 2004.

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[57] Interview with Eliott Phillipson.

4. INCORPORATION OF THE CAS

Rewinding the story to two-and-a-half years earlier – on 4 April, 2002, the Canadian Academies of Science, as conceived by the NSO Working Group, was incorporated as a not-for-profit organization. Although there was no money to fund it, the new organization at that point existed as a legal entity, separate from the three founding academies – the RSC, CAE and CIAM.

Upon receipt of the Working Group Proposal in January 2002, the member academies were advised by officials in Industry Canada to incorporate the proposed new entity. The argument, according to one senior official, was that, "You can't talk about a proposal to transfer money [from the government] unless an acceptable recipient entity exists." The member academies retained legal counsel and proceeded to draft the Letters Patent and by-laws for the Canadian Academies of Science.[58] According to the Letters Patent (April, 2002), the objects of the Corporation (at that time, the CAS) are:

1. To provide education and assessment with respect to the sciences, including, without limitation, natural sciences, engineering, health sciences, social sciences and the humanities ("Sciences"), on matters which are considered to be matters of public interest;

2. To enhance government's, industry's and the public's ability to access the best available Science on pressing issues with the objective of informing debate and decision-making;

3. To heighten the visibility of Canada's Science community nationally and internationally;

4. Together with its member organizations, to secure the benefits associated with collaboration in joint activities with national academies around the world;

5. To solicit and receive gifts and grants; to establish and maintain permanent and other funds; and to disburse in accordance with the terms upon which any funds

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[58] A lawyer from Gowlings, Wayne Warren, was retained by the three member academies.

have been accepted capital and/or income therefrom, to carry out the objects mentioned above; and

6. To do such other things as are necessary to further the above-mentioned objects.

The by-laws were drafted in light of discussions between Industry Canada staff and the NSO Working Group members. Drafts were exchanged predominantly via email, and there were perhaps as many as ten iterations.[59] The secretariat assistance to the NSO Working Group was provided by Tammy Davies, a Director at Industry Canada. She had been seconded to the Office of Gilbert Normand, was present at all meetings of the Working Group, and ensured that Industry Canada's perspectives were embodied in the proposal. The RSC and CAE vetted the by-laws before they were finalized.[60] Since the CAHS was in the making by this time, the by-laws of the CAS were drafted with a provision for the inclusion of successors of the founding member academy organizations.[61,62]

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[59] Interview with Eliot Phillipson.

[60] The perspective of the CIAM/CAHS would have been provided only through the NSO Working Group via the contributions of Elliot Phillipson and Michel Chrétien, who were members of the Working Group. (Interview with Philip Cockshutt).

[61] While serving on the NSO Working Group, Eliot Phillipson expressed the need for the CIAM – which heretofore focused on academic medicine – to become more multi-disciplinary and suggested its expansion to include greater representation of the health sciences. The CIAM members endorsed this idea in early 2001 and arranged for a meeting to take place in July 2001, in Toronto to gauge the interest of the health sciences community. A model draft document was presented at the meeting based on that which had just been drafted for the proposed Canadian Academies of Science by the NSO Working Group. Dr. Phillipson saw the main purpose of the CAHS to be an assessment body and disagreed with the position of some that it should function as an advisory/advocacy body. Dr. Phillipson believed this would "undermine the integrity of the assessment function." In September 2004, the CAHS convened a Steering Committee to decide upon the purpose and structure of the organization. By December 2004, the Steering Committee had decided on the contents of the by-laws and on December 17 of the same year, the CAHS was incorporated. (Interview with Eliot Phillipson).

[62] "By-Law No. 1, Article I: Interpretation. (a) Definitions. 'Founding Member Organizations' means The Royal Society of Canada, also operating as The Canadian Academy of the Sciences & Humanities; The Canadian Academy of Engineering and the Canadian Institute of Academic Medicine, or their successor organizations." March 5, 2002, version of CAS by-laws.

International Role and "Unifying Voice" for the Sciences

The idea that the CAS would serve as a "unifying voice" for the sciences in Canada was prominent in the 2002 NSO Working Group Proposal. The mission of the CAS was to be two-fold: "(i) To provide a source of credible, independent, expert assessments on the sciences underlying pressing issues and matters of public interest; and (ii) To provide a voice for Canada on behalf of the sciences, both nationally and internationally."[63] Speaking to the international role, the Working Group stated:

> Canada is one of only a few industrialized nations without a national science organization that is recognized internationally as representing Canada on the full spectrum of the sciences…Furthermore, it is very difficult for Canada to benefit from the excellent work carried out by foreign national academies without an internationally recognized national science organization.[64]

This concept is important as it worked its way into later discussions involving, on the one hand, the Provisional Board[65] of the CAS and the Implementation Task Force (established by member academies)[66] and, on the other, the government during negotiation of the Funding Agreement that would govern the use of the founding grant provided to CAS in early 2005. Upon reviewing the 2002 NSO Working Group Proposal, the governors of the Provisional Board of CAS in February, 2005, "confirmed acceptance of the dual elements of the mission statement, noting the importance of the international element, even if it is secondary to the assessments task in terms of funding allocation."[67]

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[63] National Science Organization, *A Proposal for the Canadian Academies of Science*, p. 4.
[64] Ibid., p. 4.
[65] The Provisional Board consisted of the six governors appointed by the three member academies in 2005 before the formation of the official Board of Governors. (See Chapter 7 for more information on the Provisional Board.)
[66] The Implementation Task Force was formed by the Presidents of the Member Academies in mid-October 2005. It consisted of members appointed by the Member Academy Presidents to carry out the task of implementing the CAS. (See Chapter 7 for more information on the Implementation Task Force).
[67] CAS, "Minutes of a meeting of the Provisional Board meeting". February 13, 2005.

