7 Media Impact

VOL. 2 SCIENCE
MASS MEDIA
AND THE PUBLIC

A Research Study On Science Communication

by

Orest Dubas

and

Lisa Martel

June, 1975

Canada

Ministry of State Science and Technology
Ministère d'État Sciences et Technologie

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This volume reports the findings of a study made in 1973–74 which was sponsored by the Ministry of State for Science and Technology. The opinions expressed are those of the authors and not necessarily those of the Ministry.

Ministry of State Ministère d'État

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Information Canada
Ottawa, 1975

Foreword

Ever since man learned to communicate, by whatever means, the art of transferring information has been the keystone of progress. This study examines one aspect of information transfer. But it has wider implications. It has a direct bearing on the whole process by which a special group acts for the benefit of all, with the consent of all. When these specialists have lost sight of that, societies have fallen into disorder and darkness.

It was from that philosophical point of view that the *Media Impact* study was launched. A research contract was awarded to Mr. Orest Dubas and Ms. Lisa Martel to examine the links of the chain of communication tying scientists and technologists with the public, who so often are called upon to pay the costs — and even the penalties — of scientific effort without being allowed to share the excitement and sense of achievement of the work.

This report, as the study nears the final stages projected, holds valuable lessons for all those involved in the communication of science and technology.

For the professional communicators, and for the scientists, it demonstrates the public's hunger for more knowledge through the media of *their* choice — the media of mass communication. For the scientists and engineers, it will provide some help in communicating more effectively through these media. For the middleman, the sometimes-scorned expediters of information, in government, in industry and in the universities, it will provide, we hope, some help to reinforce the message that they have tried to carry to the scientists, engineers and technologists they serve.

Ken Kelly
Director, Information Services
MOSST

December, 1974*

*Present address: Director, Information Services
Ministry of State for Urban Affairs
Ottawa.

MEDIA IMPACT:

A QUICK LOOK INSIDE

This report holds valuable lessons for all those involved in the communication of science and technology. For the many professional communicators and for scientists, it demonstrates the public's hunger for more knowledge through the medium of *their* choice, the medium of mass communication. For scientists and engineers, the report will provide some help in communicating more effectively through those media. And for the middleman, the expeditors of information in government, industry and in the universities, the report, we hope, will help to reinforce the message they have tried to carry to the scientists, engineers and technologists they serve.

Media Impact was begun in 1973 to provide an overview of science writing in Canada and how it affects the public, science writers and media management. The study uses a catholic definition of the word science to include natural sciences, social sciences and humanities, life sciences and engineering sciences.

Part one of this report, presents the results of a national survey of public opinion on the current state of science popularization in Canada. Conducted by *Canadian Facts,* the survey of 2,000 representative, randomly selected Canadians examines the questions of what the public *wants* in the science being presented to them and what they *are getting* through the mass media.

1. WHAT THE PUBLIC WANTS, THE PUBLIC GETS -- SOMETIMES

* More than 80% of the population over age 15 believe it important to be kept informed about science. Yet two thirds of them cannot name *one Canadian scientist.*

* Two thirds are interested in finding out more about specifically Canadian achievements in science and learning more about Canadians involved in science. Yet *only 19%* can identify Banting and Best, or even insulin.

* Public awareness varies according to language, region, education, lifestyle and sex, but these variations have no effect on the desire of the public to find out more about science. Even the belief that science is mainly for well-educated people was rejected by more than two thirds of all Canadians.

* Despite the fact that close to 75% of Canadians want to know more about science, they have been unsuccessful in gaining any sort of specific knowledge about the subject.

2. WHERE DOES THE PUBLIC GET ITS INFORMATION?

* The mass media appears to be the major source of public awareness of Canadian Science. Schools, textbooks and other traditional sources are mentioned far less often.

* More important, perhaps, is the fact that those Canadians interested in science *expect* their information to come through the media. Half of these people expect science information from newspapers, while slightly more expect it from television and magazines.

  Why is it then that the public has such little knowledge of Canadian science? Is the reason a lack of attentiveness on the part of the public, or is it perhaps the lack of any consistent, understandable presentation of science by the media?

3. HOW THE MARKET SEES THE MEDIA

* Throughout our study of science communication, we find that more than 75% of all Canadians want to keep abreast of science news. Yet 54% of these people feel that not enough science is being made public (through all sources) and 43% feel that the media are not providing sufficient science coverage.

* This would indicate that there is *a strong demand for more and better science popularization in the media.* It indicates too that other sources of science information should be more active.

4. WHATEVER HAPPENED TO SUPPLY AND DEMAND?

* The public's opinion of the quantity and quality of science coverage varies with the individual medium. There are, however, certain observations common to all. Two thirds of newspaper readers are interested in and enjoyed science articles. More than half of then find science items easy to understand. Still, of those interested in science, less than half feel that science subjects are being accurately reported in newspapers. Despite their expressed interest in science, close to half these readers have difficulty finding science articles in newspapers even when they are looking for them.

* In answer to this problem, the science-interested audience, a large part of the newspaper reading public, favours the idea of science columnists writing regular features on scientific subjects.

* The survey indicates too that magazines play an important role in supplementing science news through in-depth presentations. General magazines are read by about two thirds of Canadians and were mentioned most frequently as regular or occasional sources of science news. When science is dealt with by magazines, 60% of the readers feel it is done well, while 75% enjoy these presentations and find them interesting. Again, however, one third of all readers had difficulty locating science articles in the magazine.

* In broadcasting, two thirds of television viewers watch at least some science programming. And viewers *interested* in science are generally satisfied with the quality of presentation. Still, they would like to see more. In fact, more than half of the science-interested audience feel there is not enough of this programming. The situation in radio is rather different with a generally lower awareness of science programming.

5. MORE SCIENCE MEANS LESS OF SOMETHING ELSE

* Clearly, the public wants greater science coverage in all media. More than half of newspaper readers feel there is not enough science coverage by their papers. Similarly, television science programming does not reflect the potential science-interested audience, more than 75% of the total population. Generally, only about *one quarter of the media audience feels adequately served.*

* This presents a dilemma to those in the media responsible for news selection and programming. If the public wants more science information, what other types of traditional coverage are they prepared to sacrifice? It is here that the results of the consumer survey are most revealing. When we questioned people on their news preferences, they were not aware that the subject of the survey was science communication. *We find that four of the public's top five interests are science related.* They are: education (80%), medicine and health (74%), pollution, ecology or the environment (74%) and social science issues such as overpopulation, urban planning or child development (66%). These four are out-ranked by local news or local events (84%). *Sports and society page features came considerably lower on the list.*

Clearly, the demand for science news is there; but what about supply? Why are most people unsatisfied with the amount of science news they are getting through the media? Managing editors and programming chiefs might have the answer to this question.

6. THE INFORMATION SUPPLIERS IN THE MASS MEDIA

Editors and writers are key links in the chain of science popularization. Generally, it is the function of the editor to decide the priority of science news in relation to other topics. Editors have the final say as to what is published.

Writers on the other hand have a great deal of influence over their assignments. In fact, the decision on what stories are to be covered largely reflects the writers' own preference.

Within the context of consumer preferences outlined in part one of the report, our data on managing editors and science writers points out some reasons for widespread public dissatisfaction with the communication of science news.

* In our survey of Canadian newspapers, business and finance topics are given the highest priority in terms of specific coverage and reporter assignments. This is in basic contrast to surveyed public preferences mentioned earlier in this report where the highest priority is given to local needs followed by education.

* Nearly half the newspapers surveyed had assigned a reporter to medicine and health (43%) and agriculture (41%). Only 21% of the papers surveyed had a specific reporter assigned to cover science.

* From comments of managing editors, it appears that many large circulation dailies feel having a reporter specializing in science is either too costly or unnecessary, or both. Consumer preferences outlined earlier, however, would seem to indicate that there is indeed a market for science news and further, that this market is not being adequately served.

  As a result of management's reluctance to assign reporters to science, the wire services, both domestic and international, are relied upon to provide the bulk of science news. But is this a real solution?

* The Canadian Press is the major wire service in Canada. When asked, 76% of editors surveyed indicated that they felt CP science coverage was adequate in terms of quantity for their audience, and 63% felt that the quality was adequate. Still between one-quarter and one-third of the editors feel that CP should upgrade the quality and increase the quantity of science coverage.

* Group newspapers are an important fact of life in this country. Generally editors working for Southam, FP, Thomson and others are satisfied that science news is adequate in both quantity and quality for their audience. The attitudes of editors surveyed for this report seem to indicate that there is a significant disparity between what the editors feel the public wants in terms of science news and what the public *really* wants.

* At the same time, however, nearly one-third of all editors surveyed feel that their readers would like some sort of regular science feature. Editors say that their audience is interested in science yet there are few guidelines to ensure that these readers are kept informed. There seems to be a hit and miss approach to science coverage generally and the coverage of Canadian science in particular.

7. SCIENCE WRITERS AND THEIR INFORMATION

Finally, we come to the science writers themselves. They are the people who must make science understandable for the audience and, at the same time, satisfy scientists and their managing editors. To a large extent, both the news worthiness of a science story and the accuracy of that story are dependent upon the nature of the writer's sources.

* Asked to rate the quality of their sources, more than half of the science writers surveyed said that university scientists and engineers are their most important sources.

  Next in importance were other primary and secondary sources, including officials of government departments, government information services and industry's PR officers.

  Still lower on the scale were reference sources such as reports, publications and wire service copy.

* But any source of science information is only as good as its availability. And it is in this area — the barriers to science-communication — that the writers were most concerned.

* The biggest complaint of science writers centered on the scientist's unfamiliarity with the day-to-day procedures for dealing with writers. Writers found scientists distrustful of the media and reluctant to discuss in public the social implications of their work.

* At the same time, 78% of the science writers feel they are forced to cover too broad a range of topics. Seventy-five per cent express difficulty in keeping their stories both simple and accurate. Not surprisingly, two-thirds of science reporters think that there has to be more science coverage in newspapers and magazines if public demand is to be satisfied.

* Our report indicates that the system of science popularization is not working as well as it should. On the one hand we are faced with an expressed desire by a majority of the public for more science news and science features. But media management does not seem to have recognized this demand.

* At the same time, the proper sources of science news seem unwilling to communicate with the public. The federal government, for example, is the largest performer and financer of scientific research. Very few departments have an established policy on the release of information. Often the distribution of government science information is so restrictive as to make distribution meaningless.

  Clearly, the public wants to know what is going on in science and, at the present time, they are not finding out.

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About the Authors

Orest Volodymyr Dubas

Orest Dubas, 30, of Ukrainian-Canadian descent, is an astronomer turned science writer. He obtained his B.Sc. from McGill University (1965) and his M.Sc. from the University of Toronto (1967). He spent five years doing graduate research in astronomy, working on projects at the David Dunlap Observatory and at the Observatory of the University of Western Ontario. Interest in the sciences, coupled with a diploma in journalism (1972), spurred him into the field of communications research. In 1972 he participated in the first science writing project of the Ministry of State for Science and Technology. He is now working as a consultant to MOSST, as the initiator and coordinator of the *Media Impact* study.

Melissa (Lisa) Angela Martel

Miss Martel, 23, was born in St. Jerome, Quebec. She is a journalism graduate of Calgary's Southern Alberta Institute of Technology. In the summer of 1972, she participated as a science writer in MOSST's first Canadian Achievements in Science and Technology Program. Upon completion of this program she became research assistant in the *Media Impact* program. Her interests lie in the fields of advertising and public relations.

Acknowledgements

For every major study there are countless individuals and organizations who have operated behind the scenes in order to bring the study to completion. *Media Impact* is no exception.

We are especially indebted to Mr. Ken Kelly, Director of Information Services, MOSST, without whose assistance and perseverance *Media Impact* might not have been launched. His continued supervision and support throughout the duration of the project were invaluable; Mrs. Diane Skulstad, our publications editor, Mr. Gyorgy Porkolab who contributed extensively to the report; and the entire staff of Information Services.

We would also like to thank Dr. P.D. McTaggart-Cowan, Executive Director of the Science Council of Canada, for his constructive advice and for his effort in reviewing drafts of *Media Impact.*

Finally special thanks are due the many science writers and management of Canadian mass media who responded to our survey questionnaires and our many enquiries. We express our appreciation to all individuals and organizations who freely supplied us with photographs or slides.

Introduction

Media Impact was launched in 1973 to provide an overview of science writing in Canada and how it affects the public, science writers and media management. It is a study using a catholic definition of science - natural sciences, social sciences and humanities, life sciences and engineering sciences.

For our purposes science and technology include such areas of research as:

medicine and health

business or economics

government spending and policies on sciences

agriculture

biology or the nature of living things

pollution control or ecology

industrial discoveries such as new inventions

education

physical science research

discoveries about nature

aviation or space exploration

research done by university scientists

the resolution of social issues such as over-population, urban planning, or child development

oil, mining, and resource development

engineering projects such as transportation systems, pipelines.

And the list goes on.

The products of these efforts and activities enter virtually all phases of human endeavor. In one way or another, science affects industry (more than 600 Research and Development organizations in Canada), government (some 25 science-based departments in the federal government alone), universities and other educational institutions, and consumers, who are the most influenced group.

Even as science and technology influence people to an ever greater extent, these forces are gravely mistrusted. Many people feel their lives are directed by forces over which they have little control because they are exposed to sporadic, sensational and crisis-oriented information.

Several specific questions acted as a catalyst. Is the public interested in various sciences and in science as a whole; and to what extent compared to sports and national politics? What do they think of the science information provided by the mass media? Just how aware are Canadians of their country's role in the sciences and what do they know?

Does anyone really know what the public wants to read, listen, or see in the way of science news? In our leisure moments as we read the paper, listen to the radio, or watch TV , we cannot avoid finding out about new processes scientists have developed. Something new may affect us at work or at play, either detrimentally, such as the finding of a new pollutant of our atmosphere or oceans, or beneficially, such as the development of better and cheaper energy sources for our homes.

Science writing for a mass audience is not a new profession in Canada, but a pioneering one, grappling with the desire to assert itself by building an image of respectability and credibility that science writers in other countries have acquired through the years. Science writers as a group have set out to gain the confidence of their sources, their employers and their audience.

Another aspect of the study involved the communication process within the mass media itself. What are the writers' internal and external problems and the solutions? How do they visualize science writing fitting into the scheme of newspapers, magazines, radio and television?

How do the managing editors of Canadian dailies and the management of the broadcast media view science writing? Do both groups have ideas on the optimum presentation of science news or science features by the mass media; are these views in accordance with the demands of their audience? This demand factor is shown to have been underestimated by the media. Yet the crucial question of "demand" for such information by people has never been deeply studied.

The Organization of the Report

In the Interim Report (Volume I), we outlined our objectives and methodology and gave an indication of past research in science communication in Canada, the U.S. and a number of other countries. Conclusively, it was found that Canada lagged decades behind other countries in its role of fostering studies into scientific communication.

As noted in Volume I, in order to achieve our objectives, we carried out a number of surveys:

(1) In 1973, detailed questionnaire were mailed to science writers in the mass media and to managing editors of Canadian daily newspapers.

(2) In the spring of 1974, a national consumer survey was conducted by the survey firm *Canadian Facts* to give a profile of the science-oriented audience.

In *Media Impact,* Volume II, are the results from the three distinct surveys--The Public (Chapters 1-12), Managing Editors (Chapters 15-19) and Science Writers (Chapters 20-25). Details, given in the appendices for those with further interest, include the questionnaire employed in the consumer survey, together with specifics of the interview, the sampling methods for this public poll, the science writers' questionnaire and details of the writers' population in Canada, and a description of the managing editors' survey. An extensive selected bibliography on science writing and public science also is included as a reference aid.

A capsulized summary is given of how the media features science information in Canada (Chapter 13 for the Print Media and 14 for the Broadcast Media). We answer, within the time frame studied, questions such as: What science articles/programs are available by the mass media to the Canadian public? Is its coverage relatively regular or sporadic? How is this information procured and which publications/networks have access to it?

In Chapter 26 we present a resumé of further discussion of the issues involved in communicating science. Outlined are results of "Science Communication '74," *Media Impact's* initial seminar on science communication, held in April, 1974. More than 120 participants from print and broadcast media, from government information/news services, and from universities in Canada and the U.S. took part. (Texts of addresses are contained in the Appendices.)

To illustrate science information handling, Chapter 27 is devoted exclusively to the federal government's information branches and their policy of operation.

Media Impact was written primarily with a select audience in mind--those employed by government departments and agencies, the media, industrial and university research and information branches, professional scientific and technology-oriented organizations, science divisions at libraries, and all establishments dealing with science education. But it is hoped that it will be read by everyone touched to one extent or another by science.

Even if one does not expect to make specific use of research findings, in this science-prone age all are in many ways "consumers" of research results. Moreover, research fulfills two types of needs-- the practical, based on the desire to know for the sake of being able to do something better or more efficiently; and the intellectual, based on a desire to know or understand for its own sake. If we have succeeded in meeting either or both, we will have achieved the objectives we set out in *Media Impact.*

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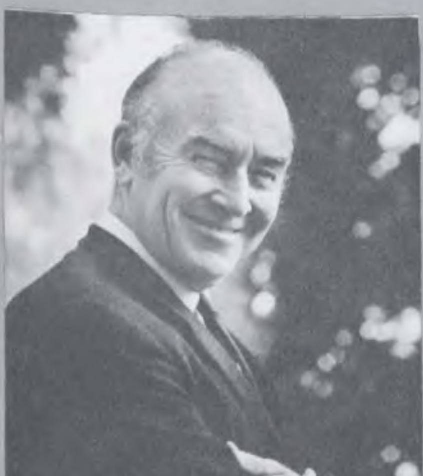
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SCIENTISTS IN CANADA: THEIR RESEARCH AND ACHIEVEMENTS*

1 Dr. James B. Collip (1892 — 1965) isolated the parathyroid hormone and introduced it in the treatment of tetany. In 1921, he was first to isolate pure insulin.

2 Prof. Marshall McLuhan (1911-), author of numerous books and articles on the mass media (such as "The Medium is the Massage") has been called the oracle of the electric age. He is Director of the Center for Culture and Technology at the University of Toronto.

3 Dr. Hans Selye (1907-), Director of the Institute of the Experimental Medicine and Surgery at the University of Montreal, is the world's acknowledged authority on stress. His discoveries helped to explain how the body responds to stress and the nature of some of the body's chemical defences.

(Photo credit: Comtesse Irmgard Schwerin)

4 Dr. Gerhard Herzberg (1904-), Canada's only Nobel Prize winner in the sciences in the half-century (1971, chemistry), is shown (right in photo) accepting his award for "contributions to the knowledge of the electronic structure and geometry of molecules."

5 Dr. Wilder Penfield (1891-), founder of the Montreal Neurological Institute and, for two decades, its director, is one of the world's foremost neurosurgeons. His pioneering work on the surgical treatment of epilipsy helped to unravel many of the mysteries of brain function.

(Photo credit: André Larose)

6 Sir Sandford Fleming (1827-1915), chief engineer of the transcontinental railroad (CPR) conceived a system of Standard Time measurements. This system was adopted internationally in 1884 and is in use today.

(Photo credit: The Public Archives of Canada)

7 Alouette I, Canada's first spacecraft, was launched in 1962. By 1975 it was the world's longest-lived satellite, still sending out signals and providing information about the earth's ionosphere.

(Photo credit: Department of Communications)

8 Pickering generating station, one of the largest operating nuclear power stations in the world, is located 20 miles from Toronto. The station is powered by four CANDU reactors.

(Photo credit: Tom Bochsler)

9 Sir Frederick Banting (1891-1941) was co-discover (with Dr. Charles Best) of insulin for the treatment of diabetes. He received a share of the 1923 Nobel Prize in Medicine and is one of eight Canadians honored by having a lunar crater named after him.

(Photo credit: Bassano & VanDyk studios inc. Elliot & Fry)

10 Alexander Graham Bell (1849-1919), father of the telephone, worked out the design of his invention in Brantford, Ontario, in 1874. Two years later, in Paris, Ontario, he received the world's first long-distance call from Brantford, a distance of sixty miles.

11 Dr. Charles Best (1899-) is one of the discoverers of insulin. Alongside Dr. Banting, he was the most well-known Canadian scientist in the national public opinion poll.

(Photo credit: Canadian Medical Association)

12 HMCS Bras d'Or - FHE 400, the Canadian Armed Forces first anti-submarine hydrofoil ship, is a product of Canadian hydrofoil development. The first hydrofoil experiments were carried out by Alexander Graham Bell and F.W. (Casey) Baldwin between 1911 and 1920 on the Bras d'Or Lakes in Nova Scotia.

13 Algonquin Radio Observatory, located in northern Ontario, is used extensively in the study of radio signals from planets, stars and other deep space objects.

14 James Hillier (right) and A.F. Prebus, who pioneered the design construction of the world's first practical electron microscope in 1938, work at the instrument in their University of Toronto laboratory.

15 Dr. Harold Johns (1915-), medical physicist (inset), is shown together with a recent model of the cobalt bomb, an early version of which he invented in 1951. The machine is used world-wide in the treatment of cancer.

(Photo credits: Milne Studios Ltd. and Atomic Energy of Canada Ltd.)

16 The slicklicker, a machine which gobbles up spilled oil, is illustrated in action cleaning up the major oil spill caused by the tanker Arrow in Chedabucto Bay, Nova Scotia (1970).

(Photo credit: Ministry of Transport)

17 Dr. Murray L. Barr (1908-), a Canadian anatomist at the University of Western Ontario, was the discoverer (1949) of the sex chromatin, or "Barr body," which characterizes female body cells.

18 Prof. J. Tuzo Wilson (1908-) University of Toronto geophysicist, was one of the first scientists to widely publicize the continental drift theory and explain its relationship to ocean floor spreading, volcanoes and earthquakes.

(Photo credit: Jack Marshall & Co. Ltd.)

19 Dr. Joseph MacInnis, a Canadian oceanographer (inset) is pictured with the sub-igloo, a transparent plastic diving station (submarine igloo) which he designed for exploration of the arctic marine environment.

(Photo credit: En Route magazine) (sub-igloo); D. Elsey (MacInnis)

20 Sir William Osler (1849 — 1919) through his work in Canada, the U.S. and Great Britain, earned an international reputation surpassed by few clinicians. He was the initiator of psychosomatic medicine.

(Photo credit: David Bier Studios)

21 The Bombardier Ski-Doo, pioneered and developed by Armand Bombardier of Quebec, is now used world wide. An early prototype model (1960) of this snowmobile and a more recent one are illustrated.

(Photo credit: R. Rompré Comm. Visuelles)

22 Sir Ernest Rutherford (1871 — 1937), a physicist, is remembered in Canadian science for his historic work at McGill University on the explanation of natural radioactivity. This and later work in Great Britain on the atom earned him the 1908 Nobel Prize in Physics.

23 Dr. Gustav Gingras (1904-), the Executive-Director of the Rehabilitation Institute of Montreal, is a world-renown figure in the area of physical medicine and rehabilitation.

24 Dr. Norman Bethune (1890 — 1939), was a Canadian surgeon whose innovations in the techniques of field surgery during the Spanish civil war and, battlefield blood transfusion during the Sino-Japanese War, made him a revered figure in China.

(Photo credit: John Burns, Globe and Mail)

* See also "The Mirrored Spectrum: A collection of reports for the non-scientist and non-engineer about achievements in Canadian Science and Technology", a MOSST publication (Vol.1, 1973; Vol.2, 1974).

Part One

The Public

The Survey

In March and April of 1974, *Media Impact* contracted with the survey firm *Canadian Facts* for a national consumer poll on science interests and science awareness. A cross-section of 2000 Canadians age 15 years or over was interviewed. All interviews were conducted in the respondents' homes by trained *Canadian Facts* field interviewers.

The average duration of each interview was 45 minutes, but ranged in excess of one hour for the very interested respondents. (Details of the interview and the questionnaire used are provided in the Appendices.)

In Part One of this report, the results of this survey are described.

Chapter One

Awareness of Canadian Science

Public Awareness of Canadian Science

Can you name a prominent Canadian scientist? What about a Canadian achievement in the sciences? . . .

In the consumer survey conducted by *Canadian Facts,* these two questions, among many others, were asked to determine public awareness of prominent Canadian scientists and their work, and to measure public awareness of Canadian scientific achievements or projects. Since some major work was not linked to any particular scientist, this latter question was included to complement the first.

Furthermore, to learn how Canadians receive their information about science, we asked where they had read or heard about a scientist or an achievement.

A list compiled by MOSST offers more than 600 noteworthy Canadian scientific and technological achievements.

On Scientists

If you could not name a prominent Canadian scientist, do not feel chagrined. You are in the majority. Two out of three interviewed (64.4%) couldn't name any Canadian scientist.

Of those who recalled the name of one or more Canadian scientists and made some comment on their work (35.6%), we find less than one in five could name more than two scientists (18.3% of those who replied, or 6.5% of all respondents; see Table 1.1.) That's fewer than one Canadian in fifteen with some knowledge of two or more Canadian scientists. The scientists mentioned about half the time were Banting and Best, with another third noting Alexander Graham Bell. Another third (10% of the sample) were able to list the name and work of two Canadian scientists, while a further 16.7% recalled one Canadian scientist and his work.

The names of Dr. Frederick Banting and/or Dr. Charles Best were given by one respondent in five (19.2%) together with their discovery of insulin or in connection with diabetes research. [1] Alexander Graham Bell, famous for inventing the telephone in Canada, was mentioned by one respondent in seven (13.9%).

These three figures were the predominant ones remembered in the fields of science and technology by the average Canadian.

[1] The work of Drs. Banting and Best and the Scottish-born Dr. J.J.R. MacLeod, at the University of Toronto, led to the discovery of insulin for the treatment of diabetes. In 1923, this discovery won, for Dr. Banting and Dr. MacLeod, Canada's only Nobel Prize in Medicine.

Table 1.1. Public Awareness of Prominent Canadian Scientists and Their Work

		PER CENT OF INDIVIDUALS
SCIENTISTS RECALLED		
Names of zero Canadian scientists		64.4
Name only or work only of one or more Canadian scientists	2.0	
Name and work accurately of one Canadian scientist	16.7	
Name and work accurately of two Canadian scientists	10.4	35.6
Name and work accurately of more than two Canadian scientists	6.5	
SCIENTISTS: SUPPLEMENTARY DATA [1]		
International scientists and/or achievements only		4.0
Popularizers/public figures in science/ miscellaneous only		1.8
Frederick Banting		17.6
Charles Best		11.1
Banting or Best, together with insulin		19.2
Alexander G. Bell/ telephone		13.9
Contemporary Canadian scientists or achievements among listed		19.7
International scientists among listed		7.4
Popularizers/public figures in science among listed		2.7

(SEE MAIN TABLE 1.)
[1] Multiple responses possible.

One or more prominent Canadian scientists associated with more recent science projects, such as Dr. Wilder Penfield, Dr. Hans Selye, Dr. Pierre Grondin and Dr. Phil Gold were mentioned on the average of one interview in five (19.7%). However, individually, these scientists received less than 1% mention.

Twenty-one individuals (1%) noted the work of Dr. Harold Johns and his team on the development of the cobalt bomb. This machine is used extensively in clinics throughout the world for the treatment of cancer.

Only seven persons among the 2000 polled (less than half a per cent) mentioned Dr. Herzberg, Canada's only Nobel Prize Winner in the sciences in the half century after Banting. Dr. Gerhard Herzberg was honored with the Nobel Prize in Chemistry in 1971 for his work at the National Research Council on the spectra of molecules. Six of these seven persons noted that Herzberg worked either in physics or chemistry.

A portion of interviewees tended to confuse, or not to distinguish, between Canadian scientists and scientists of other countries. Four per cent named only non-Canadians. Another seven per cent cited non-Canadians as part of their list of scientists. Their names included Albert Einstein, Louis Pasteur, Madame Eve Curie, Charles Darwin, Albert Schweitzer, Isaac Newton, Jonas Salk, and Alexander Fleming.

No Canadian woman scientist received mention in the poll, despite the broad definition used for the sciences.

Popular public figures who may occasionally be quoted about science in the news media also figured among the responses. Two per cent listed *only* such popular figures, while another three per cent mentioned them in conjunction with scientists. The names which came up include Pierre Berton former prime minister Lester Pearson and Mme. Jeanne Sauvé. Even the occasional writer or communicator, such as Fernand Seguin and Farley Mowat, were mentioned as prominent Canadian scientists. Dr. David Suzuki of the Genetics Department of the University of British Columbia (See Appendix T) was mentioned half a dozen times. Jacques Cousteau came up nearly a dozen times.

The survey results may reflect a lack of attentiveness or retentiveness of the population as a whole regardless of the subject matter being surveyed. Or alternatively, it may reflect genuine lack of consistent readable presentation of science by the mass media.

There is, however, a difference in the awareness pattern. The small number of people who recognized our recent Nobel Prize winner, Dr. Herzberg, less than half a per cent, may also indicate a slow rate of penetration of the national consciousness.

On Achievements

The same large body of ignorance was evident about a Canadian achievement in the sciences. Two Canadians in three (61.0%) failed to name any Canadian achievement in the sciences. Three of five (59.6%) could not comment on either Canadian scientists or Canadian achievements in the sciences.

International scientists, their achievements, or both, were noted by 4.0%. Popular figures in science only, without naming specific Canadian scientists, were identified by 1.8%.

Of those polled, 22.8% listed a specific Canadian

Table 1.2. Public Awareness of Canadian Achievements in the Sciences

		PER CENT OF INDIVIDUALS
ACHIEVEMENTS RECALLED		
Zero Canadian achievements		61.4
One Canadian achievement	22.8	
Two Canadian achievements	9.7	38.6
More than two Canadian achievements	6.1	
ACHIEVEMENTS: SUPPLEMENTARY DATA[1]		
Banting or Best, together with insulin		19.2
Alexander G. Bell/ telephone		13.9
James Bay listed		4.4
One or more general Canadian technological projects only		6.0
Non-specific science projects, stories dealing with science in general		7.1
In addition to achievements, projects in science/tech-nology or current science work listed		8.7

(SEE MAIN TABLE 1.)
[1] Multiple responses possible.

achievement; 9.7% mentioned two achievements and 6.1% specified three or more.

As shown in Tables 1.1 and 1.2, the discovery of insulin and invention of the telephone were remembered as Canada's greatest science achievements.

An option was given to name a Canadian project. Six per cent noted only such projects, without reference to any achievements, which gives some insight into what some consider as work going on in science. Most of the projects mentioned were so-called major technological or engineering ones:

The James Bay hydro-electric development was cited by two-thirds of the six per cent. Other projects mentioned, but less frequently, were the St. Lawrence Seaway, the Ontario Science Centre, Mirabel Airport, Churchill Falls, Manic V (Manicouagan Dam in Quebec) and the MacKenzie Valley Pipeline Project.

There was also awareness evident of Canada's contribution to the U.S. Apollo space flights. About 1% identified as an achievement, the design of landing gear for the Lunar Excursion Module.

The Canadian CANDU nuclear power project was mentioned by fewer than a dozen respondents, while Pickering (where Ontario Hydro has CANDU nuclear reactors producing power) was brought up in a few cases.

Table 1.3. Sources of Public Information about Canadian Scientists and Canadian Achievements in the Sciences[1]

	PER CENT OF INDIVIDUALS
Mass Media	
Media in general	41.8
Newspapers/Magazines	30.2
Radio/Television	31.9
Other	
School or books	27.0
Personal experience, friends, work, miscellaneous	23.9

(SEE MAIN TABLE 1.)
[1] Multiple responses possible.

Sources of News about Canadian Science

The mass media appears to be the major source of public awareness of Canadian science. General media were cited as a source by nearly half (42%) of respondents who replied to the question. Another third (30%) noted, as sources of information, newspapers or magazines in particular, while still another third (32%) cited radio or television. More than one source was often given. School, books, or miscellaneous sources were mentioned less often than the mass media. (See Main Table 1 for distribution).

Many of those polled answered "personal involvement" as their reason for recalling or remembering a Canadian achievement. A quarter of those who replied here gave as their source of information, personal experience, friends, or work. For example:

"Insulin: Knew the first people treated."

"Acupuncture: From people who have undergone it."

"CANDU: Worked on it."

"Kidney Machine: Personal experience."

"Herzberg: Nobel Prize in Physics (Eds. note: in Chemistry) works where I work at university."

"First balloon to fly over Montreal. (Personally saw it)."

"James Bay: Learned about it from work." (Translated from the French.)

"Oil: I was there when well came in."

"Heart Machine: Used it on me at the hospital."

"Banting: Know his wife."

"Bell: Visited his home in Baddeck (Nova Scotia)."

"Churchill Falls: I visited it myself." (Translated from the French.)

"Manic: I saw it." (Translated from French.)

"Dr. Grondin: He performed heart surgery on one of my relatives." (Translated from the French.)

"First flight in Nova Scotia, vertical take-off aircraft: I worked on it."

"McLaughlin, inventor of the Buick: Common knowledge in hometown (Oshawa)."

Some Social Differences in Knowledge of Canadian Science

By age:

While some statistical differences appear to exist between age and aspects of public awareness of Canadian science, more specific data is necessary before any trends can be established.

By sex:

Women were slightly less aware of Canadian scientists. For instance, 17.9% of women mentioned Banting/Best and insulin as distinct from 20.5% of men. As noted, Alexander Graham Bell was regarded as a Canadian scientist by 13.9%. The breakdown was 15.9% - males and 11.9% - females. Differences also existed with regard to naming contemporary scientists: 24.1% males against 15.5% females could identify a present day scientist. About three times as many men as women (6% to 2%) noted James Bay; and more men than women listed technological projects in general (8% to 4%) (See Main Table 1.).

By mother tongue:

Canadians of other than English origin were generally less aware of Canadian scientists and achievements: some 74% and 69% of French-language respondents could name no Canadian scientist nor achievement, considerably higher than English-speaking respondents (57% and 54%, respectively) and about the same as respondents of other linguistic groups (74% and 72%, respectively). (See Main Table 1.)

Only 1.7% of French-speaking Canadians noted Banting or Best (in conjunction with insulin); compared to 30.3% of English-speaking Canadians and 10.2% of Canadians whose mother tongue was other than English or French.

By community size:

People in rural communities scored several per cent lower on Canadian scientists than did urban dwellers. For Banting and Best, it was 13% to 21%, respectively.

By region of Canada:

People in Ontario tended to be much more aware of Banting and Best (who did their work on insulin in Toronto) then people in other provinces. The average national response was 19%. Regionally, awareness was highest in Ontario (28%), followed closely by Prairie dwellers (26%), Maritimers (23%) and Canadians from B.C. (17%). Only 3% of Quebeckers cited Banting and Best.

As was the case for local and regional awareness of Banting and Best, Alexander Bell (Scottish-born) was remembered more in Ontario (20%) than in other parts of Canada (10%-Maritimes; 10%-Quebec; 13%-Prairies; 8%-B.C). It was in Brantford, Ontario, in 1874, that Bell invented the telephone and where, in August of 1876, the world's first long distance telephone call was made to Paris, Ontario.

Our description outlining Canadian work was broad enough to permit respondents freedom in selecting scientists and sciences.

The respondents were aware that our definition of science was broad, including the natural sciences, social sciences and humanities, life sciences and engineering (See Chapter 5). They were also told that the scientists could be living or dead; included were "science projects" as well as "achievements" to ensure that some sort of reply would be received from those who could not specify a Canadian achievement.

Finally the two questions selected were not independent. Our pretest indicated that the question about scientists and their work had to be considered in conjunction with the question about achievements. In some cases, the achievement was given with the scientist's name, but not noted subsequently as an achievement, and vice-versa.

A third question had been intended to gauge Canadian knowledge of scientific organizations or associations and their work. However, in our pretest, we found that scientific groups which most people mentioned were broad or nebulous, and were, in particular, community service organizations.

In effect, the results of our study indicate that, while much science information may filter through to the public via the mass media, only general awareness, and not knowledge nor detail, is retained.

Public Commentary

"I know of a lot of scientists, but I do not think of them as belonging to any specific country. Science to me is international."

"There are so many (scientists), but I cannot think of any right now."

"Have no idea (of scientists or achievements) at present. I can picture them in my mind, but names escape me." (Translated from the French.)

"The Canadians have let the Americans take over any good ideas they have."

"I'm very pleased with Canadian achievements. I don't think we have anything to be ashamed of."

"Nothing. Can only think of American."

"There must be hundreds. Just can't remember off-hand."

"Can't name one unless I think about it awhile."

"I'm not quick at remembering."

"Most things seem to be done by Americans or Europeans."

"None I can name off the top of my head."

"I can't think of any except going to the moon."

"You got me on that. You got me there."

"Don't recall any. Believe that our schools and news media should mention Canadian achievements in science and the scientists more often and more prominently." (Translated from the French.)

Chapter Two

Anti-Science Sentiments?

On the Contrary: Attitudes to Science Are Positive

Although there have been suggestions and publicity to indicate that the public may be disenchanted with science and technology, this appears to be contradicted by our survey.

More than four persons in five (82%) felt it important to be kept informed about science. Only 4% of Canadians disagreed, while 8% were undecided.

Nearly two in three (63%) reported being interested in finding out more about Canadian achievements in science. Also, almost half (45%) expressed a desire for more knowledge about the people involved in science.

A major indication of the broad public interest in the sciences was shown in attitudes toward a suggestion that science is mainly for well-educated people. Of all Canadians polled, more than two-thirds (68%) disagreed with the suggestion, while only 19% felt it was true.

The majority of individuals also felt that not enough science was being popularized: 54% agreed that more scientific information should be made public while about a quarter (26%) disagreed with this statement.

On the issue of Canadian news media providing sufficient coverage of science, more Canadians were of the opinion that they didn't: 43% expressed dissatisfaction while 40% appeared satisfied. As will be pointed out in later chapters, while this demand for more media coverage was from Canadians in all walks of life, it came especially from the heaviest media consumers.

Furthermore, despite their interest in science, a substantial portion of the public felt that scientific developments remained apart from their everyday lives. While nearly half of Canadians (47%) disagreed with science being distant, a full third (36%) felt this to be the case.

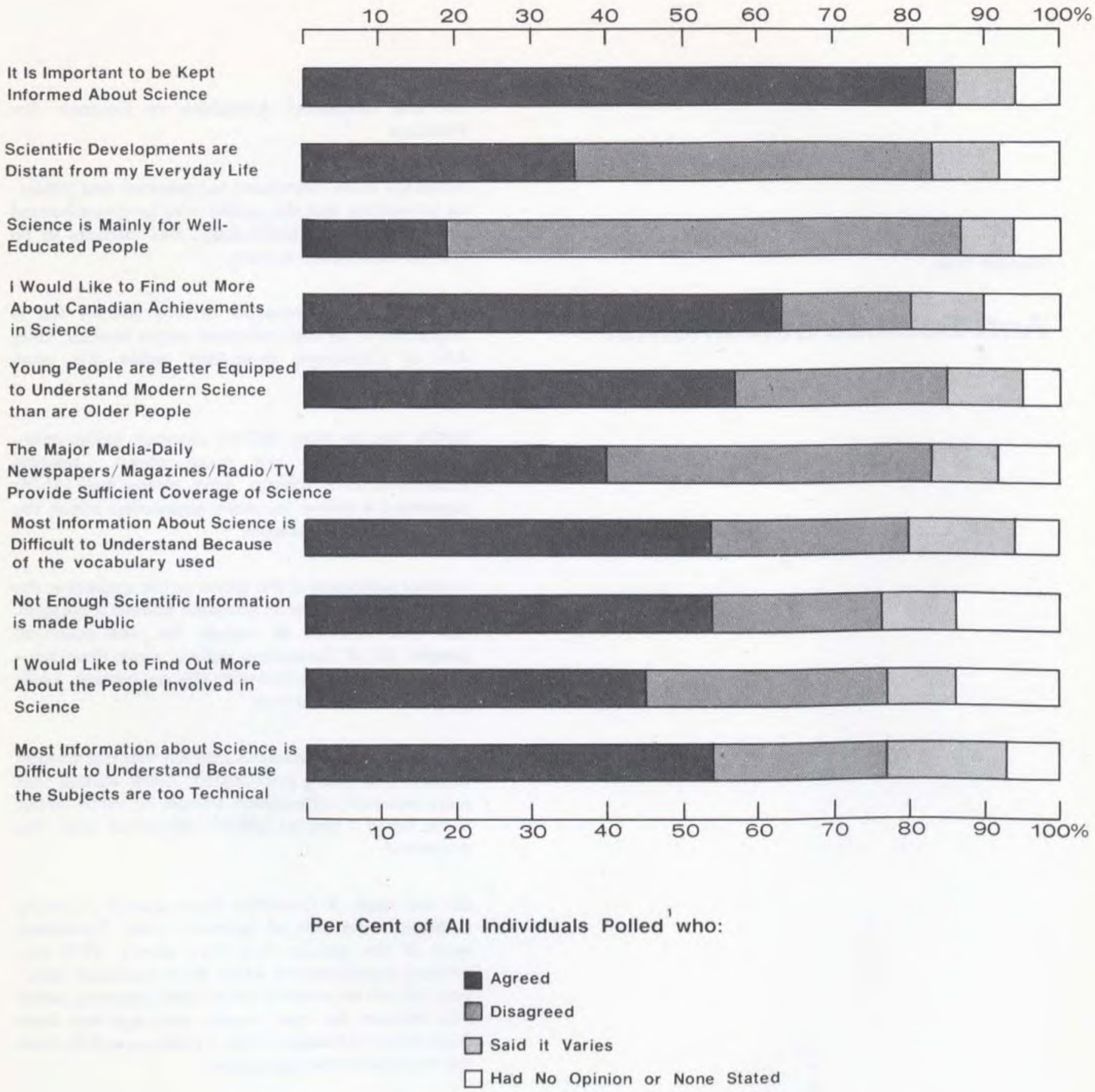

Figure 2.1 Public Attitudes on Science in General

(See Table 2.1 and Main Table 3)

[1] N = 2000

Social Differences in Attitudes

Regardless of age, sex, education, language spoken, job held or region of residency, more than three Canadians in four reported a desire to be kept abreast of science news.

The feeling that it was important to be kept informed about science was significantly high among all persons polled (See Main Table 3).

Table 2.1. Attitudes of Canadians on a Selection of General Statements about Science

	PER CENT OF INDIVIDUALS WHO:			
	AGREED	DISAGREED	SAID IT VARIES	STATED NO OPINION
It is important to be kept informed about science	82.1	4.0	7.7	6.1
Scientific developments are distant from my every-day life	35.8	46.8	9.2	8.2
Science is mainly for well-educated people	19.1	68.1	6.8	6.0
I would like to find out more about Canadian achievements in science	62.9	16.5	10.2	10.3
Young people are better equipped to understand modern science than are older people	56.7	27.8	10.0	5.5
The major media-daily newspapers/magazines/radio/TV provide sufficient coverage of science	39.6	42.8	9.3	8.4
Most information about science is difficult to understand because of the vocabulary used	53.9	25.9	13.8	6.4
Not enough scientific information is made public	53.7	21.6	10.4	14.3
I would like to find out more about the people involved in science	45.2	32.1	9.4	13.3
Most information about science is difficult to understand because the subjects are too technical	54.1	23.3	15.7	6.9

(SEE MAIN TABLE 3.)

Education was one indicator of the priorities set for the importance of science awareness. Among high school graduates and persons with higher education, the proportion was highest of all, nearly nine in every ten surveyed.

Four of every five Canadians with higher education (80%) also felt that science was not mainly for the well-educated but for everyone. While the percentages were somewhat lower among individuals with less education they are still high, 63% among those with some high school or less and 74% among high school graduates. The youngest individuals interviewed, the 15 to 17 year olds, were those who agree most with this as well; some 83% rejected the idea that science is the property of the well-educated.

By occupation, the highest proportion came from the managerial/professional groups with 80%, white collar workers with 73%, and blue collar and other workers with 68% and 66%, respectively, who felt science was a matter for all Canadians, not merely the well-educated.

A great many Canadians (57% agreed; 28% disagreed) felt that young people are better equipped to understand modern science than are older people. However, as we will show, it is not the younger generation but the older persons who cling to this belief.

On the two points of understanding the science being made popular, more than half the individuals polled (54%) felt that science information was difficult to understand because of the vocabulary (or jargon). A similar proportion (54%) reported that the difficulty was a result of science subjects being too technical.

Those who reportedly felt more at home with science were people with a post secondary education. More than two of every three (68%) disagreed with the statement that scientific developments were distant to him or her, substantially more than surveyed individuals with high school graduation (47%) or less (39%).

French-speaking respondents interviewed also tended to feel closer to science than either English-speaking or other Canadians. More than half of French-Canadians (55%) felt scientific developments close to everyday life compared with 45% English-speaking and 37% of ethnic Canadians. This tended to be supported by the regional distribution, where Quebeckers in general (English and French together) felt more at home with science.

Chapter Three

Science in Competition

A Place for Science Among Other Public Concerns?

While the primary focus of the study was science and technology, we initially presented a variety of topics to the respondents. Our objective was to set our particular area of study into the context of the news furnished to the mass media audience, its coverage, and its demands in comparison with the size of its audience. By comparison we would thus be able to see how the science-interested segment of the audience relates to the overall mass media audience.

The ten topic areas selected for our purposes were:

(1) sports
(2) society news
(3) national politics
(4) entertainment
(5) foreign events
(6) crime
(7) medicine and health
(8) other kinds of science besides medicine and health
(9) local news or local events
(10) labour and industry

It is important to note that at this point in the interview, respondents had not been told that the interview focused on science.

Placing science news alongside other news found in the daily press such as sports, society news, politics, entertainment and foreign events, how does science fare as a topic of interest to the average reader? Judged in relation to the other subjects given prominence by the mass media (Table 3.1 and Figure 3.1), we found that medicine and health takes second place only to local news in the public's selection of categories in which it was very interested or quite interested. Sports, to which substantially more space is devoted, fell further down the scale.

People generally tend to separate medicine and health from non-medical science, and we did the same in the initial phase of the interview.

In effect, by surveying interests in these two areas, we are provided with a measure of the combined science audience. To ensure that respondents gave us their honest and unbiased opinions regarding interests, we used a five-point scale (Table 3.1).

The top three categories of interest were local news or local events (84%), medicine and health (74%) and entertainment (63%). Next in popularity were labour and industry followed by sports and foreign events with just over half expressing interest.

National politics and other sciences than medicine and health followed, with nearly 50% ratings.

Yet, as will be seen in Chapter 4 (Table 4.2), when 13 individual topics in the sciences were also presented, respondents exhibited more interest in

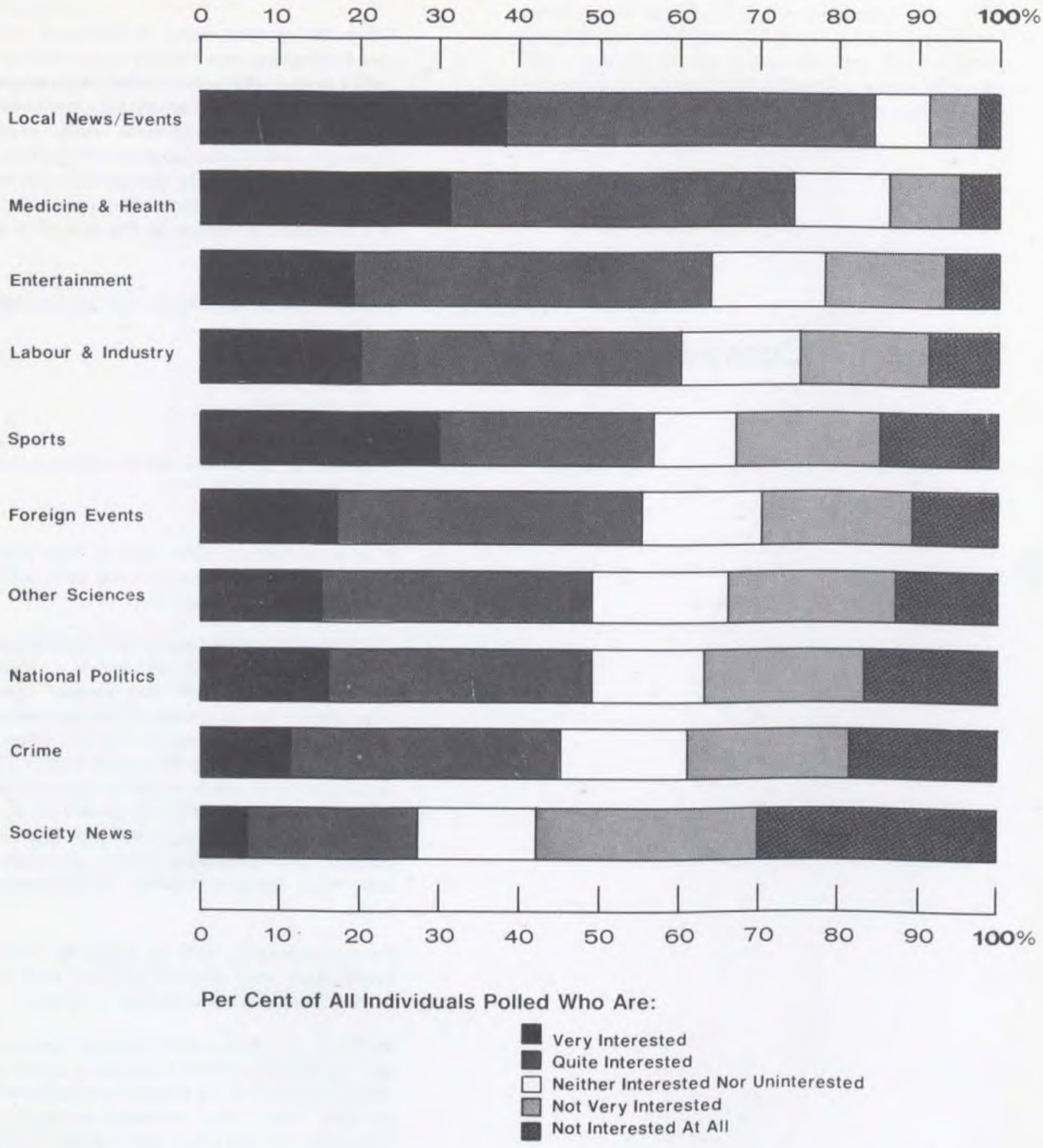

Figure 3.1 Interest of the Public in a Selection of General Topics Presented by the Mass Media

(See Table 3.1 and Main Table 5)

Note: Science has not yet been mentioned as being the subject of the inverview.

many of these topics than they did in sports, foreign events or national politics. [1]

Crime came next with 45%, while society news trailed far behind. Only 26% of the public polled expressed any interest in this subject area.

The high interest in science and medical news, together with the high level of audience interest in local news or local events, should serve to underline the need for a "local" approach to science writing. News or feature stories in science and medicine can best be driven home to newspaper or magazine readers, radio listeners or television viewers through the localization of reports on research findings or scientific activities. Local angles, human interest features and a sense of continuity of the work being done in science are essential for the maximum cost-benefit of science information transmitted by the media. The complete distribution of replies according to social characteristics is shown in Main Table 5.

Social Factors in Interest

We grouped together the levels "very interested" and "quite interested", and compared these to the remaining interest levels.

Differences between the sexes exist in some of the broad topics of audience interests selected for our study. Women express their interest more for the areas of medicine and health, entertainment and society news; men tend more towards sports, labour and industry, national politics, and other kinds of science than medicine and health.

Respondents interested in "medicine and health" and in "other sciences" also displayed differences by age: interest in medicine and health increased gradually and steadily with increasing age.

Table 3.1. Public Interest in a Selection of General Topics Presented by the Mass Media

	PER CENT OF INDIVIDUALS						
	Very Interested	Quite Interested	Neither Interested Nor Uninterested	Not Very Interested	Not At All Interested	Stated No Opinion	TOTAL VERY/QUITE INTERESTED
Local News/Events	37.4	46.7	7.2	6.3	2.2	.2	84.1
Medicine and Health [1]	31.4	42.7	12.0	9.1	4.6	.2	74.1
Entertainment	18.5	44.5	14.2	15.2	7.3	.3	63.0
Labour and Industry	20.5	38.7	15.1	15.7	9.8	.2	59.2
Sports	29.7	26.5	10.3	18.0	15.3	.1	56.2
Foreign Events	17.3	37.9	14.5	18.7	11.3	.3	55.2
Other Sciences [1]	14.7	34.0	17.0	20.9	13.1	.3	48.7
National Politics	15.9	32.7	14.0	20.3	16.7	.3	48.6
Crime	11.0	33.9	15.8	20.0	18.8	.4	44.9
Society News	5.6	20.7	14.7	27.7	31.0	.4	26.3

(SEE TABLE 4.1 [1] AND MAIN TABLE 5.)

[1] The scale used in our final survey to determine degree of interest in topics was changed from: "very interested, somewhat interested and not interested" used in the pretest, to a broader more sensitive scale: "very interested, quite interested, neither interested nor uninterested, not very, and not at all interested." This was to allow for "politeness bias". Past studies indicate that respondents tend to answer in the positive direction. With the former scale we felt that some of those stating they were "very interested" probably should have been in the "somewhat" category and a proportion of those in the "somewhat interested" category were really not interested in the topic. Further, the term "somewhat" was felt to be too broad for the information we wanted to extract. Accordingly, by expanding the scale into two positive and two negative categories, with one in the middle for those who were reluctant to admit a lack of interest, we had a more effective way of segmenting respondents into more realistic groups based on their expressed interests.

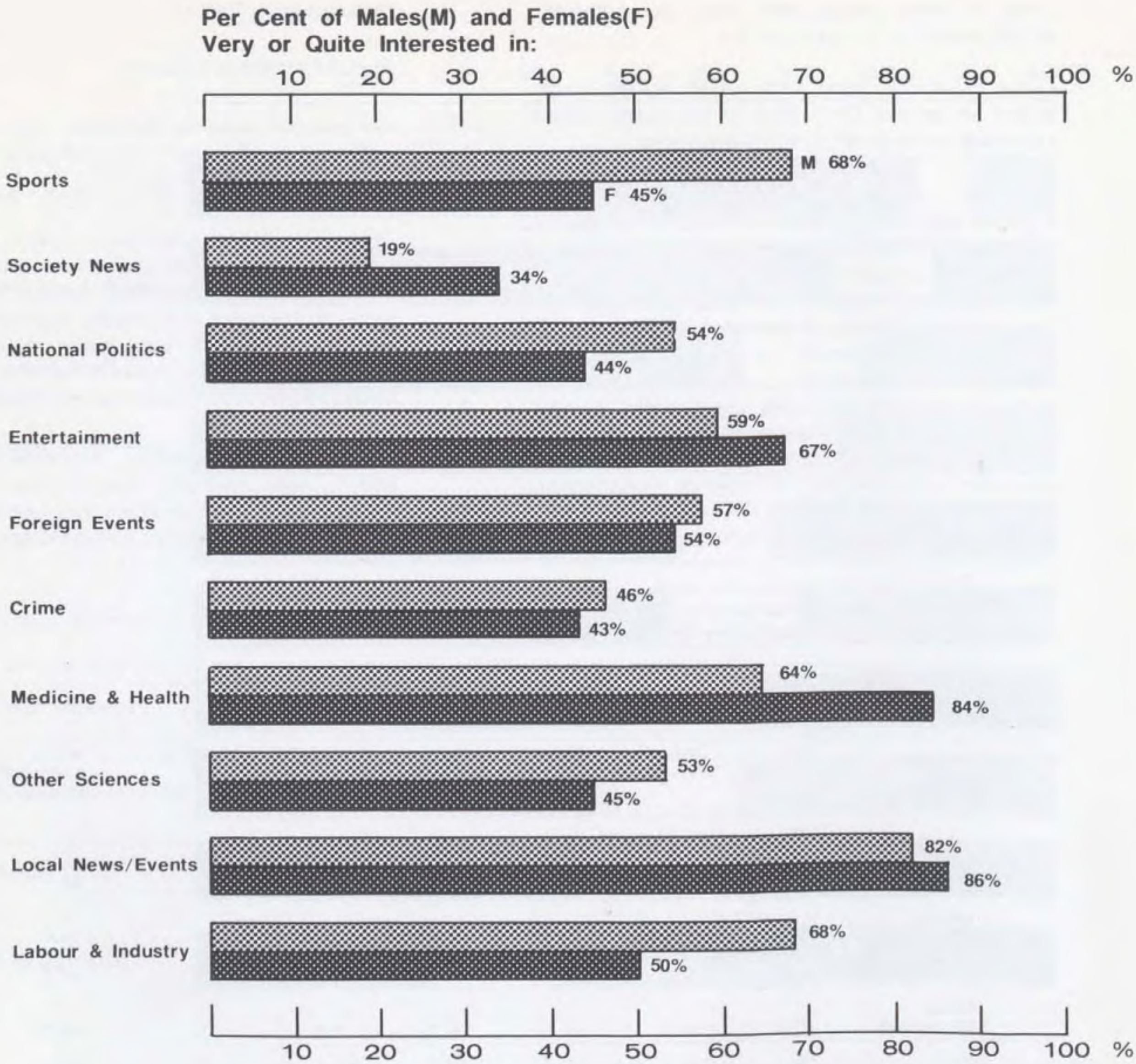

Figure 3.2 Interest in Selected Mass Media Topics According to Sex (See Main Table 5)

Although the youngest age group studied (15-17 years) appeared most interested in "other sciences," no trend existed with age. There was little fluctuation in interest by mother tongue.

The proportion of those who were very interested or quite interested in medicine and health was consistently high regardless of educational level. But for the category of "other sciences," it was found that the higher the educational level, the greater the interest displayed (See Main Table 5.).

Medicine and health: 73% for those with some high school or less, 80% for high school graduates and 74% for post-secondary educated. Other sciences: 42% for some high school or less, 50% for high school graduates and 65% for post-secondary educated.

Data from the interviews indicates that interests are high and approximately equally distributed across Canada; highest interests were shown in Quebec and B.C. for "medicine and health" and "other sciences."

Urban dwellers, while expressing as much interest in medicine and health as their rural counterparts, expressed more interest than the latter in the "other sciences" category.

Table 3.2. Public Assessment of Mass Media Information for a Selection of General Topics

	(N)	PER CENT OF VERY/QUITE INTERESTED INDIVIDUALS[1]		
		CAN GET INFORMATION	CANNOT GET INFORMATION	STATED NO OPINION
Local News/Events	(1683)	86.8	10.5	2.7
Medicine and Health	(1482)	64.9	32.3	2.8
Entertainment	(1261)	86.4	11.0	2.6
Labour and Industry	(1185)	74.3	22.6	3.1
Sports	(1125)	88.6	9.4	2.0
Foreign Events	(1104)	76.9	20.8	2.3
Other Sciences	(973)	63.1	33.7	3.2
National Politics	(974)	77.4	20.2	2.3
Crime	(899)	78.9	18.8	2.2
Society News	(526)	86.1	11.8	2.1

(SEE MAIN TABLE 5.)

1. Number of individuals who stated being very or quite interested in each of the topics.

Is Media Coverage Adequate?

One major objective of this study was to determine whether those people who expressed any interest in the sciences felt they were getting enough coverage of these by the mass media. We proposed to test this hypothesis through a comparison of replies from respondents showing interest, whether slight interest or great interest, in any of the broad topics covered by the media.

Throughout this study, special emphasis is on those people, since, understandably, they would be the most likely to glance through or read all the material presented in these areas, read magazines on the subject, listen to the radio, or watch television broadcasts on the topic. Presumably, the media would tailor material to these particular segments of the audience. If this material is well-presented, interest would certainly extend outward and encompass an even broader audience. The Davey Committee report, for example, found that 74% of their respondents felt they were getting enough information on Canadian politics (Table 56 of Report).

Of all ten areas of interest selected for comparison, the two science-related areas of medicine and health and other sciences, stand apart from the others. Despite its size, the audience apparently feels dissatisfied with the information (quantity, quality or both) being provided them on these subjects by the news media. As opposed to a much smaller fraction of the population (in all cases, less than a quarter of the interested audience), a full third of the science-oriented public indicate they feel shortchanged by the media.

A desire for more information about the sciences (by those interested) does not appear to be linked significantly to any particular social characteristic (See Main Table 5).

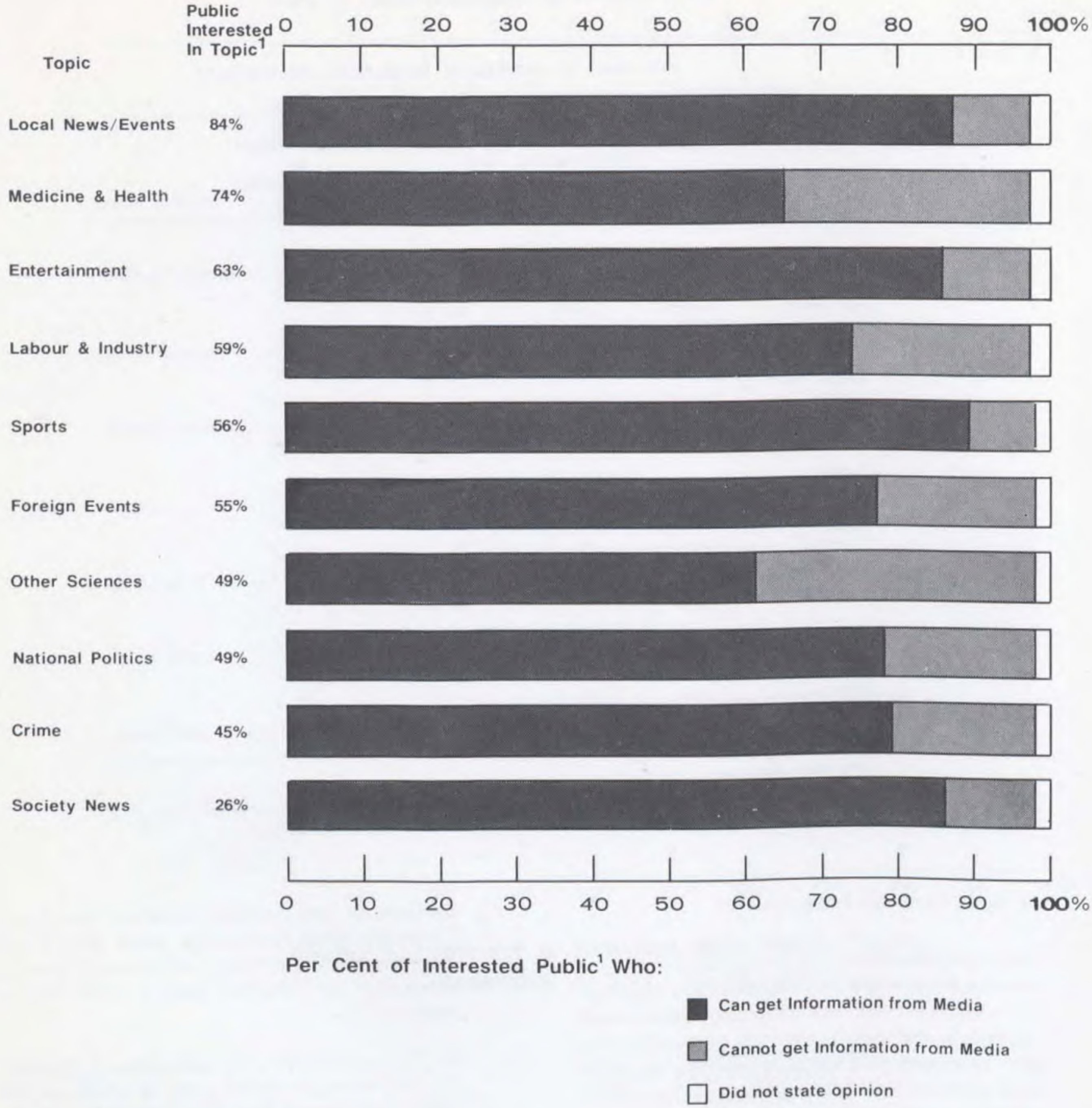

Figure 3.3 Public Assessment of Media Information Provided on Some General Topics
(See Table 3.2 and Main Table 5)

[1]Per cent of all interviews (N = 2000) where respondent was very or quite interested in the topic.

Note: Science has not yet been mentioned as being the subject of the interview.

In the areas of medicine and health and other sciences, there appears to be little difference by sex in that about one third of men and women alike feel they cannot get enough information from the media on these topics.

A similar situation is found for education. The desire for more information is independent of whether a person went to high school or took post-secondary courses. The entire breakdown is shown in Main Table 5.

In effect, it is not part of any elite or specialized group which feels it receives insufficient information in the sciences. Canadians from all walks of life who expressed interest in the sciences almost equally want more science from the media.

Chapter Four

Interest in Specific Sciences

Science Topics Popular with Public

The previous chapter indicated that readers desire more science news, especially Medicine and Health. But what special facets of science especially appeal to the public? Results of our poll show that they have very broad interests. A great many Canadians polled found most of the topics of science "very" or "quite" interesting. Less than a fifth of Canadians expressed no interest at all (See Table 4.1). The science topics of greatest appeal to both the "very interested" and the "quite interested" groups of the public are:

1. Education (80% of the people interviewed were very or quite interested);
2. Medicine and Health (74%);
3. Pollution, Ecology, or the Environment (74%);
4. Social Issues such as over-population, urban planning or child development (66%);
5. Biology or the nature of living things (63%);

Ten of the 14 topics listed were of some or great interest to more than half the public. These topics were not labelled specifically as "science" in the interview. They provide us with a measure of public interest in individual sciences and on the adequacy, or inadequacy, of the information offered. For direct comparison, repeated at the end of the table are the interest values for Medicine and Health as found in Chapter 3 (Table 3.1).

Interest in the category labelled "other kinds of science besides medicine and health" (which was asked previously) was considerably lower than that found from individual categories such as Ecology or Social Issues which fall within other sciences. Ten of such thirteen science-related areas scored higher in the ratings of expressed public interest, with the remaining three only slightly lower than "other sciences".

Either the catch-all term "science" has considerably less attracting power than its topical components or people may not realize science subsumes all of the areas we listed.

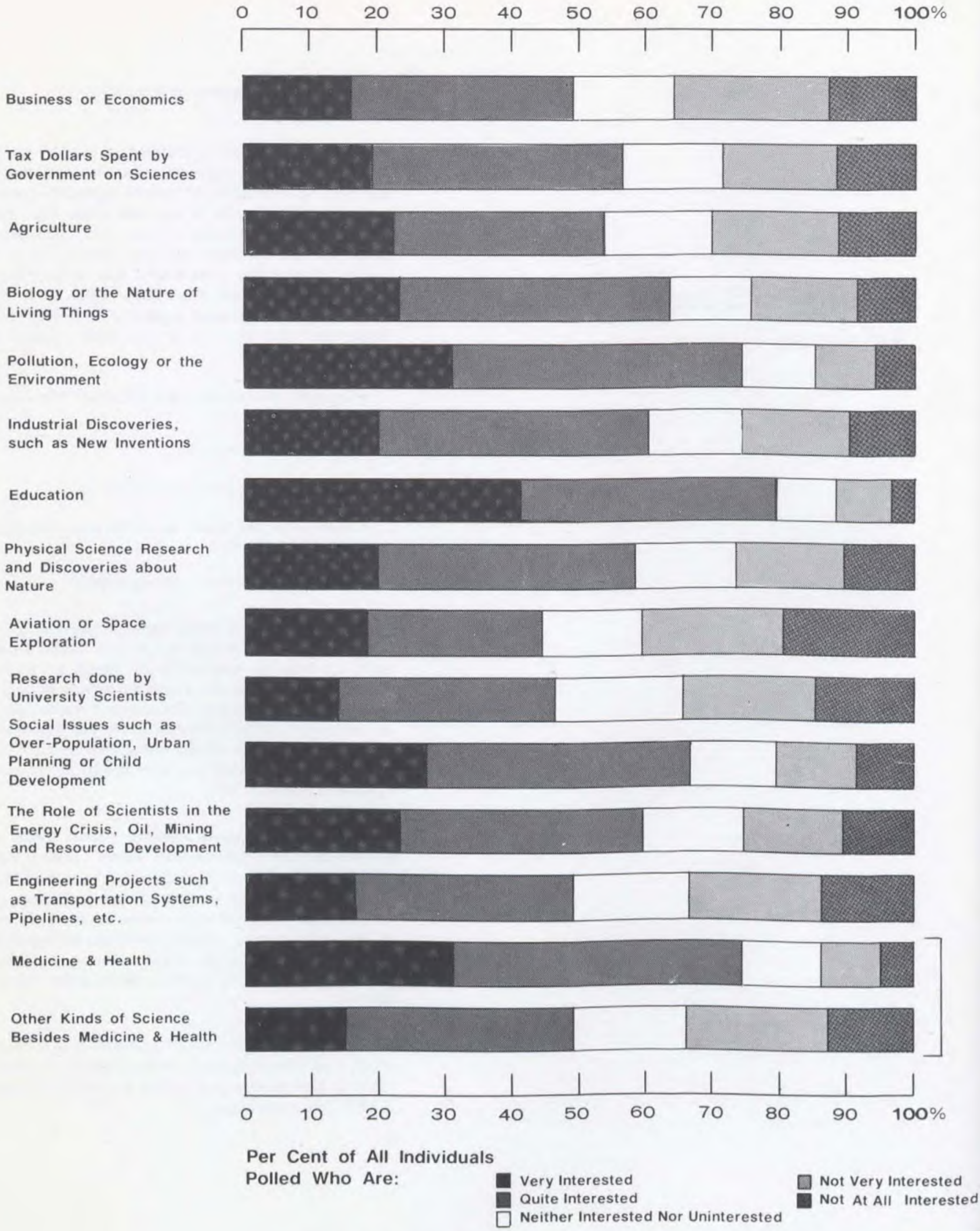

Figure 4.1 Public Interest in a Selection of Science and Science-Related Topics Presented by the Mass Media

(See Table 4.1 and Main Table 7)

Table 4.1. Public Interest in a Selection of Science and Science-Related Topics Presented by the Mass Media[1]

PER CENT OF INDIVIDUALS

	Very Interested	Quite Interested	Neither Interested Nor Uninterested	Not Very Interested	Not At All Interested	Stated No Opinion	TOTAL VERY/QUITE INTERESTED
Business or economics	15.7	32.8	15.4	22.3	13.5	0.2	48.5
Tax dollars spent by government on sciences	19.0	37.4	15.2	16.5	11.6	0.3	56.4
Agriculture	21.6	31.2	15.5	19.4	12.0	0.3	52.8
Biology or the nature of living things	23.2	40.1	12.1	15.6	8.6	0.4	63.3
Pollution, ecology or the environment	31.2	42.5	10.8	9.4	5.8	0.2	73.7
Industrial discoveries, such as new inventions	19.7	40.5	13.8	15.5	9.9	0.5	60.2
Education	40.5	39.3	8.4	7.8	3.7	0.3	79.8
Physical science research and discoveries about nature	20.3	37.9	14.8	16.0	10.1	0.9	58.2
Aviation or space exploration	18.0	26.5	14.7	21.1	19.5	0.2	44.5
Research done by university scientists	14.5	31.7	18.6	19.6	15.1	0.5	46.2
Social issues such as over-population, urban planning or child development	26.8	38.9	13.0	12.0	8.9	0.4	65.7
The role of scientists in the energy crisis, oil, mining and resource development	22.8	36.4	15.0	15.1	10.3	0.5	59.2
Engineering projects such as transportation systems, pipelines, etc.	15.6	33.1	17.3	20.0	13.5	0.4	48.7
Medicine and health	31.4	42.7	12.0	9.1	4.6	0.2	74.1
Other kinds of science besides medicine and health	14.7	34.0	17.0	20.9	13.1	0.3	48.7

(SEE MAIN TABLE 7.)

[1] For direct comparison, the interest ratings for "Medicine & Health" and "Other Science" are included at the end of the table.

People may say they are not interested in science as a whole but nevertheless may be amenable to articles written on ecology, child behaviour, the discovery of new inventions for their homes, and other topics in the sciences.

Comparison of Science and General Areas

Table 4.2 includes all 23 areas to which respondents were asked for an interest rating.

The science and science-related fields are found to compete quite well with all the general areas mentioned for audience attention and interest (See Chapter 3). Twelve of the 13 scientific topics surpassed the lowest general ones - society news and crime stories - in audience interests.

Table 4.2. Ranking of Public Interests in Topics, General and Science-Related, Selected for the Survey

RANK		PER CENT VERY/QUITE INTERESTED
1.	Local news/events	84.1
2.	Education	79.8
3.	Medicine and health	74.1
4.	Pollution, ecology, or the environment	73.7
5.	Social issues such as over-population, urban planning, or child development	65.7
6.	Biology or the nature of living things	63.3
7.	Entertainment	63.0
8.	Industrial discoveries, such as new inventions	60.2
9.	Labour and industry	59.2
10.	The role of scientists in the energy crisis, oil, mining and resource development	59.2
11.	Physical science research and discoveries about nature	58.2
12.	Tax dollars spent by government on sciences	56.4
13.	Sports	56.2
14.	Foreign events	55.2
15.	Agriculture	52.8
16.	Engineering projects such as transportation systems, pipelines, etc.	48.7
17.	Other kinds of science besides medicine and health	48.7
18.	National politics	48.6
19.	Business or economics	48.5
20.	Research done by university scientists	46.2
21.	Crime	44.9
22.	Aviation or space exploration	44.5
23.	Society news	26.3

(SEE MAIN TABLES 5 AND 7 AND TABLES 3.1 AND 4.1.)

Among the top five areas of interest were four of the sciences:

1. Local news or local events (84% of Canadians were very/quite interested in the topic);

2. Education (80%);

3. Medicine and health (74%);

4. Pollution, ecology or the environment (74%);

5. Social issues such as over-population, urban planning or child development (66%).

As with the general areas of interest, the demographic breakdown for the individual science topics is given in Main Table 7.

Table 4.3. Public Assessment of Mass Media Information for a Selection of Science and Science-Related Topics

PER CENT OF VERY/QUITE INTERESTED INDIVIDUALS[1]

	(N)	CAN GET INFORMATION	CANNOT GET INFORMATION	STATED NO OPINION
Business or economics	(970)	70.5	26.8	2.7
Tax dollars spent by government on sciences	(1128)	51.8	45.8	2.4
Agriculture	(1058)	72.5	25.5	2.0
Biology or the nature of living things	(1268)	68.1	29.5	2.4
Pollution, ecology or the environment	(1475)	70.5	27.9	1.7
Industrial discoveries, such as new inventions	(1204)	60.0	37.2	2.8
Education	(1597)	72.7	24.8	2.5
Physical science research and discoveries about nature	(1164)	65.0	33.2	1.8
Aviation or space exploration	(890)	72.0	26.2	1.8
Research done by university scientists	(924)	56.1	40.7	3.2
Social issues such as over–population, urban planning or child development	(1314)	66.2	31.6	2.2
The role of scientists in the energy crisis, oil, mining and resource development	(1184)	61.1	37.0	1.9
Engineering projects such as transportation systems, pipelines, etc.	(976)	66.5	30.7	2.7
Medicine and health	(1482)	64.9	32.3	2.8
Other kinds of science besides medicine and health	(973)	63.1	33.7	3.2

(SEE MAIN TABLE 5 AND 7.)

1. Number of individuals who stated being very or quite interested in each of the topics.

From one-fifth to half of interested Canadians (19 to 46%) felt they could not get all the information they'd like in the various science-related categories. Considering this percentage, there appears to be a strong demand for better quantity, quality, or both, of science news/programs from the mass media. This unfilled demand for information appears most acute for topics such as tax dollars spent by government in the sciences (46% of those interested unable to obtain information), for research done by university scientists (41%), for the role of scientists in the energy crisis, oil, mining and resource development (37%), and for industrial discoveries, such as new inventions (37%). However, demand is related to size and composition of the specific audiences. In a number of other science areas, the interested audiences were larger and the demand just as significant in terms of people wanting more information.

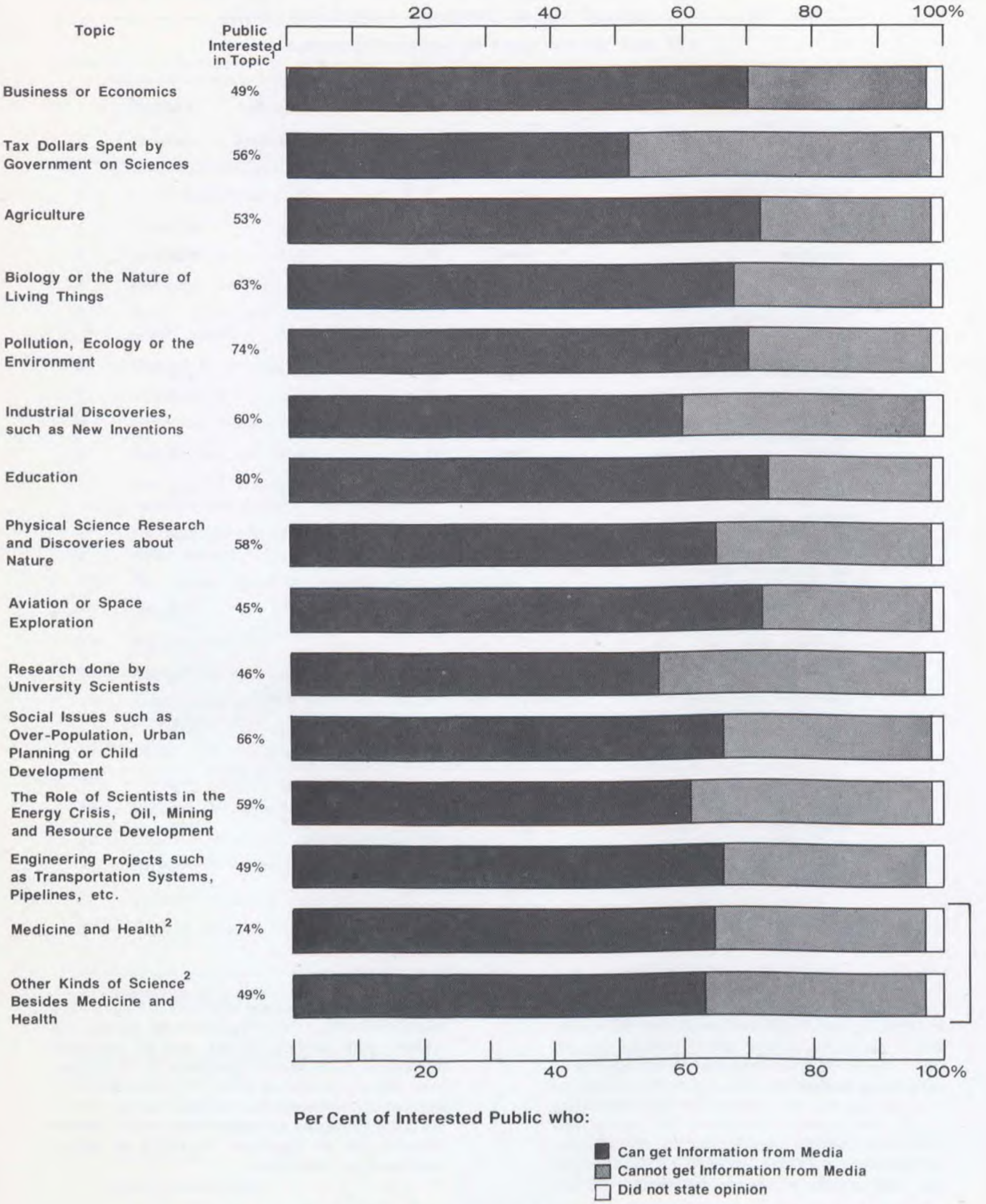

Figure 4.2 Public Assessment of Media Information Provided on Some Science and Science-Related Topics (See Table 4.1 and Main Table 7)

[1] Percent very or quite interested; [2] See Figure 3.3

Chapter Five

Defining Science for the Public

Respondents' Definition of Science

To the "man-on-the street," science is a polygon of impressions moulded from knowledge and experiences. To get an idea of the public's initial reaction to science, respondents were asked to reveal what came to mind when they heard the term "science." There was in fact no one answer, although the word research (particularly medical research) cropped up in many replies (32.0%). General discoveries, inventions, projects, and developments were mentioned next in frequency (28.9%).

Almost one-quarter of the respondents (23.2%) thought of aviation, space, or astronomy, while the mention of classroom subjects such as chemistry, physics and mathematics followed (11.6%). It is interesting that more than half the public emphasized life sciences and a third engineering and technology.

The other two sciences received far less attention. Natural sciences came up 16% of the time; items dealing with the social sciences and humanities were brought up in only 10% of the interviews. This is perhaps a measure of the extent those branches of science must go to sensitize the general public.

Responses

"I think of another world. I think of pollution. I think of outer planets."

"Men working on rats to find a cure for cancer and other diseases."

"I think more of medicine. Had a wife with cancer."

"Aeronautics: Because that's the coming thing."

"Science is too difficult for the amount of schooling I've had. I can't understand it." (Translated from the French.)

"Medical research: Because my husband is blind."

"People doing good and overextending themselves. Nothing really, except working in a lab. Must be very, very dry."

"It's so advanced you can't believe people can do what they're doing."

"Money involved, sometimes spent foolishly. Shooting all these rockets to the moon, for instance."

"Cancer research and related subjects: Because my husband died of this."

"It's all Greek to me."

"I think scientists are working for the improvement of peoples' lives."

Table 5.1. Volunteered Public Definition of Science Within the Guidelines of the Four Representative Areas of Science

	PER CENT OF INDIVIDUALS [1]
VOLUNTEERED PUBLIC DEFINITION OF SCIENCE, WITHIN THE GUIDELINES OF:	
NATURAL SCIENCES	
Chemistry/physics/mathematics	11.6
Atoms/atomic energy	2.1
Geology/mineralogy	2.3
SOCIAL SCIENCES/HUMANITIES	
Education	4.7
Business and industries	2.5
Psychology/sociology/anthropology/politics	3.3
LIFE SCIENCES	
Ecology/environment/pollution	5.6
Biology/zoology/botany	10.2
Nature/natural resources/agriculture	9.3
Medicine/medical research	32.0
Oceanography/marine studies	1.0
ENGINEERING SCIENCES	
Mechanics/engineering/technology	6.3
Aviation/space/astronomy	23.2
GENERAL	
Scientists	1.6
General discoveries/inventions/projects/developments	28.9
Science fiction/futuristic	0.4
Occult/parapsychology	0.8
General knowledge/evaluation/deduction	4.9
Miscellaneous	0.9
Nothing/not too much	4.6
Don't know/can't define/too difficult	6.4

(SEE MAIN TABLE 9.)

1 Percentages total to more than 100% because multiple responses are possible.

"Impartial investigation of the physical nature of the universe."

"Experiments and research: I like science."

"Cooking."

"To me, science research and science is very important. It's everything I don't know about."

"The Unknown."

"To get ahead of other countries so no other countries can take advantage of us."

"Research: Not enough on TV."

"TV brings us many topics. But there isn't enough time to present all the sciences to us." (Translated from the French.)

"Science means medical science. I would like to see more research done in cancer and heart fields. Would like to see more programs as well."

"Study of technology. Improvement in the world due to machines. Increased knowledge."

"Body of knowledge based on facts and proof."

"Hospital science. Great faith in the doctors. Suffered a heart attack in 1942. They gave me a new lease on life."

"Science is all kinds of things. It covers many fields."

"New inventions. They're advancing rather than falling back."

"New inventions for the betterment of the world. Better machinery and ways of farming."

"Nature, life, space."

"People discovering things. Improving things."

"I think of industry and scientists."

"Drilling for oil and the refining of oil."

"The world, evolution, planets."

Table 5.2. Description of Science as used in the National Public Opinion Poll

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SCIENCE DESCRIPTION: SCIENCE FOR THE PURPOSE OF THE STUDY IS WORK BEING DONE IN INDUSTRY, UNIVERSITIES AND BY GOVERNMENT IN THESE AREAS:

Natural Sciences — which includes topics such as Astronomy, Geology, Physics and Chemistry among others.

Social Sciences And Humanities — which includes topics such as Education, Psychology, Sociology, Business and Economics among others.

Life Sciences — which includes topics such as Medicine and Health, Biology, Agriculture, Ecology and studies of the Environment, among others.

Engineering Sciences — which includes topics such as Transportation, Urban Planning, Aviation and Space Exploration, Industrial Discoveries, Oil, Mining and Resource Development among others.

(SEE MAIN TABLE 11.)

"Growing stuff. How one is going to feed the world."

"Laboratory with test tubes, white lab coat, atomic bomb."

"Astronomy, Astrology."

"Exploration of unknown things."

"For me, science is the sum total of all the research being done for the sake of knowledge." (Translated from the French.)

Definition Supplied

Following the queries on interests and coverage of the 13 science-related topics, we sought to ensure that both we and the respondent had the same topics in mind during the interview. Interviewers handed each respondent a card containing a statement of the term science.

This breakdown, albeit somewhat arbitrary and interdisciplinary, was necessary to provide a more concrete idea of what precisely the respondent had in mind throughout the interview. (The respondent held this card containing the definition throughout the entire course of questioning.) Although this definition of science was still a broad one, it was narrow enough to limit the scope of thinking to the representative fields on the card.

Table 6.1. Public Interest in the Four Representative Areas of Science

	PERCENT OF INDIVIDUALS						
	Very Interested	Quite Interested	Neither Interested Nor Uninterested	Not Very Interested	Not At All Interested	Stated No Opinion	TOTAL VERY/QUITE INTERESTED
Natural Sciences	13.4	27.8	19.4	28.5	10.7	0.1	41.2
Social Sciences/ Humanities	25.4	35.3	15.1	17.4	6.7	0.1	60.7
Life Sciences	32.9	40.0	12.5	10.3	4.2	0.1	72.9
Engineering Sciences	17.1	32.0	16.1	22.1	12.5	0.1	49.1

(SEE MAIN TABLE 11.)

Table 6.2. Interest in the Science Areas According to Sex

	PER CENT OF VERY/QUITE INTERESTED INDIVIDUALS	
	MALE	FEMALE
Natural Sciences	44.0	38.5
Social Sciences/Humanities	54.4	67.0
Life Sciences	67.3	78.3
Engineering Sciences	66.6	32.0

(SEE MAIN TABLE 11.)

Chapter Six

Interest in the General Science Areas

Distribution of Interest in the Four Selected Areas

Having obtained a distribution of responses to miscellaneous areas of audience interest as well as to some specific science-related topics, we solicited interests in each of the four now-standardized science classes. This could not be done previously without sensitizing respondents to the selected general and science-related topics. The results were also a vital check of the reliability of responses, a prerequisite to further probing of respondent attitudes regarding the presentation of various sciences by the media.

The results match well the findings in the early part of the interview (Chapter 3). Most interest was expressed in the life sciences and in the social sciences and humanities, with considerably more than half the Canadians polled expressing an interest in the subjects listed in the definition (73% and 60%, respectively).

Nearly half our sample expressed some interest in the other two categories: some 49% interest in engineering/technology and 41% in the natural science subjects selected. The data, therefore, indicate that, by standardizing the definition of science and informing the interviewees that our study was about science, little bias was introduced into the results.

Interest by Social Characteristics

What about social and geographical characteristics of the science-oriented audience for the four science categories? As before, we consider those respondents very or quite interested.

In the previous chapters, differences were found between the sexes with regard to the two categories of medicine and health and other sciences. Women were drawn more toward medicine and health, while more men preferred non-medical sciences. As shown in the table (6.2), women tend to be more interested in the life and social sciences than men; the men polled opted more for natural and engineering sciences. More than twice as many men expressed interest in the engineering sciences as did women (67% to 32%, respectively).

In the social, life and engineering sciences, increased age brought increased interest. Only the natural sciences category (which we defined through subjects such as physics, chemistry, astronomy and geology) appeared to appeal more to adolescents. This breakdown tends to support and explain somewhat the findings from the initial stages of the interview (Chapter 3), where greater interest was noted, for older persons, for 'medicine and health' and slightly less for 'other sciences'. Table 6.3 shows a slight dropoff in interest in topics

Per Cent of Males (M) or Females (F) Very/Quite Interested in:

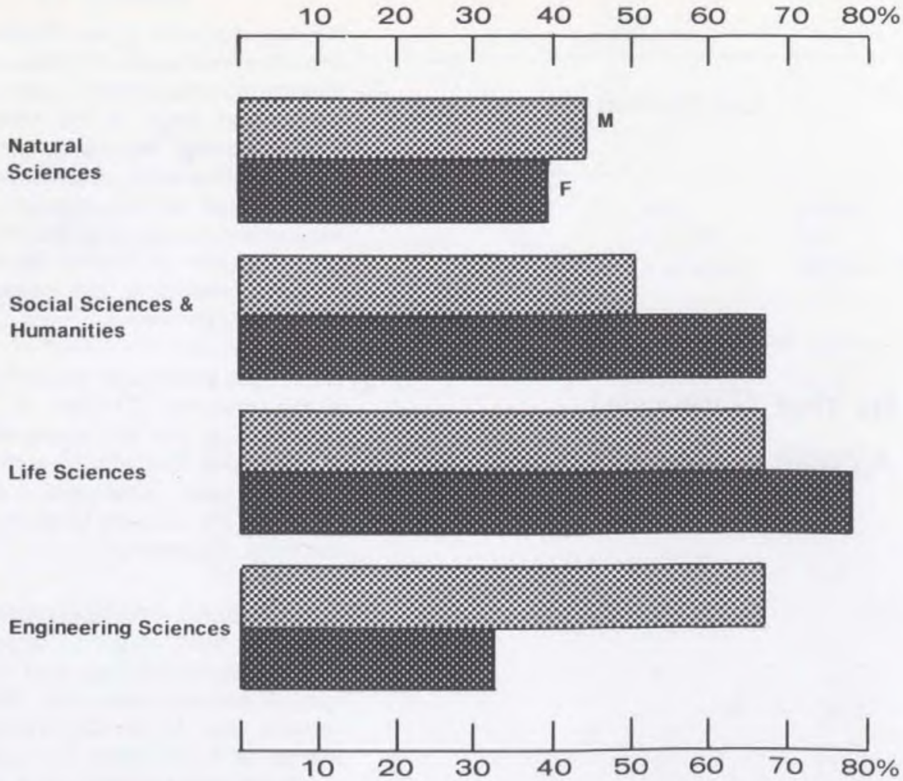

Figure 6.1 Interest in the Sciences According to Sex
Sciences defined in Chapter 5.
(See Main Table 11)

other than life sciences for those Canadians 45 years or over.

Marked social differences were apparent in science interests by education of respondents. A gradation exists between Canadians with some high school or less (those who graduated high school) and those who continued on to college or university.

Among the occupations polled, the managerial and professional respondents were most positive towards the sciences. Nearly three of every four Canadians in this group were interested in the social (71%), life (74%) and engineering sciences (70%); more than half (58%) in the natural sciences. Respondents in white collar jobs came a close next, with blue collar workers and others further below.

Table 6.3. Interest in the Science Areas According to Age

PER CENT OF VERY/QUITE INTERESTED INDIVIDUALS					
	15–17	18–24	25–34	35–44	45 & OVER
Natural Sciences	53.2	48.5	44.4	40.6	33.9
Social Sciences/Humanities	51.4	63.3	67.3	69.8	54.4
Life Sciences	68.9	69.9	76.7	76.1	71.7
Engineering Sciences	44.6	52.6	53.8	54.0	44.0

(SEE MAIN TABLE 11.)

Table 6.4. Interest in the Science Areas According to Education

	PER CENT OF VERY/QUITE INTERESTED INDIVIDUALS		
	SOME HIGH SCHOOL OR LESS	GRADUATED HIGH SCHOOL	POST-SECONDARY SCHOOL
Natural Sciences	35.8	42.0	55.6
Social Sciences/Humanities	53.4	68.0	75.8
Life Sciences	70.5	77.2	76.1
Engineering Sciences	45.3	49.9	59.7

(SEE MAIN TABLE 11.)

Only slight linguistic differences exist for science interests. French-speaking respondents appear somewhat more interested in the life and social sciences, and are as interested as the other groups in the natural and engineering sciences.

Regionally, one finds that some trends exist. Respondents from Quebec appear to be more interested in the sciences generally than those from other parts of Canada. Four Quebeckers in five (80%) expressed interest in the life sciences. Nearly three in four were interested in social sciences (72%) compared to the national average of 61%.

Canadians from the west coast (B.C.) were not far behind in these two categories. They also topped the field in interest in the engineering sciences (56%).

Table 6.5. Interest in the Science Areas According to Occupation

	PER CENT OF VERY/QUITE INTERESTED INDIVIDUALS			
	MANAGER/ PROF.	WHITE COLLAR	BLUE COLLAR	OTHER
Natural Sciences	57.5	49.5	40.9	38.6
Social Sciences/Humanities	71.4	75.4	47.1	62.3
Life Sciences	73.9	75.5	64.2	75.2
Engineering Sciences	69.9	66.2	69.1	38.7

(SEE MAIN TABLE 11)

Table 6.6. Interest in the Science Areas According to Mother Tongue

	PERCENT OF VERY/QUITE INTERESTED INDIVIDUALS		
	ENGLISH	FRENCH	OTHER
Natural Sciences	40.8	42.9	39.8
Social Sciences/Humanities	57.2	69.1	57.9
Life Sciences	69.6	80.3	70.9
Engineering Sciences	50.6	48.8	44.0

(SEE MAIN TABLE 11.)

In general, urban dwellers appear slightly more interested in the sciences than their rural counterparts. The greatest difference is in the social sciences and humanities, where substantially more people in the urban areas expressed any interest at all (63%-urban; 52%-rural). This difference is even greater for dwellers in large cities (68% response) than those in rural regions. This may be indicative of the fact that social issues, such as overpopulation, urban planning or business and economics have greater impact on the populace of larger urban centres, leading to heightened interest in the issues and the research being done.

Use of Media and Other Sources by People Interested in the Sciences

Most Canadians expressing any interest in the sciences expect their information on these sciences to come primarily through the mass media (Table 6.9). Only about 5% on the average said they did not use the media at all for science news in each of the four science subcategories of our study. About half the public (45% to 56%) listed daily newspapers as their source, while slightly more used magazines and television (50% to 60% and 57% to 65%, respectively.) About a quarter of the respondents said they would use the radio for science information.

In addition to questions regarding the choices of media, we also tried to ascertain how respondents rated the media and other sources of information in relation to one another. To which media would people go most often when looking for material in each of the sciences?

Results show that magazines were the preferred source for science. About a third of the interested audience -- 30% to 41% -- chose magazines. Television, which had top rating for use of the sources 'at all', now shared billing with newspapers for second place. Both were the major sources for about a quarter to a third of the audience (28% to 31% and 23% to 32%, respectively) (Table 6.10).

Radio dropped in significance as a source of information, with about 5% mention, equalling the group who stated they would not use the mass media for science news information.

Material other than that from the media was also mentioned in the questioning. We asked about sources respondents would use most often. Textbooks were noted by nearly half the interested group, while other related books followed close behind, with more than a third mentioning them. Just as high on the list were journals and govern-

Table 6.7. Regional Distribution of Interest in the Science Areas

PER CENT OF VERY/QUITE INTERESTED INDIVIDUALS

	NATIONAL	REGIONAL				
		ATLANTIC PROVINCES	QUEBEC	ONTARIO	PRAIRIES	B.C.
Natural Sciences	41.2	32.4	48.1	37.8	40.7	44.0
Social Sciences/ Humanities	60.7	55.2	71.5	56.6	54.9	59.8
Life Sciences	72.9	63.4	80.4	67.4	75.3	76.0
Engineering Sciences	49.1	44.9	49.8	47.8	49.0	56.3

(SEE MAIN TABLE 11.)

Table 6.8. Interest in the Science Areas According to Community Size

PER CENT OF VERY/QUITE INTERESTED INDIVIDUALS

	URBAN			RURAL
	TOTAL URBAN	OVER 500,000	1,000–500,000	
Natural Sciences	43.0	44.6	41.8	35.1
Social Sciences/Humanities	63.2	67.7	59.9	52.1
Life Sciences	74.0	74.7	73.5	68.9
Engineering Sciences	50.8	50.2	51.2	43.5

(SEE MAIN TABLE 11.)

ment publications which came up for about a third of those interested in the sciences.

Under the miscellaneous category 'other sources' (not asked by the interviewers) only library use was mentioned, by six per cent of respondents. Other sources such as encyclopedia, films, discussion with friends, etc., received less mention —— by two percent of the public.

As we did for the media, we requested respondents to specify their favorite source of information among the secondary sources. Textbooks and other related books still received top rating. About a quarter of respondents mentioned them. Journals were selected most often by nearly one person in five; only about one Canadian in seven or eight noted government publications as another source.

A further breakdown in terms of individual media and various groupings of newspapers, magazines, radio and television is given in Main Table 13.

Table 6.9. Sources which Canadians Would Use *At All* to Obtain Information in the Various Sciences

	PER CENT OF INDIVIDUALS VERY/QUITE INTERESTED IN:			
	NATURAL SCIENCES	SOCIAL SCIENCES/ HUMANITIES	LIFE SCIENCES	ENGINEERING SCIENCES
SOURCES WOULD USE AT ALL				
MASS MEDIA[1]				
Daily newspapers	44.6	55.5	47.9	54.8
Magazines	59.7	51.6	55.6	50.3
Radio	25.2	29.3	28.8	23.1
Television	58.4	62.3	64.8	57.2
None of above	4.8	4.9	4.4	6.2
SOURCES OTHER THAN MASS MEDIA[1]				
Course(s)	26.2	27.8	22.4	20.3
Journal(s)	37.5	33.9	33.6	33.7
Textbooks	44.6	41.6	40.2	35.8
Other related books	41.0	36.6	36.4	34.8
Gov't publications	33.3	32.2	31.0	34.4
OTHER SOURCES VOLUNTEERED[1]				
Library	5.8	3.2	3.4	3.9
Encyclopedias	1.7	1.1	1.5	1.1
Films	0.5	0.2	0.4	0.4
Discussion with friends /relatives, etc.	0.8	1.0	0.8	1.4
Discussion with professionals, i.e. doctor/nurse /professor/expert	1.6	1.9	1.8	1.4
Miscellaneous	1.8	1.9	2.1	1.9
None/Don't Know	7.4	11.3	12.1	12.0

(SEE MAIN TABLE 13.)

[1] Percentages total to more than 100% because multiple responses are possible.

Table 6.10. Sources which Canadians Would Use *Most Often* to Obtain Information in the Various Sciences

	PER CENT OF INDIVIDUALS VERY/QUITE INTERESTED IN:			
	NATURAL SCIENCES	SOCIAL SCIENCES/ HUMANITIES	LIFE SCIENCES	ENGINEERING SCIENCES
SOURCE WOULD USE MOST OFTEN				
MASS MEDIA				
Daily newspapers	22.7	31.6	24.4	30.3
Magazines	40.6	29.7	34.3	31.1
Radio	5.2	6.2	6.7	5.0
Television	27.8	28.4	31.1	28.2
Don't know/not stated		0.2		0.2
Would not use major media	4.8	4.9	4.4	6.2
SOURCES OTHER THAN MASS MEDIA				
Course(s)	10.6	12.6	9.4	8.2
Journal(s)	18.6	16.2	17.2	19.0
Textbooks	24.7	23.1	23.0	19.9
Other books that relate to the area	22.0	18.6	19.6	19.5
Govt. publications	12.1	13.6	13.8	16.4
Other				
Library	3.0	2.0	2.2	2.1
Encyclopedias	1.3	0.7	0.9	0.8
Films				0.1
Discussion with friend /relatives, etc.	0.3	0.7	0.5	0.6
Discussion with profes- sionals, i.e. doctor/nurse /professor/expert	0.2	0.8	0.9	0.7
Miscellaneous	1.0	0.8	1.1	1.5
None/don't know		0.4	0.3	0.2
Would not use secondary source	7.4	11.3	12.1	12.0

(SEE MAIN TABLE 14.)

Chapter Seven

The Science-Oriented Audience and Their Other Interests

Social Profile

Is there a "science-oriented audience" in Canada? Results from our study indicate that if there isn't one, there is at least a healthy "science-interested audience." Nearly three of four Canadians polled (71.2%) expressed some interest in two or more of the science areas; 88.8% of the general public was interested at least some of the time when science subjects are presented by the media. Only one Canadian in ten said they were either uninterested or did not care one way or the other. This concurs with our findings that four out of five feel it is important to be kept informed about science. And one in three are dissatisfied with present media coverage of both medicine and health, and other sciences.

Respondents were grouped into three categories:

(1) Those not interested at all in any of the four science categories (Non-science group);

(2) Those who expressed some or great interest in only one (any one) of the science categories and could form either the occasional or infrequent portion of the science audience (Occasional science group), or a selective science audience (Selective science group);

(3) Those with some or great interest in two or more of the four science categories (Regular science group).

In the tables below, we present the distribution of science interests according to various social categories, each category totalling 100%.

For age, one finds that a slight trend towards greater interest exists in the younger generation and is relatively high for most age brackets. More than two of every three individuals interviewed between 15 and 64 years of age expressed interest in two or more science areas; more than one in two over 64 years was also in the Regular science group.

Overall interest in the sciences (as grouped above) did not differ between men and women. The ratios were almost identical in the broader interest group (72% men, 71% women) and in the one science category (17% men, 18% women). Only 11% of the men and women interviewed reported being uninterested in any of the science areas.

Table 7-A. Degree of Interest in the Sciences According to Age

	15-17	18-24	25-34	35-44	45-54	55-64	65 & over
Total Interviews	*166*	*361*	*380*	*333*	*354*	*190*	*216*
Total Interested in:[1]							
No areas of science	7.8	10.0	8.2	6.3	11.0	15.3	25.9
One area only	30.1	14.4	14.2	19.8	17.8	16.3	20.8
Two areas or more	68.1	75.6	77.6	73.9	71.2	68.4	53.3

(SEE MAIN TABLE 12-A.)

1. Per cent very or quite interested.

Table 7-B. Degree of Interest in the Sciences According to Sex

	Male	Female
Total Interviews	*992*	*1008*
Total Interested in		
No areas of science	10.8	11.7
One area only	17.4	17.6
Two areas or more	71.8	70.7

(SEE MAIN TABLE 12-A.)

Table 7-C. Degree of Interest in the Sciences According to Education

	Some High School Or Less	Graduated High School	Post-Secondary School
Total Interviews	*1239*	*320*	*439*
Total Interested in:			
No areas of science	14.0	10.0	4.1
One area only	20.3	14.1	12.5
Two areas or more	65.7	75.9	83.4

(SEE MAIN TABLE 12-A.)

Table 7-D. Degree of Interest in the Sciences According to "Science" Education

	STUDY/STUDIED SCIENCES IN HIGH SCHOOL		STUDY/STUDIED SCIENCES IN POST-SECDNDARY SCHOOL		
	None	Some	None	Few	Science Major/ Graduate
Total Interviews	*307*	*752*	*118*	*192*	*117*
Total Interested in:					
No areas of science	12.7	7.6	11.0	1.6	0.9
One area only	19.9	16.1	16.1	11.4	7.7
Two areas or more	67.4	76.3	72.9	87.0	91.4

(SEE MAIN TABLE 12-A.)

Also as was evident throughout this study, there is a strong association between science interest and education. With some high school or less, only 14% of respondents expressed no interest in the sciences, while 20% and 66% reported some interest in one area and in two or more areas, respectively.

For those with post-secondary education, there was a 10% increase in the Regular science group (two or more areas) to 76%. A still higher 83% of respondents with post-secondary schooling were in this category. Only 4% with higher education weren't interested in science at all.

As well as general education, some increase in science interest is also apparent with the 'science' education of respondents: Canadians who had taken science either in high school or in post-secondary schooling were more inclined toward the sciences than those who hadn't. The case was especially strong for those with some college or university science; less than 2% of these expressed no science interest.

Table 7-E. Degree of Interest in the Sciences According to Family Composition

	Adults Only	Have Children
Total Interviews	*839*	*1161*
Total Interested in:		
No areas of science	14.1	9.1
One area only	19.0	16.6
Two areas or more	66.9	74.3

(SEE MAIN TABLE 12-A.)

A significant difference also exists in terms of family composition. With one or more children in the family, there appears to be more interest in the sciences than in those families without children.

A further breakdown by socio-economic level from the upper level to lower level shows that a trend does exist. A greater proportion of respondents with interests in one or more sciences appear to come from the upper and middle levels. Similarly, total family income did influence expressed interests in the sciences. The Regular group ranged from 56% to 70% interested at the lowest levels (less than $5,000 and $5,000-$7,499; respectively), to 83% at the highest levels ($20,000 or more).

Table 7-F. Degree of Interest in the Sciences According to Socio-Economic Level

	Upper	Upper-Middle	Middle	Lower-Middle	Lower
Total Interviews	*409*	*368*	*418*	*415*	*391*
Total Interested in:					
No areas of science	5.1	7.6	10.0	15.4	17.9
One area only	13.0	19.8	13.2	21.0	21.5
Two areas or more	81.9	72.6	76.8	63.6	60.6

(SEE MAIN TABLE 12-A.)

Table 7-G. Degree of Interest in the Sciences According to Total Family Income

	Less Than $5,000	$5,000 to $7,499	$7,500 to $9,999	$10,000 to $14,999	$15,000 to $16,999	$17,000 to $19,999	$20,000 or More
Total Interviews	*259*	*246*	*336*	*480*	*200*	*192*	*218*
Total Interested in:							
No areas of science	22.8	14.2	13.1	5.8	11.0	9.4	4.1
One area only	21.6	15.9	17.3	19.4	13.0	15.1	12.8
Two areas or more	55.6	69.9	69.6	74.8	76.0	75.5	83.1

(SEE MAIN TABLE 12-A.)

Table 7-H. Degree of Interest in the Sciences According to Marital Status

	Single	Married	Widowed / Div. /Sep.
Total Interviews	*561*	*1254*	*186*
Total Interested in:			
No areas of science	9.4	10.8	19.4
One area only	19.1	16.4	21.0
Two areas or more	71.5	72.8	59.6

(SEE MAIN TABLE 12-A.)

Our findings also suggest that single and married respondents tend to have broader interests in the sciences, in that 72 to 73% of these were interested in two or more sciences, in comparison with 60% who were divorced, separated, or widowed.

Table 7-I. Degree of Interest in the Sciences According to Mother Tongue

	English	French Quebec	French Non-Quebec	Other
Total Interviews	*1141*	*492*	*83*	*284*
Total Interested in:				
No areas of science	12.1	7.3	12.0	14.1
One area only	18.5	13.8	24.1	18.3
Two areas or more	69.4	78.9	63.9	67.6

(SEE MAIN TABLE 12-A.)

Language of respondents appears to have some bearing on the high interests in the sciences. Most interested were French Quebeckers. In the 'Regular' science group there were almost four French-Canadians in five from Quebec (79%). About two Canadians in three from other language groups and from French-speaking Canadians outside Quebec were also in this group.

Table 7-J. Degree of Interest in the Sciences According to Occupation

	Manager/ Prof.	White Collar	Blue Collar	Other
Total Interviews	*158*	*127*	*410*	*1304*
Total Interested in:				
No areas of science	5.1	5.5	11.5	12.3
One area only	14.6	10.2	19.8	10.4
Two areas or more	80.3	84.3	68.7	77.3

(SEE MAIN TABLE 12-A.)

By occupation, broad interest was expressed for the sciences by all categories, primarily the white collar workers and the professional/managerial groups.

In effect, science-interested Canadians come from virtually all sections of the population.

Attitudes to Science by Degree of Science Interest

While we have been comparing interests in the sciences at each social category we can also examine the distributions within the science groups themselves (ie., comparing the Non-science group with the Selective and the Regular science groups) (See Main Table 12-B). All subsequent tables will follow this format.

In this type of comparison, we find that there is a strong variation in attitudes towards science according to science interest. The greater the science interests, the greater the approval for such propositions as; the importance of being kept informed about science; more scientific information should be made public; scientific developments should not be remote from every day life. Dissatisfaction with media presentation of science was also more pronounced, as was the desire for more information about Canadian achievements in science and about the people involved in science.

Less interested respondents were more apt to feel that science was mainly for well-educated people. Most trouble with understanding of science both from the standpoint of technical subjects or vocabulary used, came from the audience with occasional or selective interest in one science area.

Table 7-K. Public Attitudes Towards Science According to Degree of Interest in the Sciences

	PERCENT OF INDIVIDUALS INTERESTED IN[1]		
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE
TOTAL INTERVIEWS	*224*	*351*	*1425*
IT IS IMPORTANT TO BE KEPT INFORMED ABOUT SCIENCE			
Agree	37.1	76.6	90.6
Disagree	7.6	8.8	2.3
It varies	15.6	10.8	5.7
No opinion	29.0	4.0	1.2
Not stated	11.2		0.3
SCIENTIFIC DEVELOPMENTS ARE DISTANT FROM MY EVERY DAY LIFE			
Agree	41.1	45.3	32.6
Disagree	12.5	36.2	54.8
It varies	4.9	10.3	9.7
No opinion	29.5	8.3	2.4
Not stated	11.6	2.8	0.4
SCIENCE IS MAINLY FOR WELL-EDUCATED PEOPLE			
Agree	32.6	25.9	15.4
Disagree	24.5	60.1	76.9
It varies	6.7	8.5	6.3
No opinion	24.6	4.8	0.6
Not stated	11.6	1.1	0.8
I WOULD LIKE TO FIND OUT MORE ABOUT CANADIAN ACHIEVEMENTS IN SCIENCE			
Agree	12.1	57.5	72.3
Disagree	25.9	21.1	13.9
It varies	14.3	14.2	8.5
No opinion	36.2	7.1	5.0
Not stated	12.1		0.3
YOUNG PEOPLE ARE BETTER EQUIPPED TO UNDERSTAND MODERN SCIENCE THAN ARE OLDER PEOPLE			
Agree	48.7	58.4	57.5
Disagree	12.9	25.9	30.5
It varies	5.4	9.7	10.9
No opinion	21.9	6.3	0.7
Not stated	11.2		0.4

	PERCENT OF INDIVIDUALS INTERESTED IN[1]		
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE
THE MAJOR MEDIA-DAILY NEWSPAPERS/MAGAZINES/ RADIO/TV PROVIDE SUFFICIENT COVERAGE OF SCIENCE			
Agree	41.1	47.0	37.6
Disagree	8.5	35.0	50.1
It varies	6.7	10.0	9.6
No opinion	32.1	8.0	2.3
Not stated	12.1		0.4
MOST INFORMATION ABOUT SCIENCE IS DIFFICULT TO UNDERSTAND BECAUSE OF THE VOCABULARY USED			
Agree	50.4	62.4	52.4
Disagree	5.4	17.9	31.1
It varies	6.7	14.8	14.6
No opinion	26.3	4.6	1.4
Not stated	11.2	2.8	0.6
NOT ENOUGH SCIENTIFIC INFORMATION IS MADE PUBLIC			
Agree	19.2	52.7	59.3
Disagree	17.9	16.5	23.5
It varies	7.1	16.0	9.6
No opinion	44.2	14.5	7.2
Not stated	11.6	2.8	0.4
I WOULD LIKE TO FIND OUT MORE ABOUT THE PEOPLE INVOLVED IN SCIENCE			
Agree	8.0	37.6	52.8
Disagree	32.1	35.0	31.4
It varies	7.6	12.5	9.0
No opinion	40.6	14.5	6.5
Not stated	11.6	2.8	0.3
MOST INFORMATION ABOUT SCIENCE IS DIFFICULT TO UNDERSTAND BECAUSE THE SUBJECTS ARE TOO TECHNICAL			
Agree	50.0	60.7	53.2
Disagree	4.9	17.7	27.6
It varies	6.7	17.4	16.7
No opinion	28.1	42.7	2.2
Not stated	11.2		0.3

(SEE MAIN TABLE 4.)

[1] Per Cent very or quite interested.

Interest and Awareness of Canadian Science

Naturally, interest in the sciences influences the public's awareness of Canadian science. Four of five respondents without interest in the sciences (81.2%) were unable to list a scientist or an achievement, whereas the ratio was 55% for the more interested group. A similar situation existed with respect to individual scientists and specific achievements (See Main Table 2).

Regarding Canadian scientists, three times as many in the regular science group as the non-science group recalled accurately the names of two or more Canadian scientists and knew what their research was about (19.6% as opposed to 6.2%). The situation is similar with public knowledge about Canadian achievements in the sciences.

Table 7-L. Public Awareness of Canadian Science According to Degree of Interest in the Sciences

	PER CENT OF INDIVIDUALS INTERESTED IN[1]		
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE
RECALLED NEITHER CANADIAN SCIENTISTS NOR ACHIEVEMENTS, OR GAVE NO RESPONSE	81.2	63.5	55.0
SCIENTISTS RECALLED			
Names of zero Canadian scientists	82.7	68.9	60.5
Name only or work only of one or more Canadian scientists	1.3	0.9	2.3
Name and work accurately of one Canadian scientist	9.8	17.4	17.6
Name and work accurately of two Canadian scientists	5.4	10.5	11.2
Name and work accurately of more than two Canadian scientists	0.8	2.3	8.4
ACHIEVEMENTS RECALLED			
Zero Canadian achievements	83.5	66.4	56.9
One Canadian achievement	12.1	23.4	24.3
Two Canadian achievements	4.0	8.8	10.7
More than two Canadian achievements	0.4	1.4	8.1

(SEE MAIN TABLE 2.)

1. Per cent very or quite interested.

A Cosmopolitan Outlook?

Findings from our survey indicate that Canadians who expressed interest in the sciences are not part of some specialized or elite group. Their profile emerges as a cosmopolitan one. In short, with some variation, science interest pervades the whole population, whether well- or ill-educated, rich or poor, young or old.

Respondents interested in the sciences also tended to have wide interests – be it in national politics, sports or news about labor and industry.

Three of every five persons in the regular science group (59.6%) are also potential sports fans, as opposed to 41.5% among those with no interest in the sciences. These figures are as high and even higher for the other topics. In some areas, such as national politics, and foreign events, the audience size was more than double among science-oriented people (54.9% vs. 23.7% in national politics; 63.2% vs. 21.9% in foreign events).

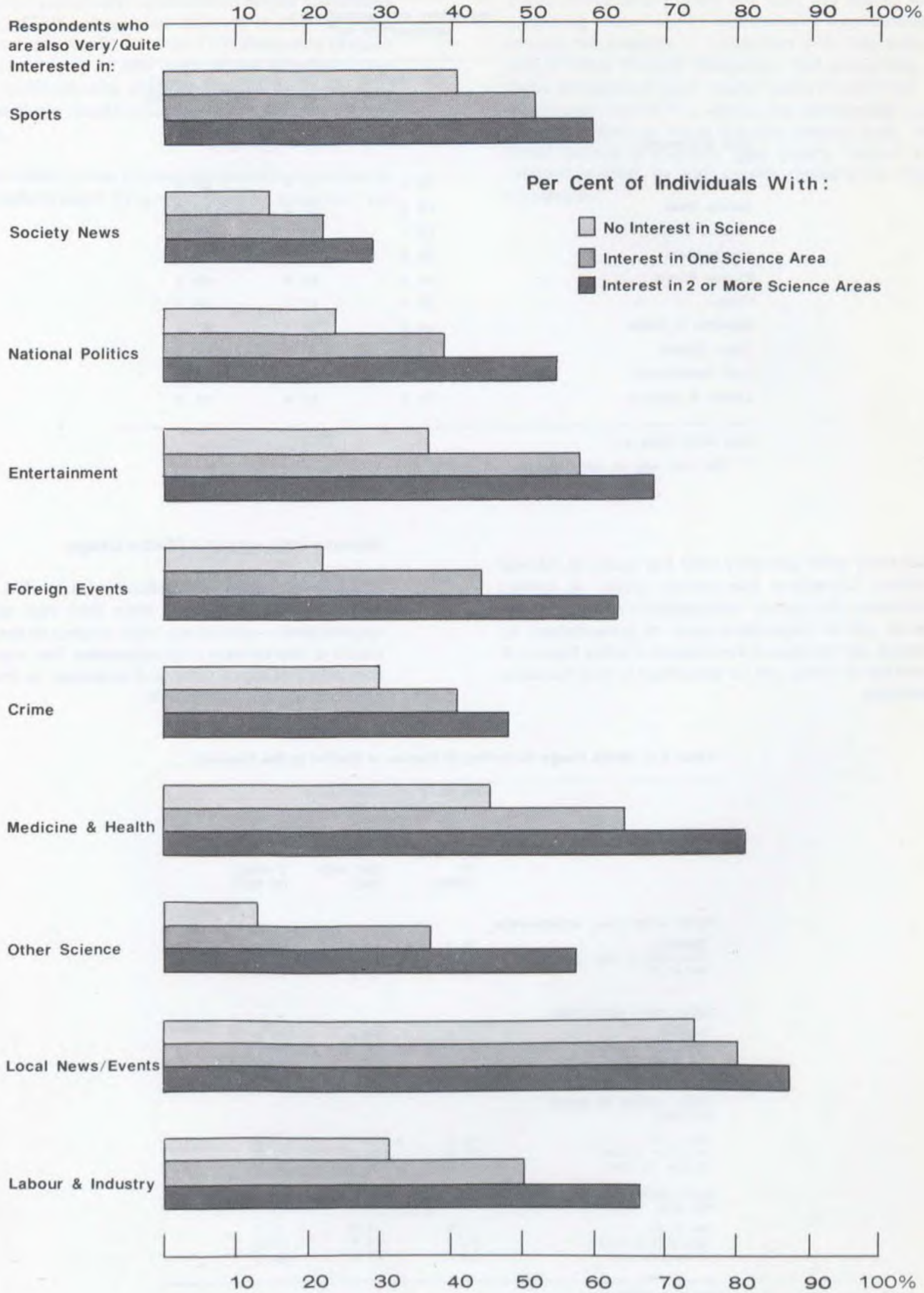

Figure 7.1 Profile of General Public Interests According to Interest in the Sciences[1,2] (See Main Table 6)

[1] Sciences according to the four categories defined (chapter 5)

[2] Per cent very or quite interested

Table 7-M. Public Interest in General Topics According to Degree of Interest in the Sciences

	PER CENT OF INDIVIDUALS INTERESTED IN[1]		
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE
Also Interested[1] in:			
Sports	41.5	51.9	59.6
Society News	15.2	22.2	29.0
National Politics	23.7	39.3	54.9
Entertainment	36.6	58.4	68.4
Foreign Events	21.9	43.9	63.2
Crime	30.3	41.1	48.2
Medicine & Health	44.6	64.1	81.2
Other Science	12.9	36.5	57.3
Local News/Events	74.1	80.3	86.7
Labour & Industry	31.3	50.4	65.8

(SEE MAIN TABLE 6.)

1. Per cent very or quite interested.

We have dealt primarily with the levels of interest among Canadians for various areas. A further inference, the actual consumption of the science news, will be dependent upon its presentation, its appeal, its timing and a multitude of other factors. A number of these will be described in the following sections.

Science Interests and Media Usage

Science-interested respondents also tended to be heavier media consumers than their non-science counterparts—particularly with respect to the print media of newspapers and magazines. Yet, they also consumed as much radio and television as those to whom science had no appeal.

Table 7-N. Media Usage According to Degree of Interest in the Sciences

	PER CENT OF INDIVIDUALS INTERESTED IN[1]		
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE
TOTAL READ DAILY NEWSPAPERS			
Regularly	38.4	48.2	59.2
From time to time	25.9	33.0	27.4
Not at all	35.3	18.8	13.4
TOTAL READ MAGAZINES			
Regularly	12.0	31.6	36.6
From time to time	25.4	31.3	33.0
Not at all	62.9	37.1	30.4
TOTAL LISTEN TO RADIO PER DAY			
Not at all	18.7	11.4	8.5
Less than 2 hours	51.8	49.0	52.9
2 hours or more	29.5	39.6	38.6
TOTAL WATCH TELEVISION PER DAY			
Not at all	7.6	4.0	3.7
Less than 2 hours	31.7	33.6	37.8
2 hours or more	60.7	63.0	58.5

(SEE MAIN TABLE 16.)

1. Per cent very or quite interested.

What of Science- Related Topics?

As noted previously, nearly three in four Canadians polled (71%) expressed interest in two or more science categories. Another 17% were very or quite interested in only one area of the sciences. This wide audience was, in effect, the one most dissatisfied with the media coverage of the science-related areas.

For instance, some individuals expressed interest in 'tax dollars spent by government on sciences', yet had no apparent interest in any of the four science categories specified in the interview. One-third of these individuals (34%) felt that the media was providing insufficient information. Furthermore, among the majority of Canadians with interests in two or more science categories, the proportion of those dissatisfied with media performance rose to nearly one-half (47%). While the differences were not as dramatic in other science-related areas, the trend among a majority was clearly toward increased interest in and greater demand for more information.

Table 8.1. Public Assessment of Newspaper Articles Presented on the Various Sciences

	PER CENT OF NEWSPAPER READERS INTERESTED IN:[1]			
	NATURAL SCIENCES	SOCIAL SCIENCES	LIFE SCIENCES	ENGINEERING SCIENCES
ATTITUDE ON THE STATEMENT:				
MOST NEWSPAPER ARTICLES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED				
Agree	40.8	41.7	49.0	44.5
Disagree	28.5	26.5	20.9	22.9
It varies	19.4	22.3	21.2	19.5
No opinion	10.5	9.2	8.4	12.0
Not stated	0.7	0.3	0.4	0.7
MOST NEWSPAPER ARTICLES DEALING WITH THAT SCIENCE ARE INTERESTING TO READ				
Agree	67.8	68.9	73.0	67.2
Disagree	9.6	9.6	7.4	8.8
It varies	19.7	19.3	16.4	21.2
No opinion	2.2	1.8	2.8	2.1
Not stated	0.7	0.3	0.4	0.7
ENJOY READING ARTICLES IN NEWSPAPER ON THAT SCIENCE				
Agree	67.3	68.7	75.6	71.2
Disagree	7.8	6.7	5.8	5.7
It varies	20.9	22.4	16.0	20.5
No opinion	3.1	1.8	2.1	1.7
Not stated	0.9	0.3	0.5	0.9
ARTICLES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND				
Agree	56.7	57.8	55.2	49.1
Disagree	14.4	15.7	15.0	19.1
It varies	26.4	25.0	27.3	28.5
No opinion	1.5	1.2	1.8	1.9
Not stated	1.0	0.4	0.8	1.4
NOT ENOUGH ARTICLES ON THAT SCIENCE IN NEWSPAPER				
Agree	59.0	50.5	53.7	51.1
Disagree	23.5	30.8	24.6	29.2
It varies	9.5	12.0	12.2	9.6
No opinion	7.1	6.3	9.1	8.9
Not stated	0.6	0.4	0.5	1.1
DIFFICULTY TO FIND SPECIFIC ARTICLES ON THAT SCIENCE				
Agree	48.6	40.8	41.9	44.5
Disagree	30.3	34.8	32.7	31.7
It varies	10.8	13.8	14.8	12.5
No opinion	9.5	10.0	10.1	10.5
Not stated	0.7	0.5	0.6	0.8

(SEE MAIN TABLE 17.)

1 Per cent very or quite interested.

Chapter Eight

Science in Newspapers

Assessment by Readers

Following the series of questions on science interests and on the sources of science information from the four media, we zeroed in on the individual media, examining not only interest but also other factors which may contribute to the consumption of science material by the public. We turn to these factors in this section.

Our objective was to point out the public's own assessment of media presentation of the sciences. A number of statements were drawn up to provide us with such an estimate of audience response. These covered:

(a) Degree of accuracy of sciences presented,

(b) Degree of interest of presentation,

(c) Degree of enjoyment of presentation,

(d) Degree of difficulty,

(e) Adequacy or inadequacy of presentation, and

(f) Ease of finding material/programmes in the four sciences.

Public assessment of newspaper writing on science is as follows:

(a) Accuracy

Less than half of the interested readers (ranging between 40-50% for the four science areas) judged articles to be accurately reported. Between 20% and 30% of readers did not accept media reporting as accurate. Ten percent felt that accuracy varied. This echoes to an extent the dilemma found in our science writers' survey, where the writers' major problem was in keeping their stories simple as well as scientifically accurate. Deadline pressures, style and space restrictions, and complexities inherent in scientific subjects make writing accurate articles for all segments of the audience, especially for scientists, difficult to achieve.