Recall as well that Gilbert Normand claimed his interest in supporting a national science organization arose from his experience representing Canada internationally. It was also the international component that appealed most to Prime Minister Martin. When explaining why the Prime Minister supported the push by the National Science Advisor to fund the CAS, Arthur Carty recalled that, "he was upset that Canada was the 'odd man out' internationally because it did not have a representative national science organization to represent our broad interests on the world stage."[68] Additionally, according to Dr. Carty, the Prime Minister "recognized the value of an academy to provide a sound background of scientific evidence to inform government on key issues."[69] Prime Minister Martin, in turn, said that Dr. Carty's main argument in convincing him to fund the CAS was the international component and the need to interact with like-minded organizations around the world.[70] These recollections demonstrate that the international and "unifying voice" components – though later somewhat restricted in the Funding Agreement between the government and CAS – played a key role in gaining support for the CAS along the way.

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[68] Interview with Arthur Carty.
[69] Interview with Arthur Carty.
[70] Interview with Paul Martin.

5. HIATUS: 2002 – 2004

In the aftermath of the terrorist attacks on the U.S. on September 11, 2001, the Government of Canada became focussed on a security agenda. This appears to have been a precipitating factor for a Cabinet shuffle in January 2002. Gilbert Normand was moved out of his position as Secretary of State for Science, Research and Development. [71] The departure of Normand meant the loss of the most committed political driver for the CAS initiative within government. The removal of an enthusiastic political champion made it easier for officials who were either opposed or, at best, lukewarm to the CAS, to shunt it off to the side of the government's agenda. This appears to have included officials in science-based departments who were traditionally sceptical of Industry Canada's role as a "science co-ordinator". In the recollection of one senior Industry Canada official, even those who were attracted by the idea of "free" assessments – i.e. as *quid pro quo* to be provided by the CAS in consideration of a founding grant from the government – wanted more clarification and control over decisions as to which government departments would in fact get the free assessments.

The January 2002 Cabinet shuffle saw Brian Tobin replaced by Allan Rock as Industry Minister. A little less than a year later, in December 2003, Lucienne Robillard became Minister. Finally, the election of July 2004 resulted in David Emerson taking over the position. Although successive ministers showed no overt opposition to the CAS concept – indeed, Allan Rock spoke openly and favourably – the "musical chairs" at the top, and other more pressing issues, kept the CAS initiative off the list of Industry

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[71] There had been a Cabinet shuffle only a little over a year earlier in October 2000. That change saw Minister Manley sent to Foreign Affairs and replaced by Brian Tobin at Industry Canada.

Canada's top priorities. And while the junior Ministers Bevilacqua and Pagtakhan[72], were supportive, they lacked Normand's fierce commitment to the CAS idea and did not remain long enough in the position of Secretary of State for Science, Research and Development to effectively champion the new organization.[73]

Philip Cockshutt characterized the hiatus of 2002-2004 very matter-of-factly: "The idea didn't die, it just didn't get watered." In addition to the frequent changes in Ministers, and the absence of a political champion possessed of Normand's enthusiasm for the idea, Cockshutt also believed that the member academies simply had a lot of other things on their plates beside the CAS. For instance, the CAE, as a relatively young organization, was trying to work on building its own reputation and establishing itself as an engineering academy. Cockshutt acknowledged that the uncertainty regarding the CAS was frustrating. The member academies had already spent $12,000 (mostly on legal fees), and had invested a great deal of time and resources in drafting the by-laws and getting the CAS incorporated, but apparently to no practical avail.

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[72] Maurizio Bevilacqua served as Secretary of State for Science, Research and Development from January 15, 2002 – May 24, 2002. Rey Pagtakhan filled the post from May 25, 2002 – December 12, 2003. The position was abolished after the end of Pagtakhan's term in 2003.

[73] Interview with Howard Alper. Howard Alper is a prominent academic. He was President of the RSC from 2001-2003, a member of the NSO Working Group and was one of the main proponents of the CAS from the time the idea was originally conceived.

6. REVIVAL OF THE CAS

On October 6, 2004, Prime Minister Paul Martin announced the federal government's

intention to provide funding for the Canadian Academies of Science:

> I am announcing today that the Government of Canada will mandate the
> Canadian Academies of Science. We seek to create a national alliance of leading
> scientific and engineering societies, one that will operate at arm's length from
> government and receive operational funding of $35 million over the next 10
> years. The new Academies of Science will be a source of expert advice on
> scientific aspects of important domestic and international issues, and will give
> our country a prestigious voice among the choir of international science groups.[74]

Thanks to the Prime Minister's interest, the CAS was at last on the threshold of receiving

the financial resources that would give it life. According to Paul Martin himself, he had

informally discussed the CAS over the years with several different people, in addition to

Gilbert Normand; including Senator Yves Morin, a physician and renowned medical

researcher who showed particular interest in the CAS; as well as Maurice Strong[75],

former senior advisor to the UN's Secretary-General, Kofi Annan.[76]

From the Prime Minister's perspective, the main proponent of the CAS inside the

public service was Arthur Carty.[77] On 1 April, 2004 – six months before the CAS funding

announcement – Carty was appointed to the newly-created position of National Science

Advisor. His office was housed in the Privy Council Office and was therefore part of the

Prime Minister's infrastructure. This implied authority to manage cross-government

initiatives like the CAS.[78] As a result of Carty's appointment, the government officials at

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[74] Reply to the Speech From the Throne, October 6, 2004.
[75] This may have had to do with Maurice Strong's interest, at the time, in Canada being a host for the Inter-Academy Council which then (as now) was headquartered in Amsterdam.
[76] Interview with Paul Martin.
[77] Arthur Carty was the President of the National Research Council of Canada from 1994 until his appointment as National Science Advisor in 2004.
[78] The Office of the National Science Adviser was moved to Industry Canada in 2006.