(b) Enjoyment and Interest

Both enjoyment of and interest in articles tended to go hand-in-hand. More than two of every three readers noted their interest in (67-73% for the four science areas) and enjoyment of (67-76%) newspaper articles in each of the four sciences. Another fifth had mixed feelings about these, rating articles as varying in enjoyment value. Less than 10% of the respondents felt the articles to be dull or uninteresting. (See Table 8.1.)

(c) Degree of Difficulty

More than half the readers perceived science articles as easy to understand. Another quarter felt that the comprehension of science varies (with the article or subject). About 14% to 19% still encountered some problems in understanding articles written about the various sciences.

(d) Number of Articles

More than half the people interested in reading about the sciences found that there were not enough articles on the subject in the newspaper (51-59%); another ten per cent or so (10%-12%) also sometimes felt dissatisfied with the quantity of science material presented. Thus, only a quarter of the potential science audience (which is, as we noted, a high percentage of the media readership) felt that it was being adequately informed of scientific developments.

For nearly half the audience, finding the science news was a problem. Between 40% and 49% agreed that, when they are specifically looking for articles in the sciences, they have difficulty finding them. To an extent, this result mirrors the paucity of regular science features and the non-indexing of science (whenever it is presented) and the general haphazard approach to science coverage.

Science Feature or Column

How regularly do Canadians feel that science is being presented to them by their newspapers? It has been suggested that putting some science in a regular column or feature, a section or full page would not interest enough readers. Do statistics

Table 8.2. Public Awareness of, and Interest in, Special Columns or Pages on the Various Sciences in the Daily Press

	PER CENT OF NEWSPAPER READERS INTERESTED IN:[1]			
	NATURAL SCIENCES	SOCIAL SCIENCES/ HUMANITIES	LIFE SCIENCES	ENGINEERING SCIENCES
TOTAL NEWSPAPER READERS VERY/QUITE INTERESTED IN THAT SCIENCE	*728*	*1063*	*1254*	*845*
AWARE OF SPECIAL COLUMNS/ PAGES	33.6	45.7	43.5	36.4
INCLINATION TO READ SUCH ARTICLES				
More inclined	69.9	76.4	79.7	76.3
Less inclined	9.7	3.2	3.2	6.0
Doesn't make any difference	20.4	20.4	16.8	17.5
Not stated			0.3	0.2
FREQUENCY OF READING SUCH COLUMNS				
Regularly	46.6	51.2	57.2	52.7
From time to time	52.4	48.2	42.0	46.0
Not at all	1.1	0.7	0.5	1.3
Not stated			0.2	
NOT AWARE OF SPECIAL COLUMNS/PAGES	66.4	54.3	56.5	63.6
INCLINATION TO READ SUCH ARTICLES				
More inclined	78.0	73.7	71.7	70.2
Less inclined	1.3	2.3	1.9	3.6
Doesn't make any difference	20.4	23.7	26.2	26.0
Not stated	0.3	0.2	0.3	0.1
FREQUENCY WOULD BE LIKELY TO READ SUCH COLUMNS				
Regularly	52.2	47.6	50.9	49.4
From time to time	46.0	50.3	45.8	46.5
Not at all	0.9	1.7	2.5	3.2
Not stated	0.9	0.4	0.8	0.9

(SEE MAIN TABLE 18.)

1. Per cent very or quite interested.

bear this out? All readers who had expressed some interest in one or more of the sciences (Chapter 6) were asked to give their views on these points. In our preamble to the question, we explained what we meant by "regularized science":

> Most papers in Canada treat science news the same as any other news. That is, it does not usually appear on a regular page or on a definite day. Others present science news in a special feature section either as a column or a science page instead of being scattered throughout the daily newspaper. For instance, just as sections such as sports and entertainment are listed in the index on the front page, your paper might present such a section on different areas of science.

Results indicate that between a third and a half of the interested readers (34% to 46%) are aware that some regular features, special columns or pages which deal exclusively with the various sciences are currently being presented (See Table 8.2). The majority of those 'aware' respondents said they were more inclined to read such articles (70% to 80%). Less than one respondent in ten (3% to 10%) said he, or she, was less inclined toward such featurized presentations. The findings are virtually the same for those readers who reported they were unaware of regular science in the paper.

Table 8.3. Language Differences in the Awareness of Special Columns or Pages in the Sciences within the Daily Press

PER CENT OF INTERESTED NEWSPAPER READERS BY MOTHER TONGUE:[1]			
	English	French	Other
Aware of Special Columns/ Pages in:			
Natural Sciences	24.6	54.3	30.1
Social Sciences/Humanities	37.3	60.7	47.1
Life Sciences	36.6	56.8	44.0
Engineering Sciences	26.6	57.9	37.8

(SEE MAIN TABLE 18.)

1. Per cent very or quite interested in the various sciences.

In effect, the labelling of science material in the press as science, just as sports is labelled sports, enhances its appeal, thereby gaining potential readers. The science-interested audience, which includes a substantial portion of Canadians, appears to favor the idea of science columnists, science writers and science editors presenting *well-identified* regular science material.

Social Characteristics

While there are some variations in social characteristics, perhaps the striking one is language spoken at home. Our data show that French-speaking respondents are more aware of regular press features in all the sciences. In effect, French-speaking Canadians note that their papers present science on a more regular basis, unlike many English-language papers. (In Chapter 13 we probe further into all science "packages" which appear in the English and French language press).

Looking at the inclination to read such articles, we find little trend or overall difference by linguistic background. Few interested readers (less than 6% for all science areas), English or French or ethnic origin, are opposed to the idea of having science more regular and more continuous.

Newspaper Content: Adequate?

Having a reasonably accurate measure of public demands for various sciences from the interest rating questions, there was a further probing into interest in newspaper content. Readers were asked if they would be willing to give up any three types of articles or features for the sake of science material — or whether they were satisfied with things as they were. Response to this question from all newspaper readers provided an indication that most were willing to change some of the standard features of their paper. Only 16% polled felt unwilling to sacrifice anything at all for more science. Sports, women and society, and ads were mentioned as expendable by about a quarter of those polled, the highest percentage among the score of features listed. Other areas such as comics (17%), news of tragedies, accidents and violence (10%) or business and finance (9%) were singled out less frequently. Fewer respondents brought up the everyday local, national, or foreign news (6%

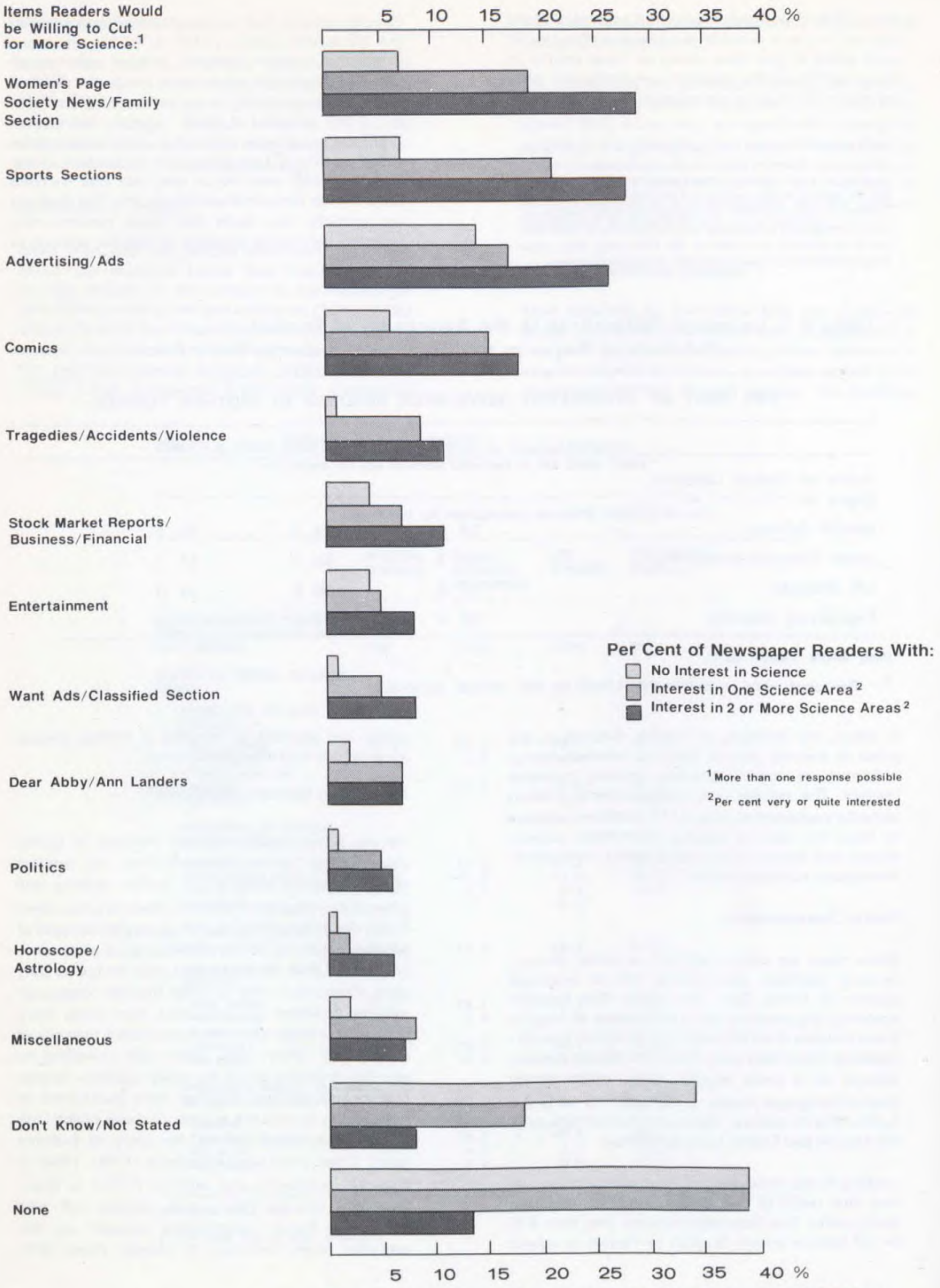

Figure 8.1 Items Newspaper Readers Would be Willing to Cut for More Science. (See Table 8.1 and Main Table 19)

Table 8.4. Types of Items Newspaper Readers Would be Willing to Give Up for More Articles on Science

PER CENT OF ALL NEWSPAPER READERS				
		TOTAL INTERESTED IN		
	TOTAL	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE
ARTICLES READERS WOULD BE WILLING TO CUT FOR MORE SCIENCE				
Women's page/society news/family section	25.1	6.8	19.3	28.6
Sports section	25.0	6.8	20.7	28.1
Advertising/ads	23.4	13.7	16.B	26.1
Comics	16.6	6.2	15.1	18.3
Tragedies/accidents/violence	10.0	1.4	8.8	11.3
Stock market reports/business/financial	9.3	4.1	6.7	10.5
Entertainment	7.1	4.1	4.9	7.9
Want ads/classified section	6.9	0.7	5.3	8.0
Dear Abby/Ann Landers	6.6	2.1	7.4	7.0
Politics	5.6	1.4	4.9	6.2
Horoscope/astrology	5.1	0.7	2.5	5.7
Editorial/specific comments	3.5	1.4	3.9	3.6
Announcement of births/obituaries/marriages	2.5		1.8	3.0
International world/foreign report	2.3	1.4	2.1	2.4
Crossword puzzles, bridge	2.3	0.7	0.7	2.8
Gossip columns	1.6	.	1.1	2.0
Travel	1.1	.	1.8	1.1
Real estate	1.0	.	2.1	0.8
Health advice	0.9	.	2.5	0.6
Local news/metro news	0.8	.	1.1	0.8
Religious column	0.6	.	0.4	0.7
Miscellaneous	7.0	2.1	7.7	7.4
Don't know/not stated	12.1	33.6	17.9	8.3
NONE	16.0	39.0	19.4	12.9

(SEE MAIN TABLES 19 AND 20.)

politics; 2% international/world/foreign) (See Figure 8.1).

As one would expect, each sex felt the other's preferences should be sacrificed. More women than men felt sports should be cut down (29% to 20%); the ratio was reversed, 32% males to 18% females, for cutting down on the woman's page and social news. The complete breakdown in terms of demographic characteristics is shown in Main Table 8.2.

Of those who expressed interest in one of the four sciences presented, four persons in five were willing to sacrifice some feature or another to increase science content: 81% for the somewhat interested, and 77% of those interested in two or more topics. (Only 19% and 13% respectively, wouldn't sacrifice any feature.) Even those not interested in any science category at all (only 9% of the public polled) were amenable to some increase in science coverage. Less than half (39%) opted for no change at all, while another third (33%) had not decided or would not comment.

Table 9.1. Types of Magazines Containing Science Read by Canadians

PER CENT OF MAGAZINE READERS:	READ REGULARLY	READ FROM TIME TO TIME	TOTAL READ
Magazines Which Feature Science:			
General and News Magazines with Science Articles, such as Reader's Digest, Time, Weekend, Macleans, Newsweek, Actualité	38.9	25.8	64.7
Women's Magazines with Science Articles, such as Chatelaine, Good Housekeeping, Madame au Foyer, Women's Day.	15.6	7.4	23.0
Geographical/Archeological Magazines, such as National Geographic, Canadian Geographic Journal, Archeology.	11.2	4.8	16.0
General and Natural Science Magazines, such as Science Digest, Modern Science, Science World, Scientific American, Popular Science.	5.7	6.0	11.7
Engineering/Mechanics Magazines, such as Popular Mechanics, Mechanics Illustrated, Popular Electronics.	5.7	1.9	7.6
Outdoors, Country, Wildlife Magazines, such as Country Guide, Nature Canada, Outdoor Life, Field and Stream.	5.5	2.8	8.3
Agricultural/Farming Livestock Magazines, such as Cattleman's, Good Farming, Bulletin d'Agriculture, Farm Guide.	4.6	1.3	5.9
Medical/Social Science Magazines, such as Psychology Today, Canadian Nurse, Field of Medicine.	2.9	2.7	5.6
Sports/Sporting Magazines with Science Articles, such as Sports Illustrated, Sports.	2.8	1.4	4.2
Business and Finance Magazines, such as Fortune, Financial Times, Financial Post, Consumer Reports.	2.8	0.5	3.3
Design/Photography/Film Magazines, such as Canadian Architecture, Popular Photography.	1.5	0.6	2.1
Education/Education Magazines, such as Parents (Revue Parents), National Education.	1.5	0.5	2.0
Environmental, Natural Resources Magazines, such as Water and Pollution, Environment, World Oil.	1.2	0.4	1.6
Other magazines not related to Science/ Sex Mag.–Playboy.	1.0	1.4	2.5
Miscellaneous	7.4	3.7	11.1
Do not read Science–Featuring Magazines		8.4	

(SEE MAIN TABLE 21.)

Chapter Nine

Science in Magazines

Types of Magazines Read

Although newspapers may dominate the day-to-day pattern in terms of quantity and currency of science news in the print media, magazines play an important role in supplementing science news through in-depth presentations. News magazines as well as some general magazines feature highlights of frontier research in science or medicine. Others are more restrictive in nature and audience size--tailored to more specific target audiences--whether for governmental, industrial or educational consumption. A resumé of magazine coverage of the sciences is given in Chapter 13.

Which types of magazines, if any, do Canadians use as sources of information in science? We asked survey participants to list those magazines that they read regularly or from time to time and which, in their opinion, contain frequent or occasional reference to science. Survey results indicate that the public used a broad spectrum of such periodicals. A detailed breakdown according to those types of magazines mentioned is presented in Table 9.1. We grouped the magazines according to similar content.

Our results indicate that the general magazines were uppermost in the minds of Canadians as regular or occasional providers of science information. These types of magazines were read by nearly two of every three respondents interviewed (65%), regularly by more than a third (39%), and from time to time by another quarter (26%).

Other sources were generally less widely read. Women's magazines were mentioned as sources of science information by 23% of those polled who regularly read these publications or looked at them from time to time. Geographical journals trailed with 15%. Only a small percentage (12%) used general science magazines such as Scientific American or Popular Science.

A score of other magazines also were perceived to be sources of science information, but by a small fraction of the population--generally 10% or less. Only one magazine reader in twelve (8%) felt that the magazines he or she read did not carry any science.

Table 9.2. Public Assessment of Magazine Articles Presented on the Various Sciences

	PER CENT OF MAGAZINE READERS INTERESTED IN:[1]			
	NATURAL SCIENCES	SOCIAL SCIENCES	LIFE SCIENCES	ENGINEERING SCIENCES
ATTITUDE ON THE STATEMENT:				
MOST MAG. ARTICLES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED				
Agree	63.5	55.9	62.3	59.8
Disagree	10.7	15.1	11.0	11.5
It Varies	16.7	16.8	15.0	16.2
No Opinion	8.1	10.9	10.6	12.0
Not Stated	1.0	1.3	1.1	0.5
MOST MAG. ARTICLES DEALING WITH THAT SCIENCE ARE INTERESTING TO READ				
Agree	79.9	77.1	80.6	76.4
Disagree	3.1	5.8	2.8	3.1
It Varies	11.7	10.8	11.0	15.6
No Opinion	4.3	5.4	4.7	4.4
Not Stated	1.0	0.9	0.9	0.5
ENJOY READING MAG. ARTICLES ON THAT SCIENCE				
Agree	79.8	76.6	82.0	75.9
Disagree	5.4	5.7	1.7	3.3
It Varies	10.4	12.4	10.8	16.3
No Opinion	3.4	4.2	4.2	3.9
Not Stated	1.0	1.1	1.3	0.6
MAG. ARTICLES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND				
Agree	63.6	64.7	60.6	55.9
Disagree	13.3	8.9	11.2	13.8
It Varies	18.5	20.7	22.6	25.1
No Opinion	3.5	4.7	4.6	4.6
Not Stated	1.1	1.0	0.9	0.6
NOT ENOUGH MAG. ARTICLES ON THAT SCIENCE				
Agree	44.0	37.9	41.3	43.2
Disagree	36.6	40.1	37.6	37.9
It Varies	9.5	10.6	0.8	9.1
No Opinion	8.8	10.4	11.2	9.2
Not Stated	1.2	1.0	1.1	0.6
DIFFICULTY TO FIND SPECIFIC MAG. ARTICLES ON THAT SCIENCE				
Agree	29.6	28.0	27.6	31.9
Disagree	46.4	46.7	46.6	45.0
It Varies	12.1	11.8	13.1	10.5
No Opinion	10.8	12.9	11.6	12.1
Not Stated	1.1	1.2	1.2	0.5

(SEE MAIN TABLE 22.)

1. Per cent very or quite interested.

Only the general and women's magazines were listed frequently enough to provide a basis for discussion of social differences:

The regular use of general magazines which contain science increases with age (See Main Table 21). It is 29% in the 15-17 age bracket, 31% in the 18 to 24 age group and jumps upward to 41%, 42% and 44% in the 25-34, 35-44 and 45 & over groups, respectively. More young people admitted reading such magazines from time to time, as distinct from regularly.

More than a quarter of the women sampled (28%) listed women's magazines as their magazine source of science (Main Table 21). Another 12% used them from time to time. Some 5% of men noted women's magazines as regular or time-to-time providers of science information.

Education was also a slight factor in the reading habits of those who found science material in general and in news magazines. People who graduated from high school or had taken some college mentioned such magazines more frequently (67% and 68%; respectively) than those with less education (62%).

Canadians in white-collar jobs appear to be slightly greater users of these types of magazines for their science information.

Regionally, fewer respondents in Ontario and the Prairies noted the use of news & general magazines for science than did people in other areas of Canada (62% and 57% respectively). Quebeckers were highest (72%), followed by Maritimers (70%) and people in British Columbia (65%).

That linguistic differences may exist with regard to science in news & general magazines is indicated by the distribution according to mother tongue. Nearly three quarters (73%) of French-language respondents relied regularly or from time to time on such magazines for science information compared to 61% of English-Canadians, and 68% of Canadians from other backgrounds.

Assessment by Readers

Taking magazines in general, what type of attitudes do readers interested in various sciences have toward the science material printed? Table 9.2 shows the results found for those interested in the various sciences. On the accuracy of reporting, about three in five perceived most magazine articles dealing with any of the sciences to be well-reported. The social sciences were judged slightly lower than the other three groups.

The presentation of science by magazines was examined. More than three in four (76% to 82% of those who previously expressed general interest in one or more sciences) said they enjoyed magazine presentations and found them interesting to read. About three Canadians in five (56% to 65%) felt the articles were easy to understand. Articles on engineering topics were rated most difficult, with some 39% finding them variable or hard to understand. Nearly half the science-interested magazine readers felt there were not enough articles on all sciences alike: 38%-44% definitely wanted more articles and another 9% possibly more.

A substantial portion, nearly one-third (28%-32%) of the audience interested in the four sciences, had difficulty finding specific articles in these sciences.

Ease of understanding magazine articles on the sciences was linked primarily to education and occupation, with the more educated, professional or managerial people finding the sciences easier to understand (See Main Table 22.).

There were no conclusive trends, but some variations, with the language spoken, or surprisingly with age and similarly with community size or geographic distribution. Also the sex of respondents appeared to have no bearing on understanding articles on the various sciences.

Interest and enjoyment level remained about constant regardless of age and sex. About four persons in five polled, men and women, of most age brackets, found magazine articles on the sciences interesting and enjoyable to read.

Regular magazine readers thought articles in the various sciences more accurately reported than those who read magazines from time to time (See Main Table 30.). They also noted a greater enjoyment of these articles than occasional readers.

Regular readers found:

science articles easier to understand (11% to 15% more than occasional readers,

quantity inadequate (2% to 7% more than occasional readers),

and

articles slightly harder to find in their magazines (0% to 12%).

Chapter Ten

Science on Television

Public Following of Regular Science Programming

Turning to the electronic media, the important points we examined were the scope and composition of the audience for a broad selection of programs which regularly or occasionally deal with science. In particular, we wanted to compile information about the science-interested public within this audience. This is information which audience researchers do not normally extract.

Our definition of science is broad, as indicated through the subjects we listed in Chapter 4 and through the four categories we established (Chapter 5). We did not feel it sufficient, therefore, to list only the "educational" science programs, but drew upon a variety of public affairs programs and documentaries which frequently highlight some piece of contemporary scientific activity. From these, a score of programs were selected which were being aired at the date of our surveys or which had been broadcast in the previous year or 18 months, the exception being "La vie qui bat" aired in the early seventies:

Nature of Things — (CBC Network)

Here Come The Seventies — (CTV Network)

Target: The Impossible — (CTV Network)

Jacques Cousteau Specials — (US; CBC Network)

W-5 — (CTV Network)

Weekend — (CBC Network)

La Flèche du Temps — (CBC — French language)

Atome et Galaxies — (CBC — French language)

Man Alive — (CBC Network)

Human Journey — (CTV Network)

Les Jeunes Scientifiques — (CBC — French language)

Bronowski Series/Ascent of Man —(BBC; Broadcast on CBC)

Le 60 — (CBC — French language)

La vie qui bat — (CBC — French language)

Patrouille du Cosmos — (French-language TVA Television Network)

For comparison, included was the daily evening National News.

With the exception of the series produced outside of Canada (Jacques Cousteau and Ascent of Man), we did not take into consideration other science-featuring shows which appear on the U.S. networks

Table 10.1. Audiences to a Selection of Television Programs which Feature Science

	PER CENT OF ALL TELEVISION VIEWERS[1] WHO:					PER CENT OF TV VIEWERS WHO ARE AWARE OF PROGRAM[1] AND WHO:		
	HAVE HEARD OF YES	NO	WATCH[2] REGULARLY	WATCH FROM TIME TO TIME	DO NOT WATCH AT ALL	WATCH[2] REGULARLY	WATCH FROM TIME TO TIME	DO NOT WATCH AT ALL
Nature Of Things	89.8	10.2	21.4	55.4	22.5	23.8	61.7	13.9
Here Come The Seventies	69.7	30.3	10.7	39.0	49.4	15.3	56.0	27.8
Target: The Impossible	56.0	44.0	7.3	27.9	64.0	13.0	49.9	36.0
Jacques Cousteau Specials	77.2	22.8	39.0	28.2	31.9	50.5	36.5	12.3
W-5	77.0	23.0	17.1	42.0	40.3	22.2	54.6	22.5
Weekend	69.3	30.7	11.1	35.4	52.6	16.0	51.1	31.3
La Flèche du Temps(F)	62.2	37.8	16.4	28.8	54.0	26.4	46.3	26.5
Atome et Galaxies(F)	61.3	38.7	13.9	28.7	56.7	22.7	46.8	29.6
Man Alive	81.0	19.0	9.7	48.5	41.0	12.0	59.9	27.5
Human Journey	41.2	58.8	5.1	19.9	74.3	12.3	48.4	38.8
Les Jeunes Scientifiques(F)	32.8	67.2	5.0	17.3	75.7	15.2	52.6	30.6
Bronowski Series— Ascent Of Man	29.4	70.6	4.8	12.6	80.8	16.2	42.8	39.5
Le 60(F)	79.5	20.5	43.6	29.3	26.1	54.8	36.9	7.3
La vie qui Bat(F)	64.4	35.6	13.3	29.1	56.9	20.6	45.2	33.4
Patrouille du Cosmos(F)	69.1	30.9	22.8	30.9	45.6	33.0	44.7	21.6
National News (E/F)			52.6	40.0	6.8			

(SEE MAIN TABLE 23.)

1 Data for English-speaking respondents only was used for the English language programs; French-speaking, for French language programs (F). Percentages may not add up to 100% where 'Not Stated' replies occur.
2 Watch or watched.

(See Chapter 14).

To obtain representative figures in terms of audiences from the total TV viewers and in terms of total who reported 'being aware' of the programs, ie, the potential audience, the split was made in Table 10.1. The data indicate a wide variation of regular versus occasional followers within the audiences of the selected shows. There was also a sizeable range of non-watchers (See Figure 10.1).

Top rated among Canadian shows was 'The Nature of Things'. About a quarter of the aware audience (23.8%) watch it regularly and only 13.9% don't watch it at all. Highest following among French language programs is the public affairs series 'Le 60', with about half the audience catching it regularly. At least three potential viewers in four are familiar with the Canadian programs 'The Nature of Things' (89.8%), 'Man Alive' (81.0%) and 'W-5' (77.0%)--by the English-language audience, and 'Le 60' by the French-language audience. With the exception of two programs, the 'Human Journey' and 'Les Jeunes Scientifiques,' more than half the TV viewers were aware that the shows existed. Yet, surprisingly less than one in three (29.4%) reported hearing about the widely-acclaimed BBC-Times special 'The Ascent of Man,' which was televised in 26 programs over the CBC network in 1973.

Taking into consideration the occasional viewers, one finds that of all Canadians in our sample who watch TV, two in three watch at least some of the science that is being presented to them on the various networks.

Audience Assessment

Having quizzed all TV viewers on a selection of programs that 'regularly or occasionally make reference to science,' we provided ourselves with a control for further questioning. In theory, such programs ought to be uppermost in the minds of the

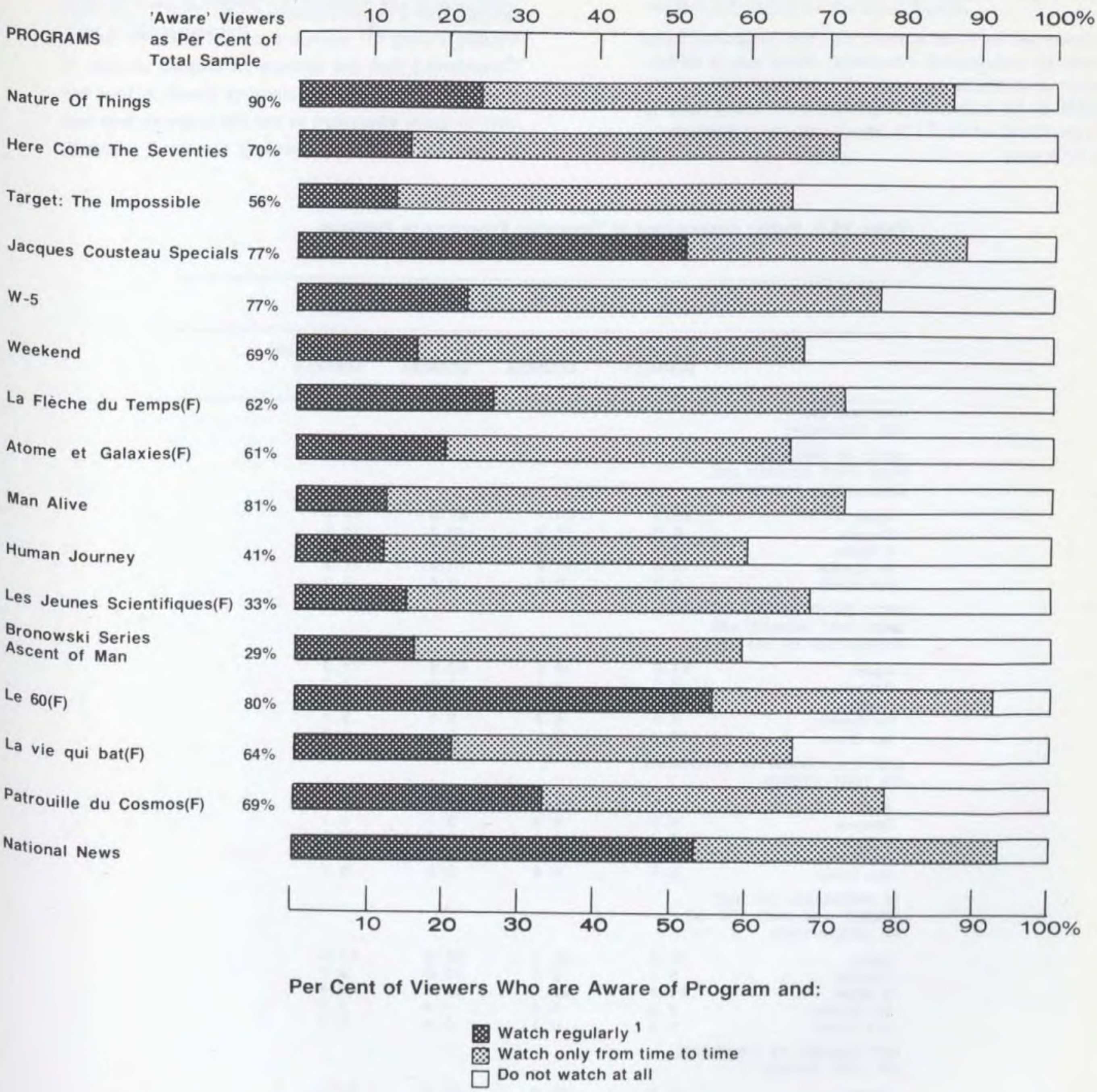

Figure 10.1 Audiences to Selected Television Programs which Feature Science
(See Table 10.1) [1] Watch or watched

science-interested audience, which was probed further. Audience reaction to the science content of these programs, of newsfeatures or of other programs was recorded.

Television viewers who had earlier expressed interest in the sciences appeared generally satisfied with their presentation on television. About two of every three respondents felt the reporting was accurate.

Four in five felt the programs were interesting and a similar percentage reported them to be enjoyable.

About two in three agreed that the programs were easy to understand. However, there was a difference in attitude on ease of understanding. Only 59% of life sciences programs were rated easy to understand while 71% found natural science programs easy.

About half the interested viewers also felt there weren't enough television programs on the sciences. Only a slightly smaller ratio, four in ten, had trouble finding TV science shows to suit their tastes. Considering that the science-interested portion of the population is in the majority (three in four are very or quite interested in the life sciences and two in three for the social sciences), the small percent-

Table 10.2. Public Assessment of Television Programs or Features Presented on the Various Sciences

	PER CENT OF TELEVISION VIEWERS INTERESTED IN:[1]			
	NATURAL SCIENCES	SOCIAL SCIENCES	LIFE SCIENCES	ENGINEERING SCIENCES
ATTITUDE ON THE STATEMENT				
MOST TV PROGRAMS DEALING WITH THAT SCIENCE ARE ACCURATELY PRESENTED				
Agree	68.5	60.4	67.3	62.0
Disagree	8.5	12.8	10.2	10.8
It Varies	13.7	14.4	12.1	15.1
No Opinion	9.0	11.9	10.0	11.9
Not Stated	0.3	0.5	0.4	0.2
MOST TV PROGRAMS DEALING WITH THAT SCIENCE ARE INTERESTING TO WATCH				
Agree	81.6	76.8	83.6	77.9
Disagree	5.2	5.7	2.4	4.9
It Varies	9.3	11.8	9.9	13.3
No Opinion	3.6	5.2	3.7	3.7
Not Stated	0.3	0.5	0.4	0.2
ENJOY WATCHING TV PROGRAMS ON THAT SCIENCE				
Agree	79.7	75.1	81.6	75.2
Disagree	4.9	4.3	3.1	4.7
It Varies	11.6	15.4	11.4	16.2
No Opinion	3.4	4.6	3.4	3.7
Not Stated	0.5	0.6	0.5	0.2
TV PROGRAMS ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND				
Agree	70.8	65.3	58.6	67.5
Disagree	9.1	9.5	13.8	9.2
It Varies	16.4	20.2	22.7	19.5
No Opinion	3.1	4.4	4.4	3.2
Not Stated	0.5	0.7	0.4	0.6
NOT ENOUGH TV PROGRAMS ON THAT SCIENCE				
Agree	55.7	48.9	52.4	52.0
Disagree	28.3	32.7	27.9	31.0
It Varies	6.7	7.2	8.8	7.1
No Opinion	8.9	10.5	10.6	9.6
Not Stated	0.4	0.6	0.2	0.3
DIFFICULTY TO FIND SPECIFIC TV PROGRAMS ON THAT SCIENCE				
Agree	41.4	36.8	39.2	26.0
Disagree	36.3	36.5	33.2	37.2
It Varies	10.8	12.9	13.6	13.1
No Opinion	10.8	13.3	13.8	13.1
Not Stated	0.7	0.5	0.2	0.6

(SEE MAIN TABLE 25.)

1. Per cent very or quite interested.

age of time being given to science and information programming (Chapter 14) appears to inadequately cater to these viewers.

In Chapter 12 we will compare these evaluations with those found for the other media.

Table 11.1. Audiences to a Selection of Radio Programs which Feature Science

	PER CENT OF ALL RADIO LISTENERS[1] WHO:					PER CENT OF LISTENERS[1] WHO ARE AWARE OF PROGRAM AND WHO:		
	HAVE HEARD OF: YES	NO	LISTEN REGULARLY	LISTEN FROM TIME TO TIME	DO NOT LISTEN AT ALL	LISTEN REGULARLY	LISTEN FROM TIME TO TIME	DO NOT LISTEN AT ALL
Ideas	7.0	93.0	0.3	4.3	2.5	4.1	60.8	35.1
As It Happens	21.0	79.0	2.5	11.7	6.6	12.1	55.7	31.2
This Country in the Morning	16.5	83.5	4.1	8.3	4.1	24.6	50.2	24.9
Radio Noon	22.5	77.5	5.4	11.7	5.3	24.0	52.2	23.4
La Science et Vous(F)	13.9	86.1	3.2	8.3	2.4	22.7	59.8	17.5
Focus on Science[2]	29.7	70.3	6.5	21.5	1.2	22.0	72.5	4.2
National News(E/F)			24.7	36.7	37.8			

(SEE MAIN TABLE 26.)

1. Data for English-speaking respondents only was used for the English-language programs; French-speaking, for French-language programs (F). Percentages may not add up to 100% where 'Not Stated' replies occur.

2. Short 2-3 minute items on science as they are presented on CBC stations.

Chapter Eleven

Science on Radio

Public Following of Regular Science Programming

Our study found that science programming makes little impact through radio. More than half Canada's radio listeners said they were not aware of *any* science or public affairs programs on the list we provided for them. (A complete listing of science programs broadcast over radio is contained in Chapter 14.)

An initial observation shows that the overall radio audience is scanty. If one considers the total radio audience, as in the last three columns of Table 11.1, one finds that programs with science content have only a small following. About one listener in 10 polled (or less) listens to any at all.

More than four Canadians in five reported they had not heard of each program we presented to them. About three respondents in four (74%) reported being unaware that short items on science were being presented over the radio.

Within the 'aware' audience for regular radio programs with science content, the proportions are somewhat higher (Table 11.1) Three Canadians in four expressed some interest in a number of them by listening to them at least occasionally. (This Country in the Morning, As It Happens and Radio Noon). On the other hand, less than a quarter are regular listeners; another half listen from time to time, while more than a quarter do not follow them at all.

For instance, the award-winning program "As It Happens" (See Chapter 14) was known by only 21% of Canadians polled, with 12% of these listing themselves as regular listeners and 56% as listening from time to time. Nearly one in three who said he or she had heard of the program (31%) did not follow them all. Within the total radio audience, only three per cent are regulars and 12% occasionally listen to the programs.

The social characteristics of the audience for each program is indicated in Main Table 26. However, since the subsample sizes themselves are small, we did not test for specific differences.

Audience Assessment

Since radio programs do not serialize any particular area of science, but rather move from topic to topic (except for the "Ideas" program series on physics Chapter 15), we confined our questioning to the four domains of sciences: natural, social, life and engineering.

We asked science-interested radio listeners to evaluate those programs which dealt with the sciences in their line of interest. Table 11.2 shows

Table 11.2. Public Assessment of Radio Programs or Features Presented on the Various Sciences

	PER CENT OF RADIO LISTENERS INTERESTED IN:[1]			
	NATURAL SCIENCES	SOCIAL SCIENCES	LIFE SCIENCES	ENGINEERING SCIENCES
Attitude on the Statement:				
MOST RADIO PROGRAMMES DEALING WITH THAT SCIENCE ARE ACCURATELY PRESENTED				
Agree	32.4	31.7	34.7	31.3
Disagree	7.6	7.9	6.4	7.0
It Varies	9.2	9.7	8.9	11.4
No Opinion	50.1	49.8	48.9	49.1
Not Stated	0.7	0.8	1.1	1.2
MOST RADIO PROGRAMMES DEALING WITH THAT SCIENCE ARE INTERESTING TO LISTEN TO				
Agree	37.9	40.1	39.4	37.8
Disagree	6.1	4.4	3.9	4.5
It Varies	9.8	9.9	10.2	12.1
No Opinion	45.5	44.6	45.4	44.3
Not Stated	0.7	0.9	1.1	1.2
ENJOY LISTENING TO RADIO PROGRAMMES ON THAT SCIENCE				
Agree	35.8	38.9	38.2	35.6
Disagree	8.5	6.0	5.2	5.2
It Varies	10.9	11.2	11.5	14.1
No Opinion	44.0	42.9	43.8	44.0
Not Stated	0.8	1.1	1.3	1.2
RADIO PROGRAMMES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND				
Agree	34.3	35.8	34.8	32.3
Disagree	9.0	7.6	6.0	7.2
It Varies	11.8	11.8	13.4	15.1
No Opinion	44.2	43.8	44.4	44.2
Not Stated	0.7	1.1	1.3	1.2
NOT ENOUGH RADIO PROGRAMMES ON THAT SCIENCE				
Agree	28.0	26.2	26.0	24.5
Disagree	16.9	18.7	16.8	16.2
It Varies	3.7	4.4	5.9	8.3
No Opinion	50.8	49.5	49.9	49.7
Not Stated	0.7	1.2	1.4	1.3
DIFFICULTY TO FIND SPECIFIC RADIO PROGRAMMES ON THAT SCIENCE				
Agree	28.1	24.8	23.4	25.7
Disagree	14.1	15.9	16.8	15.3
It Varies	5.9	7.1	7.5	7.5
No Opinion	51.3	50.8	51.2	50.2
Not Stated	0.7	1.4	1.1	1.2

(SEE MAIN TABLE 28.)

1. Per cent very or quite interested.

their assessment of the situation. A high percentage of science-interested radio listeners furnished no opinions whatsoever on radio presentations on the sciences. In some cases, more than half the group polled refused comment either on the score of interest or of enjoyment. This was a much greater index of lack of real interest than was found with respect to any of the other mass media. Undoubtedly, the paucity of regular radio science material in any specific category, even as broad a one as the life sciences, makes it difficult for the public to voice any fair comments on the subject.

Or it may be speculated that the mass media presentation of science and technology requires some visual contact with the audience through print or broadcasting. We are aware of no data which would furnish a clear-cut answer. The Davey Committee pointed out that "radio is background and hence is turned on for a large proportion of the day in many homes." Perhaps radio as a medium does not lend itself to the presentation of science, which is a visual experience. Yet the committee also noted that radio is not far behind newspapers in satisfying local news needs.

As we found for the English-language network programs, the French-language Radio Canada show, "La Science et Vous" also did not appear to have a widespread audience. Only 14% of French-speaking Canadians mention being aware of the show, with around a quarter (22%) of these being regular (23%) and half (60%) irregular listeners.

The irregular science features sold by freelancers to the CBC are recalled by about a quarter of listeners (26%). Unlike the loss of about a quarter of those following regular science programming, most listeners aware of science items catch them from time to time or on a regular basis.

The one conclusion that can be reached from the data is that few radio programs of any kind tend to be well-established in the minds of the radio listeners. This may be due to inadequate promotion, uninteresting subject matter, scheduling at inappropriate hours, or simply a lack of attentiveness or retentiveness on the part of the listeners. As we found in the study for science in all the media, those interested radio listeners reported difficulty in finding regular material.

Chapter Twelve

Comparisons of the Media

In this chapter, we compare briefly the reactions of science-oriented audiences of all four media. The overall picture of media use and media preferences for the sciences by Canadians are examined. Since the attitude questions were made parallel for all media, it is possible to compare ratings (See Main Tables 29 and 30.).

Assessment of Science Presentation

Television was perceived as the most accurate of all media regarding the presentation of the various sciences (60% to 68%), although magazines were close behind with 56% to 64% response.

Newspapers were significantly lower, with only about half the sample (41-49%) judging newspaper science to be accurate. Less than a third of all the respondents (31-35%) viewed science as accurately reported on the radio. In addition, another half did not state their opinion on radio's accuracy, compared to about 10% for the other media.

More than three of four respondents with interest in the sciences said they enjoyed science presentation by television and magazines (75-82%). About as many found television programs which deal with sciences interesting to watch and magazine science articles interesting to read.

Newspapers came a close third, with two of every three appreciating science in these media. Nearly half the radio listeners (44-46%) hesitated to judge even the level of enjoyment or interest.

Science was judged easier to understand on television than through any other medium. Magazines were next easiest. About two of every three science-oriented viewers gave these impressions. A lower percentage, between 49% and 58% of interested newspaper readers, found newspapers easy to understand.

About forty percent of magazine readers felt there was insufficient science material in these publications. An equal percentage felt there was enough. More than half the newspaper readers and half the television audience interested in the sciences felt they were not getting enough and only about one third were satisfied.

From among radio listeners, only half the respondents commented on quantity. Of those who did, the ratio was about three to two wanting more science.

Science material was easiest to locate in magazines. About 29% noted difficulty in finding specific science articles while some 45% found no problems.

However, in the other media, the situation was reversed. For newspapers, between 41 and 49% of interested readers said that when they looked for specific science articles, they had trouble locating them. About a third, or some 30-35%, were satisfied with the present handling of newspaper material. Radio listeners, about 16% to 25%, also noted difficulties. Again half the sample did not comment on radio science.

Part Two

Mass Media Science Content

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NEWSROOMS OF THE DAILY PRESS

1 *Le Jour* (Montreal) (Photo credit: Antoine Desilets)

2 *The Montreal Star*

3 Head office of the national news service *The Canadian Press* (CP) (Toronto)

4 *The Albertan* (Calgary)

5 *Winnipeg Free Press*

6 *The Daily Colonist* (Victoria) (Photo credit: Alex Barta)

7 *The Toronto Sun*

8 *The Winnipeg Tribune*

9 *La Presse* (Montreal)

10 *Le Droit* (Ottawa)

11 *The Calgary Herald*

12 *The Citizen* (Ottawa) (Photo credit: Lynn Ball)

13 *The Edmonton Journal*

14 *The Lethbridge Herald*

15 *The Globe and Mail* (Toronto)

16 *The London Free Press*

17 *The Province* (Vancouver)

18 *The Ottawa Journal* (Photo credit: CP photo: Bill Brennan)

19 *The Gazette* (Montreal)

20 *Regina Leader-Post*

21 *The Toronto Star*

22 *The Victoria Times* (Photo credit: Bill Halkett)

23 *The Vancouver Sun*

Chapter Thirteen

Print Media: Newspapers and Magazines

National Science Coverage by the Daily Press

National coverage of science is a "pot-pourri" of information provided by many sources. Some is produced regularly as part of news developments by science or medical reporters across Canada. Other material appears irregularly, in news or feature copy, of senior staff members or general reporters of dailies. Contributions are marketed to the news media by freelance writers. The last, of particular importance to the smaller papers of Canada, is the flow of information generated for the papers by the national wire services, or as syndicated columns or reports.

Thus, most science material is unconsolidated. Only a fraction appears in "packaged" form, such as columns or regular features.

Unconsolidated Science Reporting

When this study began in January 1973, less than one-quarter of those who called themselves "science writers" through membership in the Canadian Science Writers' Association (CSWA) actually worked fulltime - daily - at the job of writing about science for the mass media.

The association, founded in 1971 to improve the quality and quantity of science writing, had a membership at that time of 103. Only 25 were fulltime medical or science writers for the newspapers or news services and another six worked for the broadcast media. The rest were mainly involved in transfer of science information as information officers, teachers or administrators.

CSWA members also include science writers from periodicals or with industrial public relations firms (23 in 1973), government media relations (18), university information bureaus (3), university journalism schools (4), and miscellaneous communicators who freelance science material to the various media.

Science articles by many of these writers appear periodically in the daily press. Yet, as noted in Chapter Three of the Interim Report, a 1969 study by Scanlon showed science material well down the list of categories to which space was being devoted in the daily press. Science and Space (with 2.6%), and Medicine and Health (with 3.0%), were minimal compared to the 15.8% for Human Interest items, 15.0% for Sports, and even 5.7% for Crime and Vice, or 3.2% for Accidents, Fires and Disasters.

We will deal in depth with science writers in Part IV of this report.

(CP) News Service

The majority of the 125 Canadian dailies subscribe to the national wire news service, "The Canadian Press" (CP) (107 as of September, 1974). These papers feed news to and exchange material with one another through this service. CP news is prepared by staffs of writers and editors in eight regional bureaus (Vancouver, Edmonton, Winnipeg, Toronto, Ottawa, Montreal, Quebec and Halifax) and by individual staff writers located in six cities: Victoria; Calgary; Regina; London, Ont.; Saint John, N.B. and St. John's, Nfld. Three other CP bureaus (New York; London, England; and Washington, D.C.) regularly churn out material from outside Canada.

A number of services form part of the CP service. For example, there is a French-language service which includes both translation and editing of material coming over the CP wires. CP's Photo Service provides pictures and other illustrations of developments in basic research, in industry, and in government.

In addition, radio and television stations may carry CP material that is rewritten and tailored to the electronic media. As a result of working agreements with CP, copy from AP (Associated Press; American in origin), Reuters (British) and AFP (Agence France-Presse of France), is transmitted to CP members and clients as part of the CP service. Many papers and broadcast outlets use this material.

In the last 25 years, CP has had a number of writers who concentrated on science. Among them were John Bird, Bob McKenzie, Ken Kelly and Glennis Zilm. Peter Michaelson covered the science beat for CP in 1974. With these and other resources, CP, more than any Canadian agency or paper, is a major contributor to the science information presentations of the daily newspapers and broadcasting stations and networks.

What are the recent trends in the development of science reporting by Canada's major news service?

CP maintains that its national coverage of science is much more extensive and of much higher quality than it was three years ago. It predicts that this coverage will improve still further in the next few years, in part due to recognition by the media of the importance of this specialized field as well as from a growing interest of skilled reporters.

The national news-gathering agency sees a shortage of the skills to report various facets of science as a limiting factor on the expansion of science reporting. Its editors have been instructed to watch for science stories which can be picked up and transmitted to member newspapers.

CP says the outlook is less bright for increased and improved science coverage on a regional basis, due to the fact that this type of coverage is drawn from smaller papers which lack space or resources to undertake extensive science reporting.

CP has done little to develop a long-term policy to expand science coverage on its own, in so far as the authors have been able to learn. Plans put forward a few years ago to increase the science specialist staff at small cost, fell victim to the economics of news agency operations. The agency provides adequate columns of science material when the science writer covers a specific scientific event. But this coverage is necessarily selective, chosen at the discretion of a single CP writer assigned to the joint science/ medical beat. A single science reporter at CP can scarcely have the time to keep abreast of scientific research and development across the country. Nor can busy CP editors be expected to have as lively an interest as a science specialist in science items which appear in member papers.

Expansion of the CP science writing staff is not a high priority with the news service immediately.

Other News Services

A number of other Canadian news services also maintain their own staff writers to cover science and medicine. (See Appendices F and G for details.)

For instance, for the last several years, the Southam group's science beat was handled by Peter Calamai. After his posting as Southam's correspondent in London, England (in 1974) the position of national science/medical news for the 13 Southam dailies was the responsibility of Jo-Ann Gosselin, and, later, by Don Sellar. Since 1970, FP Publications have assigned science to Jeff Carruthers, who has been active in covering everything from science policy to issues in energy and drugs.

On the other hand, the Thomson group (32 dailies and 14 newspapers published at least weekly) had not yet hired a full-time science writer by the fall of 1974, nor was it among the group's priorities.

In addition to these news services, some dailies also subscribe to one or more domestic news services such as Financial Times of Canada and Financial Post and the syndicates of the Toronto Star or the Montreal Star. Some Canadian dailies receive material by teletype or mail from the United Press International (UPI), the New York Times Service (NYTS), the Washington Post — Los Angeles Times, the London Observer, The Guardian, The Economist and The Times, the Christian Science

Monitor, the Gemini News, the Chicago Daily News and Enterprise Science News from New York.

Consolidated Science in Dailies

Although much of the science which is presented by the daily press is more or less ad hoc and topical, in the past few years some dailies have taken steps to provide regular science material.

CP has a daily wire transmission of more than one hour for news features. These items may include material from many areas such as women's news, sports and others. There were conflicting views within CP on the usefulness of this practice of news feature transmission for exchange of science news.

Many science features which appear regularly in the daily press are sold to the dailies by syndicated services. The majority of these services originate in the U.S. The magazine "Editor and Publisher" publishes an annual directory of syndicated features. The 1974 issue contained more than 250 services, and among the multitude of features provided by these services were more than 125 features in the categories of "science," "health," or the "environment".

Among the Canadian services which provide some science features are the Toronto Sun Syndicate, Canada-Wide Feature Services, Miller Services and the Toronto Star Syndicate. Some of these Canadian syndicates act as representative of American syndicates and market American features for the Canadian media.

The list of features provided by these services (See Appendices I and J) should serve as an indication of the type of periodic science, medical or science-oriented material which is filtering through to the Canadian public. It can be seen that nearly a dozen science features or columns reprinted in Canadian dailies are syndicated from the U.S. Another dozen or so medical columns or features also reach Canadian readers through these syndicates. Most are regularly available and can be readily obtained by any Canadian daily at no great cost.

Regular Canadian features in the sciences, science-related or medical areas are about as numerous. However, as can be seen in Appendices I and J, most of these features receive only token local or regional attention. Very few ever get national prominence.

A closer examination of this favoured position of foreign science features over domestic, indicates that a certain amount of it is factually incorrect or furnishes Canadians with a distorted picture of the relative strength of foreign scientific activities. This undermines awareness of some of this country's real accomplishments in science and technology.

Many of the regular science and medical columns run in Canadian dailies are American in origin and, frequently, American-oriented. Medical columns, if they are written by American doctors, contain information on research being conducted in the U.S.

Canadian readers are frequently in the dark about the origin of many of these features; some papers don't acknowledge their U.S. or external origin. Both through a lack of Canadian syndication in this area and relatively inexpensive package purchases of foreign features, readers get shortchanged on Canadian material.

A steady supply of Canadian science or medical news exists, and it frequently is far superior to imported news. The problem evidently lies in national marketing of foreign science features.

Periodic Canadian columns on science, such as "The Realm of Science," "Sciences et Techniques" or many business columns far outstrip their American ones in level and quality. Their audience, for one reason or another, is local. Little or none of this material is syndicated nationally or internationally, or carried nationally over the wire within the news or features packages.

Magazines

The Davey Committee report listed 30 of the major mass audience Canadian magazines according to size and significance. The study also found an additional 39 Canadian magazines with circulation of more than 20,000.

Examining the mass audience magazines, fewer than a dozen publish one or more Canadian science or medical articles on a regular basis. Prominent ones are *Maclean's, Le Maclean, La Patrie, Le Petit Journal, Chatelaine, Miss Chatelaine,* the *Canadian Geographic Journal* and one or two others.

For instance, *Chatelaine* features a regular medical column, "Health" by Earl Damude, which summarizes new medical research of Canadian and international origin. Other *Chatelaine* articles on "your child's health" and "your child's behavior" appear periodically. *Maclean's* occasionally features articles which deal with medicine, education, and less frequently, other sciences.

The magazines *Weekend* (and its French counterparts *Perspectives* and *Perspectives Dimanche)* and *Canadian Magazine,* which may also be included among the magazines, are pictorial weekend supplements of some daily newspapers.

Both magazines regularly include feature articles which deal with some interesting facet of science or medicine. For instance, *Weekend* articles appeared on continental drift (The Whole World is Drifting), bio-engineering (Mechanical Man) and acupuncture (If it Cures Sick People, is it Medicine?). The *Canadian* has featured such articles as scientific research into bad dreams (Sleep Terrors) and one on the dangers of new products developed for the consumer (Is Anything Really Safe?). Although *Time* and *Newsweek* publish special sections under headings such as "Science," "Medicine" or "Environment," rarely do these sections contain any news of Canadian origin.

Unique among Canadian magazines on science destined for a general audience is the French-language monthly periodical "Quebec Science." Published by the University of Quebec (since 1969) with assistance from the Quebec Ministry of Education and the National Research Council of Canada, the magazine has a circulation of just over 8,000 and reaches an audience of 77,000 (May, 1974, Readership Survey). More than half its readers are in the 16 to 25 age bracket, students divided evenly among the high schools, colleges, and universities, for whom "Quebec Science" provides regular news and commentary on Canadian research and development in a broad range of sciences, from social and health sciences to ecology and technology.

Regular news about scientific developments in Canadian industry tends to be propagated through a variety of lower circulation magazines (about 20,000 or less). These periodicals, aimed at more specialized audiences, come in all shapes and forms, from medical to business or trade magazines, to government publications.

The Business Press

The monthly Canadian Rates and Advertising Data (CARD) catalogues more than 950 Canadian community newspapers (primarily weeklies) across Canada, 125 foreign-language publications, 255 consumer magazines (including the 69 or so mass audience magazines), 67 farm papers and 494 business, trade and technical publications. Some 70 publishers put out two or more such periodicals. The business press (or "invisible press," as the Davey Committee report called it), while attracting little public attention, is extremely vital to specific audiences in a panorama of industrial, commercial and professional sectors.

Biggest publisher of Canadian periodicals is the Toronto-based operation of Maclean-Hunter Publications. In 1974, Maclean-Hunter put out some 65 periodicals and a dozen annuals and directories. About two dozen of these magazines convey information on scientific or medical developments. Southam Business Publications and its subsidiaries market some 44 periodicals and numerous directories. Two dozen of their magazines regularly or occasionally discuss scientific, engineering or technical research.

Both of these publishing firms also put out weekly newspapers which reach a wide readership within the Canadian community. These newspapers, Maclean-Hunter's *Financial Post* with a circulation of 142,971 (August 1974); and Southam's *Financial Times* with 55,201 (August 1974); frequently carry business items which touch upon developments in science, medicine and health as they affect Canadian industry.

A number of smaller publishers, such as the Chemical Institute of Canada and Canadian Engineering Publications keep their readers aware of news in their areas.

Medical news in particular reaches Canadians through such groups as the Canadian Medical Association, the Canadian Hospital Association, Canadian Nurses Association and through numerous publications of Maclean-Hunter, Southam and others.

While these publications do not reach the "general public," their combined circulation is high. Southam's numbers approximately half a million Canadians who are specialists in business and industry. Distribution of many specialist publications to mass circulation newspapers, radio and television stations means that at least some of the contents are reported to the general public.

Government Publications

There exist also a multitude of government publications designed to keep both the professional and the interested non-professional informed about scientific research in special areas. Some two dozen science-based federal departments and agencies put out monthly, quarterly or annual publications. For instance, on the federal scene we have *GEOS* (Energy, Mines and Resources); *Canada Courier* (Industry, Trade and Commerce); *Living* (Health and Welfare); *AECL Review* (Atomic Energy of Canada); *Contact* (Canadian International Development Agency); *Cooperation Canada* (Annual reports of the Canadian International Development Agency); *IDRC Reports* (International Development Research Centre); *Science Dimension* (National Research Council of Canada); *In Search* (Communications Canada).

About half a dozen science-based agencies in every province also publish periodicals for public consumption.

College and University Publications

Canadian colleges and universities describe their research through some 42 official newspaper and weekly news sheets published by their information offices, or their public relations or news bureaus. Many of these publications are source material for news items in the sciences reported by the mass media.

Finally, publications which disseminate detailed research material, such as NRC's Journals of Research, offer the primary step in communicating direct information from the scientist, technologist or engineer.

In addition to Canadian magazines, a score of foreign science and science-related magazines are available at newsstands or through subscription. From the U.S. come *Scientific American, Science, National Geographic* and *Popular Science*. From abroad, Canadians may receive *Vivre* (France) and *New Scientist* (Great Britain).

Other Information Sources

Outside of newspapers and magazines, the general public pick up science information from:

—The electronic media (See Chapter 14);

—Textbooks, encyclopedias and popular books on scientific or medical topics for use at home, schools or libraries;

—Canadian films on the sciences. For example, the National Film Board has, in its library of films, more than 400 titles covering some aspects of scientific work — from earth sciences and the environment to industrial science, agriculture, transportation and communication, health and medicine to biological sciences, physical and applied sciences and social sciences. The Ontario Educational Communications Authority (OECA) is another major source of films on Canadian science;

—Science Centres, planetariums or science clubs, museums, etc. For instance, in 1973, nearly a million and a half persons of all ages viewed the science exhibits of the Ontario Science Centre. Picking up the younger student interest are such groups as the Youth Science Foundation, which co-sponsors the annual Canada-wide Science Fairs. The organization also publishes "Youth Science News," a monthly newspaper publication of science and engineering clubs in Canada.

—The High School Science Teachers Association, the nearly 400 Canadian citizens' environmental organizations, and other interest groups. In one survey of science teachers undertaken in June, 1974, Dr. David Suzuki of the University of British Columbia, underscored the need for a Canadian "Science Update Magazine" written in language directed to the B.C. secondary science teacher. The aim of the magazine would be to publish articles by contemporary scientists (or their designated science writers) and "to coordinate, present, and comment on current scientific research across the spectrum of science... with proportionate serious attention given to Canadian science and to research with potential impact on, or usefulness to, Canadian society."

It is all such sources, be they professional scientists, communicators, decision-makers or members of interest groups, who contribute to the science consciousness of Canadians and help define a climate in which Canadian science coexists with other priorities in society.

However, outside of the mass audience, large circulation magazines, smaller periodicals and other sources are secondary sources of science information to the general public. In most cases, their material is interpreted and simplified for the interested layman. Moreover, most Canadians could scarcely afford to subscribe to many of these.

An indication that there may be a trend toward more science in mass audience magazines is a study by Sorenson and Sorenson (1972). These authors examined the content of a number of magazines (most of which are available to Canadians): *National Geographic, Time, Reader's Digest, McCall's, Ladies' Home Journal, Life* and *Saturday Evening Post* (the last two have ceased publication). They found that the total number of science/technology articles in the seven magazines was 83% greater in 1969/70 than in 1964-65. Most of this increase was in the areas of "Space," "Automation" and "Science," rather than in "Nuclear Energy" or "Medicine."

The science content of *Time* magazine, which was studied in particular had increased space for science by 63% from 1965 to 1970. (*Time Canada's* science content is controlled through the New York office where, as in other areas, editors can veto editorial decisions of *Time's* Canadian editor.)

A content analysis of Canadian magazines would be useful. While readership studies are done continually for individual magazines, the balance and comprehensiveness in the science coverage by Canadian magazines remains virgin territory ripe for exploration.

Communications research has to-date been concerned with science and technology information within the science community and has neglected media research and hence the public.

Sellout of Canadian Science by the Media?

Stories about national and international developments frequently need supplementary tie-in comments or elaboration about local work done.

Nevertheless, local or regional angles are omitted frequently and the reading public is not made aware of local significance or local involvement in the research described. The need for such local angles in science-reporting was underscored in a story we followed up in detail through 1973-1974. An article, syndicated through the American Enterprise Science News, was published in the Montreal Star on November 14th, 1973. It was written by an eminent American science writer, Dr. Irving S. Bengelsdorf, former science editor with the Los Angeles Times. The article was by-lined under his name, with the title Ph.D. appearing after the name. As a result, a reader probably would have had no cause to question the accuracy or authenticity of the story.

The article follows.

Nuclear plants increase, U.S. unable to make fuel

Montreal Star 14/11/73

By IRVING BENGELSDORF, Ph. D.

A crisis may be brewing within the energy crisis. Within 18 years, the amount of electricity produced by nuclear fission in the United States may increase 100-fold — from 29 nuclear power plants in 1972 with a capacity of 14,700 megawatts, to 1,200 nuclear power plants in 1990 with a capacity of 1,200,000 megawatts.

Problem: From where will all the enriched uranium come to fuel this 100-fold expansion of generating electricity by nuclear fission?

The problem exists because the only material found in nature that can fall apart (undergo fission) to give heat to produce electricity is a variety of atom called uranium-235. Unfortunately, for every 140 atoms of uranium found in nature in an uranium ore, only one atom is U-235; the other 139 atoms are of another variety called uranium-238. For a nuclear fission reactor to work, the fuel must have two to four atoms of U-235 for every 100 atoms of U-238, which requires an enrichment process.

To bring about enrichment, each uranium atom is combined with six fluorine atoms to give a yellowish-green, toxic gas called uranium hexafluoride. Because the uranium hexafluoride gas made from U-238 atoms weighs slightly more than does the gas made from U-235 atoms, the two gases can be separated either by a process called gaseous diffusion, or by a process known as high-speed centrifugation.

The United States now has only three uranium-enrichment plants — all of them built 15-25 years ago, and all using gaseous diffusion — located at Oak Ridge, Tenn., Portsmouth, Ohio and Paducah, Kentucky. The only other two uranium-enrichment plants in the non-communist world — also gaseous diffusion — are at Capenhurst in the United Kingdom, and at Pierrelatte in France.

The U.S. has the capacity to produce 30 times as much enriched uranium as can the U.K. and France combined. But, in spite of this great capacity, it is expected that by 1977 — only four years from now — the non-communist world's ever-increasing demand for enriched uranium will outstrip the existing U.S. gaseous diffusion capacity to make the stuff.

Many energy-hungry European coutries do not want to be dependent either upon the Middle East for oil, or upon the U.S. for enriched uranium. So, the U.K., West Germany, and the Netherlands have signed an agreement to produce their own enriched uranium in the near future by the high-speed centrifugation technique.

Everything in this area is highly secret, but it is known that because of newly developed technology, centrifuge enrichment plants have many advantages over gaseous diffusion plants. Centrifuge plants can be built in any size, as compared to the enormously large, extremely expensive facilities needed for gaseous diffusion plants.

A centrifuge plant uses only 10-15 per cent of the electricity needed to operate a gaseous diffusion plant. At full capacity, the three gaseous diffusion plants in the U.S. use 6,000 megawatts of electricity to enrich uranium — enough electricity to satisfy the combined needs of Philadelphia, Denver, and San Francisco — or the entire state of Minnesota. During the Second World War, the Oak Ridge plant used 10 per cent of all the electricity generated in the U.S. to enrich uranium.

So, if the nuclear energy enthusiasts are right, a great deal more of enriched uranium will be needed. And it looks as if it will come from high-speed centrifugation plants. Will enough of these plants be built in time?

One thing is certain. With the coming of the centrifuge plants, the U.S. monopoly on the supply of enriched uranium is broken. If Americans do not build these plants someone else will.

At our request, the Atomic Energy of Canada Limited provided a response to this newspaper article:

In stating flatly that "For a nuclear fission reactor to work, the fuel must have two to four atoms of U-235 for every 100 atoms of U-238", Dr. Irving Bengelsdorf reveals his regrettable ignorance of the CANDU line of heavy water moderated, natural uranium fuelled power reactors, developed by Atomic Energy of Canada Limited.

The largest operating nuclear power plant in the world, at Pickering, near Toronto, consists of four CANDU units with a total gross generating capacity of 2160 megawatts. Since the first unit started up in May 1971, the capacity factor of this station has averaged over 80 per cent, as compared to a U.S. nuclear plant average of about 60 per cent. Other smaller CANDU nuclear power plants are operating elsewhere in Ontario and Quebec and also in India and Pakistan. Many more are under construction and planned.

CANDU reactors are able to operate on natural uranium fuel (about 0.7 atoms of U-235 per 100 of U-238) because they use neutrons more efficiently than the light water reactors (LWRs) with which Dr. Bengelsdorf is familiar. For this reason, a CANDU power plant requires 30 per cent to 50 per cent less uranium per unit of energy produced than an LWR; it produces almost twice as much plutonium, required for fast breeder reactors, and it can use enriched thorium fuel efficiently. In fact, using only existing technology, a CANDU reactor could be designed to breed, using thorium and the U-233 thereby generated, although this would be marginally uneconomic under present conditions. Thorium occurs in nature in about the same abundance as uranium, frequently with uranium.

CANDU plants are completely independent of uranium enrichment facilities. However, each new reactor requires an initial charge of about one ton of heavy water per megawatt of generating capacity. Thereafter annual makeup is less than 1 per cent of this figure. Several heavy water production plants are operating or under construction in Canada, as well as elsewhere. Their cost is high, but only a fraction of the cost of an enrichment plant on a comparable basis.

Another point on which Dr. Bengelsdorf is apparently misinformed is the stage of development of the ultracentrifuge enrichment process. The USAEC expects to choose between centrifuge and diffusion plants in 1976; Europe is split between the French diffusion process and the German-Dutch-British centrifuge developments; and a Canadian consortium is spending $10 million on a comparative study of the two processes. (The study is investigating the economics of building an enrichment plant in Canada solely to increase the value of exported uranium.) The centrifuge plant has a number of apparent advantages over diffusion plants, but it has one disadvantage — none has yet been built on a commercial scale, and operating costs are therefore unknown.

Even more astonishing than Bengelsdorf's ignorance of CANDU is his failure to say a word about the breeder programs in the U.S. and other countries. It is freely admitted by all concerned that the LWRs consume too much uranium and that there is a need for a more efficient system, soon. The U.S. is pinning its hopes and spending billions of dollars on the fast breeder reactor, which theoretically will produce more fuel than it consumes. It is true, as Bengelsdorf says, that there will have to be more enrichment capacity to serve the LWRs, but in the longer term the U.S. is counting on breeders to solve the nuclear fuel supply problem. We contend that CANDU can solve the problem, without having to turn to fast breeders.

Hence, the article was factually inaccurate in several places. In effect, Dr. Bengelsdorf, by misstating facts and omitting others, failed to give his readers a true picture of the state of development of electrical energy production from nuclear power. The Canadian readers were left in ignorance of the real achievements of their own scientists and engineers in this field. We sent several letters to Dr. Bengelsdorf but received only a vague reply. His letter contained neither explanation, rectification, nor retraction of the errors. The paper, apprised of the error, also took no corrective steps.

So far as we could ascertain, in this case, as in many others, there was *no* response from the Canadian scientific community. Certainly, the fault with this article does not lie with the writer alone. It raises questions of how well do Canadians market their science news to the U.S. or abroad?

This lack of media and industry recognition of Canadian achievements — in this case, in nuclear technology -- has been echoed by well-known American scientists, in statements such as those given.

Nuclear 'conspiracy of silence'

The Globe and Mail 24/11/73

U.S. scientist says Canadian know-how ignored

OTTAWA (CP) — There may be an international "conspiracy of silence" against Canadian nuclear-power technology, an eminent U.S. scientist said yesterday.

Professor Lew Kowarski of Boston University said the Canadian-developed technique of producing electrical power from the fission of inexpensive low-grade uranium moderated by heavy water is ignored by international experts, in spite of the system's obvious merits.

Prof Kowarski, one of the originators of the European Nuclear Research Centre, was one of the leading members of the Manhattan Project established during the Second World War to produce the atomic bomb.

If in fact there is a conspiracy, it may be because the economic interests of large international corporations and the credibility of governments are at stake, the 65-year-old professor said in a telephone interview from Boston.

The result may be that most of the world opts for nuclear-power systems that are inferior to the Canadian system with unfortunate consequences for all, he said.

L. R. Haywood, vice-president of Atomic Energy of Canada Ltd., said he does not believe there is a conscious conspiracy to play down the success of the Canadian technology.

However, the Canadian technique is receiving less notice than it deserves, he said.

Prof. Kowarski said Gulf Oil Corp. and Shell Oil Co. are two U.S. companies with vested interests in other nuclear technologies. The companies were promoting a new high-temperature nuclear reactor.

Canada has exported components and technology for three heavy-water reactors in India and Pakistan, and hopes to get $100-million worth of business with another plant in Argentina. Canada bid for the Argentine plant against Westinghouse, General Electric Co. and a German group.

Prof. Kowarski said governments would be embarrassed at this point to admit that the Canadian nuclear power system is the best. The public would ask those governments: "What the hell have you been doing for the last 15 years?"

The alternative would be that the Canadian system has so many snags no one takes it seriously, he said. But that did not appear to be the case.

The Candu reactors developed here produce electricity from the fission of inexpensive low-grade uranium moderated by heavy watr. Most developed countries have imported the U.S. technique of light water and enriched uranium technology.

The Candu reactors, however, can produce as much power as the light-water reactors with half as much uranium, Mr. Haywood said. Experts also believed the radioactive wastes from the Candu reactors were less dangerous.

Prof. Kowarski said the enrichment process, in which the percentage of uranium-235 is increased in natural uranium, is wasteful.

Another nuclear-power alternative—breeder reactors, which convert natural uranium to plutonium—is dangerous because plutonium is the most poisonous substance known, he said. The new high-temperature reactor had the disadvantage of requiring highly enriched uranium.

An Atomic Energy of Canada scientist, Dr. A. M. Aikin, said the recent squeeze on gas and oil supplies has made countries more anxious to generate more electrical power with nuclear energy systems.

But now, increasingly, fears are expressed that uranium-enrichment plants will not be able to produce enough enriched uranium to supply the world's light-water reactors, he said in an interview.

In the United States alone, where most of the non-Communist world's supply of enriched uranium is produced at three large plants, there are plans to build more than 1,000 light-water nuclear power plants in the next 15 years.

Nor is the Bengelsdorf article unique. Dozens of such articles which omit relevant Canadian angles permeate the market weekly and daily.

Consider a story which ran in the Globe and Mail on February 13, 1974:

AROUND THE WORLD

U.S. developing home windmill

WASHINGTON — A U.S. Government agency is developing a windmill for placement atop homes to provide electricity that will help out in the energy shortage. The windmill would look like a large egg beater and would cost $500 to $1,000, the National Aeronautics and Space Administration says. A full-scale experimental model has been erected atop a two-story building at NASA's Langley Research Centre in Hampton, Va., and tests are being planned, the agency said. Officials said the housetop windmills could provide inexpensive and non-polluting electricity either as an auxiliary home power source or a complete power system.

Nowhere in this item did it mention that this windmill is based on the same principle as a type of windmill being developed at the National Research Council of Canada. The NASA news release on which the story was based did give credit to NRC, but the Canadian angle was written out.

Another example of the type of public concern necessary to overcome the media's negligence of Canadian achievements is illustrated in an article in *Time* magazine (February 11, 1974).

Research on the Brain

Sir / In your takeout on brain research [Jan. 14], you say that Dr. Leslie Iverson of the U.K. found lower-than-normal levels of neurotransmitter GABA and occasionally elevated levels of dopamine in the brains of victims of Huntington's chorea.

I'd like to point out that it was Dr. Thomas L. Perry and his research group in the University of British Columbia's department of pharmacology who discovered low GABA in the brains of Huntington's chorea patients. His work was published in the Feb. 15, 1973 issue of the *New England Journal of Medicine*.

P.D. THOMPSON
Assistant Information Officer
University of British Columbia
Vancouver

The director of a Canadian university Information Office commented on this issue in these terms:

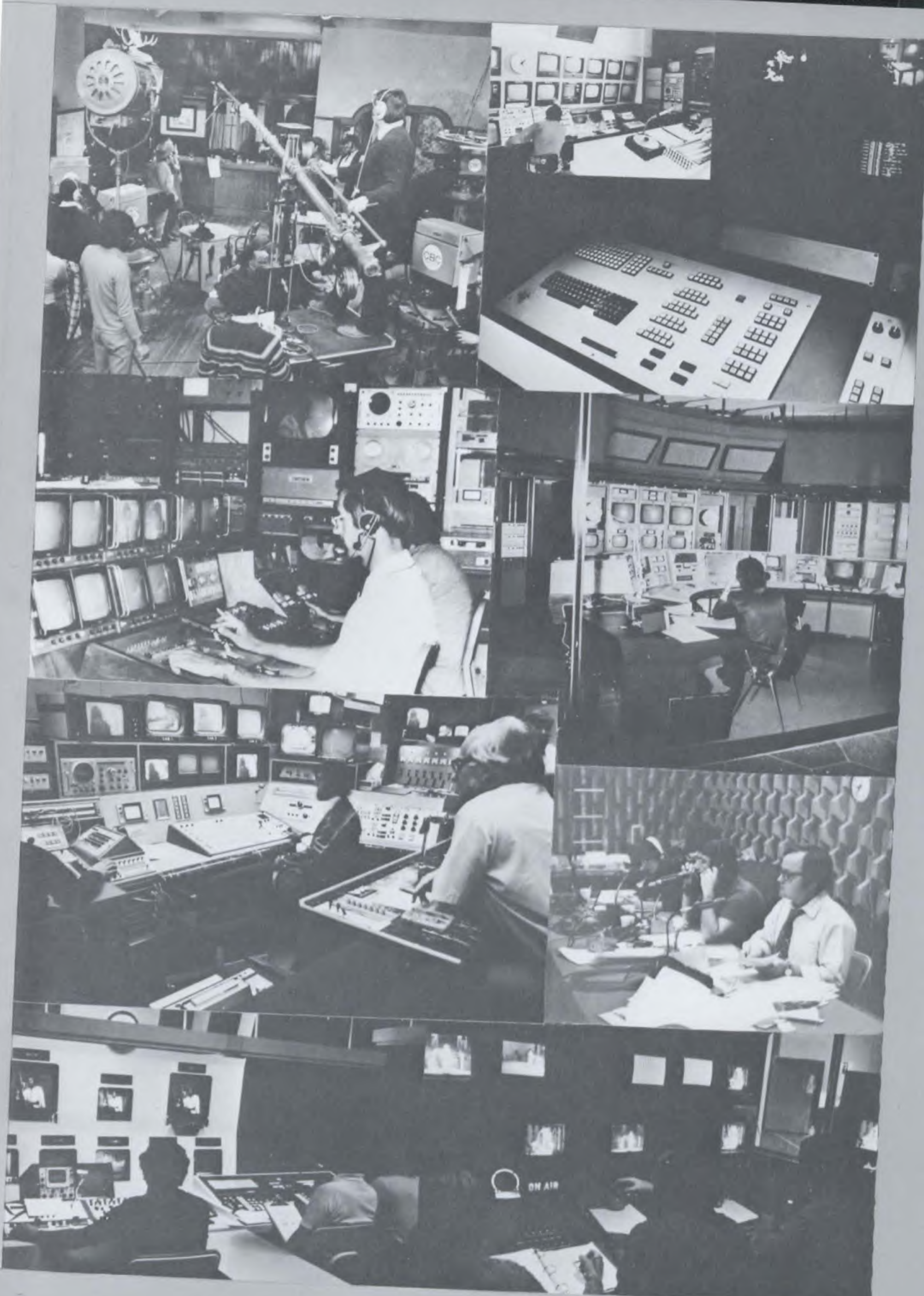
> "This brings me to the dilemma which you have aired — that of the national science story in the provincial or even parochial press. On the one hand,the local media have barely enough resources to write good local science stories and the CP's offices are not exactly renowned for the perspicacity of their rewrite people. (Some of the questionnaires emerging from CP Toronto,when they want to collect data for a national education story are naive in the extreme,but we have never been faced with such an enquiry in the field of Science.) On the other hand, AP science stories turn up in droves in Canadian newspapers. (One such story recently laid claim to original work in Boston on bowel cancer which is in fact attributable to Dr. Phil Gold and his associates). This may be the old problem of prophets not being without honour save in their own country, a dictum which Canada has raised to peculiarly self-effacing levels. On the other hand, as you point out, stories can be rewritten for local interest. I think that this has more to do with the prevailing atmosphere in newsrooms than with the merits or otherwise of particular stories. A dispatch from Gainsville, Florida, has a more natural air in Vancouver than one from Halifax, Nova Scotia or Trois Rivières. It is also not subject to the same inter-newspaper jealousy as a story from UBC or SFU put out in the form of a press release. On the other hand, if the *Toronto Star* does not send its science reporter to a scientific conference in Montreal, preferring to cover the opening of an electronics research lab in Don Mills, the conference seems to get short shaft. Anyway, it is very difficult to entice a Toronto *Globe & Mail* reporter to the Montreal Children's Hospital when the Sick Childrens' hospital is on his doorstep."

The Canadian scientific community may be too backward in its efforts to have its story known by the Canadian public. This is something we plan to examine at a further stage of the research project.

The public may also be at fault for not insisting more strongly that Canadian media devote more attention to Canadian science and technology and refuse to swallow without question the spill-over of material from outside the country.


COLOR


CJON


CBC
ON AIR

CANADIAN RADIO AND TELEVISION STUDIOS*

*Photographs courtesy of CBC radio, CBC and CTV television networks and individual stations across Canada.

Chapter Fourteen

Electronic Media: Television and Radio

Science Presentation on Television

Although television is generally a source of entertainment, according to people interviewed in the Davey Committee study of Mass Media, television is also considered to be the most educational of all four media (vol. 3, page 38).

There are a number of ways in which science is presented on television. For example, there are in-depth documentaries, such as "The Nature of Things", with topics selected some one year in advance. There are mini-documentaries such as "La Flèche du Temps" presented on the French network, in which the producer must spend a month or more in contacting, writing, planning and researching a 10- to 30-minute science feature as part of a network show. Then there are "specials" dealing with a contemporary issue.

One Canadian producer noted:

"The task facing (some) science producers is to produce three to five programmes/films per year, in-depth, on scientific topics. That gives producers a very big responsibility in terms of priorities. They have to be, in a sense, a combination of 'Solomon and Psyche' to determine what will be relevant one year ahead when the program hits the air.

"In effect, they (producers) look for what is best both visually and topically. Hence, efficiency of transmission, i.e., facility for visual/aesthetic presentation, must be weighed against the costs for producing the programs."

The news is another way viewers obtain science information. It can be ineffective due to a short time frame and complexity of subject matter.

Television viewers do not necessarily glean information about science from programs listed as science or because the presentation is designed to be informative. Most types of television programs - be they nature or medical shows, panel shows or debates, interviews or news items - provide some science information and act as catalysts in the formation of overall attitudes to science.

In this chapter, we describe some current (1974) developments in this area.

Programming Statistics

On the CBC network, one finds that science filters through the Information Programs Department, which comprises News, Current Affairs, Agriculture and Resources, Arts, Science and Religion, and Schools and Youth. Information programs contribute over 1500 hours a year (95% Canadian content) to the network schedule; over 27 hours of Canadian information programming (originating across Canada) were carried each week in 1974. In a representative week of the winter quarter, 1973 (Appendix K), 52% of the schedule was information programming, compared to 39% in 1970.

The proportion of science programs can also fluctuate widely from week to week. In 1973, the category "science research" was allotted 2.0% of total network programming (Appendix K). Considering that in addition, elements of science enter into news features, public affairs programs, or weekly documentaries (which according to the CBC, were tabulated with other information categories), and hour-long specials every two weeks, one finds that on a regular basis, science receives 3%-4% of CBC programming, or about two hours a week. Similar Radio-Canada data (for 1969 and 1973) is displayed in Appendix K for comparison.

Science in the News

Adding up the amount of time programs devote to science is one way to examine the science content on television; another is to look at the proportion that makes up news programming.

A breakdown of the national news is presented. The data used is from a study by Professor Joseph Scanlon of Carleton University's School of Journalism. In 1973 Professor Scanlon examined the time given to various categories on the CBC and CTV

Table 14.1. Distribution of Newscast Items on the CBC/CTV Television Network by Topic[1]

	CATEGORY[2]	PER CENT OF TOTAL NEWSCAST ITEMS: CBC NATIONAL NEWS	CTV NATIONAL NEWS
1)	War	3.5	3.3
2)	Politics	14.4	13.1
3)	Foreign Relations	16.7	23.0
4)	Defence	0.4	0.0
5)	Economics	17.5	16.0
6)	Cultural	0.8	0.0
7)	Scientific/Technical/ Educational[3]	5.1	3.8
8)	Judicial	3.1	3.8
9)	Social	16.0	14.1
10)	Human Interest	7.4	5.6
11)	Crime	3.5	4.7
12)	Disasters	3.9	4.7
13)	Sports	0.4	0.5
14)	Religion	0.0	0.5
15)	Miscellaneous	7.3	7.1
		N=257	*N=211*

1. Based on unpublished data compiled by Prof. Joseph Scanlon (School of Journalism, Carleton University) during spring, 1973. A total of 468 items were taken from 20 newscasts and broken down according to category.

2. List of Categories taken from the International Press Institute Study (Zurich, 1953, p. 218).

3. Category 7 includes news of scientific developments and discoveries in any fields and news of education.

national news. Some 20 newscasts were probed and 441 items catalogued according to certain parameters. Table 14.1 shows the basic percentage of news time devoted to 14 categories selected in the Scanlon study. Science, as defined in that study, is seen to fall sixth on the CBC list, with 5.1% air time, following economics (17.5%), foreign relations (16.7%), social items (16.0%), politics (14.4%) and human interest stories (7.4%).

CTV newscasts contained approximately the same distribution of priorities to the various categories. Tops in news air time were foreign relations (23.0%) and economics (16%), followed by social items (14.1%), politics (13.1%) and human interest features (5.6%). The percentage to science was slightly lower than that of the CBC. Science ranked eighth, with more time being devoted to crime (4.7%) and disasters (4.7%).

Although the proportion of science programs within the total programming is generally small for all networks, there are a number of popular programs and specials dealing with one aspect of science or another.

CBC Science

In 1974 the CBC had a specific Science Unit within the Arts, Science and Religious Programs Department. The unit included two executive producers, three producers and two full-time story editors to research material for science-oriented programs appearing on the CBC. In addition, the Agriculture and Resources Program Section was involved to some extent with science series such as the worldwide food crisis.

There appeared from time to time, specials on Current Affairs dealing, for example, with the energy crisis. The Schools and Youth Program Section periodically broadcast material in the natural history area. And the Features Department also presented science material.

As found in the consumer survey (Chapter 11), the most well-known television science series at the time of this study was "The Nature of Things." The series, from its initiation in 1962 to the 1973-74 season, had produced some 207 programs. Table 14.2 shows that the audience size for this program was substantial, between half a million and two million Canadians. Moreover, the enjoyment index of 80 and above for the programs is indicative of a high enjoyment rating by its followers. Wildlife programs were a popular source of regular information in the natural sciences. Some of the CBC information programs had also dealt with scientific issues, as had shows such as "Man Alive" and "Weekend."

A detailed comparison of all television programs (See Appendix L) is computed regularly by the Bureau of Broadcast Measurements (BBM) in Toronto. One finds, in BBM's January, 1974 survey, that the CBC programs on science ran the gamut of popularity. Tops for the total CBC television audience were entertainment programs: "World of Disney," and "All in the Family" captured the attention of four million Canadians (both are American). "To the Wild Country" (2.98 million), "Nature of Things" (1.55 million), and "Man Alive" (1.28 million), compared well with the National News (1.49 million) and other information specials, such as the Canadian Energy Conference (736,000 and 1.96 million for two of the sessions), or the show on inflation (1.25 million viewers). Science programs were in the upper half of all programs rated during the survey interval.

Many 1973 CBC information specials relating to science had attracted even larger audiences. For example, "V.D. Blues," was viewed by over four million people (4.4 million); "One Way To Quit," by almost three million viewers (2.8) and "Who Owns the Sea," a 1973 documentary, was viewed by slightly over two million Canadians (2.1 million).

In 1973 the CBC also presented the BBC series "The Ascent of Man," a 13-week sequence of programs —— narrated by scientist-philosopher Jacob Bronowski —— which chronicled the development and impact of science on society.

Canadian science programs have had more than just Canadian appeal. A number of the CBC-produced science programs were sold to foreign broadcasting (radio and television) networks in Japan, Sweden, Norway, Holland, Finland, Denmark, Australia, Switzerland, Britain and the U.S.

Some CBC Developments

According to CBC management, plans for 1974-75 indicated acceleration of science coverage. In 1974, the CBC appointed Ms. Ruth Worth Hazlitt, an experienced journalist in both print and broadcast media, as the full-time medical science reporter of its news team.

On the programming side, the CBC undertook two projects in 1973-74. The first was a series of eight half-hour magazine-type programs on science — "Science Magazine", hosted by Dr. David Suzuki — being broadcast in the 1974-75 season. The second project of the CBC science unit was a 2-1/2 hour-long "theme evening" on the "Limits to Growth," scheduled for telecast in October, 1975.

Table 14.2. Audiences of a Selection of CBC Television Programs which Featured Science

PROGRAM/CONTENT[1]	DATE/TIME	AUDIENCE SIZE (%)	(Million)	ENJOYMENT INDEX Out of 100
"Nature of Things"				
"Club of Rome" —— A look at report of the Club of Rome on future of our civilization.	Dec. 3/73	5	0.61	74
"Anybody's Child" —— Treatment of emotionally disturbed children in 'therapeutic family' situation.	Dec. 17/73	10	1.32	77
"The First Inch" —— Microscopic photography reveals Myriad World of bacteria.	Jan. 14.74	11	1.44	81
"Galapagos, The Islands" —— Study of plant and animal life.	Feb. 11/74	13	1.62	83
"Man Alive"				
"Immortality" —— Look at man's constant search for immortality, including the Egyptian pyramids.	Dec. 10/73	6	0.78	67
"Life Before Birth" —— Part 1 of 3. Features film of human conception and fetus developing in womb.	Jan. 14/74	10	1.22	84
CBC Specials 1972/73				
"The Chemical Generation" —— Use of drugs and problems of alcohol.	Mar. 6/73	11	1.40	81
CBC Specials 1973/74				
"V.D. Blues"	Sept. 9/73 Sept. 28/73	22 33	2.90 4.40	67 74
"A World Apart" —— Documentary on treatment of chronically mentally ill.	Sept. 23/73	12	1.46	68
"Tribe That Hides From Man"—— British explorers search for mysterious Amazon Indians.	Sept. 26/73	18	2.29	81
"Megavitamin Therapy" —— The Quiet Revolution.	Sept. 30/73	14	1.78	80
"Copernicus 500" —— Documentary on Polish Astronomer.	Oct. 21/73	4	0.50	46
"A Comet's Tale" —— Film examining comet Kohoutek.	Jan. 7/74	20	2.52	57
"Children of our Time" —— Changes and breakdown in the family unit and how children are affected.	Mar. 3/74	17	2.15	78

[1] C.B.C. figures indicated audiences of about one to 1.2 million for the first three programs of "Science Magazine." High enjoyment indices of .75 to .86 were accorded.

Source: CBC.

CBC Science (French Network)

The French-language Service of CBC, Société Radio-Canada, provides viewers with a good repertoire of science and information programs (See Table 15.3). Best known is the series "La Flèche du Temps," which has been running since the autumn of 1970. This weekly series has offered viewers some 95 programs covering a broad spectrum of the sciences - from fundamental research to applied science.

Radio-Canada science programs compared favorably with information programs in BBM ratings. While top-ranked shows attracted some two million French-language viewers, the daily news "Téléjournal'' reached about 700,000. The current affairs program ''Le 60,'' with more than a million (1.23 million) and ''La Flèche du Temps'' (half a million viewers) were both within the top half of the 120 programs offered during the BBM survey.

In addition, Table 14.3 shows that the American specials ''Jacques Cousteau'' and ''National Geographic'' (1,320,000 in 1974 and 940,000 viewers in 1973, respectively) were also popular among the CBC French-language audience.

Table 14.3. Audiences of a Selection of CBC French-Language Television Network Programs which Featured Science

PROGRAM/CONTENT	DATE/TIME	AUDIENCE SIZE (%)	AUDIENCE SIZE (Million)	ENJOYMENT INDEX (Out of 100)
''La Flèche du Temps''				
Average — Covers topics such as pollution, etc.	Sun. 1972/73	7	0.30	69
Average	Sun. 1973/74	8	0.34	71
Radio-Canada Specials 1972-74				
''Jacques Cousteau''(3)	Sun. 1972/73	23	0.98	70
	Sun. 1973/74	31	1.32	72
''National Geographic''(3)	Sun. 1972/73	22	0.94	64
''Le Choc du Futur''	Nov. 11/73	23	0.98	72

Source: Radio-Canada.

CTV Television Network and Science

CTV network had no specific science unit in 1974. Its News, Features and Information Programming Department was responsible for the purchase or co-production of science programs. Some of these programs, together with audience size and enjoyment index, are shown in Table 14.4 and Appendix L.

In 1974, ''Target: The Impossible,'' the CTV's major science series in the 1973-74 season, won the first Bell Northern Award of Excellence for Science Journalism in the Electronic Media for its program ''Superconductors.'' However, ''Target'' failed to be renewed by CTV for the next season, since network policy generally restricted CTV programs to those produced by network or member stations, or U.S. co-productions. The ''Target: The Impossible'' series, like its predecessor, ''Here Come the Seventies,'' was a Canadian production made in the Hobel-Leiterman Studios in Toronto.

In 1970, CTV also began a series, ''The Human Journey'' series, covering aspects of social life-marriage, life-styles, careers, housing, the family unit, stress and education. ''University of the Air'' was seen five days a week across the Network, offering a series of lectures at first-year university level on a wide variety of subjects. The programs were specialized and shown in the early hours of the morning, limiting the numbers of steady followers (about 25,000 cross-Canada) (See Appendix L.).

Other programs with some science information included ''Untamed World,'' ''W5,'' ''Inquiry,'' ''Jacques Cousteau,'' ''Canada AM'' and ''Maclear.''

Regional and Local Science on Television

In addition to the CBC (and the French-language Radio-Canada), and the CTV television networks, regional networks such as Global in Ontario, and TVA in Quebec, also contributed to providing

Table 14.4. Audiences of a Selection of CTV Television Programs which Featured Science

PROGRAM/CONTENT	DATE/TIME	AUDIENCE SIZE (%)	(Million)	ENJOYMENT INDEX (Out of 100)
"Target: The Impossible"				
Average	Thurs. 1973/74	3	0.38	70
Average	Tues. 1973/74	5	0.64	68
"Here Come the 70's"				
Average	Thurs. 1970/71	7	0.80	67
Average	Thurs. 1971/72	7	0.85	70
Average	Thurs. 1972/73	6	0.77	67
"Untamed World"				
Average	Sun. 1973/74	8	1.02	84
"W-5"				
Average	Sun. 1973/74	8	1.02	73
"Human Journey"				
"How We Adapt" —— Effects of stress and how our bodies cope, etc.	Dec. 2/73	6	0.78	79
"Adolescence" —— Problems involved; comments by parents, teachers, etc.	Jan. 27/74	8	1.00	78
"Jacques Cousteau"				
"The Flight of the Penguins" —— Study of Antarctic	Jan. 18/74	10	1.30	91
"Beneath the Frozen World" —— Study of Antarctic	Feb. 22/74	10	1.27	88

Source: CBC.

science-information--either in news or programming--to as many as a million viewers. Some local stations and community cable outlets have done an excellent job in presenting public issues in the sciences to their viewers--through their news teams and public affairs shows.

The CBC also was involved in school broadcasting --in production and distribution of school telecasts on behalf of provincial departments of education. Ninety minutes of air time per week were available without charge for provincial school telecasts. As well, "Canadian School Broadcasts," intended for national classroom use, were broadcast in the general program service of the CBC.

A number of Educational TV systems provide such programs. The Ontario Educational Communications Authority (OECA) offers educational programming to schools and to communities in the southern Ontario region. As well as broadcasting through Channel 19 in Toronto, OECA distributes educational material through slides, films and video tape (VTR). Another such regional media resource group is Access Alberta (Cable 13), a part of the Alberta Educational Communications Corporation.

However, while educational programming or other programs broadcast from local stations can be of high quality, they reach a small fraction of the total Canadian viewing audience. To an extent, therefore, they act as secondary sources in the communication network which reaches the wider public on science affairs. By mid-1974, a dozen cable companies were displaying on subscribers' screens the Broadcast News (BN wire news) up to 24 hours a day. More companies were expected to join the service. A portion of this BN material contained news about science and medicine. The various network, cable and direct pickups of United States local and network shows provided a further diet of science news and information with an American emphasis.

Radio and Science

National Radio Coverage

As with CBC television, the English and French services divisions of CBC radio were divided into a number of similar departments, among them, information programming, arts, current affairs, agriculture and resources and schools and youth. While a specific Science Unit did not exist in 1974, many members of the above departments covered science topics to some extent. In addition to programs, a CBC syndication unit offered local stations periodic features on science.

The percentage breakdown for radio coverage on CBC, English and French networks, is shown in Appendix K.

The quantity and quality of science presented by private radio stations varied from city to city, region to region. What material was offered to listeners was more-or-less topical and shallow in content, dependent on freelancers and news services such as Broadcast News (BN).

Radio Programs

A number of regular CBC/Radio Canada programs have succeeded in stimulating the interests and capturing the attention of a steady national audience (Table 14.5).

The series "Ideas" covered many topics in the sciences throughout its 250 hours of annual broadcasts. Public affairs programs such as "As It Happens", "This Country in the Morning", "Radio Noon" and "Sunday Supplement" frequently presented interviews with national and international scientists.

Radio-Canada, the French-language network of the CBC, offered one major science series, "La Science et Vous" which had been on the air since 1970. The 45-minute weekly program, hosted by the well-known French-Canadian scientist Fernand Séguin, dealt with the popularization of science and the presentation of science research as applied to societal problems, particularly the improvement in the quality of life. Some 25,000 persons regularly listened to the program in 1972-73 (Table 14.5).

Table 14.5. Audiences of a Selection of 1973 CBC/Radio-Canada Radio Programs which Featured Science

PROGRAM	DAY/TIME		AUDIENCE SIZE
English–language			
"As It Happens"	Mon.–Fri.	6:30 to 8:00 p.m.	86,000
"This Country in the Morning"	Mon.–Fri.	9:15 to Noon	119,700
"Radio Noon"	Mon.–Fri.	12:00 to 2:00 p.m.	109,700
"Ideas"	Mon.	11:00 to Midnight Nov. 5/73	18,500
CBC News	Mon.–Fri.	8:00 a.m.	298,100
		6:00 p.m.	117,700
		10:00 p.m.	42,800
French–language			
«La Science et vous»	Sat.	1:15 to 2:00 p.m.	26,000
"Par Quatre Chemins"	Mon.– Fri.	7:00 to 8:00 p.m.	6,000
"Aux Vingt Heures"	Mon.–Fri.	8:00 to 10:00 p.m.	14,700
«CBC News»(French)			
«Le Monde ce matin»	Mon.–Fri.	8:00 to 8:15 a.m.	266,000
«Le Monde maintenant»	Mon.–Fri.	12:00 to 12:15 p.m.	179,000
«Le Monde ce soir»	Mon.–Fri.	10:00 to 10:12 p.m.	20,000

Source: BBM Ratings, November, 1973.

"Focus on Science"

Every weekday in 1974, the CBC syndication unit in Toronto researched and distributed to all CBC stations and affiliates, some dozen daily items in such areas as money matters, consumer affairs, sports, labor, science, arts and entertainment. These features were usually short, scripted to two/three minutes in length and were integrated into local programming across Canada.

About one item every other day (three to four a week) was syndicated under the heading "Focus on Science" and dealt with current developments in the sciences.

Local/Regional Programs

Local programs also contributed to informing the public on science. For instance, the London, Ontario, station CFPL-FM, through their Arts, Letter and Programming division, ran a series of half-hour programs for 26 weeks in 1973. New CRTC regulations were expected to increase local science coverage by requiring FM stations specifically to undertake more programs of this nature.

A number of university-run FM stations, such as CKUF, with "University of Alberta on the Air", or the University of Laval in Quebec, through CKRL-FM, also broadcast periodic programs describing scientific activities of the region. Again, however, these stations had limited resources and were able to reach only a limited audience.

Part Three

Managing Editors of Canadian Dailies and Science Coverage

SUMMARY

The national opinion poll indicated significant findings:

(i) The potential readership in the areas of medicine and health, and various other topics in the sciences was one of the highest among the categories surveyed;

(ii) These categories were felt to be under-reported in the mass media;

(iii) People felt it was important to be kept informed about science and would like to find out more about Canadian achievements in science.

In effect, the readers were saying that Canadian science news and features are a marketable commodity for the daily press. We present now a closer look at the determining factors of the final form of material which the public receives.

The Managing Editors' Survey

The editing process is one of the key links in the press coverage of science. Editors decide the priority of science relative to other topics, whether it should be assigned, and once written, the format. Two groups of editors are involved with articles written by science writers or other reporters who occasionally write science stories — city editors and managing editors. Because local news falls within their sphere of assignment and control, and reporters cover local events more often than national or international, city editors tend to be the ones who handle science stories most frequently. The managing editors, in conjunction with other senior editors, decide on the priorities given to science news in general in the pages of the daily press.

As a follow-up to the science writers' survey, eight-page questionnaires (See Appendix M) were mailed to the managing editors of 81 Canadian dailies with circulations in excess of 5,000. The questionnaire survey was conducted in November and December of 1973. A total of 52 replies were received from managing editors or from senior editors of the dailies, an overall response rate of 64%. A more detailed distribution is shown in Appendix O.

Chapter Fifteen

Editors and Staffing Practices

Focus on the Daily Press

Numerous studies have pointed out, that newspapers are regarded by the public as a primary source of information. Research studies for the Special Committee on Mass Media (Davey Report), for example, found: "Newspapers are felt to be the most essential medium, but also the most demanding of time and effort. They are the most diligent in keeping the public informed. More than the other media, they are perceived to represent the public conscience...They are essential for reporting local events. Although useful for all adults, they are most important for the better educated and the businessman." (Special Committee on Mass Media, Vol. 3, page 9)

Also noted was that "Magazines are regarded as the least essential of the mass media. Like newspapers, they demand time and concentration and they are a private, not a family medium." (Vol. 3, page 9)

Among the findings was "Clearly newspapers and TV are supported more than radio and magazines as news sources. Newspapers are preferred to TV for facts, background, and interpretation. However, TV clearly is the favourite medium for special reports. For special reports, radio receives more support than newspapers, perhaps because of its immediacy. TV is the most popular entertainment and relaxation medium, although radio challenges it somewhat for relaxation time." (Vol. 3, page 16)

Our consumer survey indicates, however, that more than half the respondents turn to three media: magazines, television, and newspapers (in that order) for science information.

In this section, we focus primarily on the daily press.

The printed word is certainly more permanent than the ephemeral sound or image over the electromagnetic waves of broadcasting. A newspaper reader can read a science story again if at first he doesn't understand it; not so with radio and television where neither the words or the pictures can be retrieved at will.

Moreover, the depth of coverage can be made more extensive in the press than the usually cursory presentation by the electronic media. Thus, the editing of science articles written for the readership differ somewhat from the news or features produced for the electronic audience.

Deployment of Resources

The Managing Editor poll indicated that most of the dailies polled (43 of 48 replies or 90%) had up to 100 persons on their editorial staffs (including both reporters and editors) (Main Table 31-A). Five papers noted staffs over 100. *The Toronto Star,* Canada's largest daily with a circulation over 500,000 has about 300 persons on staff, some 80 being reporters.

The largest French-language daily, the Montreal *La Presse,* with a daily circulation of 210,000, had some 192 people in its editorial department at the time of the survey.

Most of the papers (48 of 51 replies or 94%) had 50 reporters or less on staff; 40 of these (78%) listed 25 reporters or less.

To examine the distribution of reporters and editors assigned primarily to science and science-related beats, we chose topics as presented in the Matthews' List of media personnel (See Appendices F and G) which are kept up-to-date for the convenience of subscribing newspapers. These topics include:

a) Medicine and Health, b) Science, c) Ecology, d) Aviation, e) Agriculture, f) Business/Finance, g) Oil/ Mining and h) Automotive/Transportation.

Nearly half the newspapers surveyed had assigned specific reporters to medicine and health (22 of 51, or 43%) and to agriculture (21, or 41%). The area of business/finance is given highest priority by the papers polled, by the assigning of more than one reporter and greater emphasis being placed on the editing (See Main Table 31-B):

Nineteen papers had either a single reporter or more than one reporter on staff in this area - four had more than five staffers, with one paper listing 13 reporters to cover business/finance.

Only 11 papers of 51 (22%) listed themselves as having a specific reporter on their staff to cover science. Five of these science writers were on papers with circulations of more than 75,000; three with dailies between 25,000 and 75,000 and another three with circulations under 25,000.

From the data supplied, we found that nearly all of these dailies (10 of 11) which had specific reporters covering science also had reporters who dealt with the medicine and health beat. Eight listed reporters in each of the categories of medicine and health, science and ecology.

Forum

A number of managing editors elaborated further on how these areas were being covered by their papers (approximate circulations in brackets):

"Our senior reporters (3) are expected to cover stories in all areas mentioned above. We do have a special science writer, a PhD, who writes a regular column (weekly) and will cover major science stories in our area." (20,000)

"With a small city staff (7 reporters) most of our people handle both major and minor beats. We have one full-time business writer and one reporter almost full-time in the automotive field (our location being Oshawa). We have one reporter who specializes in science but handles other assignments as well." (26,000)

"We do not have enough people for any to concentrate exclusively on any one area." (28,000)

"We have 3 reporters, not enough to spare exclusively to any of the above, although we do touch on all these topics from time to time." (5,500)

"None of these is doing the beat 100% of his time, since there are other things to be done, but they are given all assignments in those areas and time to develop contacts and features." (40,000)

"All members of the four-man business staff write on all phases of business, particularly oil." (40,000)

"Most of the reporters also cover other beats — for example, one business writer also covers science and ecology." (62,500)

"Editing is on universal desk. We are in a team-beat situation which makes it difficult to place a number on some reporting aspects. For instance, the medical reporter is part of a 3-person Social Services beat and any of the 3 might be involved in a medical story." (170,000)

"This particular area is famous for past mining and agriculture. We very often carry items related to each industry." (10,000)

"8asically reporters are assigned to specific events as they arise. We've covered all of above events at one time or another." (12,000)

"All copy processed via City Editor. Reporter in question also covers other beats." (20,000)

"These beats are covered, but not on an exclusive basis." (30,000)

"We have a full-time medical writer who does cover other areas of science as well. However, all staff members have written science stories at one time or another." (33,000)

"Changes from month to month." (260,000)

"Being limited in the number of journalists we can have, it is quite difficult to have specialists in that field. However, last fall we did initiate a weekly page entitled «pêche économie.» (Translated from French.) (11,500)

"Science: a deskman and an editor/writer." (Translated from French.) (210,000)

Why Don't Some Dailies Have Science Writers?

A variety of reasons was offered to the editors as explanations of why some dailies do not have full-time science writers. Of 33 editors who replied, the majority (29) felt that their publication did not have enough staff-written science news to justify a full-time science writer (Figure 15.1). This reason was also judged to be the predominant one (Main Table 32).

Many editors noted that high on the list of priorities were the financial issues--publications could not afford a science writer or found it cheaper to supplement the paper's news with science from the wire services.

Future Staff Changes for Science?

Managing editors were asked whether they anticipated any changes in their staff structure in regard to the coverage of science news.

Of 51 who replied, 45 noted that they foresaw no changes with respect to coverage of science in the upcoming year. Five editors replied in the positive, while one replied that perhaps they might well appoint a full-time science reporter (96,000, Ontario).

"Yes, we are developing more science stories through our university beat--two universities here--with emphasis on research and reaction to national and international science stories." (20,000, Maritimes)

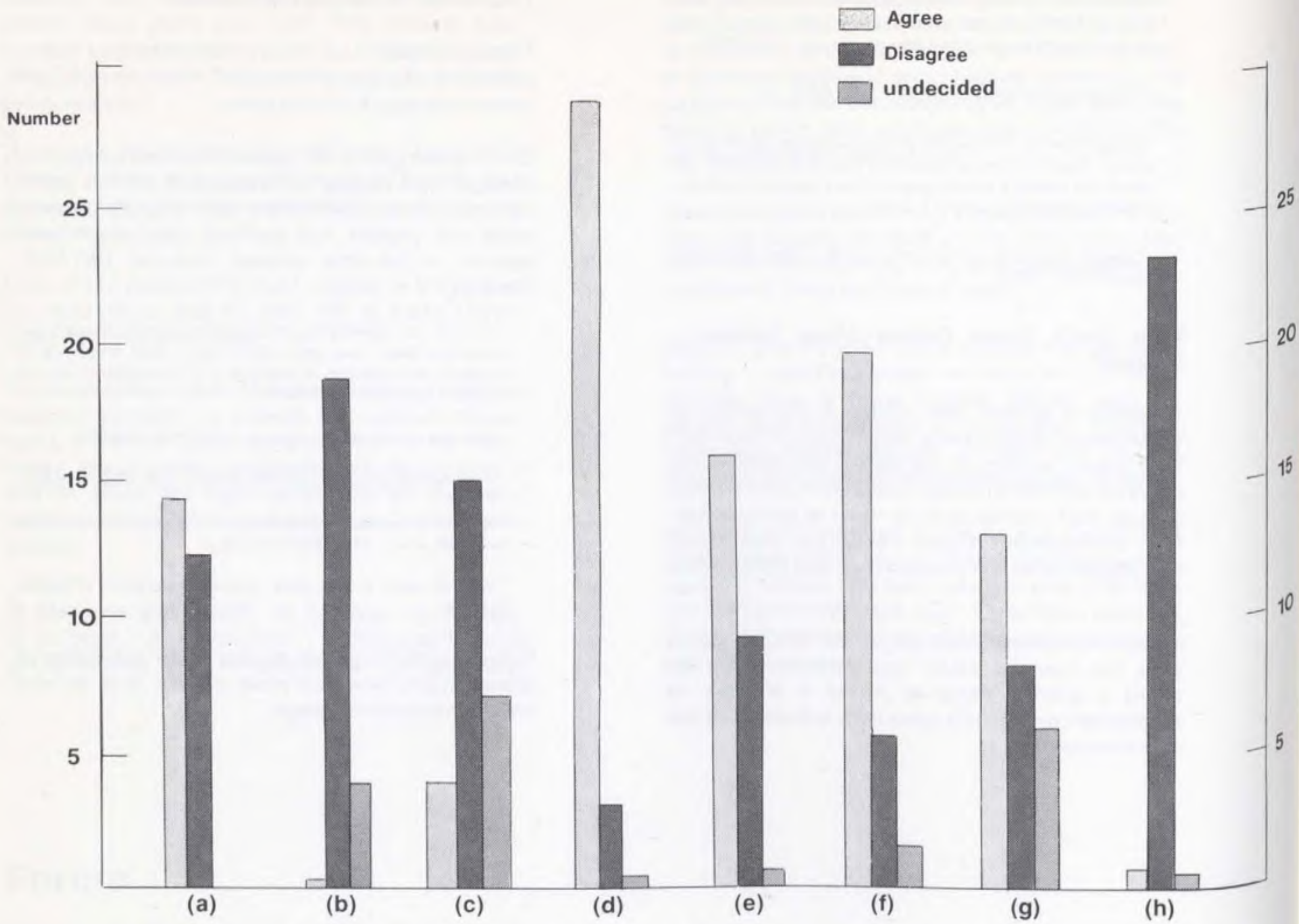
"Yes, more emphasis on ecology." (16,500, Ontario)

"Yes, most emphasis on science stories." (96,000, Ontario)

"Yes, a full-time science reporter, or one who does the job at least half-time." (130,000, Quebec)

"Yes, at least a part-time science reporter." (70,000, Prairies)

Editors' replies to this section were indicative of management views on most papers: that all was well with science coverage.



a) science news is covered adequately by other staff writers

b) science news is covered better by other staff members?

c) science is not of sufficient interest to our readers to warrant a specific reporter?

d) we do not have enough staff-written science news to justify a full time writer?

e) it is cheaper to supplement the paper's news with science news from the wire services?

f) we cannot afford a science writer?

g) no one on the staff is qualified for/capable of handling the science beat – but the situation is acceptable as it is?

h) no one on the staff is qualified for/capable of handling the science beat – but we are currently looking for someone to handle science exclusively?

Figure 15.1 Reasons given by Managing Editors Polled for their Daily Not Hiring or Assigning Special Science Writers. (see Main Table 32)

Chapter Sixteen

Science News from Wire and Group Services

Science Writers, Wire Services, Group Services

Although many large circulation dailies can afford their own science writers, a number of dailies feel that the specialization is unnecessary or too costly. The result is that staff writers or general reporters are assigned to cover breaking science news. In effect, full-time science coverage on these papers consists of (CP), or other wire service material, and of syndicated material, mainly from the U.S. For those papers with staff science writers, news services act as an excellent supplement.

Hence, in our study of the national coverage of science news or feature items by the press, we examined these news services from the standpoint of editors' judgment of science material and their views on a number of selected issues which may arise.

We deal firstly with views of managing editors on science via Canadian Press and other wire or news services which may be received through membership in a newspaper group. We polled the editors on their rating of science news by the Canadian and American news services. Views are presented on science news originating with the French-Canadian press as distinct from the English-Canadian press.

Science Coverage by Canadian Press (CP) Wire Service

Three of every four papers (37 of 49, or 76%) feel (CP) science is adequate in quantity for their audience. Nearly two of three (31 of 49) editors, or 63% felt its quality was sufficient for their readers. Nevertheless, between a quarter and a third of the editors feel (CP) should upgrade the quality and increase the extent of its science coverage.

Most editors don't consider the (CP) science material too technical. They feel that only now and then are the items insufficient in news value, not of interest, or not researched or detailed enough for their readers.

About one editor in two (25 of 49, or 51%) thinks that science items have insufficient illustrations accompanying the story — either often or always. Two thirds (33 of 49, or 67%) feel that illustrations are lacking at least now and then.

Group Newspaper Services and Foreign Wire Services

Members of the Southam, FP Publications, Thomson and other newspaper groups receive and carry science material — if any is transmitted — by writers of their group. Editors in these groups appear satisfied the science news is adequate for their audience both in amount (26 of 33, or 79%)

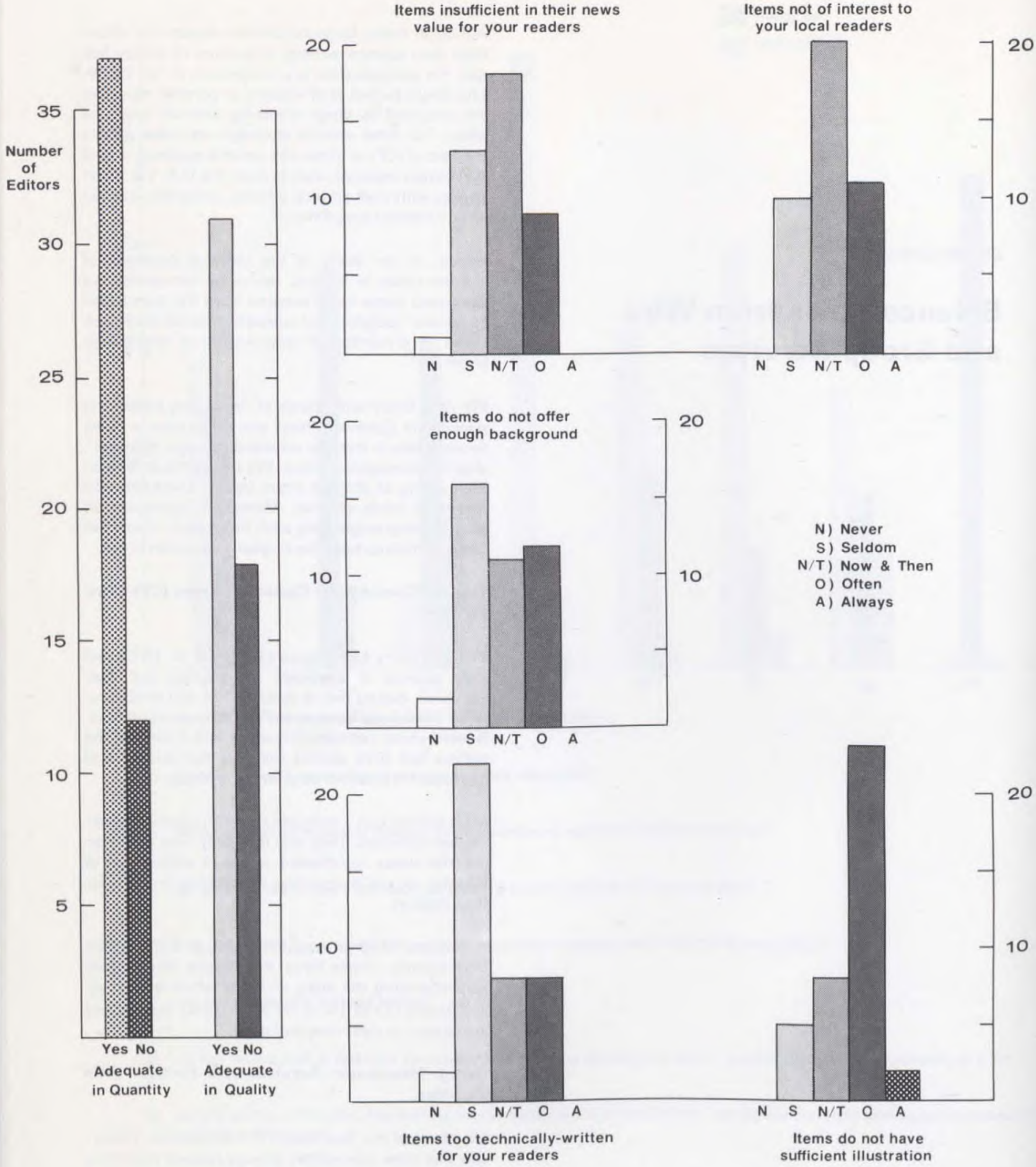


Figure 16.1 Views of Managing Editors on the Science News/Features from Canadian Press (CP) (See Main Table 33-A)

and in content (30 of 33, or 91%). Nearly two thirds of the papers (20 of 33, or 61%) feel that a lack of illustrations was the only issue to crop up often or always. Five others feel this is a problem occasionally.

Science on the Wires: Canadian and Foreign

We asked managing editors to compare science news from Canadian wire services with those from foreign services (eg. AP, UPI, Reuters, NYTS). Those who replied gave their views on a wide range of news services subscribed to by their papers. As a result, we feel the replies reflect no consensus. We include the responses at the end of this chapter.

Science on the Wires: English and French Language

As a final question about national science coverage, we asked editors whether their papers were satisfied with the science news originating from the French-Canadian press and transmitted by their wire services.

Understandably, most material on the total CP service in Canada is carried in the English language. It is written primarily by English-speaking staff members for consumption by English-language publications. However, to be of use to a CP member newspaper which publishes in French, this copy must be translated. The same is true of copy originating in French.

Replies indicate that managing editors are not aware of or cannot assess the science news originating from the French-Canadian press.

Forum

Editors' Critique of Available Science News from CP

"Since CP relies basically on its member newspapers for news and features, sometimes the quality is not what we would like, particularly when it comes from smaller centres where news staffs lack experience and polish."

"The usual (factors limit science) — staff and time."

"Definitely not major issues."

"In our case, above (issues asked) are the only issues significant."

"Our space limitations are such that in-depth coverage of such a specific beat is just not warranted. We would have to eliminate other news if we used the amount suggested."

"Science articles must compete for available space with local news which is top priority on our paper."

"It is difficult to make some type of science stories interesting to the lay (average) reader."

"Space in papers is small in one paper communities."

"I think more simply — written articles on science would be welcomed — by Canadian papers and the public."

"Our newspaper actually specializes in provincial and regional news. Until the number of pages in our paper are considerably increased it will be impossible to offer many more scientific articles." (Translated from the French.)

"Articles are of too limited interest." (Translated from the French.)

"As a former CP editor, I know CP cannot possibly give adequate science coverage on one wire (most dailies rely on teletype service). You can't put a gallon of wine in a quart bottle. CP has to handle hard news at all levels, as well as sports, women's, etc. When I say CP science coverage is inadequate I also realize there is no easy solution to the problem."

"CP bias on our wire is on Western stories (I'm thinking mainly of agriculture)."

"We use all we get, plus AP (on our wire with CP) and NEA and Christian Science Monitor News Service."

"No complaints, but we are always willing to use new science stories if they stand up."

"In order to satisfy the interest of our readers we quite often 'localize' science news received on wire services."

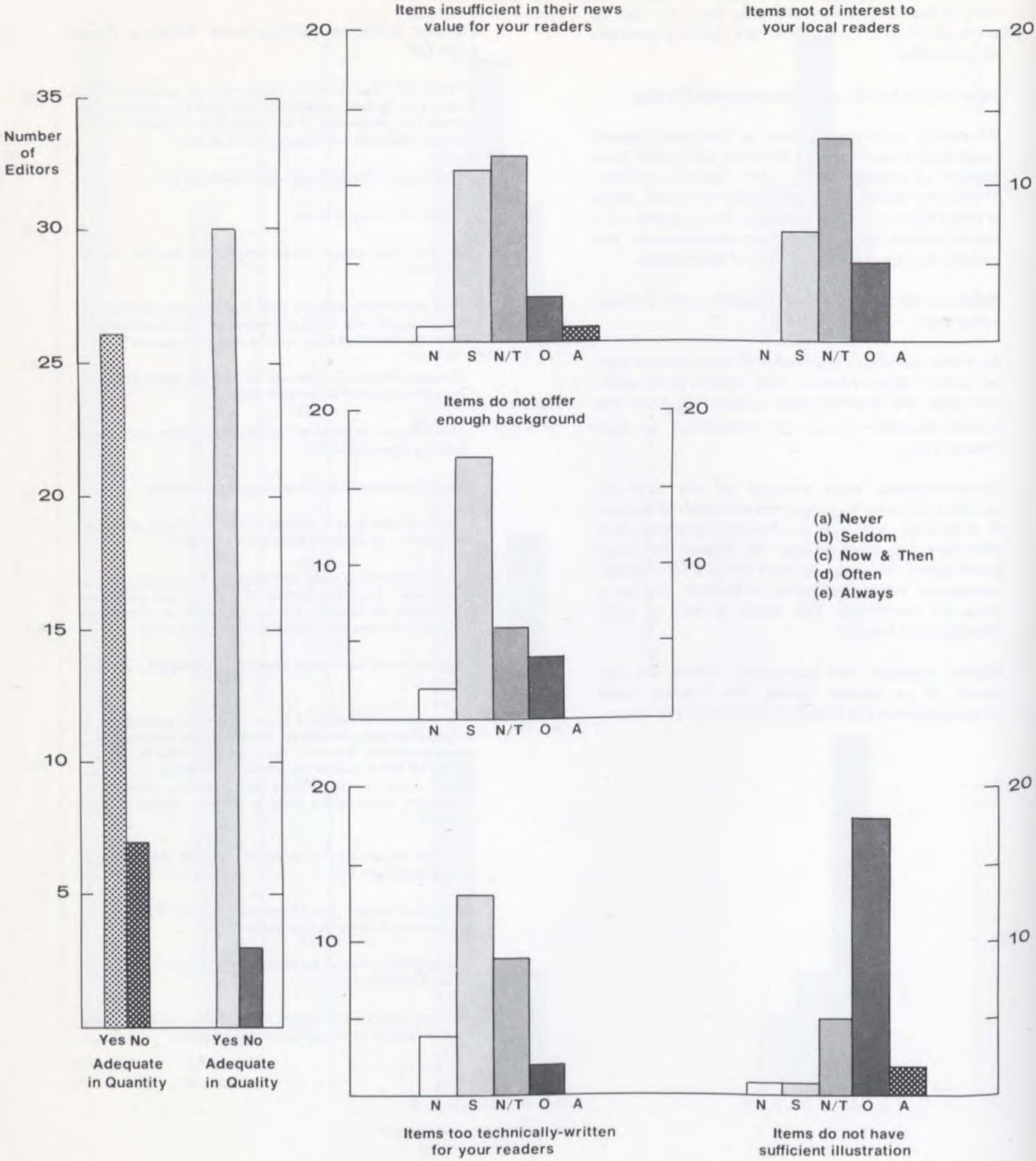


Figure 16.2 Views of Managing Editors on the Science News/Features from the Wire Services of their Newspaper Group (See Main Table 33-B)

On Science from Group Services and Foreign Wire Services

"As explained earlier, most dailies receive CP tts wire — a combination of CP, AP and Reuter news. That is the limiting factor as to amount of news filed in a shift." (20,000, Maritimes)

"We carry only CP; not much science copy through Thomson News Service." (26,000, Ontario)

"We have one wire service — Canadian Press."

"Our group is Southam. They are not big issues. Southam News Services does pay attention to the sciences. We also get useful material from Financial Times News Service." (28,000, Ontario)

"Space in papers in small or one-paper communities. Writers are too general — writing about mining rather than gold mining."

"We are an independent newspaper."

"Limited by lack of qualified reporter." (130,000, Eastern Canada)

"Space determines use and coverage." (12,000, Prairies)

"It is mostly a question of having the right person in the news service, which we do not at this time." (170,000, Western Canada)

Editors Comparing Science from Canadian and Foreign Wire Services

"Too many variables here. You can't generalize. AP too has a wire for small dailies. It would depend if you received full AP, CP or Reuter service or a combination."

"UPI is tops in this area. Bright, understandable and informative. NYTS (New York Times Service) tends to dullness in everything."

"I do not have the basis for comparison; we have only CP & SNS (Southam News Service)."

"On a par."

"There is more from the international services."

"NYTS Best — CP doesn't have same resources for these specialists."

"Not as good as AP and Washington Post — L.A. Times Service."

"NYTS vastly superior over all others. (We only use CP.)"

"AP is excellent — the *Times* is often overwritten and prone to scientific jargonese."

"Not as predominant although just as interesting."

"Comparable."

"Southam News Service and L.A. Times — Washington Post service are best."

"Difficult to judge since the paper only subscribes to CP who takes the news from AP, Reuters, AFP." (Translated from the French.)

"Certain services like Christian Science Monitor and Los Angeles Times are superior." (Translated from the French.)

"They are comparable." (Translated from the French.)

"Not as well written, but, for obvious reasons, have more Canadian interest."

"Foreign services frequently more comprehensive."

"Foreign services seem much more science-oriented than CP. CP does relay the more important developments from AP and Reuter. In defence of CP, there is not nearly as much research and "hardware" science in Canada as there is in U.S."

Editors Views on French-Language Coverage of Science

"Greater coverage of science field is a must but there's no easy solution." (20,000, Maritimes)

"We see very little French-Canadian science news." (33,-000, Ontario)

"I am unable to identify science stories as having a French-Canadian origin." (20,000, Ontario)

"Don't receive." (12,000, Prairies)

"We don't see any — period." (70,000, Prairies)

"Haven't the slightest idea." (70,000, Prairies)

"I am not aware of science news which specifically originates from the French-language press." (28,000, Ontario)

"None come to mind." (5,500, Maritimes)

"We get none." (24,000, Ontario)

"Never noticed." (7,000, B.C.)