Industry Canada who were responsible for shepherding the CAS initiative, now had a solution to the puzzle of how to allocate access to "free" assessments to be performed by CAS as a *quid pro quo* for public funding. The assessments could be selected by the National Science Advisor, and all the qualms of other science-based departments about Industry Canada as a "science co-ordinator" could be laid to rest.[79]

Carty had already been well aware of the CAS initiative before his appointment as National Science Advisor and learned further particulars from Paul Dufour who acted as an information bridge between Normand and Carty. Upon taking up his new position, he was immediately asked by member academy representatives and other concerned individuals to re-energize the initiative and drive the CAS forward.[80] The academies suggested to Carty that this was the last chance to get the CAS off the ground.[81]

Carty advocated strongly on behalf of the CAS in regular briefings with Deputy Prime Minister, Anne McLellan; the Prime Minister's Deputy Chief of Staff for Policy, Peter Nicholson; and Prime Minister Martin himself. When asked why he decided to drive the CAS initiative, Carty noted that the flexible nature of his position allowed him to pick and choose what he wanted to do and, as National Science Advisor, he had the ideal platform for pushing the CAS to fruition.

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[79] Once the Prime Minister delivered his Reply to the Speech From the Throne, Industry Canada appeared to have a change of heart and indicated it wanted to administer the procedure for determining the five assessment topics to be given annually to the CAS. Industry Canada argued that it had budget authority, whereas the National Science Advisor's Office did not, thus Industry Canada would be the logical body to administer the topic selection process.

[80] Interview with Arthur Carty.

[81] Interview with Philip Cockshutt.

7. FUNDING THE CAS

The Implementation Task Force and Provisional Board of Governors

Immediately following the Prime Minister's Reply to the Throne Speech, the Presidents of the three member academies – Gilles Paquet (RSC), Ron Nolan (CAE) and Paul Armstrong (CAHS) – decided to create an Implementation Task Force comprised of representatives from each academy.[82] With the funding notionally committed, it was time to turn the implementation detail over to people who had both the time and long-standing familiarity with the CAS initiative. The members of the Task Force included William Leiss and Sandy Jackson from the RSC; Garry Lindberg and Philip Cockshutt from the CAE; and Peter Tugwell from the CAHS. The Task Force was charged with planning the implementation of the CAS up to the time when the first Board of Governors would be appointed.

Meanwhile, a Provisional Board of six members – two from each of the founding academies – was formed on November 26, 2004, but did not meet until February 13, 2005.[83] At the first meeting, Philip Cockshutt was appointed Interim President of the CAS. It was decided that until the first full Board of Governors was named, Cockshutt was to assume the role of "designated contact", on behalf of the three member academies[84], with both Carty's office and with Industry Canada.

From the outset, the Implementation Task Force and the Presidents of the member academies worked closely with Industry Canada officials in drafting the Funding

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[82] The Implementation Task Force was formed by mid-October 2004 and the first meeting was held on October 25.

[83] The Provisional Board consisted of: Howard Alper, Chair (RSC), Ron Nolan, Vice-Chair (CAE), Martin Schechter, Secretary-Treasurer (CAHS), Gilles Paquet (RSC), Kathleen Sendall (CAE), and Paul Armstrong (CAHS).

[84] Minutes from meeting between Philip Cockshutt and Industry Canada officials, January 20, 2005.

Agreement that would later govern use of the founding grant of $30 million committed in the 2005 Budget.

Preliminary Discussions With Industry Canada Representatives

In the meantime, William Leiss had been called by Industry Canada officials in early October, 2004, shortly after the Prime Minister's announcement, and asked to provide a proposal that would include details about staffing and how the promised grant money would flow within the CAS. On 12 October, 2004, Leiss submitted a draft proposal to Industry Canada which, among other things, provided for financial transfers of $300,000 annually to the member academies – $150,000 to the RSC and $75,000 each to the CAE and CAHS.[85] The money was to be used for "staff support for committees, travel, international collaboration, operating expenses and overhead."[86] Government officials were opposed to any block transfers of money to the member academies, not only for accountability reasons (as required by Treasury Board and Finance), but also because the CAS had been promoted within government as a multi-disciplinary body – thus assessments were not to be contracted out and performed by a single academy.[87] Leiss was asked to revise and resubmit another version of the proposal omitting the money transfers.

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[85] The proposal was entitled, *Canadian Academies of Science, Proposed Annual Steady-State Budget 2005 – 2015, Proposed Panel Governance Structure, Proposed Steady-State Staffing*. The proposal also included a disclaimer, "This document is solely the responsibility of its author and is for estimation and planning purposes only. It has not been evaluated or approved by the officers of the three national academies. Only the CAS Board of Governors has the authority to approve and release official documents of this type, which may differ in whole or part from this one." Leiss refers to himself, on the title page of the document as an "Advisor to the Canadian Academies of Science".

[86] William Leiss, *Canadian Academies of Science, Proposed Annual Steady-State Budget 2005 – 2015, Proposed Panel Governance Structure, Proposed Steady-State Staffing*, October 12, 2004, p. 2.

[87] Interview with government official.

On November 2, 2004, Leiss presented a revised proposal to Industry Canada that contained no mention of money transfers to member academies. [88] Thereafter, Cockshutt of the CAE was designated by the member academies as their official liaison with Industry Canada.

At a meeting in December, 2004, the Implementation Task Force came up with two ways to direct some money back to the member academies – either by charging an overhead tax on the assessment operations of CAS, or through a contractual agreement with each academy for services provided to facilitate the assessment activities of CAS. Each alternative was estimated to bring in approximately $50-$100K per year per academy.[89]

Evidently, there was disagreement between Industry Canada and the Implementation Task Force. While the Implementation Task Force received Industry Canada's message, the content of that message was not accepted by the three Academy Presidents.