"Don't see much." (130,000, Ontario)

"Drastic overhaul Montreal CP Bureau. Higher CP priority for science news generally." (275,000, Ontario)

"Not aware of what originates from French-Canadian press." (20,000, Ontario)

"While problems of mining towns of northwestern Quebec are same as northern Ontario, it is ignored as is this part of Canada." (12,000, Ontario)

"Whenever it does appear, the material is satisfactory." (130,000, Quebec)

"No French community in N.W.T."

"I really have no way of assessing that here." (70,000, Prairies)

"We receive virtually nothing — in science or any other subject — which originates from the French-Canadian press unless it is provided by our own staff correspondents in Quebec." (510,000, Ontario)

Chapter Seventeen

The Editing Process

Editing and Assigning Science News

Editing:

The distribution of 48 replies to the question of how frequently managing editors edited science copy or were involved in the decision to use or reject it, was as follows:

—sixteen editors replied they edited science features on a weekly or daily basis,

—eight were involved on a monthly basis,

—twenty-one edited science material seldom or several times a year,

— only three editors were never involved.

Assigning:

It is the city editor who makes many of the day-to-day or weekly decisions regarding science assignments. Managing editors indicated that, in 30 of 48 cases, the city editor is the decision-maker for assigning science news. On eight dailies surveyed, the managing editor makes the major decisions in assigning science topics. For another eight, the news editor is the person in charge of science assignments.

Among the 41 managing editors who replied, 26 (63%) assign science topics several times a year, seven on a monthly basis, four weekly, and three on a daily basis.

On some of the 30 papers on which the city editor assigns science, he or she works in conjunction with the science writer (or reporter) and a number of other editors: managing editor or his assistants, the business editor, features editor and, in one case, with the publisher.

Headlines and Editing Desks

Nearly half the daily science writers polled feel that heads are the major problem of editing (Part Four). If science news appears to be more sensationalized than the scientist or the science writer intended it to be, then, in many cases, it is a result of headlines which overdramatize a research finding or a scientific event, or even misplace the emphasis.

On daily newspapers, many people handle the writing of heads for science stories:

The news editor and the staff on the news desk were listed as being involved in nearly half the cases (24 of 51 or 47%).

On 17 dailies (33%) science news came under the jurisdiction of the local or city desk, with the city editor and his staff handling the writing of heads.

Sixteen of the dailies surveyed noted that the wire (telegraph) editors decide on what heads should be used — for stories coming over the news wires from CP, AP, UPI, Reuters, etc.

Copy readers or copy editors are listed as being involved on nine papers (and presumably on more papers who did not state so specifically). The managing editor writes the headline in only three of the cases polled; the publisher, in consultation with the reporter — in one case, for a small circulation paper.

The most common division of responsibility for head writing was: on staff stories, heads by city desk; on wire stories, by the wire desk.

Only three managing editors did not consider their present arrangement satisfactory. Two were small circulation dailies, and the other had a circulation of 42,000.

Scientists frequently wonder why the staff writer of a science story does not help with preparing heads. This idea was put to managing editors. Only a few papers, among them, a major Ontario daily, reported they enlisted the assistance of the reporter in the preparation of the heads. Thirty-one papers of 52 respondents, 60% — among them eight medium-sized (25,000-75,000) and six large circulation papers — said they hadn't considered such an arrangement.

Only four papers (all with circulations greater than 50,000) noted they had a particular desk man to handle science news, and, in two of these, the arrangement was informal and irregular.

Perhaps the solution for improving science editing lies in a realistic compromise. One well-known science writer, in a recent interview, echoed the views of many reporters covering science in saying that she doesn't want any bureaucrat to tell her what to write or how to write it, but:

"At all times there should be at least one rim (editing desk) man qualified to edit science or science-related copy."

Perhaps editing desks also might take the initiative themselves and check with the reporter, where possible, to ensure that the heading accurately reflects the copy. In Chapter 23, we explore further the views of science writers regarding editing procedures and their suggestions for improving science in the press.

Chapter Eighteen

Format of Science in the Press

Some Ideas Behind Regular Science Presentation in Newspapers

Our study frequently met with the idea that science news and science features are not receiving sufficient space in the daily press, and that perhaps science news of both Canadian and international origin should be departmentalized to a greater extent. Interpretive articles, backgrounders and follow-ups to newspage science items could be run in such a science features section, it was suggested.

Our consumer survey showed that, most newspaper readers polled, in virtually all social categories, displayed a high inclination to read articles concerning all the sciences when they are presented as special columns or pages (See Chapter 8.).

For easier access, the section could be indexed on the front page just as Sports, Business/Finance, Entertainment, Ann Landers, Chess or Religion. This approach is adopted by many papers which include career sections separate from the Want Ads to simplify job hunting for people more suitably qualified for these jobs. Special audiences are served through astrology and bridge columns, religion and chess sections, easily located parts of the paper.

An unpublished 1973 newspaper readership survey in a major Canadian city showed that the "Frontiers of Science" comic feature was well-read by most male readers and some of the female readers. Frontiers was as popular as the Astrology Column and many society page features, and rated far higher than the daily crossword puzzle, chess, the word jumble or the features on bridge. These last four features had an even smaller audience than the "Ask Andy" column.

Theatre ads are published on the entertainment pages, church service ads on religious pages, and business ads in the business/finance section. Somehow, ads from science- or technology-based organizations have missed this trend.

Perhaps a grouping of ads from science-based organizations with news copy on science would improve the newspapers' service to advertisers and to the readers.

As science writers indicated in our survey, (Chapter 24) the volume of staff-written science news and the incoming material from wire services and from syndicated services is more than enough to furnish regular science features or a regular science section.

A number of approaches to featuring regular science news have been noted by a well-known Canadian science writer. One American paper, as a PR gesture, ran a full page monthly, then used the plates to print up copies for all the local and regional schools. Another way was to sell a page of ads for one page of copy, which meant becoming a salesman and convincing every science organization. As he put it: "I can get a page anytime I want to-- so long as I fit into the game of 'We make money first, then we find a hole to stick the news in.' "

Although a few dailies do some in-depth reporting, most pay scant attention to anything but the "spot" science news. There is little on-hand machinery in the press — in terms of staff writers, editors, photographers and most of all, availability of regular space — to produce balanced coverage.

Many groups would benefit from more regularized science — and few would object, as we found in the consumer and science writers' surveys.

The effects of regular science as a service to the vast readership would not be limited to the confines of the household. The material could be used in science-oriented government and university departments, industrial firms, science libraries and high school science classrooms, to mention but a few uses. Certainly, Canadian scientists, freelance journalists, as well as regular staffers and wire services reporters would benefit from the availability of a fresh stream of current source material.

As we have pointed out in the first chapter, the awareness of Canadians about local and national Canadian science was very small. At the same time, there were important signs of an unfulfilled demand.

Formats of Science News Preferred

In the initial question posed to managing editors, we requested overall views or, the feasibility of compartmentalizing science news for the science-oriented readership, as is currently done in *La Presse*, the *London Free Press, Le Soleil.*

We added that: "Necessarily front page stories would go on page 1, while the feature section would be reserved for interpretative pieces, a science column, photos,..."

Secondly, we asked editors to be more specific and to select the way "newspaper readers would prefer to see science news communicated." Results indicate that many of the 52 who replied were opposed to the idea of compartmentalizing science. Thirty-six (70%) felt science should be presented through "Items as Available" only.

Nevertheless, nearly one of every three editors polled (16 of 52 or 31%) felt that his or her readers would like to see some sort of science features appearing regularly. Five noted a full page weekly, while four selected a full page on a daily basis. Six editors considered a weekly column preferable, and two others opted for a column twice a week. One of these last two editors thought readers would go for both a weekly page and a column twice a week.

Science Fields Rated in Audience Interest

Having described editors' views of their preference for the type of science presentation, we then zeroed in on particular science preferences. We asked managing editors what areas of science they felt would be of interest to the mass media audience.

Main Table 34 and Figure 18.1 outline perceived interest in these areas, as done in the science writers' survey. Not surprisingly, the topic judged to be most interesting to the public was medicine and health, with virtually all the editors (45 of 47, or 96%) giving it their nod for "very interesting". More than half the editors rated ecology and education as being "very interesting" to the audience (24 of 45 (53%) and 24 of 43 (56%), respectively).

Moreover, most of the topics were considered to be at least of some interest to newspaper readers. When we grouped together replies to "mildly interested in it" and "very interested in it" (Column 5 of Table 18.1), we found that four of every five editors concurred in this judgment. Even business/economics and engineering sciences, which were perceived as being of lowest interest to readers, received at least a "mild interest" rating from three of four editors.

As one editor put it:

> "Readers are interested in most things--if new or interesting."

Forum

Editors' Views on Departmentalizing Science News

"Great if you have the space. Few papers under 50,000 circulation have."

"Hadn't noticed the need."

"I would use such a column contributed by a local scientist."

"Feasible, if sufficient copy and sufficient space. Not a priority."

"I like the idea: In fact, we are already moving toward this "packaging" idea with our features and news stories."

"We wouldn't have enough science news to warrant a special page or section."

"I don't feel there is enough daily science news to warrant a section or column."

"Not feasible in a small daily with limited space."

"Not always practical since on most occasions, the material is intended for specific reader interest."

"Not necessary."

"There is not enough science news to justify a page or section. Worthwhile stories are given adequate coverage and prominence on best news pages."

"I think you might lose readers. For instance, non-sports fans tend to skip sports pages, yet often there are good stories of general application in them. The same could happen if science were departmentalized."

"We are particularly interested in the sciences that affect our people locally. Where and when the column would be used depends on content."

"Naturally we at Free Press think it's a great idea."

"A good suggestion."

"Does nothing for the readership of a paper our size unless its 100% local agriculture."

"We don't believe in news 'ghettos' except in cases where big stories are of a continuing nature — e.g. environment, energy."

"We prefer to treat information in terms of inherent value without necessarily grouping them except on certain days." (Translated from the French.)

"Could be a future development, but at present, I doubt this particular special interest would justify it."

"I'm inclined to be opposed. How do you define science? A science story associated with, say, jet propulsion or the auto industry would scarcely interest housewives. A science story associated with detergents or fabrics might interest housewives but not auto engineers. The term "science" is simply too broad to compartmentalize."

"We tried a weekly science page (full page, no ads) for about four months about five years ago but despite bright layout, good features and wire material, there didn't seem to be any reader interest. There wasn't a single call or letter to the editor when it was dropped."

Editors' Notes on How They Run Science News

"On news pages or on insight background pages."

"We have a weekly column and daily coverage of news as it comes and features on science topics (and individuals) Science column has been running a year. No standard title."

"Items as available ran as news stories. We run a daily medical column *To Your Good Health*."

"Nothing regular."

"None really regular, although our most frequent "guest" contribution writer features for us exclusively on the metric changeover."

"Neil Morris's column *(Realm of Science)* runs perhaps once a week."

"According to news events of the day." (Translated from the French.)

"When warranted by its news value."

"*Your Health* — More than 25 years."

"Items as available, plus one weekly column. *Frontiers of Science*, roughly 2 years."

"We package science news with science logo when it warrants."

"Usually as they're available but sometimes packaging them in an inside page. *Frontiers of Science* has been carried for years."

"As available with angle of interest to 3 main areas of employment, mining, forestry and tourism."

"Monthly supplement, occasional articles."

"Syndicated medical column."

"We publish a full page every Saturday, a part of a page every Wednesday and on other days science is treated the same as other news. Stories and articles are covered according to importance of event. Saturdays: *Sciences et techniques*." (Translated from the French.)

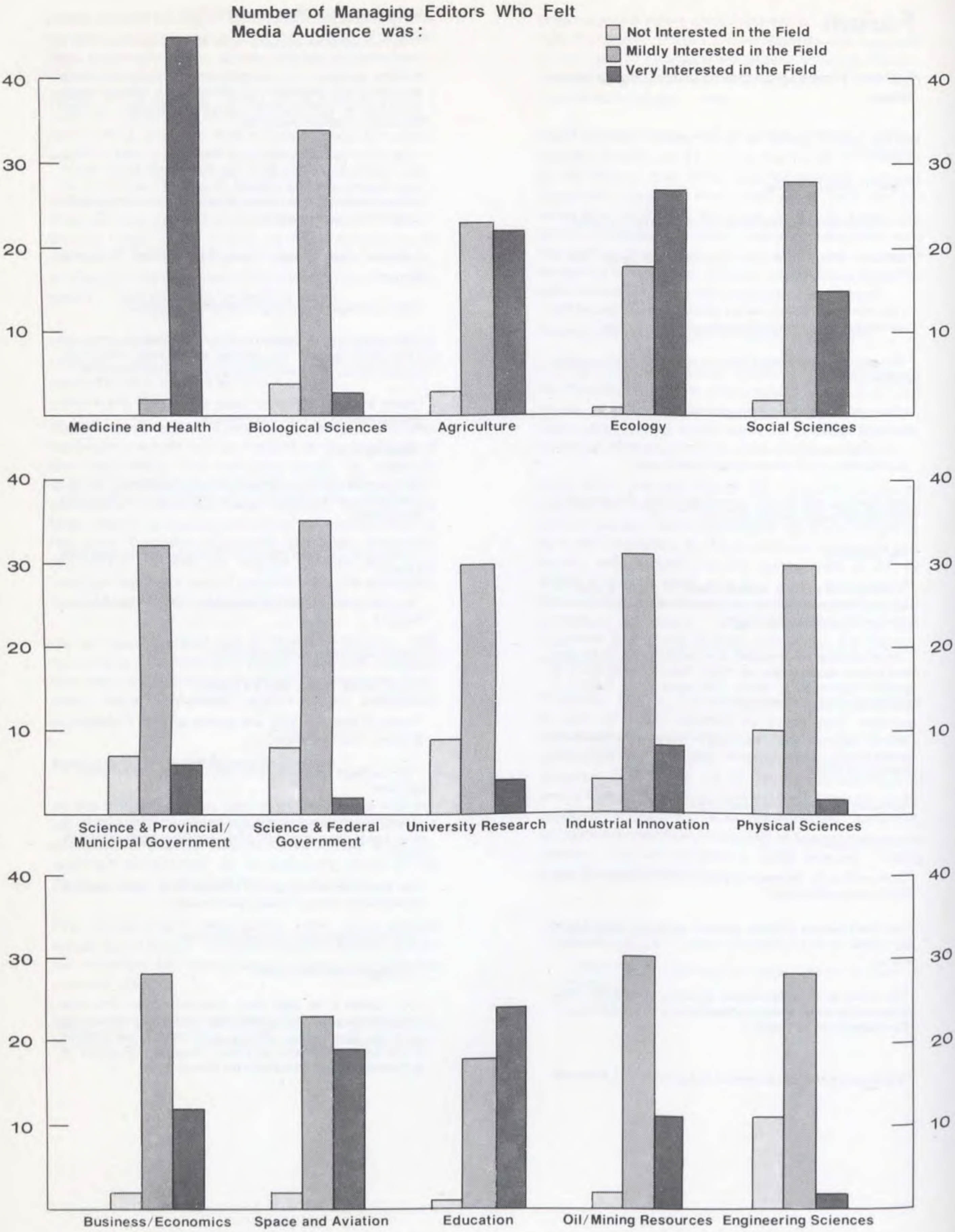


Figure 18.1 Managing Editors' Perception of Audience Interest in the Sciences

(See Main Table 34)

Chapter Nineteen

Editors' Training, Experience and Views on Science Writing Seminars

Training and Experience

Survey findings indicate that fewer than one-third of managing editors have had any formal science training. However, more than half have had higher academic training in other than the sciences and have averaged more than ten years of reporting and editing experience.

General Training and Experience

Slightly more than half the editors (26 of 49, or 53%) have taken some college courses. The college majors pursued by editors were predominantly in the arts or social sciences such as political science, economics, modern history, administration, English, business, law, history, and liberal arts.

Fourteen — or more than a quarter — have taken courses in high school only.

Of the 26 editors with college courses, 15 obtained degrees or diplomas (31%, or nearly one-third of the sample). Four of the 15 also did graduate work. Six editors (12%) reported having taken journalism in college, with four receiving degrees or diplomas.

However, most managing editors listed extensive reporting experience, which we calculated to be 11.3 years on the average (with a range of two to 40 years) for the 43 editors who replied to this question.

Beats covered within this experience included virtually everything under the sun: aviation, military, north, municipal affairs, courts, education, police and fire, agriculture, labor, business, sports, religion, human rights, travel, councils, city hall, university, school board, obits, service clubs, mining, forestry, and general news.

Most editors also noted editing experience which ranged from as little as one year up to as much as 40 years. On the average, this editing experience was 14.2 years for the 45 editors who replied.

Science Training and Experience

Main Table 35 shows that, of the editors who responded to our survey, less than one of three had had any science courses at the college (post-secondary) level. Only 15 (31%) listed political science; 11 (22%) noted sociology, psychology or business/economics. Fewer than one in ten had taken any of the remaining science courses such as biology, mathematics, chemistry or physics, agricultural sciences or engineering. Only four editors noted supplementary training (equivalent to a college course) in any of the sciences.

Of ten editors (20%) who reported having science and technical writing experience, replies on time spent in this area ranged from one "sporadic" to three editors with ten years or less (one as a general reporter), three with ten to 20 years and three with more than 20 years of experience.

In addition, numerous editors had other experience in communication.

Participation of Dailies in Science Writing Seminars?

We asked editors whether their publication sent reporters or editors to science or technical workshops, seminars, or other programs which might improve the quality of science reporting. We received 51 replies: 18 were affirmative (36%) and 33 negative (65%). Of those who commented positively, some said expenses are not a factor ("We pay our own way"), but to others cost is not of any concern, provided the event is local.

Those who responded in the negative gave various reasons, but money is the major factor for not participating in such activities.

Twenty editors rejected the suggestion that expenses involved in sending reporters to such a meeting be defrayed to some extent by some national body. Seven accepted the idea and another seven said they were willing to "consider" it.

At some regular scientific seminars, science writing discussions take place. As one type of seminar, we focused on an ongoing series — the Canadian Science Writers' Association seminars where scientists and media reporters discuss various aspects of science news presentation based on the scientific papers given at the seminar.

An overwhelming 46 editors (90% of the 51 who replied) said their publication would be interested in sending an editor to participate in such events. Only five gave qualified negatives.

Asked whether they could see benefits in attending, 32 said yes (of 45 replies, 71%) 10 said possibly and only three no. A number gave arguments for and against.

Forum

Editors' Range of Communication Experience

"Have had additional experience in communications, such as: writing for TV, writing for radio, assisting on 2 movies, TV and radio interviewer, magazine articles on mining, politics, lectures in community colleges, advisory board member on journalism course of community college, fiction, political speech writer."

"Wrote high school column for the newspaper and was editor of school magazine. Past president of Canadian Managing Editors Conference. Won National Newspaper Award for Editorial Writing."

"Experience in advertising dept. of newspapers and market research department."

"Taught writing courses for five years. Was consultant, teaching, writing and editing to employees of private industry."

Editors' Reasons for Not Sending Reporters to Seminars and Workshops

"Time, cost, availability of personnel."

"Cost consideration: justification of reader interest."

"Not company policy."

"Cost factor facing a small daily. Some staffers have attended general news seminars."

"Financial."

"Not relevant to readership."

"The main factor is that our primary concern is to tell people about their community. This does not put a premium on science reporting."

"We are a long way away from such seminars."

"Only regular news seminars."

"To my knowledge there have never been any seminars of this nature in New Brunswick and especially not for francophones." (Translated from the French.)

"Time."

"Cost, Staff limitations."

Views on Sending Editors to Seminars and Workshops

"It would depend on availability of staff."

"Editor too busy getting paper out."

"Doubt we'd have the time."

"Good reporters can report back to their editors the relevant material--but it would be considered."

"If in our city, we would participate; otherwise would leave it to our wire service."

"In a small operation events are more important than seminars." (Translated from the French.)

"Yes, anything that can be done to lessen the ignorance of editors deserves applause."

"It would be advantageous, provided we could peel off our news editor or other."

"Editors get blamed for most of the problems of a newspaper so perhaps someone should attend from editorial fraternity to give their side. It might be valuable in that editors might understand better the necessity of informing the public about a developing and important field. I believe in many cases editors (and reporters) turn their backs on science because they don't understand it."

To Run or Not To Run

From our surveys of managing editors and science writers (see Part IV), it appears that papers as a rule apply their own ad hoc policies regarding the presentation of science.

This is not to say that some dailies do not perform a good job with the facilities and staff at their disposal. Some smaller and larger dailies do an excellent job. Editors say their readers are interested in the sciences: Yet, in general, there are few guidelines to ensure that these interested readers are kept informed of scientific developments to the same extent as other news. There is as yet a dilletante, hit-and-miss approach to science coverage in general--and Canadian science in particular. Even the barest informative functions of the press are not met in this area, let alone the interpretative or educative role (which is becoming more important as science affects the readers more and more).

Often only the highlights of a scientific meeting or the outline of a project--with little relevance to impact on society are presented; in many cases, by news services reporters and not by staff writers of the paper. (Even then, a host of events of general national concern, such as the federal elections, tend to draw some of these few competent reporters away from science, and already limited staffs in this area become skeleton crews.) Finally, even if good stories are written, they can still get postponed or not even used--frequently superceded by the most trivial, sensationalized items; or else buried in the paper where only the hardy will ever find them.

By pointing out both the shortcomings seen by the editors and the science writers themselves and the positive steps being taken by some papers we hope we have brought to fore areas where improvements should be made. Writers' and editors' own responses permit us to see how some improvements can come about in practice.

An indication of the criteria used by editors in decisions as to running or discarding science articles can also be found among the commentaries provided.

As our final retrospective glance at replies from managing editors and other senior Canadian daily newspaper editors, we give the last word to these editors. Here are some of their general comments on science reporting in the press and on our questionnaire. In brackets, we note the approximate circulation given us by the editors:

While we do not carry science news on "a regular basis", I feel we are "science-minded" and always use a good story when it is available. We contribute financially to the annual science fair here and have been commended for our extensive coverage of this event. Peter Calamai, of Southam News Services (to which we belong) is a capable science writer and we accept practically all his copy. I think we would react quite favorably to an offer of a science column if it were written in a way that could be easily understood by the average reader. (Ontario, 22,000)

As in any survey there are grey areas between the simple yes and no which are difficult to articulate in the time and space available. (Prairie Province, 170,000)

A newspaper prints news — whatever the editor thinks is of interest to their readers. There is a wide choice and most are not interested in propaganda nor of satisfying the wishes of anybody, government or otherwise. As a small daily we rely heavily on CP and sundry lesser agencies to which we subscribe for news — and this includes science developments if and when newsworthy. But our basic interest is our own locality. So we are particularly interested in the sciences which affect our people — steel fabrication, wood growth and pulping, rubber, tire and auto developments, railroading, medicine, etc. Come up with something really new on aviation and we will use that. The bulk of dailies in Canada are small in resources and manpower. (Maritimes,10,000)

There is little doubt that people are generally interested in all issues in the field of science. Unfortunately, smaller papers such as ours have neither the staff or space to devote extra effort towards such a specific area. As suggested above, we do cover all science issues that arise locally without fail and do pass them on to our wire services. Health is a beat that is covered regularly as is education.
Often science stories are written above the head of the average reader. It's often difficult I suppose to explain things of a technical nature in layman's terms. Not everyone is a university professor or a professional. Find a tendency now and then, particularly on medical stories, to overplay a new discovery as some sort of a breakthrough to end all the ills of the world. Often stories are too stuffy, too technical, and too restrictive for widespread appeal. (Prairie Province, 12,000)

There should be better coverage of science news, written for the mass media audience. The problem is to find space in the paper. Readers expect you to carry so much crap (comics, etc.). During recent paper shortage we dropped comics, crossword puzzle, bridge column, etc., and I feared being tarred and feathered. Public interest zooms and dives. For example, Oil, energy and resources — Interesting to audience? would have little local appeal a few months ago. Now everyone is talking about oil, energy and resources. (Maritimes, 20,000)

The great weakness in daily newspaper reporting of science news is the same as business & economic reporting — a critical lack of reporters & editors who know anything about the subject. Courses and seminars for reporters & others are no more than well-intentioned gestures. The awfulness of science & economic reporting will be remedied only by the employment of educated specialists by the papers, or the agencies. The trouble is that most specialists find it difficult to write English. I am pessimistic. (Ontario, 28,000)

I can appreciate what you are trying to do, but I wonder if you will succeed? When it's a choice between the couple in Brazil who've just had their 38th child and a story out of Toronto concerning a breakthrough in communications satellites, well, I personally lean toward the prolific peasants. And yet I know in the long run this could be harmful. Science and technology are moving ahead so rapidly that although the media is keeping abreast of it all, the readers are going to wake up one morning and find we have The Brave New

World already — much to their amazement because they haven't been kept informed. And yet, even if we run the stories, will they be read? Even the names "Science and Technology" are heavy stuff. I know the problem, I'm possibly part of it; I just don't know the answer yet. (Maritimes, 5,500)

We try to inform the public in all matters — with limited means. If science news is available & interesting, we will publish it. But there isn't much of it here. We keep up to the industrial scene since this is an industrial area. Ecology also gets good treatment because of industrial pollution. We are open to all news at all times. (British Columbia, 7,000)

Not much help, I'm afraid. You realize, of course, that a small newspaper has little opportunity to specialize. We rely on the CP Service for much of our feature news. If they don't put science-related subjects in, there's little chance we'd use any such material at all. (British Columbia, 7,000)

Science stories tend to be too long, too complicated. Average reader wants it short and simple. He also wants it related to him in some way. Often a page one news story of a development is better than an in-depth page three follow-up or detailed science-oriented story. (Ontario, 12,000)

The whole tenor of the questionnaire is so unrelated to newsroom practice that answers cannot have any validity. For example, anyone knows that any particular story has 100 facets, and to attempt to departmentalize "science" in the modern world is meaningless. And while on any one day, no one may edit what you call a "science" story, the next day 10 people may deal with 15 so-called "science" stories. Go into the newsrooms and you'll find your answers. First of all, define "science" news. (Prairie Province, 50,000)

The field is growing rapidly and drawing greater interest almost daily. Even smallish newspapers with reasonably high standards are devoting more and more time to the science field. One of the best advantages a smallish newspaper can have is access to high-quality reporting through syndication — such as L.A. Times — Washington Post, New York Times, Observer, etc. (British Columbia, 42,000)

If some of my replies appear to be rather vague, may I suggest that it is because it is difficult to evaluate science news by itself. We find in our local coverage that much science news seems to be also part of business and political news and we expect our reporters to be able to handle both aspects in their reports. Also, there is the matter of comparative value of news on any given day. A good science story may go into the waste basket, or be drastically cut, because it comes over the wire on a day that all hell breaks loose over major political issues around the world. If the science event had occurred the previous day it might have made front page headlines. This type of news, of course, is somewhat different from regular departmentalized material — for instance, we have a daily agricultural column and fairly regular reports on the oil scene. I hope my answers will be of some assistance to you. And thank you for giving me the privilege of participating. (Prairie Province, 40,000)

Part Four

Canadian Science Writers

Summary

From the consumer survey, we found that the majority of Canadians were interested in many of the various sciences. The management of the mass media and managing editors of Canadian dailies in particular also agreed with the views of their audience, that most of the sciences can be interesting, if well presented by communicators.

As a final portion of this report, we provide a profile of these science communicators in Canada who offered views on their sources of science information, their editors who either accept or reject their material, and their audience, the general public.

Identifying the Science Writers in the Nation

In Chapter Six of the Interim Report we estimated 150 to 200 science writers in Canada. As mentioned, only about two to three dozen of these are full-time science or medical writers employed with the daily press. Another dozen or so write or produce science material for the electronic media or daily press, with the remainder working in many capacities with information, news, or public relations bureaus of government or industry, educational institutions or scientific associations.

A major aspect of our study of science popularization in Canada involved data collection and analysis from in-depth questionnaires sent to these communicators. The object was to probe the strengths and weaknesses of the communication process.

A questionnaire designed for the survey was pretested at the Halifax science writing seminar in November, 1972. The final version was mailed out in May and June, 1973 (See Appendix N).

A variety of sources was used in selecting the individuals for our sample. Primary sources were the Canadian Science Writers' Association (CSWA) 1973 membership list, the Matthews' List, and the daily news clippings of various federal bodies.

The CSWA, whose members included many of the active writers in this area, formed the nucleus of our mailing. While only a portion of these (See Chapter 13 for distribution) were with the daily press, including most of the two dozen full-time science and medical writers, many were formerly with the press. Some regularly freelance science material (in Canada and abroad) to newspapers, news services, magazines, journals, or to the broadcast media of radio and television. We felt their evaluation of the factors involved in science reporting was essential to providing an accurate overview.

The Matthews' List, a periodical catalogue of the Canadian mass media, provided us with a further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CANADIAN REPORTERS AND BROADCASTERS WHO FEATURE SCIENCE

1 Production team film-shooting "The Early Years" from the CTV series "The Human Journey." Left to Right: Ruth Hazlitt (Research and preparation; subsequently the medical science reporter for the CBC national news team), Robert Rouveroy (Photography), Jerry Lawton (Producer, director and writer) and Stuart French (Sound).

2 Co-hosts Barbara Frum and Al Maitland of the award-winning CBC radio public affairs program "As It Happens."
(Photo credit: Harold Whyte Photography)

3 Jean Martinet, producer of the Radio-Canada (CBC French-language) television series "La Flèche du Temps."
(Photo credit: Jean-Pierre Karsenty)

4 Chief cinematographer Hidehki Kobayashi (J.S.C.) in action on the television series "Here come the Seventies", a Hobel-Leiterman production broadcast on CTV.

5 Steve Casselman, agriculture and resources commentator on the CBC daily program "Radio Noon."

6 Peter Calamai, London bureau correspondent and former science writer with the *Southam News Service*.

7 Joan Hollobon, medical writer for the Toronto *Globe and Mail.*

8 Fred Poland, freelance writer and former science writer for *The Montreal Star.*

9 Marilyn Dunlop, medical writer for *The Toronto Star.*

10 André Chénier, science writer for the Montreal daily *La Presse.*

11 Jeff Carruthers, science writer and parliamentary correspondent for *FP Publications* newspaper group.
(Photo credit: The Canadian Press)

12 Film crew of the CBC television series "The Nature of Things" on location in Papua, New Guinea. Left to Right: Rudy Kovanic (Cameraman), Dave Brown (Sound) and Nancy Archibald (Executive producer).

13 Lydia Dotto, science writer for the Toronto *Globe and Mail.*

14 Neil Morris, science and medical writer for *The London Free Press.*

15 Karin Moser, medical writer for *The Ottawa Journal,* formerly medical reporter for the *Vancouver Sun.*
(Photo credit: Deni Eagland)

16 Patrick Finn, aviation and science writer for *The Montreal Star.*

17 Fernand Seguin, host of the Radio-Canada, CBC's french-language radio series "La science et vous."
(Photo credit: Arnott Rogers Batten, Montreal)

18 Dr. David Suzuki, professor of Zoology at the University of British Columbia and host of the CBC television series "Suzuki on Science" and "Science Magazine."

19 Gilles Provost, science writer for the Montreal daily *Le Devoir.*
(Photo credit: Alain Renaud)

20 Film crew of the Hobel-Leiterman production CTV series "Target: The Impossible", on location at James Bay for the program "Power Without Tears."

21 Manfred Jager, medical reporter for the *Winnipeg Free Press.*

22 Betty Lou Lee, science and medical writer for the *Hamilton Spectator.*

23 Jim Stott, business and oil editor for the *Calgary Herald.*

24 Zoe Bieler, medical and health reporter for *The Montreal Star.*

list of people covering science for the media (Appendices F and G). Science, medical, or science- related beats included aviation, business and finance, oil, mining and resources, agriculture, transportation, education and environmental reporting.

We supplemented these with the names of reporters or freelance writers taken from various newspaper clippings. Diversity was the hallmark. Some respondents listed themselves not as science writer *per se,* but under a variety of job titles or categories. Nonetheless, all covered science to some extent.

The Sample Studied

A total of 176 individuals (43 French-speaking) fitted the criteria of our survey. This total included writers and producers of eight radio science-based or current affairs programs and nine television writers or producers of similar programs on the CBC and CTV television networks.

From these 176 writers, we received 113 replies, or an overall response rate of 64%.

Twenty of 21 full-time science or medical writers with daily newspapers responded (95%), as did all four science reporters employed by national news services. By language, the response was: English writers-- 95 of 133, or 71%; French writers-- 18 of 43, or 42%. Of the 17 writers or producers with the electronic media, ten replied-- 59% response rate. A detailed distribution of replies is shown in Appendix O.

Taking into consideration the high rate of mobility and the lack of availability of up-to-date sources for this field we feel confident that our sample represents a reasonably accurate reflection of the science communicators in Canada.

Chapter Twenty

Sources and Resources for Science News

Time Spent on the Various Facets of Science Writing

Nearly half the writers (47 of 96 or 49%) in the total sample indicated that they devoted more than 20 hours to science writing/broadcasting during an average week in the three months prior to the survey. That is, their activities included science reporting, editing, freelance writing or teaching journalism. Main Table 39 shows the results of this survey.

More than half the daily newspapers-wire services sampled (62%, or 33 out of 53 reporters) noted that they spent more than 20 hours on science writing. Fourteen (26%) spent more than 40 hours a week writing about science.

The reporters, as a group, devoted the most hours a week to science writing/broadcasting in the total sample of 96 writers. Many said they also did fill-in work on desk, research, interviews, feature writing, and freelancing.

How Frequently are Various Sciences Covered?

Findings from the public opinion poll suggest an insufficiency in media coverage of the various areas of science and technology. Since our science writers' poll included most of the major science writers, we examined the extent to which these writers covered the spectrum of science coverage.

As the first question put to writers in our questionnaire (Appendix N), we listed a number of topics which we felt were representative of the sciences and asked writers if they ever wrote about or produced features on these sciences, and how often they did so.

In Main Table 40, we have matrixed the responses, while the distributions for all topics are shown in the histograms. (Figure 20.1). A primary finding illustrated by these histograms is that, in general, science writers handled stories in most fields of science and technology from several times a year to monthly.

Number of Science Writers Who Reported Covering the Area:

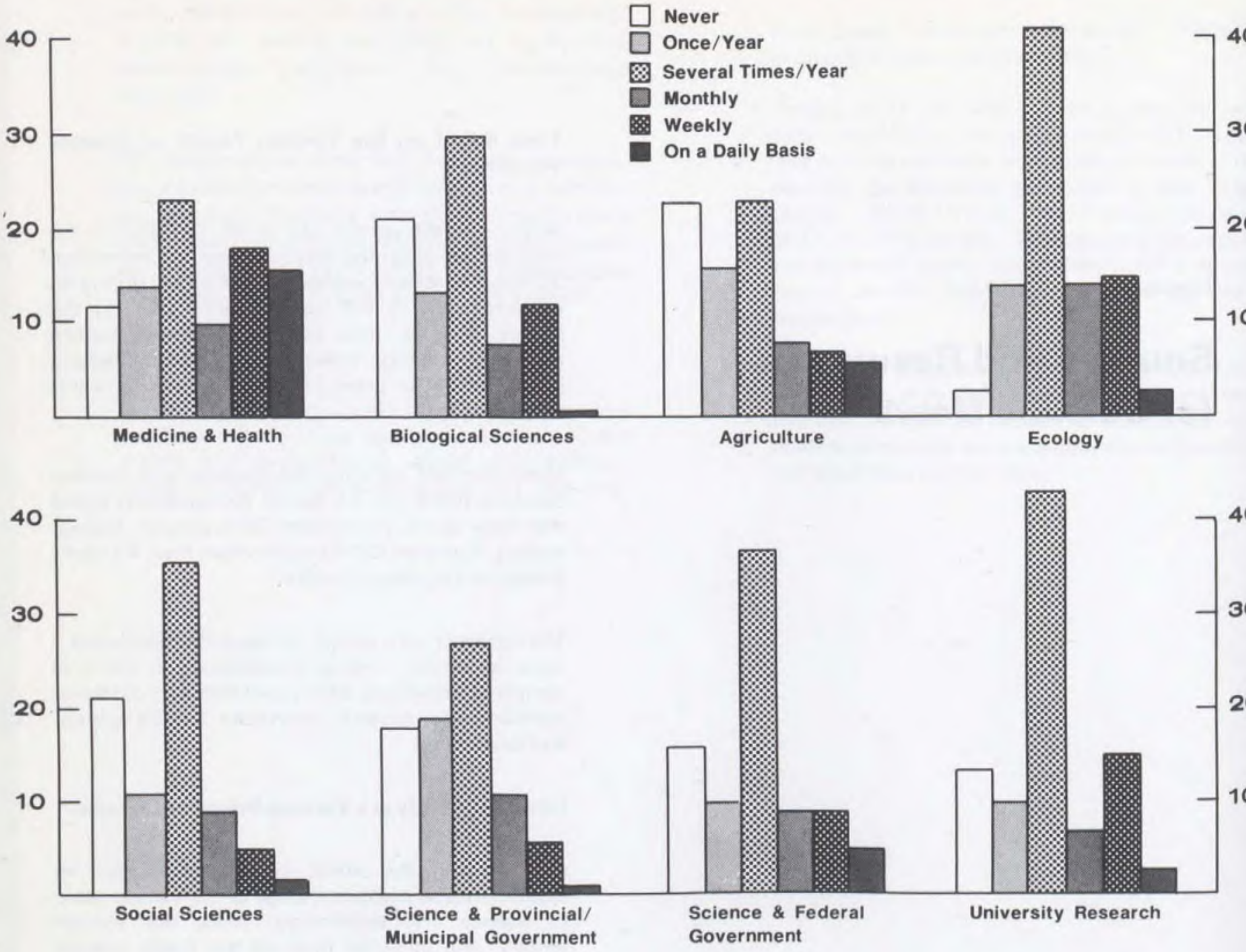


Figure 20.1 Coverage of Science-Related Areas by the Science Writers Polled
(See Main Table 40)

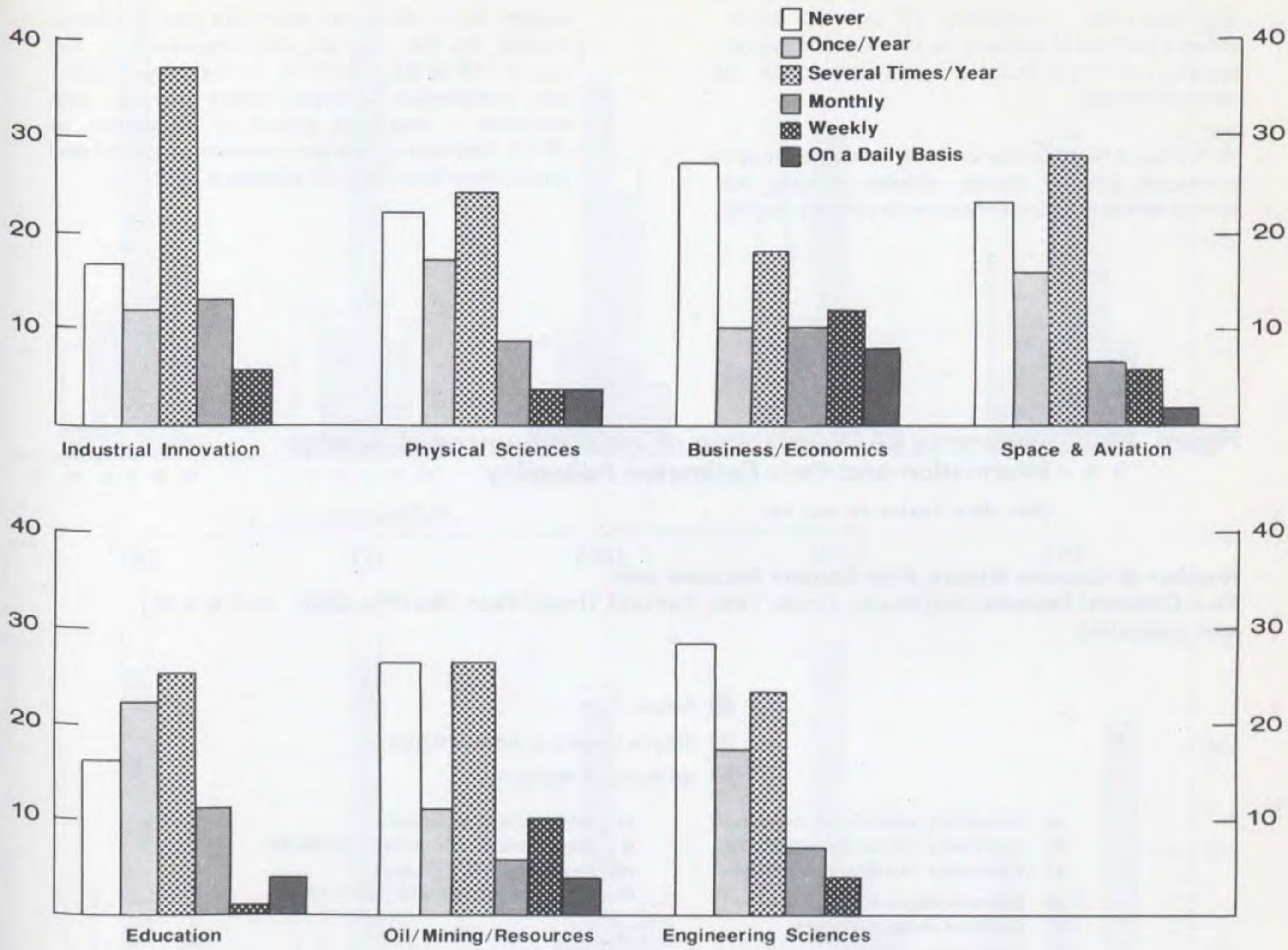
From Main Table 40 (column 8) and Figure 20.1, it can be seen that three-quarters of the writers covered most topics less than once a month. The exceptions to this were medicine and health handled by 44 writers (42%) at least monthly, ecology by 32 writers (31%) and business and economics by 30 writers (29%).

The fields handled least on a regular basis (at least monthly) by the science writers sampled were engineering, space and aviation, the social sciences, education and the physical sciences respectively.

Other fields listed as being reported upon included: do-it-yourself inventions, forensic science, bioengineering, rehabilitative medicine, science policy in the general sciences, linguistics, oceanography, forestry, agriculture, energy and resources, development aid, computers, philosophy, psychology, new advances in medicine, chemistry and psychiatry.

The writers spread themselves thinly through the spectrum of sciences, as Main Table 41 indicates. More than one of every three writers (37% of all writers sampled and 34% of the daily reporters) noted they write a few articles a year in at least ten fields of science.

Number of Science Writers Who Reported Covering the Area:



We asked the writers to name specific areas which they felt warranted more extensive coverage than given to-date by the mass media. Replies to this are shown in the final column of Main Table 40.

The 45 science writers who replied had varied opinions of fields requiring more coverage, with no specific field being viewed as particularly under-reported.

Approximately one-third felt that the social sciences warranted more extensive coverage. This was followed closely by seven other areas: science and federal government, biological sciences, industrial innovation, university research, science and provincial/municipal government, agriculture and medicine and health respectively.

Sources Consulted: Frequency & Reliability

We probed further about the resources used by science writers, in terms of frequency of consultation and reliability (Main Tables 42 and 43.). The spectrum of these sources appears to be as complex and diverse as the scientific areas themselves as Figure 20.2 indicates. Most sources listed are consulted less than once a month.

With the exception of wire copy and popular magazines, approximately 30 to 50 per cent of the science writers said they consulted the various sources listed on the average of several times per year.

The source consulted most frequently on a daily basis (by 39% of the writers) was Canadian Press (CP) wire copy. Presumably, CP provides a convenient method of keeping up on various developments--not only in science, but in other topics--of national interest.

With regard to the importance of various sources in producing science stories, results indicate that writers feel that actual contact with primary sources is most productive in getting the science story or feature (Table 20.1). More than one of every two writers listed university scientists and engineers among the five sources most important in this aspect (49 of 92, or 53%). Attendance at seminars/conventions — hence, direct meetings with scientists — was next (noted by 42 writers, or 46%), followed by doctors/medical personnel and government scientists (34 mentions, or 37%).

Figure 20.2 Frequency of Consultation of Various Sources of Science Information and their Estimated Reliability

(See Main Tables 42 and 43)

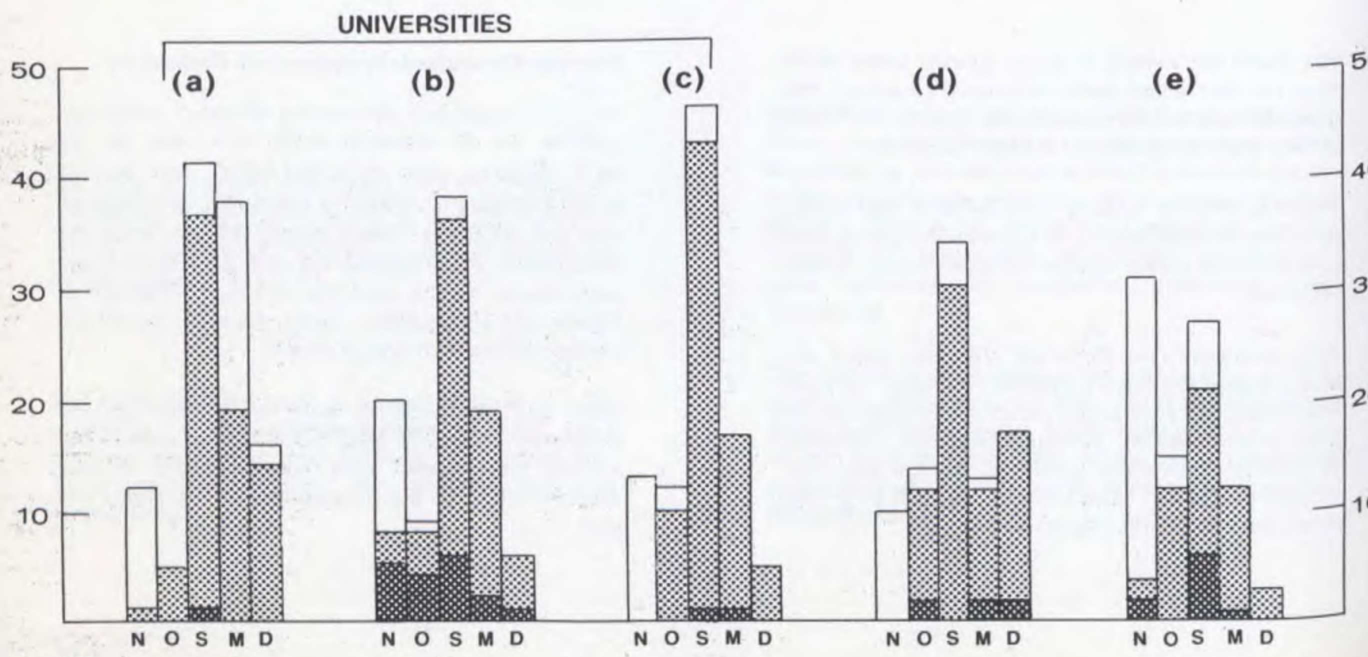
Number of Science Writers Who Consult Sources with Five Different Frequencies [Never, Once/Year, Several Times/Year, Monthly, Daily (N, O, S, M, D)] and Indicated:

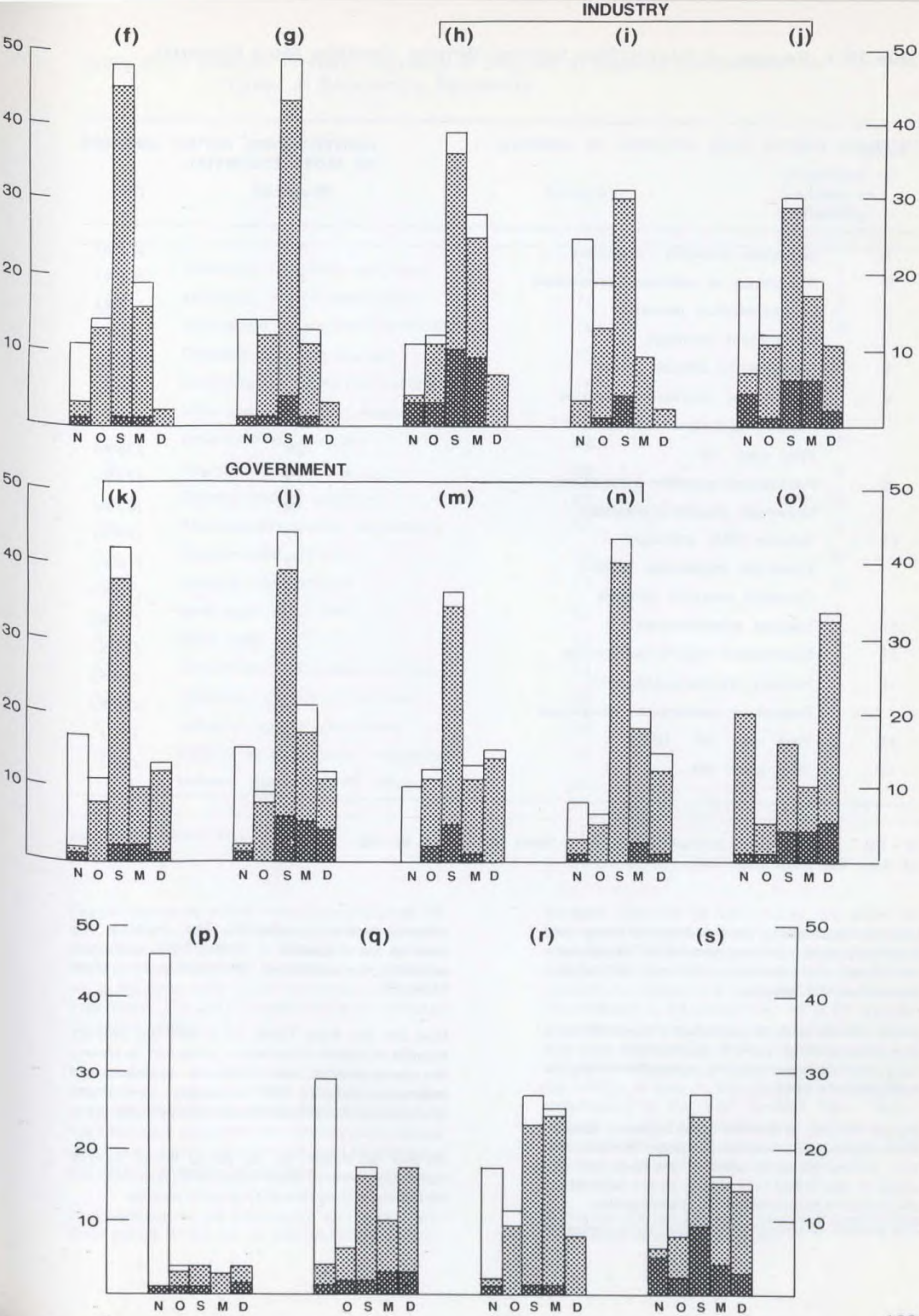
Source Poor

Source Usually or Always Reliable

No Reply on Reliability

a) University scientists, engineers
b) University information officers
c) University reports/publications
d) Doctors/Medical personnel
e) Hospital Administrators
f) Attendance at seminars/conventions
g) Professional/scientific associations
h) Industry spokesmen/PR officers
i) Industry R&D scientists
j) Industry reports/publications
k) Government scientists
l) Government information services
m) Departmental officials
n) Government reports/publications
o) Wire copy: CP
p) Wire copy: BN
q) Wire copy: AP, UPI
r) Canadian scientific journals
s) Popular or semipopular magazines




INDUSTRY
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N O S M D

Table 20.1. Sources of Information Science Writers Consider Most Essential

RANK		WRITERS WHO NOTED SOURCES AS MOST ESSENTIAL (Number)	(%)
1	University scientists, engineers	49	*(53%)*
2	Attendance at seminars/conventions	42	*(46%)*
3	Doctors/medical personnel	34	*(37%)*
	Government scientists	34	*(37%)*
5	Departmental officials	29	*(32%)*
6	Government information services	28	*(30%)*
	Industry spokesmen/PR officers	28	*(30%)*
	Wire copy: CP	28	*(30%)*
9	Professional/scientific associations	19	*(21%)*
	University reports/publications	19	*(21%)*
11	Industry R&D scientists	17	*(18%)*
	University information officers	17	*(18%)*
	Canadian scientific journals	17	*(18%)*
14	Hospital administrators	16	*(17%)*
15	Government reports/publications	15	*(16%)*
16	Industry reports/publications	14	*(15%)*
	Popular or semipopular magazines	14	*(15%)*
18	Wire copy: AP, UPI	6	*(7%)*
19	Wire copy: BN	2	*(2%)*

N = 92. Total includes science writers who listed the source as one of their five most important.

Next in importance were various primary and secondary sources such as government departmental officials and information services and industry spokesmen/PR officers.

Lower on the scale of importance were reference resources such as reports/publications and wire copy used for ideas, verifying or supplementing the substance of a story.

As can be seen, a balance exists between accessibility of information and news value of this information. In the following section, we shall see that usage is also linked very closely to the reliability of the source as estimated by the science writer.

The sources of science information were ranked in order of decreasing reliability. The results of this ranking are displayed in Table 20.2 while the reliability as a function of use is also given in Main Table 43.

One can see from Table 20.2 that the primary sources of science information, judged to be among the most reliable, are: university scientists and engineers, industry R&D scientists, government scientists, and professional/scientific associations.

All four fall within the top ten of the 19 sources listed. Government department officials do not rank far behind in their reliability as story sources.

Table 20.2. Science Writers' Ranking of Sources of Science Information in Order of Decreasing Reliability

RANK		NUMBER OF WRITERS WHO FOUND SOURCES: Reliable	Unreliable or Variable in Reliability
1	University scientists, engineers	76	1
2	University reports/publications	73	2
3	Attendance at seminars/conventions	76	3
	Canadian scientific journals	63	3
5	Government reports/publications	74	4
6	Wire copy: Broadcast News (BN)	10	5
	Industry R&D scientists	52	5
8	Government scientists	64	6
	Doctors/medical personnel	65	6
10	Professional/scientific associations	63	7
11	Departmental officials	62	8
12	Hospital administrators	43	9
13	Wire copy: AP, UPI	42	11
14	Wire copy: CP	49	15
15	Government information services	64	16
16	University information officers	53	18
17	Industry reports/publications	56	19
18	Popular or semipopular magazines	44	23
19	Industry spokesmen/PR officers	58	25

(SEE MAIN TABLE 43.)

Popularized versions of science material such as AP, UPI, and CP copy and popular or semi-popular magazines are used on a regular basis to keep abreast of new scientific developments. However, as is the case with most secondary sources of information, they are not judged to be as reliable as the primary ones.

Quite reliable in the estimation of science writers are also scientific periodicals, such as government and university research reports and publications. Perhaps not quite as reliable are industry publications, which are meant to be show windows for firms and often don't present unbiased data.

Least reliable are the information and public relations groups which act as intermediaries for government, industry or universities. All three are among the five least credible sources in the ranking provided by those surveyed. From Main Table 43, one can see that at least one of every five writers doubted the reliability of these information sources (16 unreliable to 64 reliable, ie., 16 of 80 reported government information sources unreliable; 18 of 77 — universities; 25 of 83 — industry). While it is the job of these people to provide information to the media, it also is their task to present their organization in the best possible light. Hence, through a conflict of interest, such representatives sometimes act more as barriers than conveyors of information, in the opinion of those surveyed.

In Chapter 27, we deal with the role of government information services in particular.

Reliability of Specific Groups Consulted

Touching upon another specific area of resource groups, we asked writers to name some Canadian organizations or associations which they felt had developed reliable procedures for meeting the press; for example, organizations with good press officers, reliable communications, newsworthy press releases, etc. As a corollary to this question, we also requested an estimation of the writers' views as to which organization, if any, they felt needed improvement.

Replies on the groups considered to be reliable were received from 96 writers. Ten per cent felt they couldn't name specific groups which had developed reliable procedures for dealing with the press. Responses were divided arbitrarily into government, industry, universities and science-oriented groups or departments.

The most frequently-mentioned government agencies or departments were Science Council of Canada (19 times), National Research Council (NRC) (16), MOSST (8), and Canada Department of Agriculture (5).

Government groups (federal and provincial) and other organizations mentioned once or twice included:

Energy, Mines and Resources; Information Canada; Statistics Canada; Health Protection Branch Newsletters (of Health and Welfare Canada); Provincial Wildlife Branch (B.C.); Bedford Institute of Oceanography; Department of Recreation and Conservation (B.C.); Ontario Ministry of Agricultural Offices; CN; Addiction Research Foundation (Ontario); Fisheries Dept. (B.C.); Hydro-Quebec; Ontario Hydro; and Canada Centre for Inland Waters.

Only one specific industrial organization was cited more than once. This was Bell-Northern Research, noted by six science writers in our sample.

The most frequently-mentioned universities with reliable press procedures were McGill University (8 times), University of B.C. (7), and University of Toronto (twice).

Scientific associations and special groups noted were the Canadian Medical Association (12 times), and Royal College of Physicians & Surgeons (6).

On the other side of the fence are also organizations, a number mentioned above, which some writers felt needed improvement. Of 83 writers who replied, 17 noted that most or all Canadian science-oriented organizations could be improved.

No one group or agency was estimated as bad enough to receive non-confidence votes in more than a few cases. (For example, the Department of Health and Welfare was cited most-- but only four times.) In many cases, writers generalized their replies on the need for improvement.

A few samples of comments on where improvement is needed:

> "Almost all government departments."

> "Federal and provincial governments; federal (government) particularly inadequate in the area of good press officers."

> "Practically every medical-science organization you care to name."

> "Many--starting with professional and high technology companies."

> "Most universities."

> "All of the science-oriented organizations or associations I have dealt with, including universities, government and associations need a lot of help in getting the material communicated."

> "The oil and gas industry." (Translated from the French.)

> "Most could benefit by recognizing that they should get people on a continuing and full-time basis. Too many are content with adhocery."

> "I like assistance from a press officer. I find most are out to 'sell' a story."

> "Senior officers are often reluctant to be completely frank with press officers - this hampers the latter."

Scientific Journals Consulted

Our findings on the use of Canadian and foreign journals as source material are displayed in Main Tables 44 and 45. Replies indicate that, for every science writer who does use Canadian scientific journals, there is one who does not (53:47). Putting it another way, slightly more than half the writers (54%) who responded use Canadian journals of science as source material.

This figure is higher for the use of foreign journals in science. Of 94 respondents who replied, 61 writers, or 64% regularly make use of foreign journals in their work. Twice as many science writers use foreign scientific publications as those who don't (61:34).

In effect, fewer writers use Canadian journals than foreign science journals (54:61). Forty-seven writers, or slightly less than half, noted they used both Canadian and foreign. About one-third (31, or 32%) stated they didn't make use of any scientific journals at all. Five writers use only Canadian journals, while 14 use only foreign journals.

The Canadian journals listed most frequently by the 54 respondents to this question were the *Canadian Medical Association (CMAJ)* (18 writers), *Science Dimension* (11), *Science Forum* and *Medical Post* (10 each) and *Canadian Family Physician* (6). In fact, 39 different journals, many of them the medical and life sciences, received a single or a few mentions. Some were published by government, such as the NRC's *Canadian Journals of Research*. Some were trade journals; others were put out by industrial firms, universities, or scientific associations.

A broad spectrum of foreign scientific journals is also used by Canadian science writers. Fifty-five different journals in all categories were noted. The British magazine *New Scientist* was most frequently mentioned (23 writers), followed by the American publications *Science* and *Scientific American* (22 each). About half as many mentions were received by *The American Medical Journal, Lancet, Nature, The New England Journal of Medicine* and *Science News*.

It is interesting to note that the top three journals listed are foreign. Canadian science writers appear to prefer to receive their research material, be it for background, leads, story content, from international sources. Or else, Canadian scientists prefer to publish in foreign journals and science writers write Canadian stories from these journals. In either case, such dominance does not serve as a good omen for the public appeal of Canadian scientific journals. Science writers writing for the Canadian public obviously feel they cannot get interesting stories from them.

Commentary on why some Canadian scientific journals not used by science writers:

> "Either very dry copy or did not draw conclusions that one could have a story on; hence, hard to find a local angle for a rewritten story."

> "Articles too long, too specialized."

> "Don't have 'hard' news value — often used to boost their achievement and budget."

> "Shop talk and squabbling on the editorial pages."

> "Most of articles have already been produced by U.S. or U.K. media, or have had releases printed..."

> "They (articles) were too technical and contained little information that could be made useful to the Canadian public."

The survey results lead one to wonder whether indeed Canadians lack a national science journal. In discussions with a number of prominent Canadian science writers, this point was particularly sensitive. Many urged the founding of such a periodical/magazine to summarize latest developments in R&D across all disciplines. Although such summaries are currently being done by a number of industrial journals, Canadian scientific journals remain fragmented. For example, the National Research Council of Canada publishes ten different journals, covering the fields of Biochemistry, Botany, Chemistry, Earth Sciences, Forest Research, Geotechnology, Microbiology, Physics, Physiology and Pharmacology, and Zoology.

Other publications are tailored to a slightly less specialized audience. Yet, with so much research being published on rather narrow disciplines, science writers can scarcely expect their employers to subscribe to all these splinter journals or magazines.

This particular issue on the publishing of scientific papers was brought out by Peter Calamai, former science writer for Southam News (now correspondent with the London Bureau of Southam).

Speaking at a symposium for science writers sponsored by the Canadian Cancer Society (1972), he emphasized the following:

> "I'm sure we've all heard the rationalizations why Canadian researchers have relegated their own Journals to second-class status. They want to inform their colleagues elsewhere in the world and their colleagues don't read the Canadian Journals. They want to publish rapidly and the Canadian Journals are too slow. Their work only appeals to a speciality audience for which there is no Canadian publication. Hogwash, of course, all of them.

> "When you really want to inform your colleagues, you telephone them or mail them abstracts or preprints or discuss the paper at one of the six research conferences which will intervene before even *Nature* can publish.

> "And if Canadian Journals are too slow, has anyone ever considered how long the editor of *The Canadian Journal of Zoology* must wait for enough even acceptable papers to fill out one issue when the better papers are being exported as rapidly as their authors can stick them in air-mail packets.