Leading up to Budget 2005: January – February 23

Early in 2005, negotiations with Industry Canada were going smoothly. In a January meeting with Industry Minister David Emerson's Senior Policy Advisor, Dr. Joseph Wright – a past President of the CAE – was told that approval of the funding appeared to be secure and would likely be in the form of a lump sum payment through a conditional grant.[90]

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[88] Leiss, *Canadian Academies of Science, Proposed Annual Steady-State Budget 2005 – 2015*.
[89] CAS, "Minutes of a meeting of the CAS Implementation Task Force." December 10, 2004.
[90] CAS, "Minutes of a teleconference meeting of the member academy Presidents." January 17, 2005.

The negotiations were not to remain smooth for long, however. About a month later – and before funding for the CAS was formally announced in the Budget – informal negotiations had begun over an eventual "funding agreement" between the government and the CAS. In a meeting with Cockshutt, Industry Canada officials proposed inserting a clause into the agreement that would block any financial transfers from the CAS to the member academies.[91] Cockshutt took up the argument with Carty, claiming that inserting into any funding agreement what he referred to as a "fiscal firewall" would prevent the CAS from achieving its full potential, which depended on the member academies being vital and healthy.[92]

During the first meeting of the Provisional Board of the CAS on 13 February, 2005, the Implementation Task Force urged the Board to dissuade the government from requiring a "firewall" in the agreement:

> It is recommended that the Provisional Board reinforce the view that constraints on CAS-Member Academy relationships could be counterproductive, and detrimental to the basic concept and well-being of the CAS.[93]

The release of the federal Budget on 23 February, 2005, made it official that $30 million was to be allocated to support core operations of the CAS for ten years (assuming that the minority government survived):

> **Canadian Academies of Science**
> It is important that the Government remain current with the latest scientific developments. Governments and other organizations need access to timely, unbiased and scientifically sound analysis of the state of knowledge in such complex areas as biotechnology and climate change. The Canadian Academies of Science is an independent organization that brings together Canada's foremost scientific experts, and is

---

[91] CAS, "Minutes of a meeting of the Implementation Task Force." February 2, 2005.
[92] Interview with Philip Cockshutt.
[93] CAS, "Aide-Memoire – Implementation Task Force to the Provisional Board." February 13, 2005.

uniquely positioned to undertake expert assessments of the science underlying various issues of interest to the Government and to Canadians.

Budget 2005 provides $30 million in 2004-05 to the Canadian Academies of Science, to be used over the next 10 years by the Academies to conduct independent assessments of the state of scientific knowledge in key areas.[94]

The Negotiations: February 25 – March 23, 2005

Negotiations between the government and CAS over terms of a funding agreement took place in a political climate that was strongly influenced by the earlier release of a scathing report by the Auditor-General regarding the misuse of public funds to finance certain government sponsorship activities in Québec. What came to be known as the sponsorship scandal resulted in a public inquiry led by Justice John Gomery. By September, 2004, the Gomery Commission had begun hearing testimony. In the words of one government official involved in negotiations of the CAS funding agreement:

> The political climate [at the time] was very relevant. Taxpayer money is not there to run three elite organizations. The initiative was being carried through because there was a need for an organization to carry out independent assessments. It had to be certain that the money would flow for that specific purpose.

Other officials emphasized the relevance of the long-standing misgivings of the Auditor-General regarding lump-sum funding of arm's-length foundations such as the Canada Foundation for Innovation, among others. This was to have a profound effect on how the funding agreement negotiations eventually played out. The Auditor-General insisted on strict agreements to ensure crystal clear accountability. In fact, while the CAS Funding Agreement was being negotiated, Industry Canada was concurrently re-negotiating analogous agreements with other arm's length, government-funded

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[94] *The Budget Plan 2005*, p. 131.

organizations to incorporate new, stricter constraints. All funding agreements now had to be state-of-the-art, Auditor-General-approved, accountability frameworks.

Article 6.4 – The "Firewall"

The first draft of what was to become the formal Funding Agreement between the CAS and the government was presented to member academy representatives on 25 February, 2005. In this draft, there was no indication of a clause formally blocking money transfers between CAS and the member academies.[95]

As the negotiations progressed, more government departments became involved in advising Industry Canada on its agreement with the CAS. By the end, the Departments of Justice and Finance and the Treasury Board Secretariat and Auditor-General's office were all coming to Industry Canada with conditions to be included. The Treasury Board had checklist-like procedures as to what was necessary to include in funding agreements in order to pass the scrutiny of the Auditor-General. As a result, the government side eventually insisted on iron-clad wording that would block any delegation of responsibilities or transfer of funds from the CAS to member academies except under very tightly circumscribed conditions. This so-called "firewall" condition in the Funding Agreement reads as follows:

> **Article 6.4**
>
> CAS shall operate at arm's-length from its Members and CAS shall not contract-out or assign the performance of Assessments or major components of Assessment-related work to any other organization including any Member of CAS or share financial or human resources with any of its Members. However, CAS may
>
> a) seek intellectual assistance from its Members and other organisations, such as for example through the secondment of experts to CAS or through the development of lists

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[95] Draft Funding Agreement, February 25, 2005. One government official commented that the Funding Agreement of the CAS was a challenge to negotiate and draft because of the need to bridge the government's intent with the objectives of the three existing member academies as founders.

of experts for the purpose of carrying out Assessments and provide fair and equitable compensation to such Members or other organisation for that assistance.

This clause generated considerable consternation within the Provisional Board of the CAS. As the negotiations neared the late March deadline to secure the funds promised in Budget 2005, it looked as though a deal would not be completed. Both the CAE and CAHS were prepared to walk away from the agreement if Article 6.4 were not relaxed.[96] On March 16, 2005, the Provisional Board met by teleconference to vote on whether or not the agreement should be signed. The chair, Dr. Howard Alper, deferred the vote until the following day in order to allow each member one last night to consider their position.[97] That night, several phone calls were made between member academy representatives and government officials, negotiating down to the wire with the entire CAS enterprise hanging in the balance. In the end, some concessions were made – though not involving the firewall clause – and on March 17, 2005, all three academies agreed to endorse the Funding Agreement. [98]

When asked why the CAE and CAHS signed the agreement in the end, both Ron Nolan (representing the CAE) and Paul Armstrong (representing the CAHS) said that they concluded they had to sign the deal or else lose the whole initiative.[99] Armstrong explained that, "It was pretty much, take it or leave it." He "accepted the agreement with the clear understanding that, while it was unduly restrictive, we agreed that it was a

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[96] Interviews with Ron Nolan and Paul Armstrong.
[97] Interview with Howard Alper.
[98] Concessions included a reduction in the number of expected assessments per year from six to five, and an increase of the upper limit on overhead costs from 30% of the fund to 36%.
[99] Interviews with Ron Nolan and Paul Armstrong.

historic opportunity and one which we could likely amend to better align with the original spirit and understanding of the Provisional Board once the Council began its work."[100]

From Industry Canada's perspective, it is important to recall the political environment in Ottawa in the wake of the sponsorship scandal and the on-going Gomery enquiry. There was a new imperative of air-tight accountability which was read by officials to imply a need to trace every dollar spent by the government. At the same time, from a policy perspective, government officials were determined that the CAS was to be a "new, independent body with its own mandate." To ensure that would be the case, the Funding Agreement was designed so that the $30 million founding grant to the CAS would not be available to any other party for any other purpose.

The Composition of the Board of Governors

The make-up of the board of the CAS was another important issue during negotiation of the Funding Agreement, and even in its aftermath. The composition of the board underwent a noteworthy evolution from the time of its initial conception, in the RSC-CAE proposal to government in May 2000. The original proposal would have vested clear control with governors appointed by member academies. The NSO Working Group proposal of January 2, 2002, on the other hand, called for a balanced board of between 12-20 members.[101] Initially the CAS Board was to have:

- Two members appointed by each of the Member Organizations
- Six members appointed from the general public
- A Board member to be elected by the members of the Board to serve as the Chair

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[100] Communication from Paul Armstrong, November 17, 2007.
[101] National Science Organization, *A Proposal for the Canadian Academies of Science*, pp. 6-7.

- A President of the Administration (non-voting member)

This proposal was reflected in the by-laws that were drafted and submitted with the

Letters Patent for the Canadian Academies of Science in April, 2002. The NSO Working

Group endorsed the concept of a board that would be balanced between member

academy-appointed governors and those appointed from the public. The NSO model

made clear that if and when the board were to expand its membership that "Board

members appointed by the Member Organizations will always equal the number of Board

members drawn from the general public."[102] The document elaborated the method by

which the public governors were to be selected:

> General public board members cannot be directors of Member Organizations
> concurrently. The Canadian Academies of Science's by-laws of incorporation will
> include a provision whereby the general public candidates to the Board of Governors
> would be selected from the confidential recommendations generated by the arm's-length
> selection committee following consultation with the Minister of Industry. The Board of
> Governors will make the general public appointments.[103]

Notable here is the first mention of ministerial input regarding the appointment of

governors. Though the NSO Working Group proposal was used to inform the by-laws,

only some of the recommendations were actually adopted. Whereas the 2002 by-laws

adopted by the CAS called for a balance between public and member academy governors,

they mention nothing about involving the Minister in the selection of the public

appointees. In fact, those by-laws make clear that the public governors were to be

appointed by the governors representing the member academies exclusively:

Article V: Board

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[102] Ibid., p. 7.
[103] Ibid., p. 7.

(c) Composition of the Board The number of Governors within the range and the composition of the Board shall be determined, from time to time, in accordance with the following provisions:

(i) Except during the occurrence of vacancies, *the number of Governors appointed to the Board by the Member Organizations shall always equal the number of Governors appointed from among the general public.*

(iii) *Governors appointed from the general public shall be appointed by the Governors appointed by the Members*. A Governor appointed from among the general public shall be chosen in accordance with Article IX and on the basis of such Governor's ability to contribute to the fulfilment of the objects of the Corporations based on such Governor's possession of one or more of the qualifications described in Article IV(c)(iv) hereof. *No Governor appointed from among the general public may be a director, officer, employee or agent of any Member Organization concurrent with such Governor's term of office as a Governor on the Board.*(emphasis added) [104]

Some three years later, in the course of the Funding Agreement negotiations, Industry Canada officials insisted on the involvement of their Minister in appointing public governors to ensure that the balance of the CAS Board would remain "unattached" from the specific interests of the member academies. As a result, officials insisted on the insertion of the following words in the Funding Agreement that was approved in late March 2005:

Article 2.1 Corporate Structure and Undertaking of CAS

(i) The Minister shall have the right to appoint Governors from the general public such that the number of Governors appointed to the Board by the Minister shall equal the number of Governors appointed by the Members less two. [105]

Since six governors were to be appointed directly by the three member academies (two from each), the number of Minister-appointed governors would be four. Two other "public" governors were to be appointed by the six Academy-appointed governors, bringing membership on the board to twelve in all. (The compositional rules were drafted

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[104] CAS By-laws, Article V(c), 2002. Emphasis added to sections relevant to this discussion.
[105] Funding Agreement, Article 2.1 (i), March 22, 2005 version.

to ensure that Minister-appointed governors would always be in a minority so that the CAS would remain formally at arm's length from the government).