> "And if there is no speciality Journal, have the specialists ever considered that one will never start as long as they send their contributions to speciality journals in other nations, journals which once too had to struggle to become established.

> "No, the Canadian Journals are second-rate because the scientists keep them second-rate by claiming that they are too second-rate to print their first-rate material. It is, as you can hear, the most vicious form of circular argument."

News Releases

Data on the estimated usefulness of news releases from various sources was also compiled (Main Table 46) and illustrated (Figure 20.3). It can be readily seen from the histograms that, in the judgement of

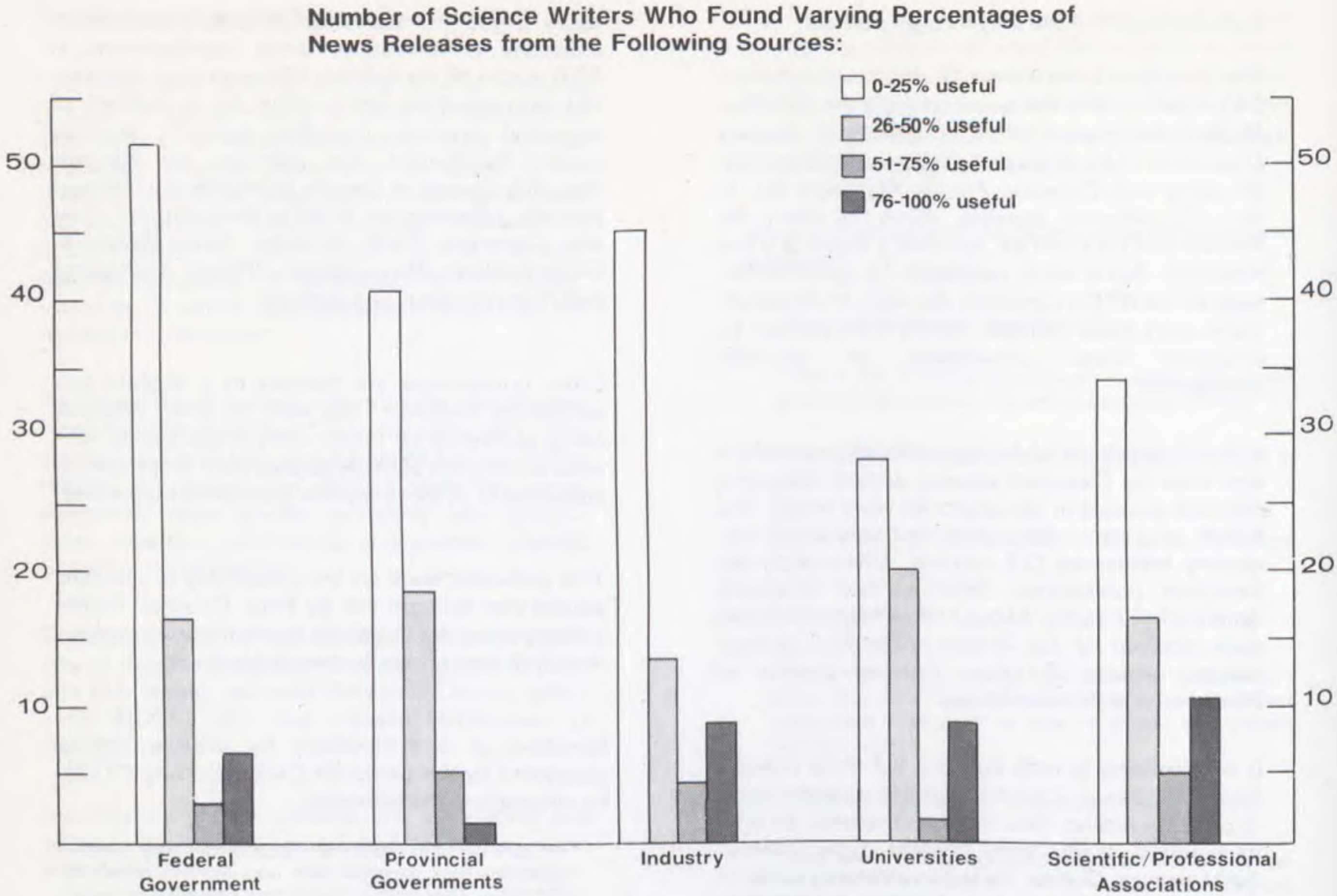


Figure 20.3 Science Writers' Assessment of the Usefulness of News Releases Received from Various Sources

(See Main Table 46)

science writers, many of the news sources put out releases which are of little news value to them.

More than half the writers felt that fewer than one release in every four from all of the groups were useful for their purposes. For instance, 53 of 80 (66%) judged between zero and a quarter useful-- or, as some writers put it, a very low or negligible proportion of federal government releases are useful. Similarly,for provincial governments ,the percentage was 62%; for industry, 63%. As the data indicate, only a small fraction of the writers considered much or most of the written material provided them by various groups useful to them (See Figure 20.2).

Nevertheless, the news release may have secondary uses. Releases may provide beneficial background material, reference notes, tip-offs to more newsworthy issues, and announcements.

We asked writers to note the number of news releases received from each of these groups in the three month period prior to the survey. Results, shown in Main Table 47, show that federal government departments and agencies are the chief sources of the releases obtained by the writers, with industry a close second. Two of every three science writers (65%) received more than ten federal agency releases in the 90 days prior to the survey. More than half (57%) received that amount from industry, while 45% received more than ten releases from the provincial governments.

Fewer releases reached writers from universities and scientific or professional associations with only a quarter to a third of the writers getting more than ten news releases from these sources.

Our survey brings to the fore the vast amount of information that is being sent continually to communicators in mass media without being tailored to the perceived needs of these writers. In many cases, some of the information contained in the releases may not be intended to be reported or some may be intended for a specialized sector of the public. Despite the inadequacies of the releases, only a small number of science writers would agree that it might be better to be struck off the mailing lists of the various groups.

If news releases are to make the maximum impact with the widest audience possible, more attention will have to be paid to the weaknesses in them as perceived by the writers. Science writers have the least faith in the gimmickry of public relations or information people. They tend to find exaggeration or coloring of information as exasperating and eventually destructive of credibility.

One noted science writer tells how he sifts the daily blizzard of releases. He quickly glances through a pile perhaps a foot high, dividing them into two groups. In the first is material from organizations which he judges to be unreliable in terms of story material and releases which he can readily see have little news value to his readers. (After awhile, all writers tend to recognize such groups.) Most of these he immediately discards. The rest he again divides into two. First are releases for future use as reference material or background information and those bearing a future date. What remains after this sorting is usually a couple of releases for story material for that particular day and this material must then compete for space and attention with all other news of the day.

From the many comments of science writers on the ideal news release, it is clear that they want:

brevity (no more than 500 words, two pages);

name, address and phone number of the major (or senior) source for further information at any hour;

illustrations wherever possible;

and

attention to any local angle.

In effect they ask that the basic "who, what, when, where, why and how" of a news story be covered briefly, clearly and precisely to reach them in plenty of time to write their own story. Especially welcome is anything that will indicate the impact or effect on society of the subject matter.

Forum

A Good News Release

"One that gives bare facts plus the name and phone number of someone who knows all the details — *not* the p.r. man or woman."

"Must relate to my beat."

"No more than two and a half to three pages (written or translated) in *excellent* French. Clarity and precision (this is rare)." (Translated from the French.)

"One which is crucial, interesting and has possibilities for a local angle."

"I use press releases as leads for stories. So, optimally, they tip me to something bigger than the release itself."

"One that is short, precise, gives all the necessary facts and a reference person's phone number, and is accurate. If on a complex subject, one that includes more background material and reference sources."

"One that some crazy bureaucrat accidentally told the truth in."

"One with solid statistical, factual and technical data presented in lay terms with an interpretation of how they may affect man and his total environment or knowledge."

"I am assuming you mean *Canadian*, as U.S. releases come in by the carload."

"Free of excessive verbiage...more concrete examples..." (Translated from the French.)

"Either short, indicating the news source to contact (the researcher, not the PR man); or long, yet containing enough pertinent information to enable the journalist to write a serious article without further research." (Translated from French.)

"Clear, short, popularized, practical, interesting, *illustrated*, in series on the same subject." (Translated from French.)

Chapter Twenty-One

Science Coverage: Adequate or Inadequate?

Judgement of Audience Interest in the Sciences

How do science writers perceive the interests of the general audience?

It's apparent that many feel most science fields are of some interest to a general mass media audience. The distribution of their replies is indicated in Main Table 48, and in Figure 21.1. As we found in the national public opinion poll (Chapters 3 and 4), science writers felt that "medicine and health" and "ecology" were the areas of special interest to the public. The former area was selected by 95 respondents (87% of the replies) as being a subject in which the public is very interested. Sixty-nine writers or 66% picked ecology.

Moreover, combining the categories "mildly interested" and "very interested,"(Final Column of Main Table 48),more than two-thirds of the writers who responded felt that most science categories are of some interest to the general audience. Only the two government science areas, i.e., "science and federal government" and "science and provincial government," as well as "engineering sciences" were listed as being of low appeal. But even these latter categories were felt to be of some public interest by about half the writers. Hence, the writer's perception of audience interest in the science areas mirrors quite well the findings obtained in the consumer survey.

Judgement of Adequacy of Science Coverage

In attempting to measure how science writers perceive the adequacy of coverage of Canadian science and technology activities by the Canadian mass media, we found strong beliefs that it is inadequate. In Figure 21.2 and Main Table 49, we present results of our poll of science writers on this point.

In terms of quantity, writers felt by a ratio of 2:1 that newspapers (70:35) and magazines (69:34) were inadequate to meet the demands of the Canadian public. For radio and television, we found an even greater ratio, nearly 3:1 (84:17 and 75:29 respectively).

In other words, 67% of the science writers judged newspapers and magazines to be inadequate in quantity; 83% said radio was inadequate in quantity; 72% noted television coverage to be inadequate in quantity.

As for the quality of science presentation, science writers indicated a similar lack on the part of the media.

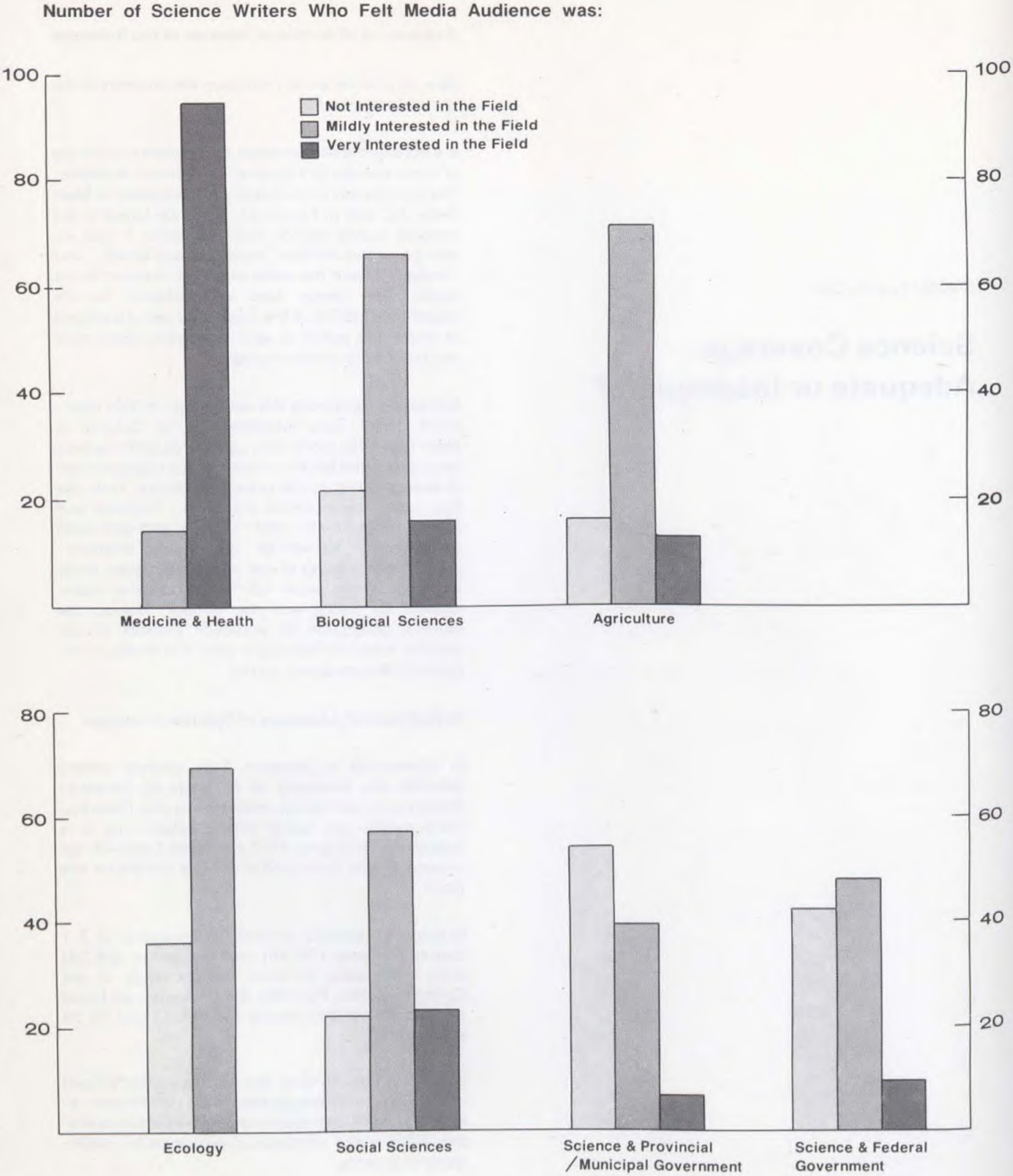
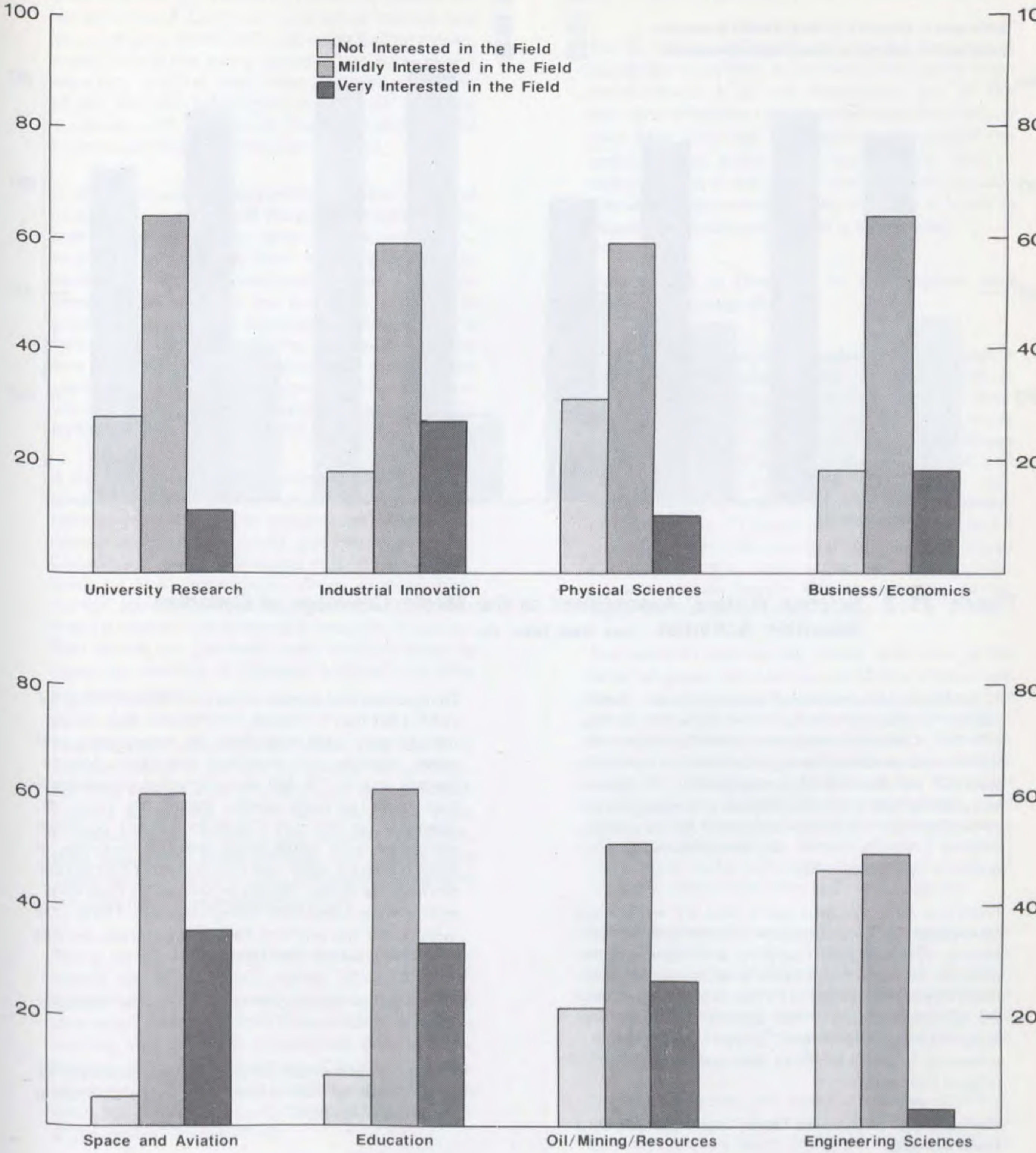


Figure 21.1 Science Writers' Perception of Audience Interest in the Sciences
(See Main Table 48)

Number of Science Writers Who Felt Media Audience was:



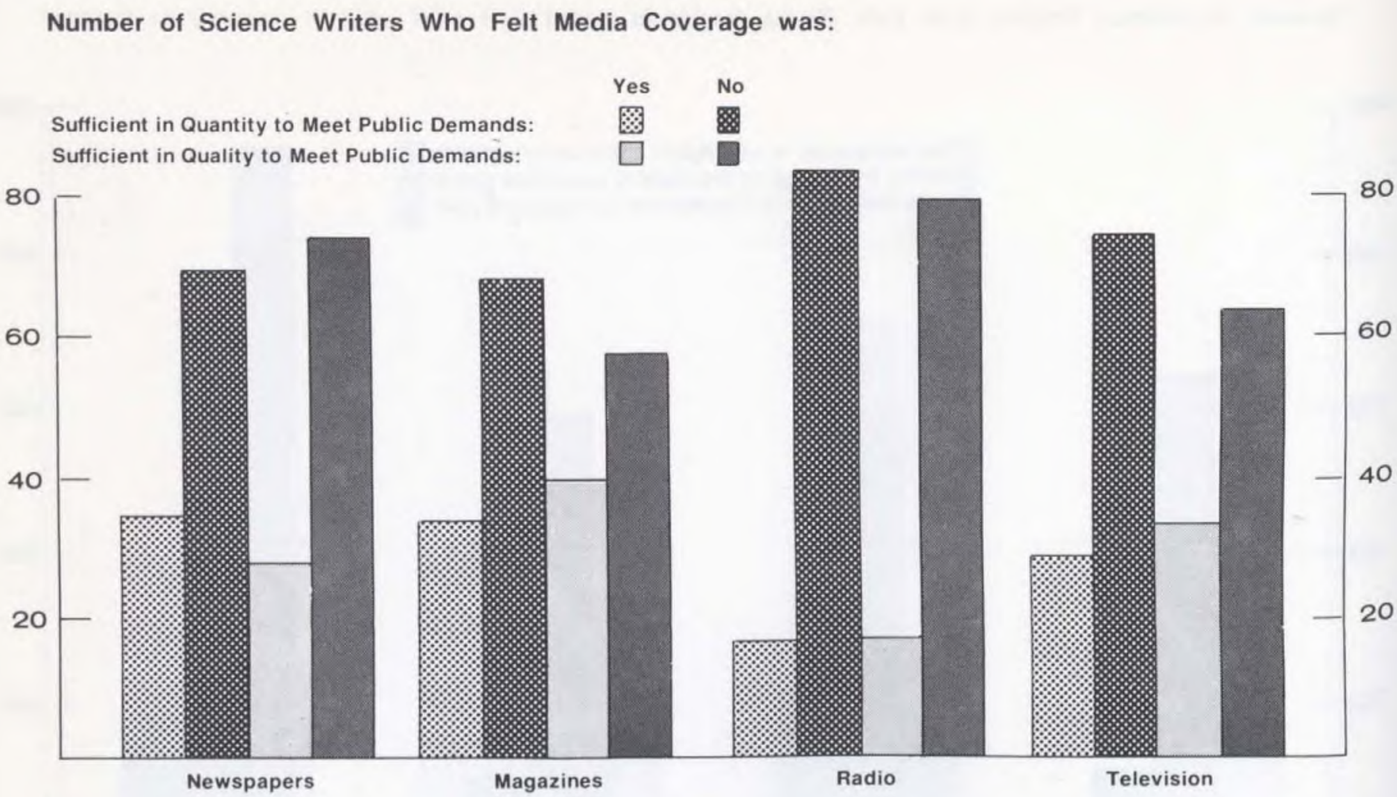


Figure 21.2 Science Writers' Assessment of the Media Coverage of Canadian Scientific Activities (See Main Table 49)

Newspapers were perceived as doing a poor-quality job by a ratio of nearly three reporters to one (75:28). Canadian magazines and Canadian television were viewed as being insufficient in quality as well (58:40 and 64:34, respectively). By far the worst of the four media for science coverage was felt to be radio, with less than one writer in five judging science programs/news to be qualitatively adequate (17:80 responses).

From our data, we also found that 57 writers felt newspapers to be inadequate in both quantity and quality, compared with only 13 who replied in the positive to both. Magazines and television again fared slightly better (47:22 negative to positive and 58:20, respectively). The poorest medium was judged to be radio — only eleven writers found it adequate in both quantity and quality, while 75 judged it inadequate.

Comparison of Science News from Canada and from Abroad

We asked the science writers to rate the science news reaching the Canadian public from foreign sources, primarily the U.S., and to compare this foreign science news with coverage of Canadian science by the mass media.

Of reporters and editors in the print media, 32 of 57 (56%) felt that a "worse, insufficient, dull, mediocre, or poor" job was done by newspapers and news services in covering Canadian science. Twenty-one (37% felt that Canadian newspapers and news services were "equal, as good as, adequate, or fair" in Canadian science coverage compared with other news services coverage of foreign science. Only four respondents (7%) felt our media were doing "better or compared favorably" with science news from foreign sources. Thirty-one writers did not wish to hazard an opinion on this question or wrote 'don't know.'

The situation was found to be similar for the other media.

There are a number of possible explanations for writers' low opinion of our news media's handling of Canadian science.

Coverage of Canadian science may in fact be poorer in quantity and quality to science coverage by the foreign media (primarily the U.S.). If one chooses this hypothesis, then the course of action lies in an improvement of science communication to ensure better coverage of Canadian R&D activities, i.e., an increase in coverage on a national, regional and local basis by qualified communicators who can tailor material for readers of individual papers. On the other hand, Canadian coverage of science may be equal to or better than coverage by the foreign media, but is not being perceived as such by the reporters. In either case, more effective promotion of our scientific achievements (as done by many countries with regard to their research) could improve our image, at home and abroad.

In effect, writers may be confirming what we found in our content analysis of the press (Chapter 13) — that Canadian science news is frequently overwhelmed by material from other countries, in particular, from U.S. news/wire services. As is plain from discussions with the principals involved in packaging science, a substantial amount of this foreign science news reaching the Canadian public (via news services in mail packages) comes in an unedited form and biased against Canadian scientific research (usually by omission of Canadian work by foreign writers unaware of it.)

A stricter editing and interpretation of this material may be indicated to ensure that Canadian science receives fair treatment in comparision with foreign science. Better editing could give more meaning to Canadian readers by bringing in domestic angles; work by local researchers. Virgin material from foreign sources is certainly less expensive than when it must be supplemented nationally or locally. This should not preclude more effective steps to report the activities of Canadian science when they are newsworthy.

Few Canadian science writers have ever had their material appear in the U.S. or abroad. By comparison, the foreign wire services such as AP (which appears as part of the CP wire service of most Canadian dailies), Reuters, UPI, Gemini, Enterprise, New York Times News Service, and Los Angeles Times News Service swamp Canadian media with scientific news of international origin.

This is certainly not to say that the Canadian public should not receive such news. After all, much material (and perhaps more newsworthy material) does reach Canadians from foreign scientific groups working with lucrative government grants at the frontier of science. However, Canadian groups, which frequently conduct similar research, remain unknown as a result of insignificant media coverage at the local or national levels.

This eclipse of Canadian scientists at home may, in fact, be one reason why we have had only one Nobel Prize winner in the sciences, Dr. Gerhard Herzberg (Chemistry, 1971), since Dr. Frederick Banting and his colleagues put Canada on the Nobel list in 1923 for perfecting the extraction of insulin.

The awareness of Canadian science by the public is not simply a problem to be dealt with by the mass media alone. It is not necessarily one of the functions of the mass media to educate the public. If they have informed and perhaps interpreted the news to the public, not much more can be expected. It is in the area of interpretative journalism where improvements may be made in future to balance Canadian and foreign science news.

Comparison of Coverage in the English- and French-Language Media

A comparison of science reporting in the English and French-Canadian media was undertaken to probe the views of reporters themselves in this area. Replies from the science writers indicate that many are not aware of any differences in science coverage in the other official language (Main Table 49 and Figure 21.3). There were 60 "don't know" responses to the question of whether any dissimilarities exist. Only 13 found no differences, while 16 communicators indicated that they felt differences did exist. Of the latter, eight felt that English-Canadian media handle science reporting better; eight, the French-language media.

Few seem to monitor the media, especially in the other language. As a follow-up to this bilingualism issue, we obtained an estimate of communicator perception of the science news of Quebec origin. We asked writers to assess each media's presentation of this news. Was it sufficient in quantity and quality to meet the demands of the Canadian public? Of the 67 writers who responded, only about one of every four felt that newspapers were doing an adequate job. Fifteen of the 67 (22%) noted them to be sufficient in quantity; sixteen of 61 (26%) wrote they were sufficient in quality.

Television fared better in quality than newspapers with 15 finding quality inadequate. TV quantity was adequate for 10 and inadequate for 49. Next came magazines, which were felt to be even poorer in both quantity and quality. Radio coverage was viewed as the poorest medium of conveying science news of Quebec origin to all Canadians.

On a quantitative and qualitative basis together, none of the media fared well. Only 12 writers felt that newspapers were doing an adequate job in both quality and quantity, while 41 stated both were insufficient for the audience. For television, this ratio was 10:39; and even worse for magazines, (7:39) and for radio (5:44).

Number of Science Writers Who Felt Media Coverage was:

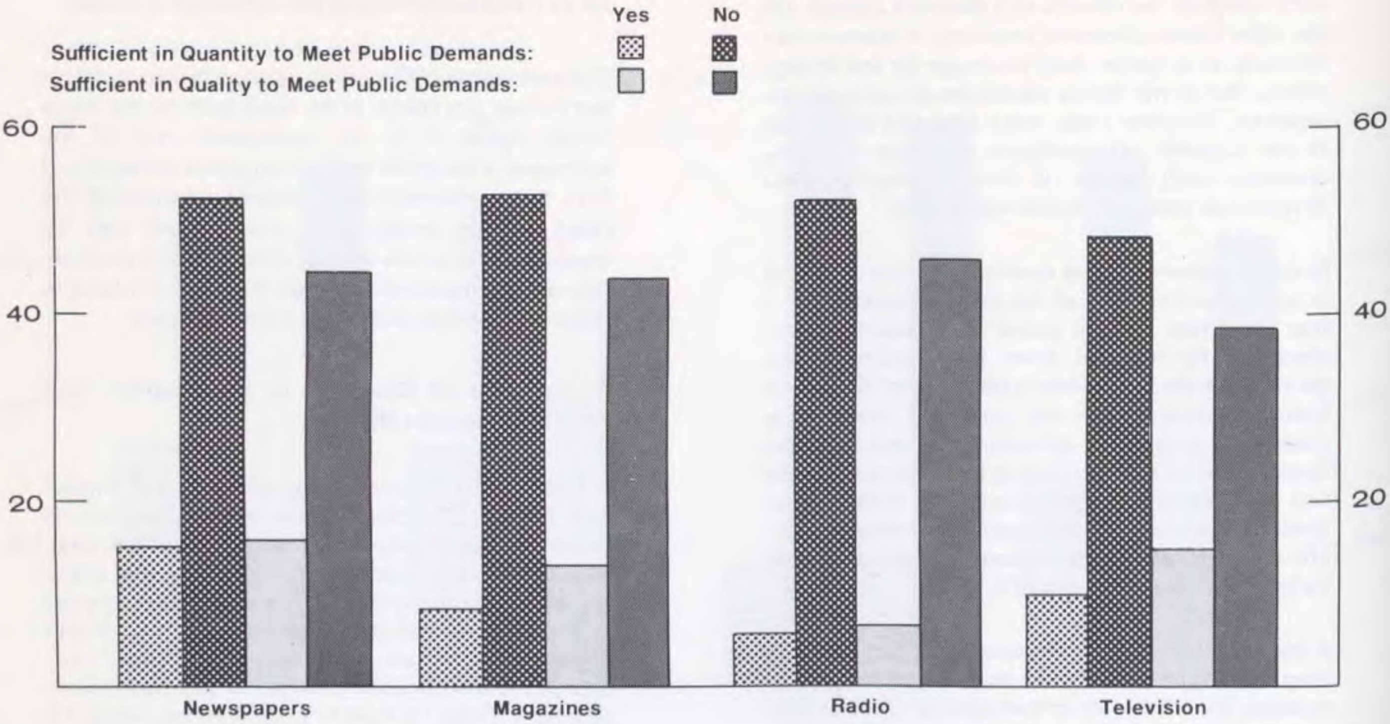


Figure 21.3 Science Writers' Assessment of the National Media Coverage of Science News of Quebec Origin (See Main Table 50)

Forum

Comments on Adequacy of Science Coverage in General

"Lack of trained reporters/interviewers; lack of specialized assignments, such as courts, politics; The importance of the sciences must be sold to those directing the news media so that they will take appropriate action in the education and determination of effective coverage."

"Radio and TV exhibit a notable lack of feature-type coverage in popular science items, i.e., medical researcn, oceanography, speculative space sciences, innovations in forensic sciences, research as applied to archaeologv — in other words — articles which could capture the interested 'gee-whiz' personality reader."

"For detailed, well researched science stories, one has to rely mainly on specialized papers and journals, because most daily newspapers operate on a superficial level lacking a science writer. CBC radio does a good job when science is featured."

"There are not enough Canadian magazines to provide the public with the science information they want and need."

"Don't see much in any media, but TV documentaries or weekly news programs seem to carry most, outside of education and medicine."

"Radio reports scientific meetings in terms of 'how many delegates' etc. Better communication between scientists and reporters and editors. So far, not one cent has been spent by provincial governments on science writer seminars. Compare U.S. grants and results."

"As all these are based on private enterprise situations, I think that quantity must be sufficient; if the demand were greater there would be more. The only one I can suggest is magazines — Maclean's, Weekend, Canadian, Chatelaine are the only mass media ones (maybe Sat. Review) and they could do more."

"Train more science writers & broadcasters and give them regular exposure in their media."

"Television-radio reporters totally (in most instances) as well as newspaper uninformed in science and medicine. Electronic media contribute little to press conferences on science because of failure to even background themselves."

"Newspapers concentrate too much on obscure research, no wonder people are turned off by science when most of it is presented too technically and too far removed from people's interests."

"As in so many other areas, since it lacks the visual impact most people get from television, radio runs from science coverage fields with which it cannot cope. Except for very brief opinion spots, I have heard nothing comprehensive on radio concerning the energy crisis. I personally do not think there is a remedy for any of radio's shortcomings."

"The demand is low at the moment — perhaps if the public had more quality information, the demand would increase. David Suzuki's TV programs last year were the only ones I knew of — not enough quantity; good quality for mass audience. Globe & Mail gives quantity and quite good quality — but I wonder how large the readership of this science coverage is?"

"Inadequate coverage in all media is probably due to an insufficient number of reporters who are able to translate complicated scientific details into simple but interesting terms."

"Too many writers/broadcasters take a superficial 'news value' approach to the subject instead of trying to pass on a genuine understanding of it to their audience. I would suggest more information (gov't studies, etc.) should be made available to writers — at least a catalogue index of what is available."

"The journalist must be aware there is something newsworthy to report — science has to give the first clue."

"Coverage is a function of : a) judgement, b) budget."

"Newspapers usually cover the "politics" of science (i.e. Canadian science writers) more than accomplishments, interpretive material, science & technology as it relates to man in the street."

"I think science writing meets the 'demands of the Canadian public' but I don't think those "demands" are very high or very widespread. One of the most important problems is developing a greater awareness and sophistication on the part of the public. This is the only argument that will convince editors to devote more money and space to science."

"Scientific coverage in all media on most subjects is poorly handled because of a lack of understanding of the subject by most writers or broadcasters. The material presented to the media is of a highly technical nature and therefore requires a great deal of time to understand and rewrite so that the general public will be able to make use of the material. I suggest training programs for what might be called extension specialists in scientific literature."

"Space activities in Canada. I believe I write the only overall coverage and have done so for the past five years."

"There are many Canadian 'success' stories, and there is a great deal of scientific knowledge, which could be most entertaining and informative if the television medium would be prepared to invest as much talent in this area of programming as it does in hard news coverage, sports, and drama."

"...(Situation can be improved) by creating a science news agency for the media."

"Virtually no follow up to Canada's satellite and rocket programs."

"To see what is happening beyond our particular field. Often too technical for the public or even the reporter to understand. To develop an alert and suitably analogical style that will enable him to stick to the facts." (Translated from the French).

"Science writing in general interest magazines is practically non-existent. J. Tuzo Wilson used to write a science column in Maclean's magazine, but that appears to have stopped. To remedy generally, more science writers are needed. How you would get them out of the woodwork I don't know."

"Need a national science magazine badly"

"I don't think the public is interested enough to demand science coverage. We're lucky if they respond to what they get in any large numbers on an ongoing basis, I feel."

"I cannot think of any *regular* science program on either radio or TV with the exception of certain wildlife programs and fishing/hunting shows and excluding specials or short series on specific subjects such as air pollution, housing, social development."

Comments on Foreign and Canadian Coverage

"Wire service copy is heavily weighed in favor of innovations in U.S., Russia, or foreign countries — Canadian science stories tend to be dull reading."

"*New York Times' Service* has excellent science and medicine articles — *Canadian Press* carries too little science and most large Ontario papers are lacking in quantity and interesting subject matter."

"Science coverage in the *New York Times*, for example, is much better than that of Canadian papers. *Weekend Magazine* and the *Canadian* show little serious interest in science."

"Newspaper coverage of science in Canada is generally dull by comparison with British and American press. Only television (occasionally) makes science live."

"U.S. coverage better. U.S. volume of scientific work is much greater — probably more spectacular projects eg. moonshots bigger than ANIK."

"U.S.-originated coverage in newspapers no longer dominates Canadian in either quantity or quality. On TV, US dominates, with occasional brilliant pieces by CBC (Nature of Things) and BBC in Magazines — Canadian effort pathetic with brilliant exception of *Science Forum*."

"The precis-type approach to science writing of *Time* magazine is far more palatable for the average Canadian than, say, a four-column article in the *Toronto Star*. I feel Canadian television compares favorably with foreign sources in this regard."

"The U.S. is possibly the world leader in scientific investigation and technological advancement. Canadians benefit directly from these advancements. The Canadian media do not hesitate to inform the public of Canadian achievements, but we are so damn close to the U.S. and newspaper content concerning the sciences is greatly affected."

"Stories are more interesting from foreign sources — though not necessarily better prepared — mainly because more of interest happens on the international scene. Canadian television seems to do a better job on Science than U.S. television — in terms of documentaries, not news."

"Canadian reporting lags behind American reporting, often of research done in Canada by Canadians."

"American or European journals have far superior resources at their disposal and can therefore produce publications which give us very stiff competition. (Translated from the French.)

Comments on English- and French-language Coverage:

"English-Canadian better. French Canada, as reflected by La Presse, concentrates primarily at the "shock" or "scandal" level, with extremely little personal coverage of either French or English scientific developments."

"English-Canadian (better) — more science writers — also English-Canadian media carry stories of national significance while French-Canadian primarily covers Quebec activities."

"U.S. influence has boosted English-Canadian coverage. Specialization is more developed in English media."

"English-Canadian have stronger financial resources, access to science material of U.S. and U.K. media."

"English-Canadian, because English is the universal language in science activities generally, (and)... science language additions are made daily and not translated, resulting in a time lag."

"French-language reporting of agricultural science in Canada is virtually non-existent, other than as translations of material prepared by English-language journalists. In the five years that I have worked in agr. science reporting, I can think of only four cases where agr. science reporting originated in the French language.

"There seems to be a longer tradition of science reporting in French."

"I feel French-language media treat the scientific topics more seriously and in greater depth — but spend much less money on coverage."

"French (better): *La Presse* is giving more space and attention than any English daily."

"I believe that French-language TV has produced some exceptional programs such as "Le Roman de la Science" and "Atome et Galaxies." Furthermore, there is no English Canadian magazine that can compare with " Quebec Science." It seems ... that French-language productions from Quebec and elsewhere have not been as numerous, but they have been of a very high quality. The quality is the same, but there just simply are not enough science journalists, especially in Quebec. I feel that English Canada is far superior in terms of books (on James Bay, the North and so on) with writers like Richardson and Mowat to name only two." (Translated from the French).

"Suspect French-Canadian coverage is lacking if for no other reason than through the scarcity of French reporters at scientific meetings."

"Suspect French-Canadian coverage is not as great in volume, but more in-depth. Due to general differences between English-Canadian and French-Canadian journalism."

"The two language groups are quite cut off from each other. The style of coverage is different. The French-language media are beginning to develop an interest in science, an area which has been monopolized for a long time by the English-language media." (Translated from the French).

Comments on Improving French-Language Science Coverage

"Coverage by the Canadian Press (or rewrites by CP of local stories) would help."

"Canadian Press should improve its French language coverage of science. Bigger news organizations in English Canada should increase their coverage, perhaps by adding one science man to a bureau in Quebec."

"Canadian Press should translate more French material into English. And English science journalists should pay more attention to what is being published in Quebec media."

"First, acknowledge importance and interest of science and then train competent people to write and speak about it. The CSWA is not teaching enough and the Science Council does not play a role here."

"There is purely a need for more French-speaking Quebec-based reporters. Major Quebec dailies should be encouraged to name science reporters. Research groups in Quebec should be encouraged to tell media outside what work they are doing."

"Most Quebec science publications reach the Western news reporter written only in French. These reports should be bilingual so a science writer can do an accurate interpretation."

"It's the old story. Sources of science news — universities, agencies — should realize it's to their advantage to receive coverage.

"I've never heard the public demanding science news of Quebec origin. In medicine, Montreal particularly is notorious for first reporting its work south of the border, in English."

"More bilingual science reporters."

"Reporter and editor training seminars."

"Greater liaison with French scientific and professional organizations."

"Needed is a reform of CP translation services: they translate primarily from English to French. The only news releases translated from French to English are those requested by English-language newspapers. Furthermore, it would be better if the English-language media had their own translator (or bilingual reporter) who was able to keep abreast of Quebec or French publications. In Canada, they know nothing of our publications." (Translated from the French)

"Anglophone journalists write only about James Bay or the new superport. They ignore the IREQ, the French-language universities and the important research centers." (Translated from the French)

"News agencies clearly show favouritism towards English Canada, especially in Ontario. The proof is evident. French-language universities have no science writers capable of writing on scientific subjects. They have nothing to do with communicating important scientific developments outside Quebec or outside Canada." (Translated from the French.)

"More French-language science journalists are required. This applies to both the media and the information and public relations services of companies, organizations and government."

"I just can't remember learning about Quebec science at all in any English media with the exception of early heart transplants, occasional doctor strikes or occasional reports of scientific meetings held in Quebec."

Chapter Twenty-Two

Problems in Producing a Science Story

Internal Barriers

Three obstacles or barriers affected about 75 per cent of the science writers polled on the question of impediments to science coverage (See Table 22.1 and Main Table 51.)

The most serious was felt to be the fact that science writers are able to take only a hit-and-miss approach to reporting the sciences because their beat or range of topics covers too broad a spectrum. This impediment was noted by 52 of 67 respondents (78%). Thirty-seven of the 67 marked it as one of their most serious problems.

Difficulty in keeping the details of stories simple yet scientifically accurate was the second most frequently occurring problem, listed by 69 of 92 respondents (75%) with 40 (58%) finding it serious.

Another impediment was that too little time is allotted to research science stories thoroughly. This was listed by 62 of 84 respondents (73%) and 41 of them (67%) considered it serious.

The distribution of frequency of occurrence of all selected situations and their seriousness is illustrated in Figure 22.1.

Several additional complaints were marked by more than half the writers. These included the uncertainty about the interest (46 writers, 55%) and comprehension (49, or 57%) levels of the audience/readership for science news, the difficulty of sorting out news stories from the large number of press releases received daily (46, or 60%); covering other beats in addition to science (45, or 61%); and getting newspaper space once they write the stories (44, or 56%).

Number of Science Writers Who Encounter Internal Issues
with Different Frequencies [Never, Seldom, Now and Then, Often, Always] and find:

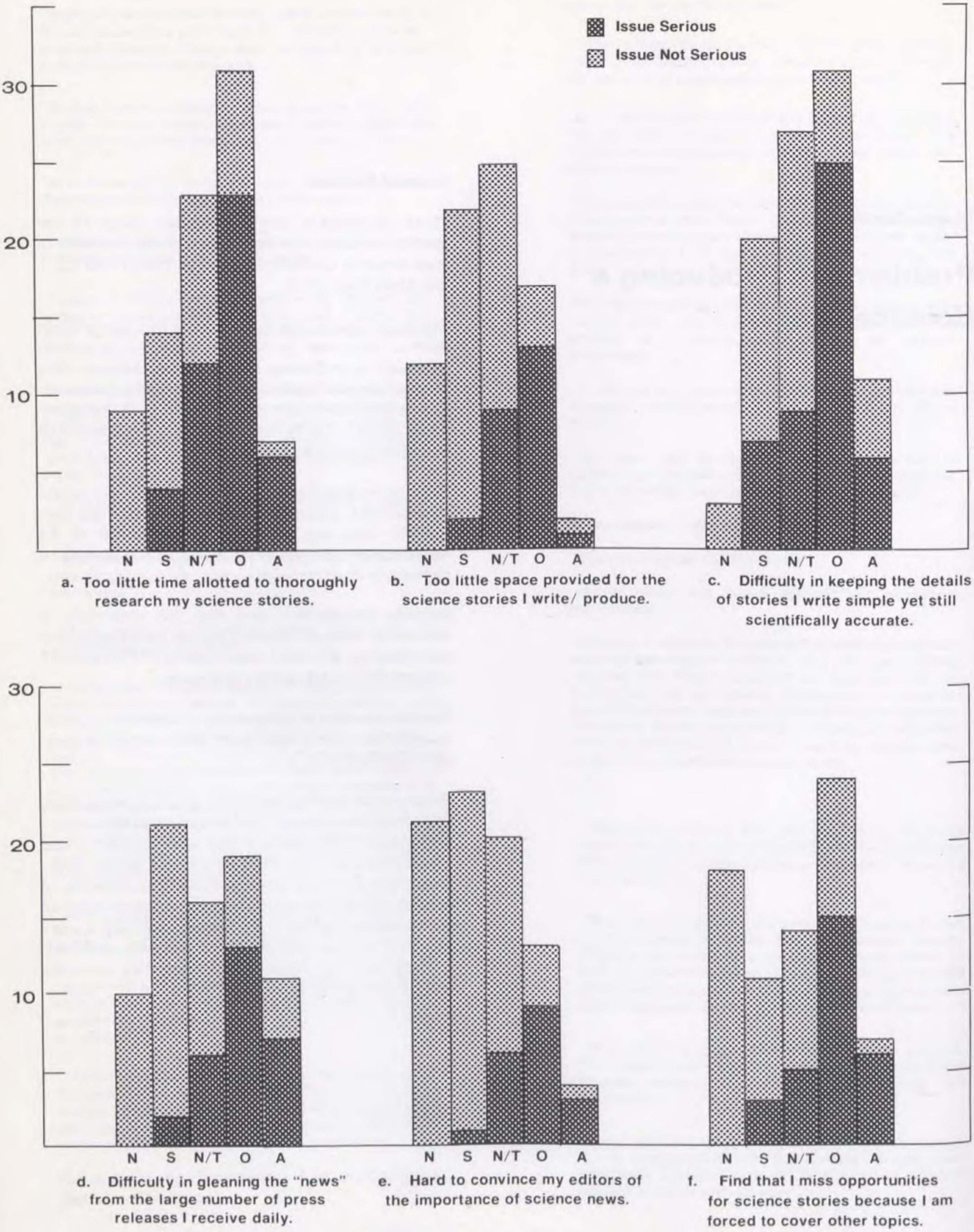
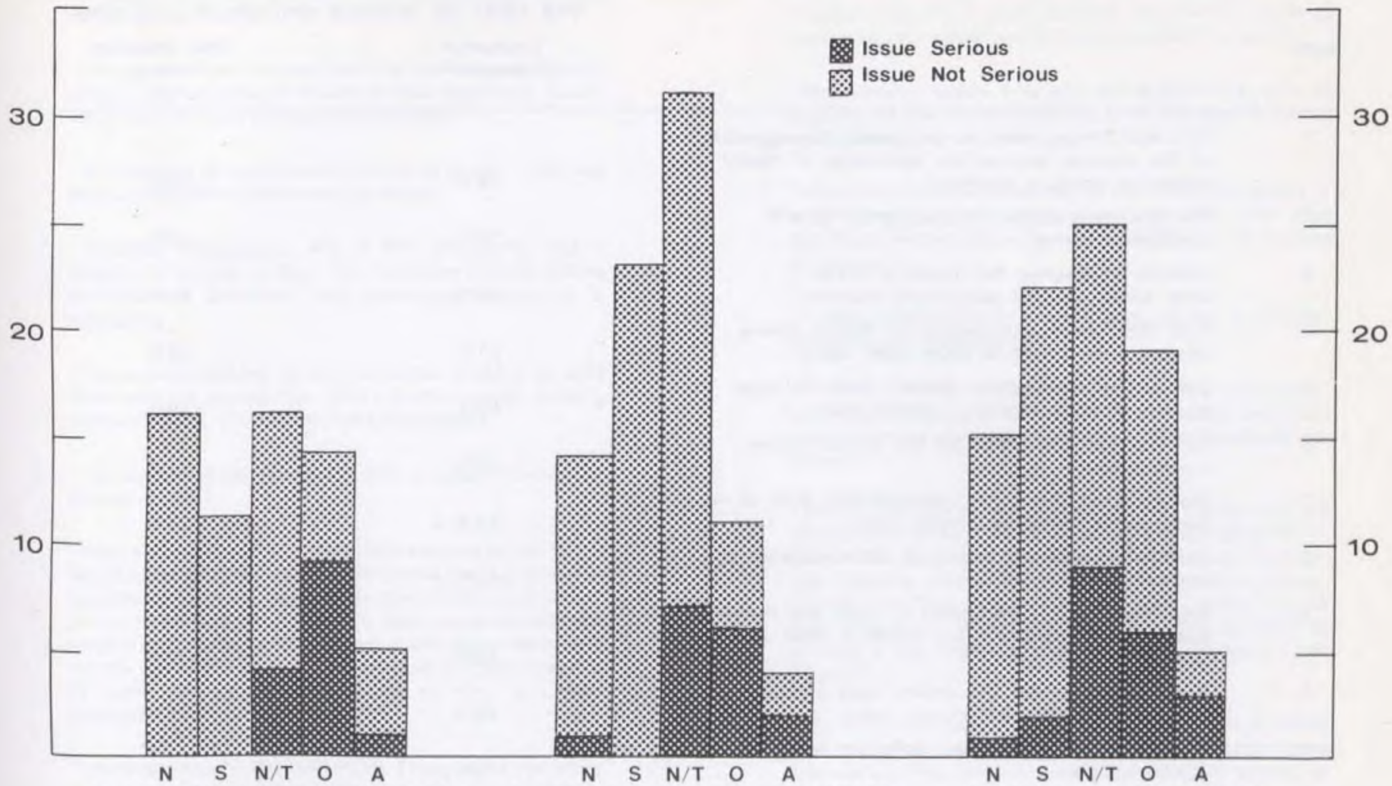


Figure 22.1 Distribution of Frequency of Occurrence, and Seriousness, of a Selection of Internal Issues to Science Writers

(See Main Table 51)

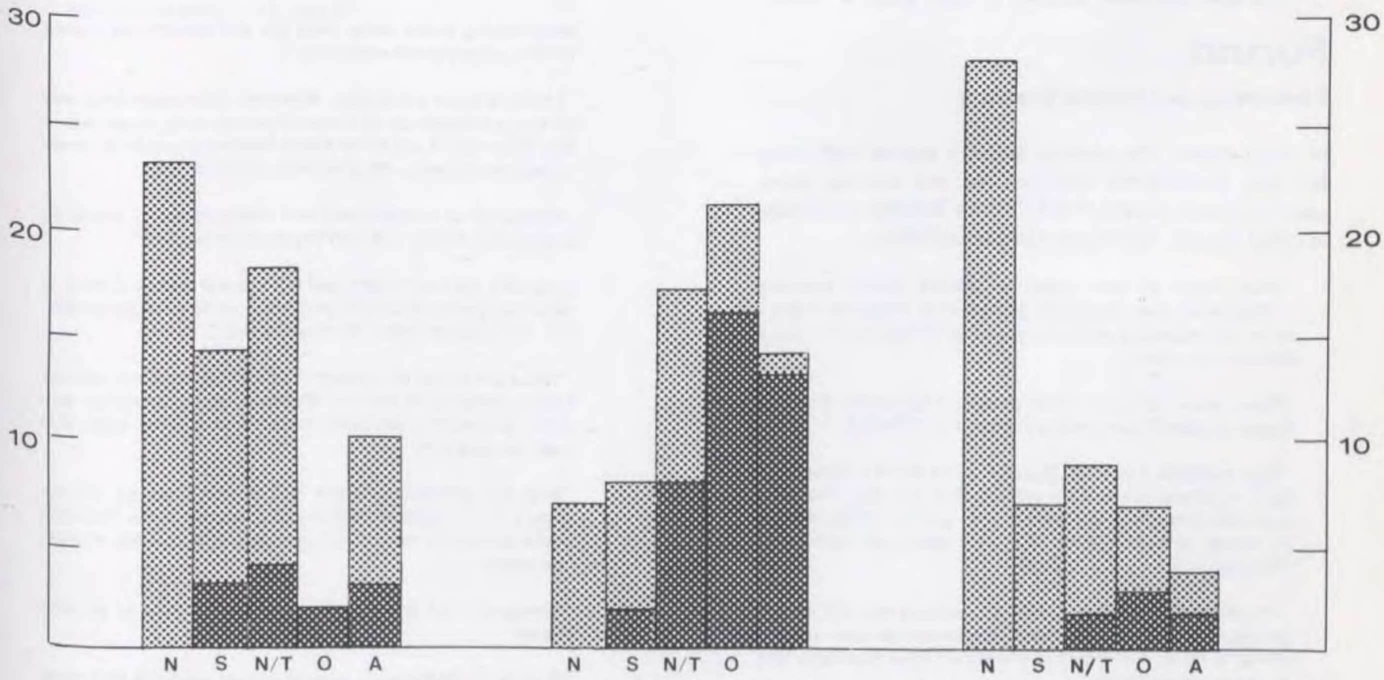
Number of Science Writers Who Encounter Internal Issues with Different Frequencies [Never, Seldom, Now and Then, Often, Always] and find:



g. Find that I miss opportunities to cover the national science scene because I am forced to cover local interest science.

h. Feel uncertain about the interest level of my audience/ readership for science news.

i. Feel uncertain about the comprehension level of my audience/ readership for science news.



j. Dislike having someone else write the heads for my science stories.

k. Find that I must work on a hit-and-miss approach on the sciences because my beat/ range of topics/ covers too broad a spectrum.

l. I consider it a handicap not having a full-time science editor to edit my copy.

Table 22.1. Science Writers' Ranking of Internal Barriers in Order of Decreasing Seriousness

Rank		PER CENT OF SCIENCE WRITERS POLLED WHO: Encounter Situation[1]	Feel Situation is Serious
1	Find that I must work on a hit-and-miss approach on the sciences because my beat/range of topics/ covers too broad a spectrum.	78%	58%
2	Too little time allotted to thoroughly research my science stories.	73%	54%
3	Difficulty in keeping the details of stories I write simple yet still scientifically accurate.	75%	51%
4	Find that I miss opportunities for science stories because I am forced to cover other topics.	61%	39%
5	Difficulty in gleaning the "news" from the large number of press releases I receive daily.	60%	36%
6	Too little space provided for the science stories I write/produce.	56%	31%
7	Feel uncertain about the comprehension level of my audience/readership for science news.	57%	24%
8	Hard to convince my editors of the importance of science news.	46%	23%
9	Find that I miss opportunities to cover the national science scene because I am forced to cover local interest science.	56%	22%
10	Feel uncertain about the interest level of my audience/readership for science news.	55%	19%
11	Dislike having someone else write the heads for my science stories.	45%	15%
12	I consider it a handicap not having a full-time science editor to edit my copy.	36%	15%

(SEE MAIN TABLE 51.)

1. Total who encounter situation at least NOW & THEN.

Forum

Comments on Internal Barriers

In most cases, the science writers stated that they felt the statements selected for our survey were central issues facing them. Some added a number of other issues, which we have listed below:

"Think many of them apply to science writers covering science other than medicine. Editors now recognize importance and interest of medicine but other fields are not in same favorable position."

"None really serious. I feel getting information presents bigger problems than writing it or getting it printed."

"Main problem, I believe, is that science writers continue to have problems convincing editors that science writing is important enough — to allow reporter sufficient time to work on stories, to give reporter sufficient newspaper space and resources."

"The most central issue, I believe, involves the difficulty in getting scientists to understand news and how their science relates to news. A majority of scientists I have met really lack ability to communicate."

"You've missed one — the conservative attitude of our contacts. Doctors are always cautious and close-mouthed when talking to the press. Only the well-established science writers get anywhere with them."

"I believe these are central. However, even more basic and serious is the attitude of scientists and doctors, nurses,etc. in that their work is not in the public interest or can be withheld — they rarely phone the press with stories or info."

"Relevance of science itself and manipulation of media by scientists and other self-serving pressure groups."

"Yes, but too much work and not enough energy or time to cover adequately is a chief problem. I could now use another full-time science writer, particularly in B.C."

"These are issues of concern to *any* writer, not just science. Equally pressing is residual elitism of some scientists, who doubt that writers can really understand science, much less that the audience can."

"One not mentioned, which is a central issue for science writers, is the general disinterest or apathy of the Canadian public re science news. One gets very little reaction to what one writes."

"Frequently not enough photographs available to go with stories."

"A great problem facing science writers seems to be a clash between the natural caution of scientists to jump the gun (i.e. — announce a cure for cancer) and the eagerness of journalists for scoops."

"They are certainly central to smaller newspapers, and this is too bad because often, as in our case here, there are large industrial science/pollution complexes dominating the life of our readers, and local libraries have an inadequate amount of reference material."

"I detest the anti-intellectual bias that seems on my paper to relegate science stories to the dispensable copy heap. *That* is what I consider most pressing at the moment."

"A philosophy of science writing would be handy — like how does a development affect average people."

"Canadian newspapers, with a few exceptions, lack a tradition of science writing. The Canadian science writing journalist has difficulties (and challenges) because he is pioneering."

"The greatest problem for science writers working for daily newspapers is 'saving their skins'; in other words, proving their usefulness." (Translated from the French.)

"The biggest single problem is lack of proper training for science writers."

"More important would be the lack of material as well as the lack of information coming from the people who are doing the scientific research, i.e. universities, governments and associations. I feel that the effect of a story increases with the amount of coverage by the different media and in the case of science and technology, each newspaper or radio station or TV outlet uses different stories and no story gets mass coverage."

"I think you have hit the main points. I have found that salary and recognition for science reporters is also very important. For example, the senior post in most media is Ottawa politics or local city hall politics."

"If you can't sell it to the editor, you can't 'sell' it to the public. The idea is that you can't 'educate' the reader: Give him what he wants — i.e. sports."

"These are the main ones: Lack of easy access to some Federal and Provincial Govt. information and to some hospitals is another. In these cases, it usually amounts to a scientist's unwillingness to talk without clearance and the frequent difficulty of these clearances by officials unable to assess the information, and its use to the public, properly."

"Best working tactics, I believe, are to assume as little as possible, so that one never forgets to try to make everything as interesting and simple as possible."

"Often I am uncertain about the worthiness of some stories — such as new techniques and developments. Are they significant and should they be reported? What is relevant and what is not?"

"Having enough time and staff to keep abreast of developments in science and society."

"The most difficult problem to solve is making understandable and stimulating to the reader subjects whose immediate applications are often still hypothetical."(Translated from the French.)

"When a scientist announces a discovery or a theory it is well to check with at least one other scientist in the same field ... one will be more likely to produce a better story. There are also scientists, some of them eminent, who make pronouncements in a field that is not their own, which can be mischievous and damaging. These people should either be avoided or the degree of their authority adequately made known."

"(1) Since newspapers don't have money or time to release you to attend courses, how about special press-related courses? (2) How about suggestions of reference sources for research?"

"Incentive should be provided for educational advancement. Newspapers should encourage reporters to take part in education programs or university extension programs to further their knowledge."

External Barriers

The biggest complaints about external obstacles in the way of reporting science, centred on scientists' unfamiliarity with day-to-day procedures for dealing with writers, the difficulty in translating scientific jargon for the uninitiated, the traditional distrust of media by scientists, and reluctance of scientists to discuss possible social implications of their work in public. Three of every four writers was affected by these issues, most writers seriously and frequently. The proportions of respondents who regarded each of these (and other selected issues) as serious problems is set out in Table 22.2 and the frequency with which these occur is charted in Figure 22.2.

Comments on External Barriers

"Scientific organizations that take eight months to produce a 100-page publication should try to facilitate the job of science writers who have to prepare their articles and comments in a few hours. This could be done by: (i) sending them the text a few days before official publication; (ii) accompanying this text with an explanatory release to facilitate popularization of the news item; (iii) preparing public opinion, in so far as possible, by means of press conferences or interviews to familiarize the press and the public with the subject during preparation of the text; (iv) facilitating communication between the press and the scientific community; (v) familiarizing scientists and technologists with modern communication methods and promoting good relations with the press; (vi) promoting the Canadian Science Writers' Association (CSWA)."

Table 22.2. Science Writers' Ranking of External Barriers in Order of Decreasing Seriousness

Rank		PER CENT OF SCIENCE WRITERS POLLED WHO: Encounter Situation[1]	Feel Situation is Serious
1	Find that scientists are reluctant to communicate the facts of their research to the public.	81%	48%
2	Difficulty in translating the jargon of scientists into the language of my readers/audience.	83%	47%
3	Trying to overcome the traditional distrust of the media by the scientific community.	82%	41%
4	Find that scientists are reluctant to communicate the possible social implications of their research to the public.	74%	38%
5	I find that scientists are psychologically unprepared to meet science writers.	79%	27%
6	Find that scientists are unfamiliar with the day-to-day procedures for meeting science writers/broadcasters.	87%	27%
7	Scientific groups keep inviting me to non-news press conferences.	64%	21%
8	Industry officials keep inviting me to non-news press conferences.	62%	20%
9	Government officials keep inviting me to non-news press conferences.	59%	19%
10	Difficulty in locating authoritative scientific sources to verify the facts of my stories.	61%	18%
11	I find it hard to convince my editor(s) that I should be allotted funds to attend national scientific meetings.	44%	17%
12	I find that scientific organizations don't have standard procedures for meeting science writers/broadcasters.	79%	17%
13	Find that Canadian scientific journals are reluctant to publish material which has already appeared in the mass media.	51%	16%
14	Hesitate to cover stories because of difficulties in communicating with sources fluent in French —— / English —— only.	43%	8%

(SEE MAIN TABLE 52.)

1. Total who encounter situation at least NOW & THEN.

"Good points — plus deliberate evasiveness of industries to release facts which have already appeared in obscure technical papers, i.e. — canning company refusing to release data on pollution control experiments already detailed in National Research Council magazine."

"We need more contacts within the scientific community who can help point us to good stories — real stories, not promotions."

"Scientists are reluctant to think."

"Lack of common sense scientific approach to many types of problems." "I have found I have as much trouble, sometimes more, getting information from science administrators as from scientists. This often ends up being *the* major impediment."

"One small problem: when you can find an 'authoritative source' to verify something, he often does not appreciate time pressures involved in news reporting."

"These are part of the social matrix within which we operate. Main problems rest with the media which don't really know how to gather, assess and distribute information."

"There's one — the frustration of trying to get hold of these people, or trying to get them to return your calls. This is especially true of anyone in government."

"Many scientific organizations have no conception of how to run press rooms at meetings and are hostile with reporters and their requests."

"The problem is a twin one — both writers and science information sources can collaborate more fruitfully."

"The thing that most disturbs me is *my* lack of scientific background which makes difficult subjects more difficult. Probably there are moral issues coming up and we will have to write more speculative, philosophical opinion."

"Our most serious problem is finding articulate, French-speaking scientists."

"I think you hit the major ones. Too many government scientists (and gov't officials, science managers) are unwilling to divulge even very basic information about their work to the public that pays for their research. Their attitude should change to that of being publicly accountable for what they are doing and why."

"...There are few free-lance outlets,too, for science stories. And it militates against survival of science magazines."

"Perhaps a similar survey of newspaper publishers and managing editors would be useful — asking,among other things,their lack of interest in prompting their staff to take special extension courses at a university level. Also,a survey of scientific writers associations in North America, asking why their existence or special workshops are not better publicized."

"The scientific community and respective Government departments should have greater awareness of the increased level of public understanding and knowledge of the sciences. News Media (Top level) must be made aware of importance of this area to the public."