The Implementation Task Force had some concerns about the Minister "appointing" governors fearing that the process could take as long as Order-in-Council appointments (which often consumed several months). The Provisional Board in July 2005, urged Industry Canada to agree to amend the Funding Agreement to state that the Minister would "recommend" rather than "appoint" governors to the CAS Board.[106] The government agreed and on October 6, 2005, the *First Amendment to the Funding Agreement* was approved and reads as follows:

> 2. Paragraph i) of subsection 2.1 is deleted and the following substituted therefore;
>
> "CAS shall amend its By-Laws so as to provide that
>
> (i) notwithstanding the fact that the Minister of Industry is not a Member of CAS, the Minister shall have the right to nominate individuals from the general public for appointment to the Board of Governors such that the number of Governors so appointed shall, at all times, equal the number of Governors appointed by the Members less two, and who shall have the same rights and obligations as Governors appointed by the Members;"[107]

Significantly, a stipulation was added to confirm that the government-nominated governors were to be considered equal in all respects to those appointed by member academies. In effect, there were to be no preferred stakeholders in the CAS.

Epilogue

According to many of the participants from both the member academies and government, the leadership of Howard Alper was key to the eventual signing of the agreement. "He

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[106] Communication from Philip Cockshutt, August 20, 2007.
[107] First Amendment to the Funding Agreement, October 6, 2005.

was a good leader and negotiator. He was exactly the kind of leader required at this stage in the process," remarked Philip Cockshutt.[108] One government official described Alper as his number-one contact from the academies. "He understood the government's position and was very committed to seeing the CAS initiative through. He was a great middle-man. He was in the best position to resolve both government and member academy issues."

In the end, Industry Canada officials believed they had no choice but to present the member academies with an ultimatum – either sign the agreement, firewall and all, or lose the money. That was the political reality. There was no room to manoeuvre. The money had been allocated in Budget 2005 and therefore had to be granted by March 31, otherwise it would be lost and allocated automatically to debt repayment. In other words, the alternative to a $30 million grant to found the Canadian Academies of Science was to reduce the federal government's debt by six one-thousandths of one per cent.

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[108] Interview with Philip Cockshutt.

8. TRANSITION: April 2005 –February 2006

The negotiations between the government and the CAS did not end with signatures on the Funding Agreement, nor did the money immediately become available to the CAS. Although $30 million was deposited in the corporation's bank account on July 18, 2005, the CAS was prevented from accessing the money until certain amendments were made to both the Funding Agreement and the by-laws. The agreement had to be amended to include changes in the characterization of ministerial nominations of CAS governors (noted earlier), among other items, and the CAS by-laws had to be revised to ensure there were no discrepancies with the Funding Agreement.[109]

On 6 October, 2005, the Board of the CAS approved the necessary amendments, but the corporation was still not able to write cheques on its funds until 31 October when the Treasury Board finally approved the amendments. In the meantime, the CAS relied on a bridge loan from the RSC to finance its start-up activity.

The inaugural meeting of the Board of Governors was held on 11 September, 2005. (See Appendix D for a list of the inaugural board.) At this meeting, Philip Cockshutt resigned as Interim President to resume his duties as Executive Director of the CAE, and was replaced as Interim President of the CAS by John Leggat, effective 19 September. Dr. Leggat – who had recently retired from the federal government as Assistant Deputy Minister (Science and Technology) with the Department of National Defence – would serve for several months until 10 February, 2006.

The period from November 2005, through March 2006, was occupied primarily with getting the newly-funded organization up and running. As a result of a national

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[109] Interview with John Leggat.

search conducted by Caldwell Partners, Peter Nicholson was hired as the inaugural President of the CAS, effective February 6, 2006. Marc Saner was hired shortly thereafter on March 1, 2006, as the Director of Assessments. The Board was also engaged with consideration of potential assessment topics during this period.

Leggat, with able assistance from Sandy Jackson (seconded from the RSC), was occupied with the search for appropriate office space in Ottawa to house the CAS, culminating with the choice of 180 Elgin Street, Suite 1401. The Canadian Academies of Science – soon to be rechristened the Council of Canadian Academies – now had a roof over its head, a nucleus of permanent staff and $30 million in the bank. It was finally ready for business.

Box 3
EVOLUTION OF THE NAME

National Academies of Canada (May – October 2000)
- This was the name coined in the joint RSC-CAE proposal to government. According to William Leiss, this name was "an obvious and intended reference to the U.S. system" wherein the National Academies is a quartet comprising the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine and the National Research Council (*Development of the Expert Panel Process in Canada, 1995-2005*, p. 24).

National Science Organization (October 2000 – January 2002)
- This was the name adopted at the Round Table hosted by the Hon. Gilbert Normand on October 4-5, 2000. According to Professor Leiss, "Dr. Normand had concluded , quite properly, that he should not bias his plans for a wider public consultation and discussion…The NSO label had a definite air of neutrality about it, one that all parties regarded as appropriate." (*Development of the Expert Panel Process in Canada, 1995-2005*, p. 26)

National Advisory Council of Canada (February 28, 2001)
- This was the name used in the proposal initiated and submitted by the CAE on behalf of itself, the RSC and CAHS. The name was short-lived and was only seen in this proposal.

Canadian Academies of Science (January 2002 – June 2006)
- This name was adopted by the NSO Working Group in their January 2002, proposal. The name reflected an expectation that the new organization would represent Canada in all areas of science (*A Proposal for the Canadian Academies of Science*, p. 1). It was under this name that the organization was incorporated in April, 2002. It was also the name used throughout the by-law and Funding Agreement negotiations.

Council of Canadian Academies (June 20, 2006 – Present)
- This final name change was made at the request of the Board of Governors. It was concluded that the "Council of Canadian Academies" better represented the purpose of the new organization as an assessment body rather than an honorific society – i.e. the CAS did not elect "Fellows" and thus, by well-established convention, was not an "academy". The Council's tagline, *Science Advice in the Public Interest*, makes the purpose of the organization more apparent, though it should be noted that the Council is not a *policy* advisory body, but rather a provider of assessments of the scientific knowledge that is relevant to issues of public interest and importance.

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Appendix A
Interviewees

Note: All quotations and excerpts from interviews included in this document have been approved by the people initially quoted. The affiliations of the interviewees are as at the date of interview.