"One of the most common complaints of smaller newspapers is a lack of technical information at the local level. I'd like to see more government studies made available to us--even press releases. Neither is provided to us now with any degree of consistency. We are forced to cross-check industry releases through the (expensive) method of long-distance phone calls, which doesn't always guarantee adequate results."

"Real scientific information is very often smothered by the great para-scientific or economic debates: science policy, ecological controversies." (Translated from the French.)

Figure 22.2 Distribution of Frequency of Occurrence, and Seriousness, of a Selection of External Issues to Science Writers

(See Main Table 52)

a. Trying to overcome the traditional distrust of the media by the scientific community.

b. Difficulty in translating the jargon of scientists into the language of my readers/audience.

c. Scientific groups keep inviting me to non-news press conferences.

d. Government officials keep inviting me to non-news press conferences.

e. Industry officials keep inviting me to non-news press conferences.

f. Find that scientists are reluctant to communicate the facts of their research to the public.

g. Find that scientists are reluctant to communicate the possible social implications of their research to the public.

h. Find that Canadian scientific journals are reluctant to publish material which has already appeared in the mass media.

i. Difficulty in locating authoritative scientific sources to verify the facts of my stories.

j. Find that scientists are unfamiliar with the day-to-day procedures for meeting science writers/broadcasters.

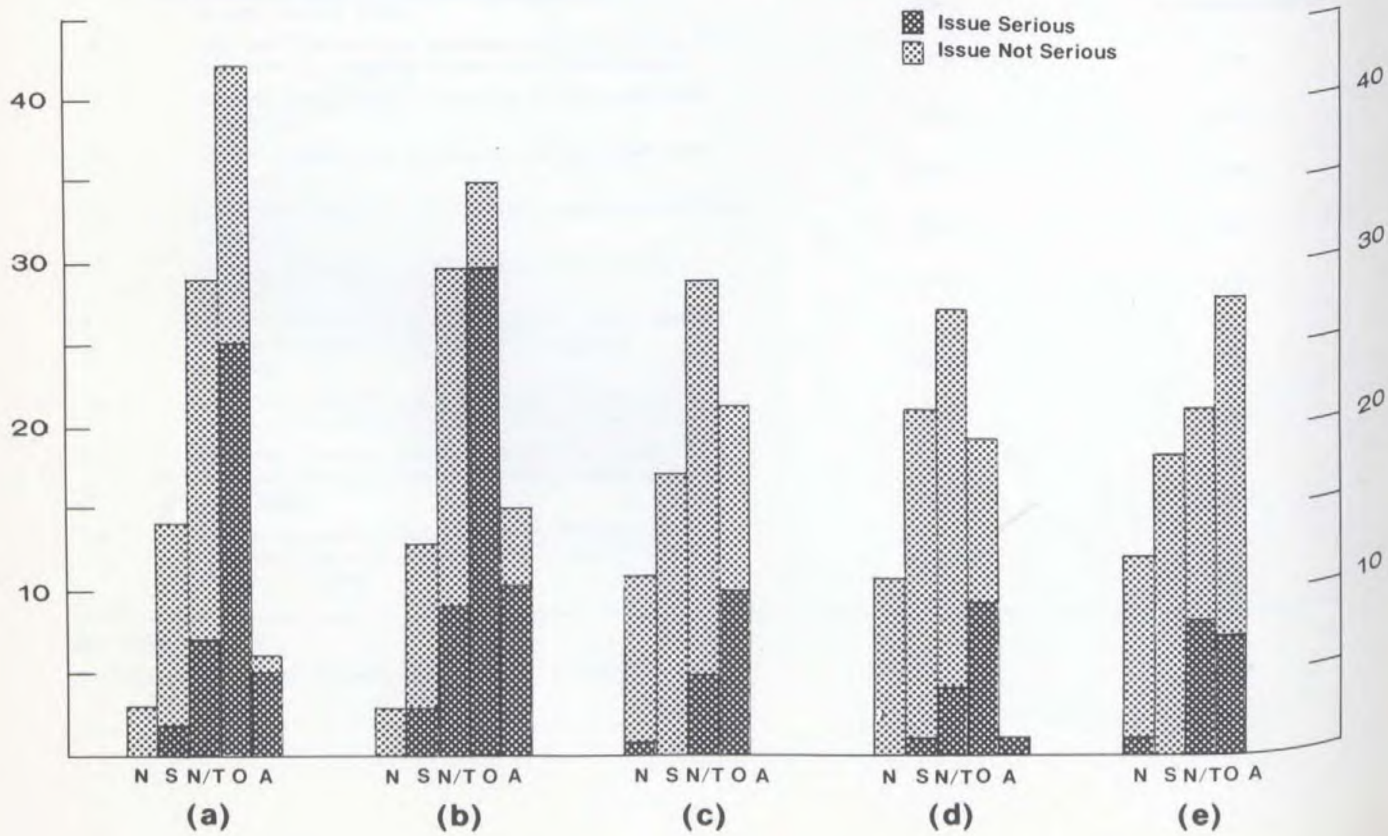
k. I find that scientists are psychologically unprepared to meet science writers.

l. I find that scientific organizations don't have standard procedures for meeting science writers/broadcasters.

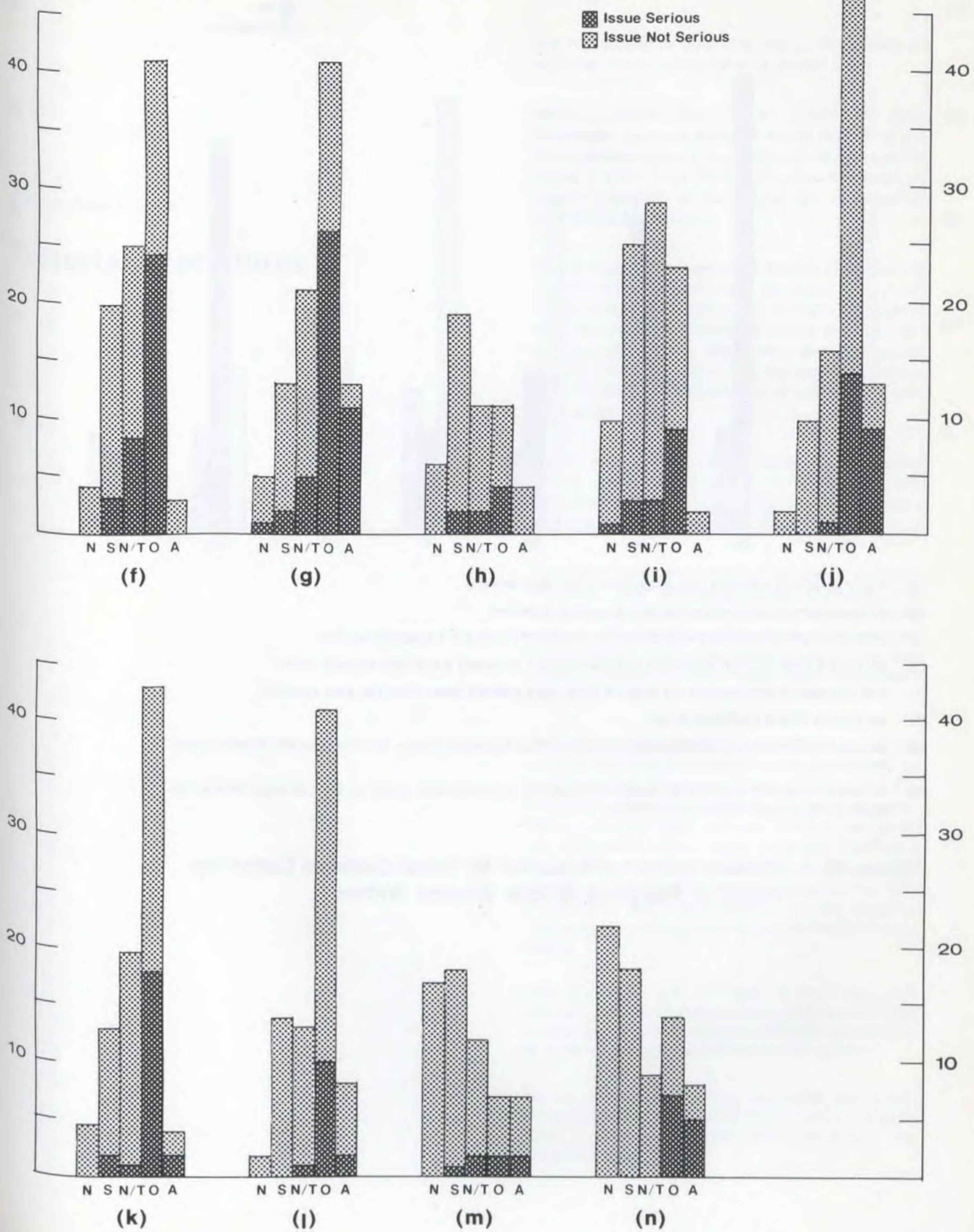
m. Hesitate to cover stories because of difficulties in communicating with sources fluent in French---/English---only.

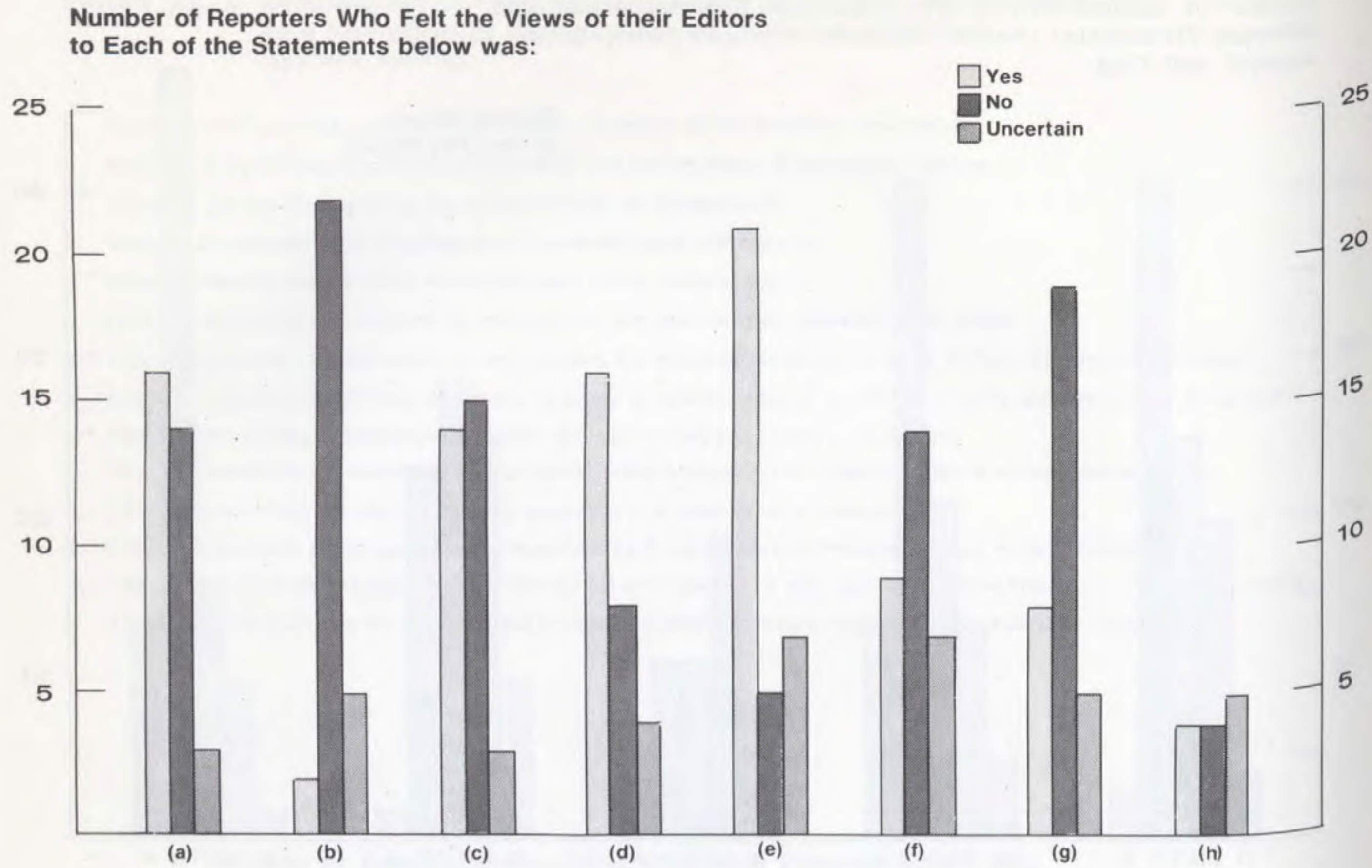
n. I find it hard to convince my editor(s) that I should be allotted funds to attend national scientific meetings.

Number of Science Writers Who Encounter External Issues with Different Frequencies [Never, Seldom, Now and Then, Often, Always] and find:



Number of Science Writers Who Encounter External Issues with Different Frequencies [Never, Seldom, Now and Then, Often, Always] and find:





(a) science news is covered adequately by other staff writers

(b) science news is covered better by other staff members

(c) science is not of sufficient interest to our readers to warrant a specific reporter

(d) we do not have enough staff-written science news to justify a full-time science writer

(e) it is cheaper to supplement the paper's news with science news from the wire services

(f) we cannot afford a science writer

(g) no one on the staff is qualified/capable of handling a science beat – but the situation is acceptable as is

(h) no one on the staff is qualified/capable of handling a science beat – but we are currently looking for someone to handle science exclusively

Figure 23.1 Reasons given by Reporters for Some Canadian Dailies not Hiring or Assigning Special Science Writers

Chapter Twenty-Three

Editorial Procedures

Editorial Decision-Making Regarding Science Coverage

We next turned to obtaining the writers' views on who exactly controls the flow of science news.

Basing ourselves first on the replies of daily newspaper reporters only, we found that 56 of the 60 respondents had all or nearly all that they wrote appear in print. Thus 98% of the reporters' work on science appeared in the media. Six respondents reported dissatisfaction.

Who decides what is printed? Results of the survey indicate that, in nearly half the cases (27 of 57 replies) it is the city editor who handles the science material (news or features) turned out by the writer. In descending order, the others were the writer himself (20), wire editor (18) and managing editor (16). Publisher influence was mentioned in only three cases.

Finally, many reporters emphasized the numbers of editing deskers involved in decisions. Said one metropolitan daily writer, "In my case, we've got a heck of a lot of Chiefs and only one Indian."

The writer noted that decision to assign coverage involved: "Me; managing editor; publisher; city editor; assignment editor; feature section editor; national editor; political editor; foreign news editor; three assistant managing editors; couple of news editors; editor-in-chief and the publisher's doctor."

As for assigning science in general, we found that much of the time the science writer selected his or her own topics. Nearly two of every three (33 of 53, or 62%) noted personal decision in topic selection. Twenty-one science reporters (40%) mentioned the city editor, while eight gave the managing editor. Only four listed an assignment editor. Four writers also cited news editor and another four said the features editor was involved in this decision. Two noted that their publisher was involved to some extent.

One inference from our data is that while the assigning decision largely reflects preferences of the science writer (rather than the editors), publication of the story is mainly in the hands of the editors.

On the subject of editing procedures within the electronic mass media, six respondents out of eight noted that their producer was responsible for screening their material.

Five of these stated that personal decision also was involved.

"Layers of bureaucracy," wrote an Educational TV producer, of the source of decisions.

One radio commentator/producer wrote: "I have a working arrangement with my employer that nearly everything I write is broadcast. I do very little freelancing. I would do more science reporting if the material wasn't presented in such technical form."

A Montreal radio production assistant mentioned that in order to cover certain science features, there must be approval from CBC in Toronto prior to assigning local freelancers.

As for assigning topics within the electronic media, four producers noted that they chose topics themselves. One TV producer of a science network program said that the topics were assigned by the executive producer and selected "from the best of the program ideas presented by the producers and freelance writers, usually by a consensus."

This respondent maintained that a full-time science editor would not be more helpful. "The producer is essentially the science editor, consulting with experts in the field at hand."

Science Writers' Problems With Editorial Procedure

Accuracy, headlines and headings, and style are problems frequently a cause of complaint by scientists and other information sources. Views of writers may be less well-documented.

Of 44 reporters who replied, by far the most complaints concerned the headings on stories. Eighteen (41%) noted that heads were the major problem. Cutlines under photographs,as a problem, was brought up by only two reporters.

Some of the comments on editing procedures which disturbed writers appear at the end of the chapter.

Advisability of a Science Editor

We suggested that a science editor handle reporters' science copy. Writers were asked: "Would a full-time editor responsible for science coverage be more helpful in your tasks?"

Science writers with dailies were divided on this point. More than half the reporters (26 of 48 or 54%) felt that an editor for science would be beneficial to their work. However, on the question of whether such a situation was practical or feasible in their department, only 7 of 42 (17%) replied positively (See FORUM.).

Science Writers' Judgement of Importance Attached to Science Coverage

Another issue, brought up with both reporters and managing editors of the daily press, was that certain Canadian dailies, even a number of larger circulation papers, do not employ a full-time science writer. For these publications, what do reporters covering science-related news or science topics on a part-time basis judge to be the reasons for not having a full-time science writer?

Replies arrayed in Main Table 53 and Figure 23.1 indicate they suspected their editors' decisions to be a matter of dollars and cents. Nearly one of every two (21 of 44 who replied) stated the paper's reason as: "It is cheaper to supplement the paper's news with science news from the wire services." Only five writers did not believe that this was a reason for not having a science writer.

Another major issue at stake, mentioned in more than one of every three cases (16 of 44) was that "We do not have enough staff-written science news to justify a full-time science writer."

In effect, both the editors and the reporters polled judged these two reasons to be the major ones, with reporters opting for the financial priorities to be more dominant.

"Science news is covered adequately by other staff writers" was the response for 16 writers. But 14 suggested that it might be: "Science is not of sufficient interest to our readers to warrant a specific reporter."

A managing editor of a daily with 15,000 circulation felt "general reporters, if intelligent, can sometimes interpret scientific material in better layman's language than an expert would."

One reporter noted that her paper was currently looking for a science writer:

> "But no frantic search. The paper is not aware it is missing good stories because of a lack. Competition has science writer but seldom stories we care about missing."

Another:

> "It is a vicious circle: as long as there are no competent science writers, we will not be able to interest the public; yet, without a systematic popularization of science, communication with the lay public is impossible." (Translated from French.)

An agriculture reporter wrote that their newspaper uses the beat systems: "four or five reporters cover the various sciences. It's impossible under our system to have one general, adequately informed science reporter."

And a science writer with a large circulation daily wrote the main factor is cost, "although it could be debated on the basis of media profit records." A daily reporter also felt this to be the case. She noted: "The city editor took on an additional assistant city editor in lieu of a science reporter thus removing the beat and leaving it totally uncovered."

Forum

Are Writers of Dailies Satisfied with the Use of their Stories?

"No. Because anything any reporter writes will probably be accepted. Thus it would be possible to print a pro-mega-vitamin therapy story one week, and an anti-megavitamin story the next."

"Yes--but I also believe a second person could be hired to assist in covering areas. As well, I wish for more writers in my organization to be interested in science."

"In my case, about everything I write is published by one or more newspapers. I would prefer, however, that more of the 107 newspapers subscribing to the CP service used most of what I write."

"Yes, but need more time for some stories, and often cannot justify extra time in terms of product compared to non-science fields."

"Yes, in that they are published — but quantity can be increased."

"Yes, as far as publication is concerned; no, as far as the co-operation given is concerned, as well as the indifferences shown to this type of article compared with the others." (Translated from the French.)

"When fulltime medical reporter with the Gazette, altho' all that was written was produced, not all that should have been covered was assigned."

Daily Writers on Editing Procedures

"Often heads mislead. Location of stories in relation to community impact is often ignored. Accuracy (of copy) is very good."

"Headings can be troublesome---some editors also want newsy leads for featurish material."

"Heads tend to be written to fit rather than summarize story — however, science stories are not the easiest for which to write heads."

"Only complaint would be in field of head writing — gist of story is sometimes misunderstood by head writer — i.e. Promising 'cure' for cancer when only research is indicated in story."

"No real problems. Desk men don't understand much about science, but they trust my judgement and they do little editing and heads are usually very accurate."

"Heads often distort".

"Heads are sometimes too sensational."

"Headlines continue to be major problem. Editing is less of a problem."

"A head can only say so much. Sure, brevity has caused problems but I stand on what is in the story and scientists usually support my stand. Editing out paragraph has come close to destroying a meaning, especially in a sensitive medical story."

"Headlines, antiquated editing approach of chopping from bottom, fire-engine emphasis on sensational."

"Wire copy in, particular suffers, badly from insensitive editing, over-eager cutting and slipshod head writing."

"The knowledge of science on behalf of those who handle stories is insufficient."

"Often, headlines are misleading; seldom are they more than adequate."

"It is the job of the science writer to complete a text and to suggest a headline for his article. The field of science is too specialized to have non-specialized personnel responsible for head-writing." (Translated from the French.)

"If we don't make up our own headlines, there's a possibility that they could contradict the article. If the text is too long, it is cut short without regard for content." (Translated from the French.)

"Periodically it gets impossible. Then you scream loudly enough to produce edict from on high not to touch copy. Memories short."

"Editors mostly don't recognize errors, and will run almost identical wire stories from different services."

"There still seems to be an idea about that a reporter who checks back with a scientist is a fink. Heads vary from fair to adequate."

Other science writers in our sample also expressed their dissatisfaction about newspaper editing procedures:

"Parts of articles not written by specialized reporters, for example, heads, cutlines, etc. often make nonsense of an otherwise good article."

"Tendency to grab a story and make it sound as if it is the cure to cure all things — cancer."

"Heads are often misleading — superlatives are obviously sought and limiting implications ignored."

"In media, accuracy often suffers because writer doesn't or can't do background homework. Balance on sensitive topics sometimes sacrificed for 'sensationalism' in heads and story. Style comes across as if writer is authority when all he/she is doing is misleading facts."

"Editing to shorten drastically often led to superficial treatment or inaccuracy. The uncertainty in some science stories (e.g. caution about cures) sometimes led to an editorial judgement not to print the story."

"Inability of most desks to edit science competently (ie. too much verbation, PR); Heads and captions."

A city editor of a B.C. daily noted: "Could use special expertise to cross-check accuracy."

The views of science writers outside daily newspapers concurred with the views of reporters.

A respondent with 19 years reporting experience, for a long time as the science reporter for a major Ontario daily and now employed by government wrote:

"A number of people have a say--city editor, managing editor, wire editor. *One* man who is unfriendly to science news can sometimes block the publication of it."

He added:

"Science news is often considered only in the same way as all other news, and futile attempts are made to deal only with controversy, people, etc. Stories should be allowed to stand on the basis of their own intrinsic interest. Heads sometimes are inaccurate or exaggerated."

Writers on Advisability of a Science Editor:

"Yes, it seems to me it's *feasible* — but it's a question of the paper's commitment to reporting science as expressed in terms of staff, which means salaries which means money."

"No, paper is a daily, but too small to have separate science editor."

"Yes, but it's impossible on a small newspaper."

"I'd be happy with a science reporter."

"Yes, just as feasible as having a sports editor."

"Yes, feasible, but not practical because of editors' prejudices about science news."

"It would be worthwhile to have someone who researches topics of public interest." (Translated from the French.)

"Yes, possible; No, (not feasible). One should not have grandiose dreams; a newspaper is a business, after all." (Translated from the French.)

"Yes. There is one: me. The newspaper can also count on assistance from other sections." (Translated from the French.)

"Yes. Such an editor could help improve my stories, but it would not appear to be feasible at present."

"No. We've tried it. It's worse. Copy coming in at all hours — impossible to man shifts with science editor."

"Yes. Probably not for my work alone, but it would be if that editor covered medical, environment, transportation and energy reporting as well as science wire copy."

Chapter Twenty-Four

Format of Science in the Press

Science Writers' Preferences for Presenting Science

As we did in the Managing Editors survey (Chapter 18), we asked writers to select their specific preference for the mode of featuring science in the press. Results, however, were far different: unlike editors, the majority of writers opted for regular featuring of science. More than two of every three writers (71 of 104, or 68%) would like to see a weekly column on science in the daily press; 44 of 104, or 42%, preferred such a column twice a week, while 21 writers (20%) thought a daily column was a good way to supplement science news.[1]

Nearly half the writers (44%) preferred a full page weekly devoted to science material. More than a third of these (16 of 44, or 36%) would like to see a full science page at least twice a week, and nine suggested a full page daily.

Conversely, approximately one-third of the writers in the sample would like to see science presented on the basis of *items as available* (32 of 100 or 32%). Only one writer felt science should be presented less often — weekly as *items as available*.

Science Writers' Assessment of Audience Preference

On the topic of which way science writers felt *newspaper readers* would prefer to see science news communicated, 94 replies highlighted these points:[1]

29 writers (31%) felt that readers would prefer items as available, on a daily or regular basis.

28 writers (30%) suggested that readers would like a regular page or section devoted to science material.

27 writers (29%) stated readers would like to see a periodic feature or column on science.

If we consider that a regular section would, in all likelihood, contain a science column or feature, the total who noted that readers would prefer more than just "items as available" consists of 59% of our sample. (This was a 2:1 ratio (55:29) for those who replied specifically on the issue of science departmentalization.) Naturally, the figures reflect reasonably well the writers' own views on this topic.

The Reality

However, the reality is far different from the indicated preferences. We examined the treatment of science news by the daily press and found that editors' views on science packaging did not coincide with those of the writers or their readers. (Although

[1] Multiple responses were possible.

managing editors did agree with writers that most science areas were of interest to the public in general). Editors leaned toward the scattered format of presenting science in the papers. Yet, the bulk of readers interested in the sciences preferred to follow science material in the daily press when it is more regular--in a column or section.

Finally, we also asked daily newspaper writers to describe their paper's policy actually in force for science news. Most writers, 44 of 54, or 81% stated that their papers ran items irregularly or when available. Only six writers worked where a regular column or feature was published, while four said their paper included a science page or section, either weekly or irregularly, as a supplement to regular news.

Writers on Sectionalization of Science

"Excellent idea so that readers can find science news easily and won't miss items in passing."

"Good idea — if the range of topics is varied enough."

"Space would be key consideration. We would not have space on a daily basis."

"No — don't like it totally compartmentalized. Would only interest limited readership of those who already *know* they are interested. But periodic (weekly) page is a good idea."

"I don't like "format" makeup. Science news and features should stand on their own feet and be played on the basis of their readability and significance."

"In some respects, it might be good — e.g. for features or columns. But in one important respect, it is bad because it tries to make S and T something artificially separate from the daily stream of life and news."

"I would like to see a science column in most newspapers, but I believe regular stories should not be classified but displayed in their best light."

"Either science is news or it isn't. I treat it as such. A weekly summary or collection of essays is worthwhile."

"I believe it would be an excellent way to gain sustained readership and provide badly needed continuity of coverage."

"Mixed feelings. On a paper with little science reporting, it's a stimulus. But it also allows readers to skip science stories they might read if they came upon them elsewhere in the paper."

"No. Most laymen are put off by the words "science" or "technology." If questioned, I'm sure they would say they read *interesting* news, not "science" or "medicine" or "ecology."

"It's a good idea, consistent with current trends toward departmentalizing all facets of news."

"Too restrictive."

"Compartmentalization is always desirable if it is economical and there is sufficient demand."

"I'm biased, I started it at the Free Press in order to make scientific topics more appealing to our rural audience."

"In a centre like Montreal where there is such a potential wealth of material I'd hate to see a 'package'."

"Impractical for daily paper unless advance deadlines are set, and this would squeeze out some good stories on occasion."

"Good idea if not too technical — also, should not preclude day-to-day news coverage."

"At the moment, it's a good idea. In the long run, it's contraproductive (e.g. women's pages.)"

"It's a relatively stupid idea. There are too many interfaces with other topics for isolation."

"When I left the daily I was working for, I already had a "science page," although there was no reference to it on the front page. Of course,I agree with the idea of sectionalizing science. Certain news items, however, are an important part of current events and should be printed as soon as they are received. It is better for others to appear on the economic, educational or social pages." (Translated from the French.)

"We're trying to appeal to general readership,not a science readership."

"Invalid approach — highly artificial — science or the scientific viewpoint should be viewed as an approach, not as a 'thing' per se."

"Not a good idea. It institutionalizes stories and makes it more difficult to present them as interesting, well-laid out features."

"At about 75% feature, 25% news it's a good idea. However, science *news* of immediate importance should compare with other news stories as they break."

"An excellent idea, although it's generally not done because most newspapers are still run by gentlemen from the horse and buggy era."

"I think it's a damn fine idea provided there's something to read that's worthwhile on a regular basis."

"I'm afraid it would get lost with the death notices. I prefer to let a good science story try for page one."

"Rather than packaging "science" separately, I feel each science story should be linked to its audience — e.g. agriculture to the farm page, oil/natural resources to the business section, nutrition-health to the food pages."

"Yes and no. Sectionalizing science is a positive step, but we cannot forget the headlines. The discovery of a cure for cancer is as important as a tragic event." (Translated from the French.)

"An excellent idea ... provided science news can be popularized and still be interesting." (Translated from the French.)

Chapter Twenty-Five

Science Writers' Education and Experience

Educational Background

Sixty-nine of the 101 writers polled (69%) and 61 of 88 mass media science writers (69%) have taken a college degree. Twenty-two of the degrees were in the sciences, 23 in journalism, 21 in the arts, three in other disciplines, and two in engineering.

In effect, twice as many respondents have had training in writing and in the liberal arts as compared with training in the sciences. Twenty-one per cent of the sample (16 of 88, or 18% for mass media) have received graduate degrees, with more than half in the sciences. Of these, four (three in the media) have obtained their Ph.D. or M.D.

Main Table 54 displays the distribution of the educational backgrounds of the writers in our whole sample and in the mass media. Main Table 55 summarizes the reporting and science/technical writing experience of these writers.

Three of every four writers (76 of 101) have had at least one year of science courses in university. Considering the mass media only, 63 of the 88 writers (71%) have taken some university (or college) science. This includes both undergraduate and graduate courses.

Formal journalistic training, on the other hand, was obtained by considerably fewer writers. Only 30 of 101 (30%) have had at least one year of journalism. Of mass media writers in particular, only 22 out of 88, or one in four, took some form of journalism in college. A combination of both science and journalism courses in college was pursued by 26 writers in the sample (26%), and by 19 of the 88 media writers (22%).

Of the 33 daily science reporters who devote more than 20 hours per week to science reporting, 28 replied to the educational background question. Of these, we found that 15 (54%) had taken college journalism courses, 24 (86%) had taken college science courses, and 19 (58%) had had some college degree or diploma (six degrees were in the sciences and seven in journalism). Three had post-graduate degrees. Another three reporters had only high school science.

In addition, four science writers (three from the mass media) had completed the advanced science writing program at Columbia University in New York.

Science Courses and Supplementary Training

In Main Table 56, we list the number of college (or other post-secondary) courses taken by science writers. Assuming that non-responses to the question signify that no college courses were taken in the sciences listed or in other science-related areas, we found that about two of every three writers in our sample (66%) have had at least one college course in the sciences. The percentage was slightly less for mass media writers, 55%.

A similar value was found through the previous background question. The data also show that one science writer out of every four took five science courses or more in college, while the remainder had taken one to four. The distribution is shown in Main Table 57.

It can be seen that approximately 40% of the Canadian science writers in our sample have taken either college courses or have had supplementary training in most of the sciences listed. These include the areas listed, such as medicine and health, biological sciences, sociology, psychology, political science, physics, chemistry, mathematics and business/economics.

Only in the agricultural, environmental and engineering sciences is the response rate low. This could be a reflection of the sample distribution. Our study included writers in these fields only if they covered scientific and technological developments.

In engineering, we found a low percentage of writers (14%) with college or extra on-the-job training. Many newspaper writers in the fields of business and finance, aviation, auto-transportation are often called upon to describe advances in engineering and technology,but only as they relate to the general public. From our sample, it appears that less than one of every six writers keeps up with changes in this area through academic courses.

Reporting and Related Communications Experience; Awards

Replies from the survey indicate that writers in our total sample have spent on the average 12.8 years on reporting in general (Main Table 55). From the standard deviation of 8.5 years, we find that two-thirds of the writers in our sample have had between 4.3 and 21.3 years of reporting experience.

Analyzing the mass media only, writers show an almost identical pattern, with 12.9 years as the average number of years. Almost one in four (23%) has had less than five years reporting experience while one in ten has done more than 20 years of reporting.

Writers also listed a broad range of topics in their reporting, including city hall, courts, provincial and federal politics, pollution, education, fisheries, religion, university affairs, foreign affairs, urban affairs, police beat, nuclear energy, electronics, natural resources, labor, welfare, military coverage, aerospace, industrial development, entertainment, sports, weather, lifestyle, and racial politics.

The number of years spent specifically in science and technical writing averaged 9.7 years with a spread indicating two-thirds of the writers have between 1.3 and 18.1 years of experience. For mass media writers only, the mean was 8.4 years, with two-thirds of the sample falling between 1.2 and 15.6 years of S/T writing.

Respondents were also questioned on winning any awards for science writing or related work. Thirty-three writers of 81 indicated they had won awards. (See Appendix P for listing of such awards.)

Attendance at Seminars, Meetings and Conventions

The writers were asked how many science writing seminars they attended annually. Of 89 respondents, 43, or roughly half did not attend any science writing seminars. An equal number (43, or 48%) attended one or two; three of the writers attended more than two. One respondent, a French-Canadian communicator, indicated that he attended 10 science writing seminars a year.

The majority of those who attended at least one science writing seminar a year (35) were Canadian Science Writers' Association members.

As a follow-up, writers were asked about how many major scientific meetings or conventions, on the average, they attended annually. Of the 92 who replied, only 13 did not attend any scientific meetings or conventions. Almost half (46%) attended between one and five meetings a year. Eight writers attended more than 20 meetings annually.

Membership in Professional Organizations

Science writers belong to many professional organizations, with the CSWA listed most often. Of 96 respondents, 23 belonged to no professional organizations, 54 were Canadian Science Writers' Association members and fifty-five writers mentioned membership in a variety of other associations (Twenty-one of the latter number also belonged to the CSWA). Other associations included the National Association of Science Writers, the International Science Writers' Association, the Newspaper Guild, the Canadian Farm Writers' Federation and the Federation Professionelle de Journalistes du Québec. (See Appendix P.)

Science Writing as a Career

Regarding the mass media as a career for communicators, we posed the question: "Many highly-qualified science journalists have left the mass media for other types of work at universities, industry, or government. Why do you believe this to be so?"

The 96 responses were varied, and more than one response was indicated in many cases. To provide some statistics on this issue, we grouped them in a number of categories and found:

- more money, financial benefits better in jobs outside the media (70% of the science writers)
- poor conditions, frustration with management, job not satisfying (28%)
- greater opportunity for specialization, closer to science full-time outside the media (19%)
- too much stress, pressure; easier work elsewhere (13%)
- low status of job; low prestige; little dignity with media (13%)
- insecurity with media (5%).

The fact is, that many qualified science writers are not necessarily with the mass media. In the CSWA, only about one-third of the membership consists of science reporters with dailies, weeklies, magazines, or the electronic media. The remaining science communicators are either freelance writers or work for specialized scientific magazines, public or media relations or for information services with government, industry or universities.

In our own sample alone, out of 15 writers from outside the mass media, 11 originally worked in the mass media.

By almost three to one (47 to 18), the science writers noted that interest in writing about the sciences, rather than circumstances (such as opportunity, availability of position) was the prime factor in motivating them into the science writing field; six mentioned assignment by editor or employer to the job; five noted interest in communicating or popularizing science information; and another five stated that it was specifically their science background which led them into science writing. Only two said it was because of money or advancement, while one noted discontent with his former job.

Based on their experience, what would science writers recommend as the best route for a student wishing to become a science writer/broadcaster? Formal university or college training was given as the ideal route by the majority of writers polled (59 of 65 who replied). More than half felt that students wishing to become science writers should take courses or degrees in both journalism and in the sciences. English was a must and science courses taken ought to be such as to provide a broad background in the general sciences. The issue of whether a science writer should take his or her basic training in the sciences, and then follow it with journalism, or vice versa, was not clear-cut. Some writers preferred the former route; many felt that a journalist-turned-science writer could just as adequately handle the coverage of science in the mass media. The majority of writers also noted that experience in general reporting was a prerequisite to developing any specialty.

Forum

Commentary on Why Science Writers Leave the Mass Media

"Lack of importance accorded their work. Science writers are generally low in prestige among their colleagues."

"Many are communicators/writers first, and scientists second. As often happens in other work areas, they move for new challenges, better pay. There is nothing sacrosanct about science/medical writing."

"An unappreciative audience."

"Probably because they see a chance to work full-time in a field that interests them. This often isn't possible in the media."

"To specialize — better salaries, working conditions, — outgrow journalism, which for many is a stepping stone."

"Two factors — salaries and the traditional itchy feet that journalists have."

"More opportunity for journalists to stay factual, interpretive without demands of media editors to sell paper."

"Money and frustration at the lack of interest shown by editors for science writing, overwork in other writing, forcing less time for science writing."

"Science writers are not considered important in the consumer oriented news media. They do not feel that they are appreciated by their bosses or by the public. They realize sooner or later that their efforts and experience pay off elsewhere." (Translated from the French.)

"Not enough scope for expansion. Not so satisfying."

"Frustration with disinterest by desk men — editors — management."

"The mass media treat their reporters very badly — you have to be really devoted to stick it out."

"In general, opportunities are not great in the mass media, because insufficient importance is attached to science writing."

"Frustration."

Comments on How the Individuals Polled Became Science Writers

"There was no conscious effort on my part — it just happened and I liked it."

"I have always been interested in science. It was only after I became a business reporter that I discovered a market for it and a way to write it in a newsworthy manner."

"I'm not a science writer, per se, I have to request assignments relating to science. Always been interested in all aspects of science. Have requested a science beat but nothing concrete yet."

"Appointment by city editor."

"Basic interest; feeling that topics are important in an era of rapid change."

"The challenge of interpreting complex subjects in simple, concise English that will enable the layman to understand."

"My university education; the chance to specialize in a particular field; the flair for the media; interest in science, lack of science coverage, poor quality of reporting that is done."

"The opportunity of travelling and meeting interesting people. A taste for the unexpected and continual change." (Translated from the French.)

"I started writing scientific material as a research scientist."

"The opportunity to find out about new ideas and discoveries in agr. sciences, and to tell that news to farmers and the general public, both as hard, practical news and as entertainment."

"Job was vacant."

"An interest in science, writing, broadcasting; also felt it would be better to be a good science writer than a mediocre scientist."

"I was interested in writing for newspapers and I had the most useful background for an employer in science."

"Interest and training in the field, desire to write and communicate, mobility of the work, flexibility of work hours, deep interest in news field."

"Dissatisfaction with quality of medical writing then prevalent in my paper."

Writers' Recommendations for Students Wishing to Become Science Writers

"University papers; part-time correspondent for local daily, hopefully some training with Canadian Press to help orient to effective reporting."

"A college education, majoring in science, and two years of training in journalism school."

"A bachelor's degree, B.A. or BSc., in general sciences without ignoring social sciences, English, etc... Cultivate an established science writer who will help."

"Know how to write first. One can always pick up science from interviewers and reading."

"Good solid science training and an 'apprenticeship' with a qualified science writer."

"Ask for the job! There aren't that many of us!"

"University degree in science and then into news media but from the ground up. You have to know how to write a good hard news story before you can write science in layman's terms and give the copy punch."

"Study of sciences and participation...in student organizations, student newspaper, and other pressure or interest groups." (Translated from the French.)

"Trial and error."

"1. A science degree;
2. An interest in writing for the public;
3. A thick skin;
4. A private income."

"1. Become fluent in the language;
2. Develop an ability to communicate well with people;
3. Acquire an interest in political science;
4. Obtain some knowledge of the science disciplines — physics, chemistry, natural sciences and social sciences."
(Translated from the French.)

Part Five

Chapter Twenty-Six

The Seminar: Science Communication '74

The Objectives and the Participants

After we had analyzed the results of the surveys of writers and editors, we felt it would be mutually advantageous to hold a seminar to obtain feedback and comment on the findings, mainly from the communicators involved in the surveys. While a few scientists were present on invitation, our major contact with them was planned for the next phase of *Media Impact.*

We requested formal presentations from Dr. Louis Siminovitch, Chairman of the Department of Medical Genetics at the University of Toronto and an active proponent of the popularization of science, and Mr. Jeff Carruthers, a well-known Canadian science writer and parliamentary correspondent for FP publications. A text was also prepared for us by Dr. David Suzuki, a geneticist from the University of British Columbia and host of the popular CBC TV series, "Suzuki on Science" and "Science Magazine." Although Dr. Suzuki was unable to present his address, the text was distributed at the seminar. Dr. Aurèle Beaulnes, Secretary of MOSST, opened the seminar. The chairman of the session was Mr. Dick MacDonald, editor of the publication "Content for Canadian Journalists." Texts of the addresses are presented in Appendices Q to T inclusive and transcripts of the proceedings are available upon request.

The seminar, "Science Communication '74, held at the National Library in Ottawa on April 10th, 1974, is reflected below by some of the reports filed by those involved.

The seminar attracted more than 100 participants from as far west as Calgary to Halifax in the Maritimes. Two American experts on science communication —— professors Hillier Krieghbaum of New York University and William Stephenson of the University of Missouri —— also took part in the sessions.

Most participants were information services and media relations personnel (including administrators from government, industry and universities). More than a dozen daily newspaper/news service, science writers (including freelancers) attended, as well as nine researchers/producers with radio, film and television. Four participants were on the faculty of Canadian journalism schools. While only one editor of the daily press attended the seminar, several editors of magazines and trade publications were present. The list included 16 representatives from the scientific community.

Feedback and Comments

Most participants agreed that the seminar was a positive step but many felt that follow-up meetings were needed, involving scientists to a greater extent.

Similar discussions, concentrating on the electronic and film media, were proposed by other participants. And it was noted by some that managing editors and assignment editors were not well represented in the discussions.

Additional feedback came to us by mail; we heard from a university research scientist, who focussed on the possible role of science journalism in investigative reporting, as distinct from "recording, explanatory or 'glorification' reporting."

> "As a practising scientist, I would welcome more investigative reporting in science... that could provide an outlet for scientists... to air some of their complaints on the apportioning of research grants. Forcing the decisions on these apportionments to be made carefully could have a healthy effect on science as a whole."

A faculty member of a university in western Canada commented;

> "Lack of knowledge of the history of science in Canada has led to two problems. First, Canadian politicians, policy makers and the general public tend to think that science is something that is always done better outside Canada because that is all we hear about. Second, we suffer all the consequences of importation of other cultures' priorities, problem definition and design. It is no wonder then that Canadians nelgect and mistrust scientists."

> "We should have addressed the questions of how scientists, science writers and the media affect who actually benefits and who should benefit from science, and how scientists, science writers and the media influence those who influence the setting of priorities, problem definition and design."

More seminars on science communication are necessary, he felt, and to be effective, must produce:

> (i) A demand for more support of synthetic or systemic science work in Canada.
>
> (ii) More advice and information for scientists on how to communicate with media people.
>
> (iii) More advice and information for media people on how to communicate with scientists.

Press Coverage

The Ottawa Citizen, April 11, 1974

Toronto geneticist:

'Scientists today need bright new image'

Scientists should come out of their shell and start communicating to the outside world through the media, a University of Toronto professor said Wednesday.

"I'm convinced the scientist must improve his communication with the public, and to do this he will have to establish a trusting and strong relationship with professional science communicators," Dr. Louis Siminovitch, chairman of U of T's department of medical genetics said.

Dr. Siminovitch made his remarks before some 150 scientists and reporters attending a one-day media impact seminar sponsored by the ministry of state for science and technology, and held at the National Library auditorium.

"I am sure most of you are aware that, looking in recent years at the balance of benefits and costs, society has evolved a somewhat jaundiced view of science and of the scientific community itself," he said.

Scientists are partly to blame by failing to go out and demonstrate to the public their research is important and worthwhile, he said.

"Scientists should be willing to let the public see them as individuals, with wives and children and individual characteristics," he said. "Some of us actually are quite interesting."

One of the greatest dangers for Canadian scientists today lies in the fact bright young people aren't being attracted to the field -- even very few medical graduates are interested in research.

Dr. Siminovitch blames attitudes in society, as well as low priority accorded by the government to scientific research.

Young people are discouraged and hesitate to enter a field where they know in five years or so they may suddenly find themselves without grants to continue their work.

Furthermore, there is a pervasive feeling of anti-intellectualism and anti-science. The discipline has been identified with many of the adverse affects of technology in the minds of young people.

Some people think the rewards of science fail to offset the years of study and the problems like dependence on research support and adverse attitudes often shown by government and universities.

"Without wishing to become a moralist I believe that the combination of all these factors seriously threatens the future of innovative science," he said.

Our scientists ponder the puzzle of telling you what they're up to

By MARILYN DUNLOP
Star staff writer

OTTAWA

Do Canadians understand enough about science to control its impact on their lives?

Scientists and science writers at a recent seminar say the answer is no.

"How can the public assess the merits of controversies over energy, pollution, the development of new medical drugs unless it understands some of the basic scientific principles?" asked Louis Siminovitch, head of the genetics department at the University of Toronto.

"Science touches us all . . . Yet many are prevented from either thinking about the consequences of science or participating in decisions in this area by their lack of knowledge."

British Columbia zoologist David Suzuki, prevented by illness from attending the seminar, said in a prepared text: "The collective public knowledge about science is incredibly low. In man-in-the-street interviews I've made for television, I have been amazed at the ignorance of the average citizen about how science affects him personally."

Ignorance about science has always existed, Suzuki said. "But what is different today is that the patrons of science now are the taxpayers and the products of science often have an immediate and dramatic impact on society.

"We only have to look at television, computers, interplanetary rockets, antibiotics, synthetic fibres, the (birth control) pill, and transistors to know how great this impact is."

He said Canada spends an estimated \$1.5 to \$2 billion annually on research and development.

Dr. Aurele Beaulnes, secretary of the Ministry of State for Science and Technology, said nearly half of research and development money comes from the federal government "and where there is public spending, there must be public understanding."

Siminovitch said scientists must have financial support to pursue their research and "it has become increasingly important therefore for scientists to take their case to the government and the public."

But so far, said Suzuki, while the effects of science accelerate, "we as citizens have less and less understanding of, let alone control over, science."

Suzuki said the primary users of basic science are industry and the military.

And, he said, too often industry introduces a product for immediate profit without determining its potential long-term impact on society as a whole.

Side effects

He mentioned, as examples, diethylstilbestrol—the "DES" fed cattle to speed growth and which as a suspected cancer agent is banned in American beef imported to Canada —pesticides, thalidomide, antibiotics and plastics which, he said, "have already had unexpected and deleterious side effects.

"It seems to me," he said, "that the only way science and technology will be used for the long-term public interest will result from pressure from a public well informed on science and its implications."

The seminar was part of a study being conducted by the Ministry of State for Science and Technology, to determine how, and how well, Canadians are being kept up to date on science.

The ministry has conducted surveys of science reporters and of editors in an attempt to find out if the average person is uninformed, if he wants to learn and what might be done about it.

Currently under way, and expected to be completed by early fall, is a survey of consumers.

In questionnaires to science reporters and managing editors of newspapers, the ministry got a resounding "no" to its question: "Do you feel the coverage of Canadian scientific activities by the Canadian mass media is sufficient in quantity and quality to meet the demands of the Canadian public?"

(The response rate from managing editors of 79 Canadian daily newspapers was 65.8 per cent and almost the same for science reporters.)

Suzuki put it more strongly: "Present coverage of science in Canada is shocking," he said.

He and Siminovitch also said scientists fail the public by their traditional reluctance to talk to the press.

Siminovitch suggested that the Medical Research Council, the National Research Council and governments sponsor meetings between scientists and science reporters.

C. T. Bishop, of the National Research Council, said the quantity and quality of science reporting "is very much better in Quebec than in all Anglophone Canada."

Quebec reporters don't rely on U.S. sources of information and seem to have a better understanding of the gap between scientists and the public, he said.

Government and universities were also blamed for the public's lack of knowledge.

Jeff Carruthers, an Ottawa-based reporter for FP Publications, complained that government agencies "supposedly constructed for the public good" and employing large information staffs, too often hide behind bureaucratic regulations.

"Ask for some sensitive information and the great, oiled information machines grind to an unceremonious halt," he said. "They use secretaries to tell you Mr. So-and-So is out to a meeting—and he's out to a meeting until the heat dies down."

The media survey found reporters rated public relations people as the least reliable news sources.

George Classen, an information officer for the Department of Energy, Mines and Resources, agreed that public relations people are "largely ignorant of what is going on." But, he said, his department employs 3,000 people, 800 of them scientists. The 10 information officers find it "impossible to know everything all of them are doing."

Charles Pope, information officer for the department of national defence, said: "A lot of public relations people want to do a good job but they are stopped by people senior to them. It is a tragedy that people in senior positions are scared to death of the press."

CBC reporter Steve Kelso said universities are also shirking their responsibility to inform the community.

"They do not do at all the job they should be doing in communicating."

Bizarre swings

A McGill physicist, Robert Moore, said the lack of sustained public awareness of science, interspersed with sudden bursts of interest, creates bizarre swings in science manpower.

Public interest in Sputnik, the first Russian space satellite, created an upswing in interest in physics, he said.

"For the last four years, the upper echelon has been actively discouraging people from taking a PhD degree in physics. There was a glut on the market."

But, he said, that 'discouragement" has now stopped because there are not as many physicists as are needed.

Ten years ago, he said, it was believed Canada had enough PhD scientists to meet the demand for 11 years.

"But," he said, "in two years the supply has evaporated. Scientists don't sit around waiting to be needed for 11 years."

The energy crisis has again made the public aware of the need for scientists. "But five years ago scientists were predicting an energy crisis," Moore said. There could have been a good head start finding alternate sources of energy.

Said Siminovitch: "It is important for scientists to take an active part in communication and get their message to society and to the youth—the future scientists—in particular.

"If we do not succeed in doing this," he said, "in a relatively few years there will not be any first-class science, no science worth talking about, in Canada."

Science Forum 39

A Canadian journal
of science and technology
Revue canadienne
des sciences pures et appliqués

Comment

Science writing in Canada; results of a survey discussed

On April 10, the federal Ministry of State for Science and Technology sponsored a seminar in Ottawa dealing with the results of the first major surveys of science writers and managing editors on the subject of science writing in Canada. While to many science writers the survey seemed to have documented the obvious, to scientists and public relations personnel the survey results may provide some surprising and perhaps helpful observations about science journalism.

For example, most of the respondents complained about finding scientists reluctant to communicate their research results or the possible social implications of their research to the public. There was the traditional mistrust of journalists by scientists, which made communication even more difficult. The science journalists also complained they have difficulty translating science into simple-to-read lay articles while retaining total accuracy. There is the problem of getting enough time for thorough background research. And the journalists admitted that the coverage of science in Canada by the mass media suffers as a result both in terms of quality and quantity, with magazines and television leading the field in quality.

In terms of general background, few of the writers began as scientists. In fact, few have any formal college training in science, though many have taken some courses. The median age of the science writers surveyed is in the early forties; about a third have no formal training past high school; most of those with a college education were educated in the arts or economics; most are journalists specializing in science coverage.

There are only about two dozen full-time science writers in Canada, many of them working for newspapers. And while most of the science writers felt special columns or pages should be set aside for science each week, their managing editors (also surveyed) believed that science articles should be run 'as available.'

One last thing worthy of note: scientists, particularly university scientists, were regarded as more reliable sources of information than public relations personnel. University reports and scientific journals were also found reliable, while reports and news releases from industry were considered by the science writers to be generally unreliable. The public relations personnel seem to have much farther to go in improving their image than even the stereotype forgetful and often less-than-co-operative scientist – perhaps because the PR man or woman is one more step removed from the information the reporter and the public want.

The meeting in Ottawa was billed by the host, MOSST, as a discussion between scientists and science writers in all three media of the results of the ministry's surveys. The theme: how can scientists, through science writers, communicate better with the public and improve the quality and quantity of science coverage?

Of the 120 men and women attending, about twenty were media science writers but there were no senior editors. It was 'shameful,' said one writer, that not a single managing editor turned up, though some eighty were invited from across the country. Less than a score of scientists attended, which was not enough.

Senior science writers heard nothing new. It is to be hoped that the scientists came away more familiar with how writers about science operate. This overall review contains exaggerations, which were numerous in the remarks from the floor in all disciplines. Notably on the defence were some of the thirty-five-odd public relations people from government, industry, and universities. Heard during the day were some notable quotes, not all of them challenged.

Dr Louis Siminovitch, the Toronto geneticist who is an experienced and skilful communicator, summed up his keynote talk by suggesting that the needs include more science news in all the media, a greater number of 'sophisticated' science writers, more direct communication between scientists and the public as well as through writers, and less communication through government public relations departments. He repeated his plea of some years ago that scientists should talk more often to MPs in Commons committees about their research work. He urged newspaper writers to be more careful about distinguishing between fact and opinion when quoting scientists. The public were entitled to both fact and opinion from researchers, but readers were unable to distinguish between the two.

In the discussion a political scientist complained that the press had fallen down in their responsibility to provide science opinion in the form of columns on science policy. The electronic media were doing a better job at this. Jeff Carruthers, science writer and keynote speaker, agreed such columns would be valuable, but only two kinds of people could write them – articulate scientists or science writers. A veteran U.S. science journalism professor said that in his experience 99 per cent of scientists were 'communicatively inarticulate' but the other one per cent were doing 'a magnificent job.'

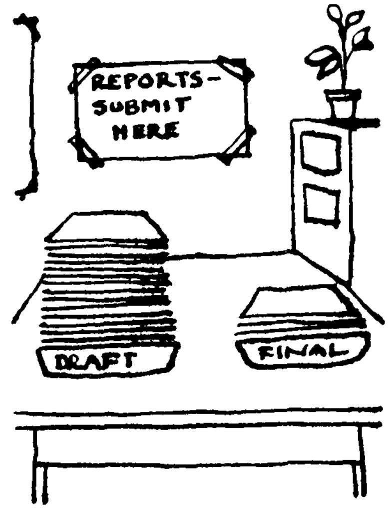
A university librarian who used to be an Ottawa civil servant reported that a significant number of scientists were switching from labs to communications, including some PHDs. He provoked some knowing smiles from science writers when he warned that government scientists more and more frequently were labelling what were really final reports, 'draft' reports. This had the dual effect of hiding the contents from public view and avoiding the delay involved in translating them into French.

André Chénier of *La Presse*, Montreal, said he was not a member of newspaper management but could report policy as he saw it. His paper devoted as much space as possible to science, including a full page on Saturday and a half-page on Wednesday, and scanned all stories on the basis of news value. But most stories were information and not news. Later, in a different context, an NRC bench scientist and editor remarked that the quantity and quality of science reporting in Francophone media in Quebec was 'better than in all the rest of Canada.'

There was general agreement among several speakers in writers' and scientists' circles that too much science coverage was tied to 'news' stories. Carruthers sagely suggested that a writer could use a 'happening' as a peg on which to hang a 'mini-review' of some subject in science.

FRED POLAND

FRED POLAND is a Montreal free lance science writer recently retired from *The Montreal Star*, where he specialized in medical coverage.



The GAZETTE, Montreal, Thurs., April 11, 1974

'Selling' research role stressed by scientists

By INGRID VABALIS
of The Gazette

OTTAWA -- Scientists have to "sell their case" to the public if they want to make sure the federal government does not drop scientific research projects in favor of other priorities.

"Science and technology have a tremendous impact on every single person. Unless the scientists themselves and the media get this message across the future of science is pretty bleak," scientist Louis Siminovitch said yesterday.

This need for public understanding was stressed at a one-day seminar of more than 100 scientists and science writers held here by the federal ministry of state for science and technology (MOSST).

Nearly half of the money for research and development in science and technology comes from the federal government.

But the public doesn't even "understand the ABCs of science": that mysterious field which is gobbling up millions of tax dollars, said Dr. Siminovitch, chairman of the department of medical genetics at the University of Toronto.

"Where there is public spending, there must be public understanding," said Dr. Aurele Beaulnes, MOSST secretary in his opening remarks to the seminar.

And MOSST is conducting surveys to discover the attitudes of both the scientific community and the public.

Communication has to get on the right track or a lot of people are going to continue getting turned off by the whole idea of science, said Dr. Siminovitch.

He is worried that fewer young people, including medical graduates, are interested in a research career.

"We have to attract the bright creative people to science," said Dr. Siminovitch.

"If we don't do it, science will survive but it won't be good science. It will be done by second raters and science writers won't have anything to write about."

Understanding the key

Scientists, journalists Examine one another closely

By MARGARET BRASCH
Whig-Standard Contributor

Scientists and science journalists share one common goal: To communicate science news to the public in an accurate and interesting manner.

How is it then that science reporting has been regarded as one of the most difficult and unpopular areas of journalism? How is it that one hears accusations of inaccurate reporting from scientists? How is it that journalists find it so tedious to translate the 'jargon of science' into layman terms?

Zeroing - in on these and many more problems and attempting to find solutions to them were the main objectives of "Science Communication '74 — A Media Impact Seminar" held recently in Ottawa.

An audience of about 100, comprised mainly of science writers, newspaper editors, government information officers, radio and TV broadcasters and a sprinkling of scientists, came to Ottawa to debate the issues presented by the seminar's two speakers: Dr. Louis Siminovitch, chairman of the department of medical genetics at the University of Toronto and Jeff Carruthers, parliamentary correspondent and science writer for FP Publications (which owns, among others, The Ottawa Journal and The London Free Press).

The conference, a brainchild of the information services of the the federal ministry of state for science and technology, was a natural offshoot of a study carried out by this government department over the past year. During this time, questionnaires, prepared by project directors, Orest Dubas and Lisa Martel, were sent out to writers, editors and broadcasters involved in the communication of science news to the Canadian public. Similar opinion surveys will be conducted with the public and with scientists in the next few months.

The first issue raised was whether or not there is enough reporting of science news in the Canadian mass media (papers, radio and television). Put to science writers, this question resulted in a resounding 'no' Not only did they feel the quantity of news was insufficient, they also agreed that the quality was generally quite poor.

The opinions of the writers were further solidified in the realization that only about two to three per cent of news 'space' is devoted to science in most daily newspapers compared to about 16 per cent for the coverage of sports events.

Perhaps, it was generally agreed, the newspaper reader would be more informed about science if it were to be presented in a separate form, something like the 'Ann Landers' column. But why should the Canadian public care much about science?

For two very basic reasons, came the answer from the conference — first and foremost, science has become such an integral and formative segment of society that the public needs to be better informed to make decisions on the social importance of some research projects. Secondly, the money spent on research in Canada comes mostly from two sources: the National Research Council (NRC) and the Medical Research Council (MRC). And where do they get their funds? From the Canadian taxpayer.

"It has become increasingly important for scientists to take their case to the government and to the public," said Dr. Siminovich. "Private agencies such as the Montreal Cancer Institute, do this very effectively and it is no secret that such agencies are relatively very successful in raising funds for research."

One thing became quite clear during the seminar — scientists and journalists do not trust each other. For the privat citizen, who is far removed from these often petty arguments, this distrust can border on the mysterious. However, if one pays attention to the type of news which has often been reported about science, the situation unmuddles itself.

There have been too many 'miracle cancer cure' stories, too many accusations that journalists are too dumb to understand the ways of scientific research, too many 'scare' reports about the future genetic manipulation of mankind, too many reports of 'breakthroughs' which proved to be insignificant, and the list goes on and on from both sides of the discussion.

"The most significant step that one could take in improving science reporting would be to enhance communication between the scientist and the science writer," commented Dr. Siminovitch.

Mr. Carruthers could not have agreed more. He added: "It didn't take a government-funded survey to open my eyes to this distrust that exists between jounalists and scientists or to the lack of co-operation most scientists display toward journalists."

Where science and reporting are often at loggerheads is in the area of time factors involved in both cases. Science naturally proceeds slowly, going through many steps of verification before a principle may gain wide acceptance. Reporting, on the other hand, is a fast, competitive business, where the operative phrase is "meeting the deadline".

Dr. Siminovitch, while recognizing the value of early reporting (the journalistic 'scoop') of some science news, cautioned that "in many cases, either because of excess enthusiasm by the scientist himself, or excess interpretation by the writer, the story can be dreadfully misleading, and engender false expectations. Obviously, this sort of thing does not serve the public well."

The science writer countered with this word of advice to the scientist: "Remember, if a story isn't read or run, all the scientific accuracy in the world becomes worthless. Communication is the game," said Mr. Carruthers.

The preliminary report of the survey gave some indication that more and more young people are coming to journalism having first acquired a background in science. This proved to be a touchy subject for some members of the audience.

Finally, though the conference was generally imbued with a spirit of cynicism, the two speakers left the audience with some hopeful thoughts. Mr. Carruthers commented that "perhaps science writers should stick to glorifying and recording science's achievements, for the record and to give people hope"

For his part Dr. Siminovitch was more cautious in his predictions of the future of science and science reporting.

"I believe that most of these problems will become less important as scientists become more interested in science communication to the public; as science writers become more sophisticated in their knowledge of science; and as confidence builds up between scientists and communicators . . . if we do not succeed in doing this, there will not be any science worth talking about in Canada, and we will not need science writers to write about it."

Part Six

Chapter Twenty-Seven

The Federal Government and Science Information

Information Policy and Information Services

We have been looking at the mass media's structure and metabolism as a nervous system, moving, interpreting and analyzing information and specifically scientific-oriented information. Institutions, such as industry, universities, and government, are a major source of the scientific information that the media processes.

Of particular interest is the Federal Government. The Federal Government is the major source of funds for, and a major performer of, scientific activities. Federal expenditures on the natural and human sciences were expected to reach $1,372.7 million in 1975. As we found in the science writers' survey (Chapter 20), government scientists, departmental officials and government information services were among the most essential production points for science stories. Government news and information releases formed the bulk of incoming mail. Yet government information services, and information services in general, rated poorly in terms of their credibility with the mass media. To gain a better insight into this last vital link with science writers, we surveyed the information function of a number of the science-based, science-intensive, science-oriented departments and agencies of the Federal Government.