Paul Dufour
July 4, 2007

Senior Advisor, International Affairs, Office of the National Science Advisor

Eliot Phillipson
July 5, 2007

President, Canada Foundation for Innovation

Philip Cockshutt
July 11, 2007

Retired; formerly Executive Director, Canadian Academy of Engineering

Marie Tobin
July 12, 2007

Retired; formerly, Director General, Innovation Policy Branch, Industry Canada

Laird Roe
July 13, 2007

A/Director, Policy, Planning and Partnerships, Health Canada

Marshall Moffat
July 18, 2007

Retired; formerly, Director General, Innovation Policy Branch, Industry Canada

Tom Brzustowski
July 20, 2007

Professor, School of Management, University of Ottawa

Paul Martin
July 24, 2007

Former Prime Minister of Canada

John Leggat
July 24, 2007

Consultant; formerly Acting President, Canadian Academies of Science

Arthur Carty
July 25, 2007

National Science Advisor, Industry Canada

Kevin Keough
July 25, 2007

President and CEO, Alberta Heritage Medical Foundation

Ron Nolan
August 1, 2007

Retired; formerly President, Canadian Academy of Engineering

Paul Armstrong

President, Canadian Academy of Health Sciences

August 16, 2007

Gilbert Normand Retired; formerly Minister of State for Science, Research and
August 20, 2007   Development

Howard Alper   Professor, Department of Chemistry, University of Ottawa;
August 23, 2007   Chair, Board of Governors, Council of Canadian Academies

Appendix B

List of Participants
National Science Organization Round Table; 4-5 October, 2000

Adams, Peter	House of Commons
Alper, Howard	Partnership Group for Science and Engineering
ApSimon, John	Carleton University (CSTA)
Attallah, Paul	Canadian Communication Association
Baglow, John	Public Service Alliance of Canada
Barrat, Olga A.	Canadian Academy for the Advancement of Science
Brook, Andrew	Canadian Association of Philosophy
Brzustowski, Thomas A.	Natural Sciences & Engineering Research Council
Campbell, Robert	Association for Canadian Studies
Chivers, Tristram	Canadian Society for Chemistry
Chrétien, Michel	Loeb Health Research Institute
Clarkson, John	Economic Innovation & Technology Council
Clements, Patricia	Humanities and Social Sciences Federation of Canada
Cockshutt, Philip	Canadian Academy of Engineering
Conlon, Michael	Canadian Federation of Students
Cormack, Lesley	Cdn Society for the History and Philosophy of Science
Coulombe, Pierre	Association Canadienne de Science Politique
Cox, Stephen	The Royal Society (United Kingdom)
Crichton, Charles A.	Canadian Association of Learned Journals
de la Mothe, John	Faculty of Administration, University of Ottawa
Demers, Claude	Le réseau québecois des enterprises innovantes
Dolbec, André	Canadian Society for the Study of Education
Drake, Gordon	Canadian Association of Physicists
Dugal, Robert	Canada's Research-Based Pharmaceutical Companies
Evans, Gwynneth	National Library of Canada
Ford, Francine	Canadian Consortium for Research
Fortier, Pierre	Innovitech Inc.
Francis, Nicholas J.	PC Imageware Corporation (CSTA)
Frize, Monique	Women in Science and Engineering (Ontario)
Gambell, Penny	B.C. Fruit Growers' Association (CSTA)
Garrison, Robert	Royal Astronomical Society of Canada
Giroux, Brian	Scotia Fundy Mobile Gear Fisherman's Association
Giroux, Robert	Association of Universities and Colleges Canada
Godbout, Germain	Association canadienne-francaise pour l'avancement des sciences
Godfrey, John	House of Commons
Groote, Joyce	BIOTECanada

Hervieux-Payette, Celine	The Senate of Canada
Hindle, Steve	The Professional Institute of the Public Service of Canada
Hoag, Norris	Canadian Agri-Food Research Council
Hunsley, Terry	BIOTECanada Human Resources Council
Itzkovitch, Irwin	International Council on Metals and the Environment
Johnson, Peter	University of Ottawa, Department of Geography
Jones, Paul	Canadian Association of University Teachers
Laird, Roy	Canadian Society of Medievalists
LeBlond, Paul	Pacific Institute for Science & Technology
Lefebvre, Margaret	Couchiching Institute on Public Affairs
Leiss, William	The Royal Society of Canada
Lemay, Marie	Canadian Council of Professional Engineers
Levy, Isra	Canadian Medical Association
Linseman, Mary Anne	Canadian Institute of Health Research
Lougheed, Tim	Canadian Science Writers' Association
Matthews, David	Canadian Sociology and Anthropology Association
McBean, Gordon	Cdn. Foundation for Climate & Atmospheric Sciences
McCurdy, Ross	InNOVAcorp
McGrath, Patrick	Canadian Psychological Association
Moses, Robert	PCI Geomatics
Mulay, Shree	Canadian Women's Studies Association
Munroe-Blum, Heather	University of Toronto
Naimark, Arnold	Canadian Biotechnology Advisory Committee
Ng, Joseph	Joe Ng Engineering Ltd.
Palmer, Roger	Alberta Science and Research Authority
Patry, Bernard	House of Commons
Pelman, Alan I.	Weyerhauser Canada
Phillipson, Eliot	Canadian Institute for Academic Medicine
Pitts, Charles	Canadian Biomedical and Health Research
Price, Ray	Trochu Meat Procession
Quéré, Yves	Académie des Sciences (France)
Ramirez, Mario	Canadian Medical & Biological Engineering Society
Robbins, Wendy	Cdn Assoc.for Commonwealth Lit.& Language Studies
Robert, Louise	Humanities and Social Sciences Federation of Canada
Roots, Fred	Science Advisor Emeritus
Rothschild, Henri	Canada-Israel Industrial R&D Foundation
Roulx, Richard	Association of Consulting Engineers of Canada
Salahub, Dennis	Steacie Institute for Molecular Sciences
Sells, Bruce	Canadian Federation of Biological Societies
Semenchuk, Gary	Canadian Cancer Society
Smith, Peter	Aerospace Industries Association of Canada
Smith, Vedene	Chemical Institute of Canada
St. Onge, Dennis	Partnership Group for Science and Engineering
Strangway, David	Canada Foundation for Innovation

Taylor, Peter A.	Canadian Meteorological and Oceanographic Society
Taylor, Keith	Canadian Mathematical Society
Taylor, Alex	Canadian Academy of Engineering
Tholl, William	Heart and Stroke Foundation of Canada
Tremblay, Paulette	Assembly of First Nations
Tremblay, Hélène	Conseil de la science et de la technologie
Tucker, John	Association for the Advancement of Scandinavian Studies in Canada
Walker, Peter	Association of Canadian Medical Colleges
Weaver, Linda	Engineering Institute of Canada
Westeinde, John	Canadian Construction Research Board
Whitehead, Lois	Atlantic Provinces Council on the Sciences
Wiggin, Pamela	Social Sciences and Humanities Research Council
Woolnough, David	Canadian Association of Community Colleges
Wright, Joseph	PAPRICAN

Appendix C

List of Members
National Science Organization Working Group

Chair

The Hon.Gilbert Normand	Secretary of State (Science, Research and Development)

Members

Alper, Howard	Past Chair, Partnership Group for Science and Engineering Vice Rector – Research, University of Ottawa
Barrat, Olga A.	President, Canadian Academy for the Advancement of Science
Brzustowski, Thomas A.	President, Natural Sciences and Engineering Research Council
Chrétien, Michel	Director, Regional Protein Chemistry Centre and Diseases of Ageing Unit (Ottawa Health Research Institute)
Clements, Patricia	President, Humanities and Social Sciences Federation of Canada
Cockshutt, Philip	Executive Director, Canadian Academy of Engineering
de la Mothe, John	Member, Council of Science and Technology Advisors
Frize, Monique	NSERC/Nortel Chair, Women in Science and Engineering (Ontario)
Godbout, Germain	Directeur Général, Association canadienne-francaise pour l'avancement des sciences
Groote, Joyce	President, Crossing Sectors Inc.
Lefebvre, Margaret	President, Couchiching Institute on Public Affairs
Leiss, William	President, The Royal Society of Canada
Phillipson, Eliot	President, Canadian Institute for Academic Medicine
Piper, Martha	President and Vice-Chancellor, The University of British Columbia
Strangway, David	President and CEO, Canada Foundation for Innovation

Appendix D

Members of the Canadian Academies of Science Board of Governors
at October 2005

Academy Appointees

Howard Alper, Chair	RSC	Distinguished University Professor and Vice-Rector, Research, University of Ottawa
Paul Armstrong	CAHS	University Professor, University of Alberta
T. Geoffrey Flynn	RSC	University Professor, Queen's University
Ron Nolan, Vice-Chair	CAE	Chairman, President & CEO, Hatch Associates Ltd.
Martin Schechter, Secretary-Treasurer	CAHS	Professor & Head, Department of Health Care & Epidemiology, University of British Columbia
Kathy Sendall	CAE	Senior Vice-President, Petro-Canada

Governors' Appointees

Elizabeth Parr-Johnston	President, Parr-Johnston Consultants
Martha Piper	President, University of British Columbia

Minister's Nominees

Paul Bernard	Professeur titulaire, Département de sociologie, Université de Montréal
Richard Drouin	Counsel, McCarthy Tetrault
Edna Einsiedel	University Professor & Professor of Communication Studies, University of Calgary
Chaviva Hošek	President & CEO, Canadian Institute for Advanced Research

Appendix E

The Assessment Function of the U.S. National Academies

The National Academies comprise four organizations: the National Academy of Sciences (NAS), National Academy of Engineering (NAE), Institute of Medicine (IOM), and the National Research Council (NRC). The three academies are private, non-governmental, member-supported organizations and do not receive *direct* federal funding to support their honorific functions.

The "assessment" work of the National Academies is carried out by the NRC together with a separate, but closely related staff group under the IOM. The NRC was founded by the National Academy of Sciences in 1916. Its board includes the chief executives of the NAS (whose President serves as Chair), the NAE (whose President is Vice-Chair) and the IOM. The NRC conducts the majority of its research using expert panels composed of leading engineers, scientists and other professionals who serve voluntarily. The NRC staff, which supports the expert panels, is organized in five major divisions (see Box). The IOM staff (numbering about 140) is co-located with the NRC and functions, in effect, as a sixth division, supporting projects related to health and medicine using procedures established and overseen by the Governing Board of the NRC. The total staff complement of NRC-IOM is approximately 1,100.

More than 80 percent of the work undertaken by the NRC and IOM staff is on contract with agencies of the U.S. government. The annual budget for the organization in 2006 was roughly U.S. $220 million. While the U.S. government does not provide direct financial support to the NAS, NAE and IOM, its contracts with the NRC and IOM

include an overhead component, a portion of which is allocated annually among the

NAS, NAE and IOM to support their "academy" operations.

THE NATIONAL ACADEMIES (U.S.)

National Academy of Engineering (NAE)

National Academy of Sciences (NAS)

Institute of Medicine (IOM)

National Research Council Governing Board

National Research Council (NRC)

TRB DBSSE PGA DEPS DELS IOM Programs

TRB - Transportation Research Board

DBSSE - Division of Behavioral and Social Sciences and Education

PGA - Policy and Global Affairs Division

DEPS - Division on Engineering and Physical Sciences

DELS - Division on Earth and Life Studies

IOM - Institute of Medicine Programs (Health Sciences)

Membership of the National Research Council Governing Board includes:

Chair: President of the NAS
Vice-Chair: President of the NAE

Other Governors (11), comprising the
President of the IOM plus 10 additional Governors