Specifically, since governments operate by policies, mandates, and legislation, whether it be in the area of business, international relations, law or science and technology, we outline in detail the operations of information policy in these bodies.

The Setting: Task Force on Government Information

In 1969, the Report of the Task Force on Government Information, *To Know and Be Known,* suggested the following statement as a cornerstone for a new policy on information by the entire Federal Government: (Vol. 1, p. 49)

> "...the Government has an obligation to provide full, objective and timely information; and ... the citizens have a right to such information."

The Task Force made 17 formal recommendations. The Right. Hon. P.E. Trudeau, Prime Minister of Canada, on Tuesday, February 10, 1970, said in the House of Commons:

> "We accept those recommendations in principle ...." (Hansard)

Significant to our considerations of information policy in the science-based, science-intensive, science-oriented federal departments and agencies are Recommendations No. 1 and No. 7.

The Task Force recommended:

> 1. The right of Canadians to full, objective and timely information and the obligation of the State to provide such information about its programmes and policies be publicly declared and stand as the foundation for the development of new government policies in this field. This right and obligation might be comprehended within a new constitution in the context of freedom of expression.
>
> 7. Departments and agencies develop and implement information policies consistent with departmental and agency objectives and with information policies of the Federal Government to reflect the enhanced role of the information function and of information officers and strengthen their relations with the media and with particular publics nationally and regionally; and that departments and agencies be encouraged to increase the creative use of the two official languages.

It is critical to note at this point that the Task Force on government information envisioned the genesis of an information policy in terms of *the obligations of the State and the rights of the citizens.* Thus the Task Force's use of the word 'policy' is highly specific, laying down obligations and rights.

A brief exploration of the concept of 'policy' reveals the following ideas:

Policy can be defined as the general pinciples by which a government is guided in its management of public affairs or the legislature in its measures *(Black's Law Dictionary);* and *Principle* as (i) fundamental source, primary element,...(ii) fundamental truth as basis of reasoning... general law... general law as guide to action... personal code of right conduct... from settled moral motive... . *(Concise Oxford Dictionary.)*

Principle can be:

(i) the ultimate source, origin or cause of something; (ii) a natural or original tendency, faculty or endowment; (iii) a fundamental truth, law, doctrine, or motivating force, upon which others are based; (iv) (a) a rule of conduct, esp. of right conduct; (b) such rules collectively; (c) adherence to them, integrity, uprightness etc. *(Webster's New World Dictionary).*

Integrating: A policy is a statement of a fundamental truth from which can flow all just courses of action.

The Poll: Information Policy in the Science-Based Departments and Agencies

We identified 24 Federal bodies (departments, agencies, ministries, corporations, commissions, museums, councils, boards, etc.) as being mainly science-based, science-intensive or science-oriented and asked them if they had:

(i) a written information policy (ii) written information procedures for carrying out the policy.

Of the 24 queried, 18 replied (75% response).

If we apply the Task Force's criteria that the beginning of an information policy should be an unequivocal statement of *the obligations of the State and the rights of the citizens,* or if indeed we apply the definition we derived, that a policy begins with a statement of a fundamental truth from which everything else flows, then of the 18 bodies that replied, *only one had a proper information policy.* We quote:

> "POLICY: The Canadian public has a fundamental right to full, accurate and timely information on the programmes and activities of the ... (body). The policy of the Department is to provide this information as quickly and completely as possible."

Another body had assimilated partially the recommendation of the Task Force but did not announce it as policy. Rather it is couched in an "Administrative Directive." We quote:

> "ADMINISTRATIVE DIRECTIVE: Departmental responsibilities in the public information field are derived from legislative obligations and the need to explain departmental policies and programmes. These responsibilities are consistent with the recognized right of Canadians to full, objective and timely information on departmental activities."

The remaining 16 bodies did not have policies in the strict sense of the word or in the Task Force's sense of the word. Most of them had what they termed:

"objectives"

"functions"

"responsibilities"

"terms of reference"

"plans and program"

"aide memoire"

"administrative directive"

"Guidelines on Limitations to Information Release"

The table shown is an amalgamation of the various statements with the exception of "Guidelines on Limitations to Information Release." No individual department necessarily had all of the points mentioned.

In effect, the functions described are those of blitzkrieg dissemination (nos. 1 and 2), education (no. 3) and seduction (no. 4).

Guidelines on Limitations to Information Release is a different creature and takes a different tack. The strength of "Guidelines" is the implicit idea that everything which is outside its boundaries is free to be divulged.

Whereas both the *amalgamation* and *guidelines* are reasonable documents, their weakness is that they have no source of authority. Position, office, status, institution, are not a source of authority. Only a declaration of a fundamental truth, such as the Task Force's statement of the obligations of the State and the rights of the citizens regarding information, can act as a source of authority.

Slightly over half of the 18 departments reviewed had submitted written procedures for executing their mostly non-existent information policies. The written procedures varied greatly from department to department in scope and detail. They dealt basically with the range of operations and techniques of executing the operations of the information unit. Again we present an amalgamation of the topics covered in the procedural manuals. No single department necessarily had all of the points mentioned.

The Info Services Poll

(a) Resumé

To summarize the state of affairs (at March 31, 1974) regarding information policy in the 18 science-based, science-intensive, science-oriented bodies of the Federal Government,we review:

In 1969, the Task Force on Government Information recommended that a declaration of the obligations of the State and the rights of the citizens be the launching pad for government information policy and that departments and agencies develop and implement consistent policies.

In 1970, the Prime Minister, on behalf of the Cabinet and the Executive Branch of Government accepted those recommendations.

In 1974, of the 18 departments and agencies we reviewed only two had assimilated the recommendations and implemented the executive decision.

In practice, often the decision-making regarding information release in federal bodies rests at very high levels, usually at the deputy-ministerial level. In the opinion of some veteran scientific administrators, the net effect is to paralyze the whole organization and make statements of policy and guidelines and everything else inoperative. Furthermore, they feel there is a greater amount of secrecy in government operations today than in the past 40 years, with the exception of the years in which Canada was involved in World War II.

Table 27.1. Amalgamated Statements of Intention of the Science-Based Government Bodies Polled

(1)				
to effectively	interpret communicate propagate explain defend	the	policies programs objectives services facilities expertise legislation regulations achievements activities	of the department
(2) to disclose the maximum of information with the minimum of delay				
(3) to create understanding of the subject area of the particular department				
(4) to foster support for, cooperation with, awareness of the particular department				

Table 27.2. Guidelines on Limitations to Information Release by the Science-Based Government Bodies Polled

The following categories of information are those upon which restrictions to public release are applied:

*Information which may affect national security;

*Information which may affect relations with other countries if made public without proper safeguards;

*Information furnished *in confidence* to (this body) by other governments, departments, agencies, or academic or industrial sources;

*Personal information about individuals except the usual information about place and date of birth, education, and appointment or such other data as may be specifically authorized by him/her;

*Information contained in documents submitted to cabinet.

Table 27.3. Operational Areas of Information Units among the Science-Based Government Bodies Polled

CONCEPTUALIZATION/ WRITING	speeches interpretive writing articles scripts, scenarios news releases annual report advertising
PUBLISHING (EDITING & DESIGN)	technical, professional & interpretive works periodicals speeches annual report internal newsletter
RESPONDING	enquiries & information requests Parliamentary returns
MONITORING & ANALYSIS	media news all other sources of information
PERSONAL CONTACT	interviews conferences seminars ceremonies special events visits, tours, trips
RESOURCE BANK	resource materials such as photos, publications
THEATRICAL PRODUCTIONS	exhibits, displays, demonstrations audio-visual products speaker's aids
RESEARCH	social sciences type research & studies into the nature and problems of communications
DISTRIBUTION/ DISSEMINATION	targeting special publics and audiences mailing lists

(b) Intra- and Inter-Departmental Communications

The Task Force had pointed out in its report that there was a lack of communications within departments and amongst departments. From the comments which were volunteered to us, this still seemed to be the situation. There did not appear to be any adequate and effective mechanisms for information units to be up-to-the-minute aware of the activities of the department as an institution or of the individuals working in the department. There also did not appear to be any adequate and effective mechanism for the information units of various departments to coordinate themselves on trans-departmental operations, although a coordination system was under design late in 1974.

Thus an outsider making contact with an information unit may not necessarily receive the quickest channelling and routing, or else may be lost in inter-departmental space.

(c) Information Policy

Although there does not appear to be a concerted effort to evolve a coherent information policy by the various Federal bodies even four years after the Prime Minister's statement, ironically, the skeleton of such a policy is apparent if the various elements we have been discussing are coalesced.

Table 27.4. Skeleton of an Information Policy Derived from the Science-Based Government Bodies Polled

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STATEMENT OF PRINCIPLE

The Government/State has an *obligation* to provide full, objective and timely information; the citizens have a *right* to such information

---

WAYS & MEANS OF FULFILLING PRINCIPLE

WAYS (Table 27.1)

(1)

to effectively	explain interpret communicate propagate	the	policies programs legislation objectives expertise services facilities regulations achievements activities	of the department

(2)
to disclose the maximum of information with the minimum of delay

(3)
to create understanding of the subject area of the particular department

(4)
to foster support for, cooperation with, awareness of, the particular department

MEANS

(1)
Adequate financial and manpower resources must be assured to do the job properly. *If you are going to do something, do it right or don't do it at all.*

(2)
Appropriate mechanisms must be established for effective intra- and inter- departmental communications; i.e. there must be a mechanism for assuring up-to-the-minute awareness of information units of the full range of activities of the department and there must be a mechanism for coordination of information units on trans-departmental matters.

GUIDELINES on LIMITATIONS to INFORMATION RELEASE (Table 27.2)

The following categories of information are those upon which restrictions to public release are applied:

— Information which may affect national security
— Information which may affect relations with other countries if made public without proper safeguards
— Information furnished *in confidence* to this body by other governments, departments, agencies, or academic of industrial sources
— Personal information about individuals except the usual information about place and date of birth, education and appointment or such other data as may be specifically authorized by him/her
— Information contained in documents submitted to cabinet

TECHNIQUE MANUALS

Individual departments have different needs, different publics, and thus should be left free to develop the techniques and procedures they feel best suit their needs. Standardization of common factors, etc. could be handled through the mechanism for inter-departmental coordination.

The Dilemma of Communicating Information to the Public:

Other Voices

The internal and external barriers brought out by our science writers' survey have affected and will continue to affect communicators everywhere.

In his 1967 book "Science and the Mass Media," Krieghbaum described many instances where the science writers were unable to resolve their communication conflict with their sources. He devoted one chapter to the so-called "External Barriers" to which we made reference in our science writing survey (See Chapter Twenty-two). In describing the detrimental effects of "government and corporate censorship, authoritarian and overzealous bureaucracy, and the pleadings of special interest groups," he wrote that:

> "One of the constant struggles is between those who think they need (or deserve) secrecy and the newsmen who have a duty and responsibility to find out and to inform the public of a democratic society. This is true for science writers as well as journalists assigned to cover any other news. The competition may be just as keen to ascertain the site of a new federally-financed accelerator as it is to find out the location of a new dam or federal building, to learn about a new advance in the detection of cancer as it is to uncover the route of a presidential inspection tour into the newsman's home territory, to describe a new elementary particle as it is to disclose the latest Hollywood divorce petition."

He also noted:

> "Control over disclosures to the news media may not only curtail coverage but may bottle up background vital to meaningful public discussion."

For lack of detailed information he stated:

> "Part of these gaps in information and knowledge can be filled by public relations men, if they can resist the opportunity to plug a product, as the saying goes. The honest, reliable information officer can be inestimably valuable to the science writers but he must put his integrity (and most of them do) above the price he gets for his promotions. But even when the public relations man provides information and news with a minimum of self-advertising, his bosses may forget their roles and intervene to exert such pressures as they possess. This is unfortunate; they just mess up a job being done satisfactorily and almost always contaminate the final results."

The dilemma regarding information was indicated from resolutions passed at a recent International Science Writers' Association Seminar (Poland, 1974). The seminar, held from April 24 to 26, 1974, at the invitation of the European Union of Associations of Scientific Journalists, adopted the following declaration, point three of which deals with the problems found in this chapter:

> 1. "Science and technology increasingly determine the living conditions and development of societies. At the same time the gap between *science and the public* is widening as research becomes more and more a closed book:
>
> "To the man in the street, who has only a vague idea of the benefits he can derive from it; To politicians, who nonetheless have to lay down science policy and decide on the options; To scientists themselves, who are often confined to extremely specialized fields.
>
> 2. "Science popularization is not sufficient today when the size and costs of the scientific venture and the exploitation of its results for good or evil oblige the *science journalist* to be an observer, *interpreter* and critic of scientific developments. In our modern world the science journalist must also maintain a dialogue with the scientist and the politician.
>
> 3. "On the basis of these considerations the journalists' meeting in Salzburg appealed to the Governments and political organizations, to scientists, newspaper and magazine publishers and to radio and television authorities to take concrete measures for improving *science coverage in the mass media*. ....:
>
> "Access to sources of information in Ministries, public administration offices, research institutions, universities and industry must be ensured; True insight into policy decisions and their consequences can be obtained only if politicians ensure that there is an adequate flow of the necessary information, as ought to be the case in a democracy; Scientific research should no longer be carried out in an ivory tower, and scientists should inform the general public about their work; Continuous further education should be available to the science journalist; Since associations of science journalists provide continuous education for journalists, they should be supported in this activity; ...It is necessary to develop the scientific information in the mass media."

Improving communication with the public —— to upgrade both public understanding as well as public awareness of science —— is the primary objective of this report. In light of the findings of *Media Impact*, much remains to be done.

In Phase III, we will examine the role and experiences of Canadian scientists and their organizations in government, industry and the educational community, in communicating their work to the public.

Part Seven

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Part Eight:
Appendices and Main Tables

INDEX OF APPENDICES

Appendix A. Interviewing Technique Employed in National Public Opinion Poll.

The Interview:

The national public opinion poll was carried out in April and May of 1974 by trained field interviewers of Canadian Facts using the questionnaire shown in Appendix B and following the sampling of Appendix C.

The questionnaire was pretested by Canadian Facts in March of 1974 on a dozen English-language and a dozen French-language respondents.

Each of 2,000 interviews was conducted so that the respondents were told that the study concerns the way in which people follow their interests or obtain information from the mass media. They were not told that science was to be the primary topic of interest in the questioning until later in the interview.

Thus, in the introductory phases (Questions 1 and 2 of Appendix B), the interview concerned use of the media by the respondent and his or her interests in various general areas. Medicine and health, and other types of science were included as part of this group. To preserve some independence with regard to the ten areas, every other interview was begun with the sixth area.

At this point, respondents who expressed some interest in any area were asked to assess the adequacy of information provided in that area by the mass media. This introduction permitted an unbiased estimate of interest in the sciences without acknowledging our own probe objectives.

These questions were followed by a statement that other people across Canada were discussing various topics and that this particular household was being polled about science.

The interviewer next requested a personal description of science, followed by a specific question designed to provide estimates of interest in a selection of 13 representative areas related to the sciences. These areas were not labelled as scientific, but as topics of interest to different people. To ensure some independence in the questioning about the 13 areas, interviewers handed respondents small cards, each bearing the name of an area. The cards were shuffled prior to each interview. Here, too, questions were included on the adequacy of the information provided by the mass media.

Subsequently, rather than continue to employ the nebulous term "science" which encompasses a broad spectrum of areas and ideas, we presented the interviewee with our description of the term science. He or she was told that science, for the purpose of this interview, was broken down to include some specific categories: 1) natural sciences, 2) social sciences and humanities, 3) life sciences and 4) engineering sciences. Topics were presented for each category in order to further elaborate on our definition.

Respondents were then asked to express their interests in these science categories, relating where they acquire their information in each area.

At this point, we brought in a series of ten agree-disagree statements to solicit public attitudes towards science in general, and science information and media presentation of science in particular. The adequacy of information about Canadian science was included among the statements.

The focus of the interview was then shifted to the individual media of newspapers, magazines, radio and television.

To evaluate further the presentation of the sciences by the various individual media, a series of six parallel "assessment" questions were asked on each of the four science categories. These general views with respect to presentation by each of the media were asked in an identical fashion in order to allow an intermedia comparison for our study.

In most media questions, we dealt primarily with that segment of the polled public who expressed interest in one or more of the major science categories. Presumably, it is these people who should form the bulk of the audience for most science articles or features written or broadcast by that media.

Newspaper readers who expressed their interest in any of the four selected categories of the sciences, and hence, should be readers of the science material in that area (when presented well), were asked a series of questions:
a) on their awareness of any special columns or pages in the sciences and their interest in such formats; b) in general, about their views on these sciences as they appeared in their paper.

Finally, all newspaper readers were asked whether they would give up any other material to get more science into their paper.

Magazine readers were asked similar questions with respect to the sciences in which they had previously expressed an interest.

For the electronic media, a selection of radio and television programs which feature science was given initially to the respondent, providing some measure of public awareness in their programs. The audience structure was determined with regard to social characteristics and degree of science interest. This was then followed with general questions on the presentation of the sciences in each medium.

We ended the interview by posing two questions. The questions were open-ended, allowing the respondent to answer in his own words regarding Canadian scientists and Canadian achievements or projects in the sciences.

Some respondents were uncertain as to the name or the pronunciation of scientists' names; others had difficulty pinpointing a Canadian achievement or project. (In our pretest, we had originally requested the name and purpose of Canadian scientific organizations, but discarded this question, since few people went beyond the mention of general non-science groups.)

To ensure that the respondent's knowledge of at least the scientist or achievement was correctly determined, we added the question of what the scientist does or did and why remembered, and where they had heard or seen the achievement.

We also personally coded the replies afterward, taking into account the interviewee's own wording. The authenticity of each scientist and the achievement listed was verified in a number of ways, among them, by consulting an Achievement List compiled from suggestions of most of the major scientific and technological societies, universities and government departments.

In addition to testing the awareness of Canadians regarding the work which went on or is going on in the Canadian scientific community, we also wished to leave the respondents with the idea that there was a Canadian aspect to science and that the study was making an inventory of public knowledge in this area.

Length of the interviews ranged from 30 minutes for the disinterested respondents to well beyond an hour for those who expressed interest in all the science areas presented.

Appendix B. Questionnaire used in Public Opinion Poll

1

Introduction:

Hello! I'm Mr./Mrs./Miss ________________ of Canadian Facts Co. Limited, a market research firm. We are conducting a national survey for a department of the Federal Government and would like your co-operation.

1. I'd like you to think about some of the ways in which people follow their different interests or obtain information.

-a) First of all, thinking about daily newspapers, do you, yourself, read a newspaper regularly, that is, at least 3 out of every 4 issues available, from time to time, or not at all?

-b) Now, thinking about magazines, please tell me if you, yourself, read any magazines regularly, that is, at least 3 out of every 4 issues available, from time to time, or not at all?

	Regularly	From Time To Time	Does Not Read At All
Reads Daily Newspapers	58-Y	X	0
Reads Magazines	2	3	4

-c) On the average, about how many hours per day would you say you spend listening to the radio? And how many hours on the average would you say you spend watching television?

	Listening To The Radio	Watching Television
Less than 1/2 hour per day	59-1	60-1
1/2 hour to 1 hour per day	2	2
1 to 2 hours per day	3	3
2 to 3 hours per day	4	4
3 to 4 hours per day	5	5
4 to 5 hours per day	6	6
More than 5 hours per day	7	7
None	8	8

(HAND SCALE CARD)

2-a) Different people are interested in different topics or subject areas. We would like to know some of the things that interest you. For each of the following I would like you to tell me whether you are very interested, quite interested, neither interested nor uninterested, not very interested, not at all interested in that subject. (READ LIST, EVERY OTHER INTERVIEW BEGIN AT NO. 6)

-b) (FOR THOSE SUBJECTS "VERY" OR "QUITE INTERESTED" IN, ASK:)
And for each of these different things you say you are interested in would you please tell me whether you think you can now get all of the information you would like or whether you think you can not get all the information you would like from the media--that is, newspapers, magazines, television and radio.

	(a)					(b)	
	Very Interested	Quite Interested	Neither Interested Nor Uninterested	Not Very Interested	Not At All Interested	Get Information I'd Like	Cannot Get Information
1. Sports	61-Y	X	0	1	2	4	5
2. Society news	62-Y	X	0	1	2	4	5
3. National politics	63-Y	X	0	1	2	4	5
4. Entertainment	64-Y	X	0	1	2	4	5
5. Foreign events	65-Y	X	0	1	2	4	5
*6. Crime	66-Y	X	0	1	2	4	5
7. Medicine and health	67-Y	X	0	1	2	4	5
8. Other kinds of science besides medicine and health	68-Y	X	0	1	2	4	5
9. Local news or local events	69-Y	X	0	1	2	4	5
10. Labour and industry	70-Y	X	0	1	2	4	5

3. We are talking to different people in different parts of Canada about various topics. In your case, I'd like you to think about the area of science. First, of all, would you please tell me what comes to mind when you think of the term science. Anything else? (PROBE)

____

____71-

____72-

4-a) (HAND SCALE CARD) I am going to hand you a set of cards which indicate other topics different people are interested in. (HAND LITTLE SHUFFLE CARDS). As before, I would like you to tell me whether you are very interested, quite interested, neither interested nor uninterested, not very interested, or not at all interested in that subject.

7-2

-b) (FOR THOSE SUBJECTS "VERY" OR "QUITE INTERESTED" IN, ASK:) And for each of these different things you say you are interested in would you please tell me whether you think you can now get all of the information you would like or whether you think you can not get all the information you would like from the media--that is, newspapers, magazines, television and radio.

		(a)					(b)	
		Very Inter-ested	Quite Inter-ested	Neither Inter-ested Nor Un-Inter-ested	Not Very Inter-ested	Not At All Inter-ested	Get Informa-tion I'd Like	Cannot Get Informa-tion
1.	Business or economics	8-Y	X	0	1	2	4	5
2.	Tax dollars spent by government on sciences	9-Y	X	0	1	2	4	5
3.	Agriculture	10-Y	X	0	1	2	4	5
4.	Biology or the nature of living things	11-Y	X	0	1	2	4	5
5.	Pollution, ecology or the environment	12-Y	X	0	1	2	4	5
6.	Industrial discoveries, such as new inventions	13-Y	X	0	1	2	4	5
7.	Education	14-Y	X	0	1	2	4	5
8.	Physical science research and discoveries about nature	15-Y	X	0	1	2	4	5
9.	Aviation or space exploration	16-Y	X	0	1	2	4	5
10.	Research done by university scientists	17-Y	X	0	1	2	4	5
11.	Social issues such as over-population, urban planning or child development	18-Y	X	0	1	2	4	5
12.	The role of scientists in the energy crisis, oil, mining and resource development	19-Y	X	0	1	2	4	5
13.	Engineering projects such as transportation systems, pipelines, etc.	20-Y	X	0	1	2	4	5

5. (HAND CARD) Some people in describing science have included the work being done in industry, university and by government in the following areas:

SCIENCE DESCRIPTION: SCIENCE FOR THE PURPOSE OF THE STUDY IS--WORK BEING DONE IN INDUSTRY, UNIVERSITY AND BY GOVERNMENT IN THESE AREAS:

Natural Science--which includes topics such as Astronomy, Geology, Physics and Chemistry among others.

Social Sciences And Humanities--which includes topics such as Education, Psychology, Sociology, Business and Economics among others.

Life Sciences--which includes topics such as Medicine and Health, Biology, Agriculture, Ecology and Environment among others.

Engineering Sciences--which includes topics such as Transportation, Urban Planning, Aviation and Space Exploration, Industrial Discoveries, Oil, Mining and Resource Development among others.

As you can see this description of science is basically comprised of four main subject areas: Natural Sciences, Social Sciences and Humanities, Life Sciences, and Engineering Sciences. Looking at some of the areas that each category contains, we would like to know how interested you are in each of these categories. Would you say you are very interested, quite interested, neither interested nor uninterested, not very interested, or not at all interested in: (READ LIST) (HAND SCALE CARD)

	Degree Of Interest				
Categories	Very Interested	Quite Interested	Neither Interested Nor Uninterested	Not Very Interested	Not At All Interested
1. Natural Sciences	21-Y	X	0	1	2
2. Social Sciences & Humanities	4	5	6	7	8
3. Life Sciences	22-Y	X	0	1	2
4. Engineering Sciences	4	5	6	7	8

6-a) (FOR EACH CATEGORY IN Q. 5 "VERY" OR "QUITE INTERESTED" IN, ASK Q. 6 & 7) Supposing you were interested in finding out something about ________ (NAME CATEGORY FROM Q. 5) which of the following sources would you use at all? (IF ONLY ONE NAMED IN -a, AUTOMATICALLY CIRCLE that answer in -b)

-b) (IF MORE THAN ONE NAMED IN -a) ASK:) And which one of these sources of information would you use most often?

	Categories			
	Natural Sciences	Social Sciences	Life Sciences	Engineering Sciences
-a) Sources Would Use At All				
Daily Newspapers	23-Y	24-Y	25-Y	26-Y
Magazines	X	X	X	X
Radio	0	0	0	0
Television	1	1	1	1
None	2	2	2	2
-b) Source Would Use Most Often				
Daily Newspapers	4	4	4	4
Magazines	5	5	5	5
Radio	6	6	6	6
Television	7	7	7	7

7-a) Now thinking about other ways in which you might get information on these same areas, please tell me which of the following sources you would use at all to obtain information on ________________ (NAME CATEGORY--"VERY" OR "QUITE INTERESTED" IN Q. 5). Are there any other sources?

-b) IF ONLY ONE NAMED IN -a), AUTOMATICALLY CIRCLE THAT ANSWER IN -b) (IF MORE THAN ONE NAMED IN -a), ASK:) And which one of these sources of information would you use most often?

-a) Sources Would Use At All	Categories: Natural Sciences	Social Sciences	Life Sciences	Engineering Sciences
Course(s)	27-Y	29-Y	31-Y	33-Y
Journal(s)	X	X	X	X
Textbooks	0	0	0	0
Other books that relate to the area	1	1	1	1
Government publications	2	2	2	2
Other (Please Specify)				
________________	☐	☐	☐	☐
________________	☐	☐	☐	☐
None	9	9	9	9

-b) Source Would Use Most Often	Natural Sciences	Social Sciences	Life Sciences	Engineering Sciences
Course(s)	28-Y	30-Y	32-Y	34-Y
Journal(s)	X	X	X	X
Textbooks	0	0	0	0
Other books that relate to the area	1	1	1	1
Government publications	2	2	2	2
Other (Please Specify)				
________________	☐	☐	☐	☐
________________	☐	☐	☐	☐

8. We would like your opinion about some of the statements different people have made concerning the area of science as it has been described. In general, do you agree or disagree with each of the following statements?

	AGREE	DISAGREE	IT VARIES	NO OPINION
a. It is important to be kept informed about science	35-Y	X	0	1
b. Scientific developments are distant from my every day life	3	4	5	6
c. Science is mainly for well-educated people	36-Y	X	0	1
d. I would like to find out more about Canadian achievements in science	3	4	5	6
e. Young people are better equipped to understand modern science than are older people	37-Y	X	0	1
f. The major media, that is, daily newspapers, magazines, radio and TV provide sufficient coverage of science	3	4	5	6
g. Most information about science is difficult to understand because of the vocabulary used	38-Y	X	0	1
h. Not enough scientific information is made public	3	4	5	6
i. I would like to find out more about the people involved in science	39-Y	X	0	1
j. Most information about science is difficult to understand because the subjects are too technical	3	4	5	6

Just thinking of the main information sources--newspapers, magazines, television and radio, I would like to ask you a few questions about them.

SECTION A: QUESTIONS 9 TO 13 TO BE ASKED ONLY AMONG NEWSPAPER READERS "REGULARLY" OR "FROM TIME TO TIME" (Q. 1). IF NON-READER GO TO QUESTION 14

First of all, I'd like to discuss newspapers:

Most papers in Canada treat science news the same as any other news. That is, it does not usually appear on a regular page or on a definite day. Others present science news in a special feature section either as a column or a science page instead of being scattered throughout the daily newspaper. For instance, just as sections such as sports and entertainment are listed in the index on the front page, your paper might present such a section on different areas of science that we have included in the description.

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN NATURAL SCIENCES ASK Q. 9

9-a) Thinking of the daily newspaper or newspapers you usually read, are you aware of any special columns or pages such as we have described that deal exclusively with those types of topics included under Natural Sciences?

Aware .... 40 - 1 ASK 9-b AND -c, THEN GO TO -f
Not aware ..... 2 GO TO -d

-b) Do you feel more inclined or less inclined to read articles concerning Natural Sciences when they are presented in such special columns or pages?

More inclined 41-Y
Less inclined X
Doesn't make any difference 0

-c) In fact, on the average how often would you say you read these special columns or pages about Natural Sciences? Would you say you:

Would read them regularly, that is just about everytime they appear 2
Would read them from time to time ... 3
Would not read them at all?.......... 4

-d) Would you feel more inclined or less inclined to read articles concerning Natural Sciences if they were presented in such special columns or pages?

More inclined 42-Y
Less inclined X
It would not make any difference 0

-e) If such special columns or pages were available in the paper or papers you usually read, how often would you be likely to read them?

Would read them regularly, that is, just about everytime they appear 2
Would read them from time to time 3
Would not read them at all 4

-f) Now, I'd like you to think about some of the statements other people have made about newspaper articles on topics in the Natural Sciences. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most newspaper articles on Natural Sciences are accurately reported ...	43-Y	...X	 0	 1
Most newspaper articles on Natural Sciences are interesting to read ...	3	...4	 5	 6
I enjoy reading articles in the newspaper on Natural Sciences	44-Y	...X	 0	 1
Articles on the Natural Sciences are easy for me to understand	3	...4	 5	 6
There are not enough articles on Natural Sciences in the newspaper ...	45-Y	...X	 0	 1
When I am specifically looking for articles on Natural Sciences I have difficulty finding them	3	...4	 5	 6

NOTE: IN Q. 5 IF "VERY" OR "QUITE INTERESTED" IN SOCIAL SCIENCES AND HUMANITIES ASK Q. 10

10-a) Thinking of the daily newspaper or newspapers you usually read, are you aware of any special columns or pages such as we have described that deal exclusively with those types of topics included under Social Sciences and Humanities.

Aware .... 46 -1 ASK 10-b AND -c, THEN GO TO -f

Not aware .... 2 GO TO -d

-b) Do you feel more inclined or less inclined to read articles concerning social sciences and humanities when they are presented in such special columns or pages?

More inclined 47-Y

Less inclined X

Doesn't make any difference 0

-c) In fact, on the average how often would you say you read these special columns or pages about social sciences and humanities? Would you say you:

Would read them regularly, that is, just about everytime they appear,............ 2

Would read them from time to time,........... 3

Would not read them at all?.................. 4

-d) Would you feel more inclined or less inclined to read articles concerning social sciences and humanities if they were presented in such special columns or pages?

More inclined 48-Y

Less inclined X

It would not make any difference 0

-e) If such special columns or pages were available in the paper or papers you usually read, how often would you be likely to read them?

Would read them regularly, that is just about everytime they appear 2

Would read them from time to time 3

Would not read them at all 4

-f) Now, I'd like you to think about some of the statements other people have made about newspaper articles on topics in the Social Sciences and Humanities. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most newspaper articles on Social Sciences and Humanities are accurately reported	49-Y	X	0	1
Most newspaper articles on Social Sciences and Humanities are interesting to read	3	4	5	6
I enjoy reading articles in the newspaper on Social Sciences and Humanities	50-Y	X	0	1
Articles on the Social Sciences and Humanities are easy for me to understand	3	4	5	6
There are not enough articles on Social Sciences and Humanities in the newspaper	51-Y	X	0	1
When I am specifically looking for articles on Social Sciences and Humanities I have difficulty finding them	3	4	5	6

NOTE: IN Q. 5 IF "VERY" OR "QUITE INTERESTED" IN LIFE SCIENCES ASK Q. 11

11-a) Thinking of the daily newspaper or newspapers you usually read, are you aware of any special columns or pages such as we have described that deal exclusively with those types of topics included under Life Sciences.

Aware .... 52- 1 ASK 11-b AND -c, THEN GO TO -f

Not aware ...... 2 GO TO -d

-b) Do you feel more inclined or less inclined to read articles concerning Life Sciences when they are presented in such special columns or pages?

More inclined 53-Y

Less inclined X

Doesn't make any difference 0

-c) In fact, on the average how often would you say you read these special columns or pages about Life Sciences? Would you say you:

Would read them regularly, that is, just about everytime they appear,............... 2

Would read them from time to time,......... 3

Would not read them at all?............... 4

-d) Would you feel more inclined or less inclined to read articles concerning Life Sciences if they were presented in such special columns or pages?

More inclined 54-Y

Less inclined X

It would not make any difference 0

-e) If such special columns or pages were available in the paper or papers you usually read, how often would you be likely to read them?

Would read them regularly, that is, just about everytime they appear 2

Would read them from time to time 3

Would not read them at all 4

-f) Now, I'd like you to think about some of the statements other people have made about newspaper articles on topics in the Life Sciences. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most newspaper articles on Life Sciences are accurately reported	55-Y	X	0	1
Most newspaper articles on Life Sciences are interesting to read	3	4	5	6
I enjoy reading articles in the newspaper on Life Sciences	56-Y	X	0	1
Articles on the Life Sciences are easy for me to understand	3	4	5	6
There are not enough articles on Life Sciences in the newspaper	57-Y	X	0	1
When I am specifically looking for articles on Life Sciences I have difficulty finding them	3	4	5	6

NOTE: IN Q. 5 IF "VERY" OR "QUITE INTERESTED" IN ENGINEERING SCIENCES ASK Q. 12

12-a) Thinking of the daily newspaper or newspapers you usually read, are you aware of any special columns or pages such as we have described that deal exclusively with those types of topics included under Engineering Sciences?

Aware .... 58 - 1 ASK 12-b AND -c, THEN GO TO -f

Not aware ..... 2 GO TO -d

-b) Do you feel more inclined or less inclined to read articles concerning Engineering Sciences when they are presented in such special columns or pages?

More inclined 59-Y

Less inclined X

Doesn't make any difference 0

-c) In fact, on the average how often would you say you read these special columns or pages about Engineering Sciences? Would you say you:

Would read them regularly, that is, just about everytime they appear,............ 2

Would read them from time to time,........... 3

Would not read them at all?.................. 4

-d) Would you feel more inclined or less inclined to read articles concerning Engineering Sciences if they were presented in such special columns or pages?

More inclined 60-Y

Less inclined X

It would not make any difference 0

-e) If such special columns or pages were available in the paper or papers you usually read, how often would you be likely to read them?

Would read them regularly, that is, just about everytime they appear 2

Would read them from time to time 3

Would not read them at all 4

-f) Now, I'd like you to think about some of the statements other people have made about newspaper articles on topics in the Engineering Sciences. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most newspaper articles on Engineering Sciences are accurately reported	61-Y	X	0	1
Most newspaper articles on Engineering Sciences are interesting to read	3	4	5	6
I enjoy reading articles in the newspaper on Engineering Sciences ...	62-Y	X	0	1
Articles on the Engineering Sciences are easy for me to understand	3	4	5	6
There are not enough articles on Engineering Sciences in the newspaper	63-Y	X	0	1
When I am specifically looking for articles on Engineering Sciences I have difficulty finding them	3	4	5	6

13. ASK ALL NEWSPAPER READERS: Let us suppose for a moment that you are interested in having more articles about science appear in your daily paper, what <u>three</u> types of articles or other features, if any, would you be willing to <u>give up</u> in order to make room for articles on science

1. ______________________________
2. ______________________________ 64-
3. ______________________________ 65-

SECTION B: QUESTIONS 14 TO 18 TO BE ASKED ONLY AMONG MAGAZINE READERS "REGULARLY" OR FROM TIME TO TIME" (Q.1). IF NON-READER GO TO QUESTION 19

14. As you may know there are a number of magazines available which regularly or occasionally make reference to science. I would like you to tell me which of these magazines you, yourself, read regularly, that is, at least three out of every four issues available or those which you read from time to time.

MAGAZINES		READS REGULARLY	READS FROM TIME TO TIME
1. ______	66-	☐	☐
2. ______	67-	☐	☐
3. ______	68-	☐	☐
4. ______	69-	☐	☐

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN NATURAL SCIENCES ASK Q. 15

15. I am going to read you a series of statements that other people have made about magazine articles on topics in the Natural Sciences. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most magazine articles on Natural Sciences are accurately reported	70-Y	X	0	1
Most magazine articles on Natural Sciences are interesting to read.......	3	4	5	6
I enjoy reading magazine articles on Natural Sciences....................	71-Y	X	0	1
Magazine articles on the Natural Sciences are easy for me to understand.	3	4	5	6
There are not enough magazine articles on Natural Sciences...................	72-Y	X	0	1
When I am specifically looking for magazine articles on Natural Sciences I have difficulty finding them.........	3	4	5	6

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN SOCIAL SCIENCES AND HUMANITIES ASK Q. 16

16. Now, I am going to read you a series of statements that other people have made about magazine articles on topics in the Social Sciences And Humanities. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most magazine articles on Social Sciences And Humanities are accurately reported..............................	73-Y	X	0	1
Most magazine articles on Social Sciences And Humanities are interesting to read..........................	3	4	5	6
I enjoy reading magazine articles on Social Sciences And Humanities......	74-Y	X	0	1
Magazine articles on Social Sciences And Humanities are easy for me to understand...........................	3	4	5	6
There are not enough magazine articles on Social Sciences And Humanities......	75-Y	X	0	1
When I am specifically looking for magazine articles on Social Sciences And Humanities I have difficulty finding them.........................	3	4	5	6

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN LIFE SCIENCES ASK Q. 17

17. I am going to read you a series of statements that other people have made about magazine articles on topics in the Life Sciences. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most magazine articles on Life Sciences are accurately reported......	8-Y	X	0	1
Most magazine articles on Life Sciences are interesting to read......	3	4	5	6
I enjoy reading articles in the magazines on Life Sciences	9-Y	X	0	1
Magazine articles on the Life Sciences are easy for me to understand...........................	3	4	5	6
There are not enough magazines articles on Life Sciences.	10-Y	X	0	1
When I am specifically looking for magazine articles on Life Sciences I have difficulty finding them........	3	4	5	6

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN ENGINEERING SCIENCES ASK Q. 18

18. And now I am going to read you a series of statements that other people have made about magazine articles on topics in the Engineering Sciences. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most magazine articles on Engineering Sciences are accurately reported......	11-Y	X	0	1
Most magazine articles on Engineering Sciences are interesting to read.......	3	4	5	6
I enjoy reading magazine articles on Engineering Sciences..................	12-Y	X	0	1
Magazine articles on Engineering Sciences are easy for me to understand.	3	4	5	6
There are not enough magazine articles on Engineering Sciences................	13-Y	X	0	1
When I am specifically looking for magazine articles on Engineering Sciences I have difficulty finding them.................................	3	4	5	6

SECTION C: QUESTIONS 19 TO 23 TO BE ASKED OF ALL TELEVISION WATCHERS IN Q. 1
IF NON-WATCHER GO TO Q. 24

19-a) As you may know there are a number of programmes on television which regularly or occasionally make reference to science. I am going to read you a list of some of them and I would like you to tell me whether you have ever heard of them and if so, whether you, yourself, watch or watched them regularly, that is, just about every time they appear, from time to time or not at all. Are there any other science programmes you watch?

PROGRAMMES	HAVE HEARD OF YES	HAVE HEARD OF NO	WATCH REGULARLY	WATCH FROM TIME TO TIME	DO NOT WATCH AT ALL
Nature Of Things	14-Y	☐	17-Y	X	0
Here Come The Seventies	X	☐	2	3	4
Target: The Impossible	0	☐	6	7	8
Jacques Cousteau Specials	1	☐	18-Y	X	0
[1]National Geographic Specials	2	☐	2	3	4
W-5	3	☐	6	7	8
Weekend	4	☐	19-Y	X	0
La Fleche du Temps	5	☐	2	3	4
Atoms et Galaxies	6	☐	6	7	8
Man Alive	7	☐	20-Y	X	0
Human Journey	8	☐	2	3	4
Les Jeunes Scientifiques	9	☐	6	7	8
Bronowski Series-- Ascent Of Man	15-Y	☐	21-Y	X	0
Le 60	X	☐	2	3	4
La vie qui bat	0	☐	6	7	8
Patrouille du Cosmos	1	☐	22-Y	X	0
Other (SPECIFY) ___________			☐	☐	
	16-		☐	☐	23-

[1]Not included.

-b) Do you watch the daily National News on television, regularly, from time to time, or not at all?

	Watches Regularly	Watches From Time To Time	Does Not Watch At All
National News	24-1	2	3

NOTE: ASK QUESTIONS IN THE FOLLOWING ORDER: Q. 23, Q. 20, Q. 21 And Q. 22.

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN NATURAL SCIENCES ASK Q. 20

20. Just thinking of the television programmes which deal with topics in Natural Sciences, I would like your opinion on some of the statements made about them by other people. Do you agree or disagree with each of the following?

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most television programmes dealing with Natural Sciences are accurately presented.	25-Y	X	0	1
Most television programmes dealing with Natural Sciences are interesting to watch.	3	4	5	6
I enjoy watching television programmes on Natural Sciences	26-Y	X	0	1
These programmes are easy for me to understand	3	4	5	6
There are not enough programmes on Natural Sciences	27-Y	X	0	1
When I am specifically looking for programmes on Natural Sciences I have difficulty finding them	3	4	5	6

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN SOCIAL SCIENCES AND HUMANITIES ASK Q. 21

21. Just thinking of the television programmes which deal with topics in the Social Sciences & Humanities, I would like your opinion on some of the statements made about them by other people. Do you agree or disagree with each of the following?

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most television programmes dealing with Social Sciences & Humanities are accurately presented	28-Y	X	0	1
Most television programmes dealing with Social Sciences & Humanities are interesting to watch	3	4	5	6
I enjoy watching television programmes on Social Sciences & Humanities	29-Y	X	0	1
These programmes are easy for me to understand	3	4	5	6
There are not enough programmes on Social Sciences & Humanities	30-Y	X	0	1
When I am specifically looking for programmes on Social Sciences & Humanities I have difficulty finding them	3	4	5	6

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN LIFE SCIENCES, ASK Q. 22

22. Just thinking of the television programmes which deal with topics in the Life Sciences, I would like your opinion on some of the statements made about them by other people. Do you agree or disagree with each of the following?

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most television programmes dealing with Life Sciences are accurately presented	31-Y	X	0	1
Most television programmes dealing with Life Sciences are interesting to watch	3	4	5	6
I enjoy watching television programmes on Life Sciences	32-Y	X	0	1
These programmes are easy for me to understand	3	4	5	6
There are not enough programmes on Life Sciences	33-Y	X	0	1
When I am specifically looking for programmes on Life Sciences I have difficulty finding them	3	4	5	6

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN ENGINEERING SCIENCES, ASK Q. 23

23. Just thinking of the television programmes which deal with topics in the Engineering Sciences, I would like your opinion on some of the statements made about them by other people. Do you agree or disagree with each of the following?

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most television programmes dealing with Engineering Sciences are accurately presented	34-Y	X	0	1
Most television programmes dealing with Engineering Sciences are interesting to watch	3	4	5	6
I enjoy watching television programmes on Engineering Sciences	35-Y	X	0	1
These programmes are easy for me to understand	3	4	5	6
There are not enough programmes on Engineering Sciences	36-Y	X	0	1
When I am specifically looking for programmes on Engineering Sciences I have difficulty finding them	3	4	5	6

SECTION D: QUESTIONS 24 TO 28 TO BE ASKED OF ALL RADIO LISTENERS IN Q. 1. IF NON-LISTENER GO TO Q. 29

24-a) As you may know there are a number of radio programmes which regularly or occasionally make references to science. I am going to read you a list of some of them and I would like you to tell me whether you have ever heard of them and if so, whether you, yourself, listen to them regularly, that is, just about every time they are presented, from time to time or do not listen to them at all? Are there any other science programmes you listen to?

PROGRAMMES	HAVE HEARD OF YES	HAVE HEARD OF NO	LISTEN TO REGULARLY	LISTEN TO FROM TIME TO TIME	DOES NOT LISTEN TO THEM AT ALL
Ideas	37-Y	☐	39-Y	X	0
As It Happens	X	☐	2	3	4
This Country In The Morning	0	☐	6	7	8
Radio Noon	1	☐	40-Y	X	0
Le Science Et Vous	2	☐	2	3	4
Short 2-3 Minute Items As They Are Presented	3	☐	6	7	8
Other (Specify)______			☐	☐	
______	38 -		☐	☐	41-

-b) Do you listen to the daily CBC National News on the radio regularly, from time to time or not at all?

	LISTENS TO REGULARLY	LISTENS TO FROM TIME TO TIME	DOES NOT LISTEN TO AT ALL
CBC National News	42-1	2	3

Finally, thinking about the Science items or programmes that you hear on the radio, I would again like your opinion on some of the statements people have made concerning them.

NOTE: ASK QUESTIONS IN FOLLOWING ORDER: Q. 28, Q. 25, Q. 26 And Q. 27.

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN NATURAL SCIENCES ASK Q. 25

25. I am going to read you a series of statements made about some of the radio programmes dealing with the topics in the Natural Sciences. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most radio programmes dealing with Natural Sciences are accurately presented	43-Y	X	0	1
Most radio programmes dealing with Natural Sciences are interesting to listen to	3	4	5	6
I enjoy listening to radio programmes on Natural Sciences	44-Y	X	0	1
These programmes are easy for me to understand	3	4	5	6
There are not enough programmes on Natural Sciences	45-Y	X	0	1
When I am specifically looking for programmes on Natural Sciences I have difficulty finding them	3	4	5	6

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN SOCIAL SCIENCES & HUMANITIES, ASK Q. 26

26. I am going to read you a series of statements made about some of the radio programmes dealing with the topics in the Social Sciences & Humanities. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most radio programmes dealing with Social Sciences & Humanities are accurately presented	46-Y	X	0	1
Most radio programmes dealing with Social Sciences & Humanities are interesting to listen to	3	4	5	6
I enjoy listening to radio programmes on Social Sciences & Humanities	47-Y	X	0	1
These programmes are easy for me to understand	3	4	5	6
There are not enough programmes on Social Sciences & Humanities	48-Y	X	0	1
When I am specifically looking for programmes on Social Sciences & Humanities I have difficulty finding them	3	4	5	6

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN LIFE SCIENCES, ASK Q. 27

27. I am going to read you a series of statements made about some of the radio programmes dealing with the topics in the Life Sciences. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most radio programmes dealing with Life Sciences are accurately presented	49-Y	X	0	1
Most radio programmes dealing with Life Sciences are interesting to listen to	3	4	5	6
I enjoy listening to radio programmes on Life Sciences	50-Y	X	0	1
These programmes are easy for me to understand	3	4	5	6
There are not enough programmes on Life Sciences	51-Y	X	0	1
When I am specifically looking for programmes on Life Sciences I have difficulty finding them	3	4	5	6

NOTE: IN Q. 5 "IF VERY" OR "QUITE INTERESTED" IN ENGINEERING SCIENCES, ASK Q. 28

28. I am going to read you a series of statements made about some of the radio programmes dealing with the topics in the Engineering Sciences. Please tell me whether you agree or disagree with each of the following:

	AGREE	DISAGREE	IT VARIES	NO OPINION
Most radio programmes dealing with Engineering Sciences are accurately presented	52-Y	X	0	1
Most radio programmes dealing with Engineering Sciences are interesting to listen to	3	4	5	6
I enjoy listening to radio programmes on Engineering Sciences	53-Y	X	0	1
These programmes are easy for me to understand	3	4	5	6
There are not enough programmes on Engineering Sciences	54-Y	X	0	1
When I am specifically looking for programmes on Engineering Sciences I have difficulty finding them	3	4	5	6

ASK EVERYONE

29-a) Would you please tell me the names of any prominent CANADIAN scientists either living or dead you happen to remember?

-b) (FOR EACH SCIENTIST NAMED IN -a), ASK:) Would you please tell me what you think this scientist does (or did) or why you remember him?

	(a) NAME OF SCIENTIST	(b) WHAT SCIENTIST DOES/DID OR WHY REMEMBERED
1.	______________	______________
		______________
2.	______________	______________
		______________
3.	______________	______________
		______________

NONE REMEMBERED ☐

30-a) Finally, would you please tell me about any CANADIAN achievements or projects in science you happen to know about.

-b) Where did you read or hear about this?

	(a) ACHIEVEMENT		(b) WHERE HEARD OR SEEN
1.	______________	1.	______________
2.	______________	2.	______________
3.	______________	3.	______________
4.	______________	4.	______________

8/14

BASIC DATA--FILL IN AT END OF INTERVIEW

WRITE CLEARLY OR PRINT. GIVE INITIALS

CIRCLE: MR.
MISS
MRS. ______________ PHONE NO: ____________ NONE .... ☐

MAILING
ADDRESS: ______________ TOWN: ____________ PROV: ________

INTERVIEW NO. ______________ ON LOCATION NO. ______________
15 16/19 20

SEX: MALE 21-1
FEMALE 2

A. IF THIS HOUSEHOLD IS LOCATED IN A RURAL AREA (i.e., A COMMUNITY OF LESS THAN 1,000 POPULATION OR OPEN COUNTRY) ASK:

-a) Is there more than one acre in this property? YES .....[ASK -b)] NO 22-1

-b) Last year, did you sell more than $50 worth of products grown or raised on this property? YES 2
NO 3

EITHER

IF INTERVIEWING MONDAY TO FRIDAY, SAY:

B. We are interested in finding out how often people are at home on weekdays at about this time. I am not interested in Saturdays and Sundays, only weekdays.

	AT HOME	NOT HOME	CAN'T REMEMBER/ DON'T KNOW
-a) Did you happen to be at home yesterday (or last preceding weekday) at about this time? ______________ (WRITE IN NAME OF DAY)	23-1	2	3
-b) How about ______________? (SAY & WRITE IN WEEKDAY BEFORE)	24-1	2	3
-c) How about ______________? (SAY & WRITE IN WEEKDAY BEFORE)	25-1	2	3

NOTE: WORK BACK THROUGH 3 PRECEDING WEEKDAYS

OR

IF INTERVIEWING SATURDAY, SAY INSTEAD:

	AT HOME	NOT HOME	CAN'T REMEMBER/ DON'T KNOW
-a) We are interested in finding out how often people are at home on Saturday at about this time. For instance, did you happen to be at home last Saturday at about this time?	26-1	2	3
-b) How about the Saturday before that, at about this time?	27-1	2	3

EVERYBODY

C-a) TOTAL HOUSEHOLD MEMBERS

How many people live in this household, including yourself, other members of your family, and anyone else living as part of your household who is not a member of your immediate family?

-b) How many are 15 years of age or over?

-c) How many are 18 years of age or over?

	(a) TOTAL NUMBER IN HOUSEHOLD	(b) TOTAL NUMBER 15 AND OVER	(c) TOTAL NUMBER 18 AND OVER
One	28-1	29-1	30-1
Two	2	2	2
Three	3	3	3
Four	4	4	4
Five	5	5	5
Six	6	6	6
Seven	7	7	7
Eight	8	8	8
Nine	9	9	9
Ten or more	0	0	0
NONE			y

D. FAMILY COMPOSITION

-a) Are there any children under 18 years of age living at home? YES .. 31-1 ASK -b)

NO ... 2

-b) (IF "YES")

		YES	NO
Are any of them under 5 years of age? .	32-Y	... ☐	
Are any of them 5 to 9 years of age? ..	X	... ☐	
Are any of them 10 to 14 years of age? .	0	... ☐	
Are any of them 15 to 17 years of age? .	1	... ☐	

-c) Total number of children under 18 years living at home ________ -33

-d) How many children are in high school?

0 .... 34-Y
1 X
2 0
3 OR MORE .. 1

-e) How many children are in college?

0 2
1 3
2 4
3 OR MORE 5

-f) Do you know whether any of the children in the household are taking science courses?

In High School? YES 35-Y
NO X
DON'T KNOW ... 0

In College? YES 1
NO 2
DON'T KNOW ... 3

E. What is your marital status?..................

SINGLE 36-Y
MARRIED X
WIDOW(ER), DIVORCED, SEPARATED 0

F. Respondent's Position In Household:

MALE HEAD 3
FEMALE HEAD 4
SON 5
DAUGHTER 6
OTHER MALE 7

G. Mother tongue--What was the language you first spoke in childhood and still understand?

ENGLISH	37-1
FRENCH--(QUEBEC INTERVIEW) ..	2
FRENCH--(NON-QUEBEC INTERVIEW)	3
OTHER: (CIRCLE CODE & SPECIFY) ______	4

H. What is your occupation? TYPE OF JOB: ______ 38-

TYPE OF COMPANY: ______ 39-

Homemaker only .... ☐

Homemaker employed outside home?

Part-time? ... ☐ (STATE JOB) ______

Full-time? ... ☐ (STATE JOB) ______ 40-

I. What is the occupation of the head of the house? TYPE OF JOB: ______

TYPE OF COMPANY: ______ 41-

J-a) What was the name of the last school you attended? How far did you go?

	SOME	GRADUATED	
Public/elementary school (Grades 1 - 8--Quebec grades 1 - 7)	42-1	2	
Secondary/high school (Grades 9 - 13 --Quebec grades 8 - 12)	3	4	ASK -b)
Technical/senior college (Above grades 12 or 13--Quebec CEGEP/college classique)	5	6	ASK -c)
University	7	8	ASK -c)
No formal schooling		9	
Refused		0	

Any additional schooling ______

-b) Did you take any science courses in high school such as general science, biology, chemistry or physics?

Took no science courses in high school	43-Y
Took some science courses in high school	X

-c) Did you take any science courses in college or university?

Took no science courses in university	1
Took a few science courses in university	2
Took a science major in university	3
Took graduate science courses in university .	4

K. (HAND CARD B) Would you mind telling me which letter on this card corresponds to your age or age group?

a)	15 YEARS	44-1
b)	16 - 17 YEARS	2
c)	18 - 19 YEARS	3
d)	20 YEARS	4
e)	21 - 24 YEARS	5
f)	25 - 29 YEARS	6
g)	30 - 34 YEARS	7
h)	35 - 39 YEARS	8
i)	40 - 44 YEARS	9
j)	45 - 49 YEARS	0
k)	50 - 55 YEARS	X
l)	56 - 64 YEARS	Y
m)	65 YEARS AND OVER ..	45-1

L. TOTAL FAMILY INCOME

(HAND CARD C) In which of these letter groups does the approximate income of the family fall--that is, the income or earnings of all the family members living here added together?

L	46-1
M	2
N	3
O	4
P	5
Q	6
R	7
REFUSED	☐ 8 9
DON'T KNOW	☐

IF REFUSED OR DON'T KNOW GIVE BEST ESTIMATE

$ ______________

(PER YEAR)
TOTAL FAMILY INCOME

M. INCOME OF HEAD OF HOUSE

(HAND CARD D) Now in which of these letter groups does the approximate income of the head of the house fall?

L, M OR N	47-1
O	2
P	3
Q	4
R	5
S	6
T	7
U	8
V	9
W	0 X Y
REFUSED	☐
DON'T KNOW	☐

IF REFUSED OR DON'T KNOW GIVE BEST ESTIMATE

$______________

(PER YEAR)
HEAD OF HOUSE

AUTOMATIC CLASSIFICATION--OBSERVE, DO NOT ASK

SOCIO-ECONOMIC LEVEL

UPPER	48-9
UPPER MIDDLE	8 7
MIDDLE	6 5 4
LOWER MIDDLE	3 2
LOWER	1

DAY OF INTERVIEW

MONDAY	49-1
TUESDAY	2
WEDNESDAY	3
THURSDAY	4
FRIDAY	5
SATURDAY	6

INTERVIEW NUMBER WITHIN HOUSEHOLD

FIRST	50-1
SECOND	2
THIRD	3
FOURTH	4
FIFTH OR MORE	5

DATE: ______________________________ , 51-

INTERVIEWER'S SIGNATURE: ______________________ 52-

EMPLOYEE NUMBER: ______________________

53/57

PART II.

CANADIAN FACTS CO. LIMITED
TORONTO - MONTREAL

STUDY A2262

INSTRUCTIONS TO INTERVIEWERS

Points to watch on the questionnaire: BE SURE TO READ THESE BEFORE STARTING TO INTERVIEW ON THIS STUDY.

There are four different questionnaires: Questionnaire A is printed on white.
Questionnaire B is printed on yellow.
Questionnaire C is printed on blue.
Questionnaire D is printed on green.

The questionnaires are exactly the same in content; however, on the yellow, blue and green questionnaires, the four categories of science to be asked about for each media i.e. newspapers (Section A of the Questionnaire), magazines (Section B), television (Section C) and radio (Section D) are to be rotated. To facilitate production, we have indicated these rotations by directions. Be sure to follow these directives carefully. You will thus find, that on all white questionnaires, the order of asking for these categories of science will always be as follows: Natural Science, Social Sciences and Humanities, Life Sciences and Engineering Sciences. On all yellow questionnaires: Social Sciences And Humanities, Life Sciences, Engineering Sciences and Natural Sciences. On all blue questionnaires: Life Sciences, Engineering Sciences, Natural Sciences and Social Sciences And Humanities. On all green questionnaires: Engineering Sciences, Natural Sciences, Social Sciences And Humanities and Life Sciences.

QUESTIONS 1 TO 5 AND 8: To be asked of all respondents.

QUESTION 1: Straightforward.

QUESTION 2-a): Hand Scale Card (Card A with the degrees of interest). Read list of subjects.

Note that on every other interview begin list at subject number 6. Be sure not to omit any of the ten subjects.

QUESTION 2-b): Ask only for those subjects "very" or "quite interested in", in Question 2-a).

QUESTION 3: Probe.

QUESTION 4-a): Hand Scale Card, shuffle little cards before handing to respondent. Have respondent read out each card and his/her degree of interest in that subject. Be sure that you circle each subject correctly and that none are omitted.

QUESTION 4-b): Ask only for those subjects "very" or "quite interested in", in Question 4-a).

QUESTION 5: Hand Science description card. Allow enough time for respondent to read it carefully. Leave this card with respondent so that he/she may refer to it if necessary throughout the interview. Hand Scale Card and read list of the categories of Science.

QUESTION 6-a): To be asked for each category of Science "very" or "quite interested in", in Question 5.

QUESTION 6-b): Follow directive.

QUESTION 7-a): To be asked for each category "very" or "quite interested in", in Question 5.

Courses--any lessons, classes taken either in an institution or by correspondence.

Journal--usually covers only one specific subject i.e., Scientific American as opposed to magazines which covers a variety of topics.

QUESTION 7-b):	Follow directives.
QUESTION 8:	Do not read "it varies" or "no opinion". Circle these only if respondent says he/she feels it varies or he/she cannot give an opinion.
SECTION A: QUESTIONS 9 TO 13:	Ask only among newspaper readers "regularly" or "from time to time" in Question 1. If respondent is a non-reader go to Question 14.
QUESTIONS 9 TO 12:	On yellow, blue and green questionnaires, be sure to follow directives carefully as to the order in which these questions are to be asked.
QUESTION 9:	Ask only if respondent is "very" or "quite interested in", in Natural Sciences in Question 5.
QUESTIONS 9-b), 9-c):	Ask if respondent is "aware" in Question 9-a), then go to Question 9-f).
QUESTIONS 9-d), 9-e):	Ask if respondent is "not aware" in Question 9-a), then go to Question 9-f).
QUESTION 10:	Ask only if respondent is "very" or "quite interested in", in Social Sciences and Humanities in Question 5.
QUESTIONS 10-b), 10-c):	Ask if respondent is "aware" in Question 10-a) then go to Question 10-f).
QUESTIONS 10-d), 10-e):	Ask if respondent is "not aware" in Question 10-a) then go to Question 10-f).
QUESTION 11:	Ask only if respondent is "very" or "quite interested in", in Life Sciences in Question 5.
QUESTIONS 11-b), 11-c):	Ask if respondent is "aware" in Question 11-a), then go to Question 11-f).
QUESTIONS 11-d), 11-e):	Ask if respondent is "unaware" in Question 11-a), then go to Question 11-f).
QUESTION 12:	Ask only if respondent is "very" or "quite interested in", in Engineering Sciences in Question 5.
QUESTIONS 12-b), 12-c):	Ask if respondent is "aware" in Question 12-a), then go to Question 12-f).
QUESTIONS 12-d), 12-e):	Ask if respondent is "unaware" in Question 12-a), then go to Question 12-f).
QUESTION 13:	Ask all newspaper readers. Be sure that respondent gives you three types of articles or features he would like to give up.
SECTION B: QUESTIONS 14 TO 18:	To be asked only of respondents who read magazines "regularly" or "from time to time" in Question 1. If the respondent is a non-reader, go to Question 19.
QUESTION 14:	To be asked of all magazine readers "regularly" or "from time to time".
QUESTIONS 15 TO 18:	On the yellow, blue and green questionnaires, be sure to follow carefully the directives as to the order in which these questions are to be asked. Follow the directives carefully for each of these questions.

SECTION C: QUESTIONS 19 TO 23:	To be asked of all television watchers.
QUESTIONS 19-a), 19-b):	To be asked of all television watchers.
QUESTIONS 20 TO 23:	On yellow, blue and green questionnaires, be sure to follow carefully the directives as to the order in which these questions are asked. Follow carefully the directives for each question.
SECTION D QUESTIONS 24 TO 28:	Are to be asked of all radio listeners, if non-listener, go to Question 29.
QUESTION 24:	Ask all radio listeners.
QUESTION 24-b):	NOTE: We are asking specifically about CBC National News.
QUESTIONS 25 TO 32:	On the yellow, blue and green questionnaires, be sure to follow carefully the directives as to the order in which these questions are to be asked. Follow carefully the directives for each of these questions.
QUESTIONS 29-a), 29-b) AND 30-a), 30-b):	Ask all respondents. Be sure that your respondent's answers refer to Canadian Scientist and Canadian Achievements.
QUESTION 30:	We have omitted to put "None Remembered" ☐ If respondent does not remember any Canadian achievements or projects in Science please write this in and check it.

Appendix C. Sample Design for Public Opinion Poll

Sample Design -- Modified Probability

The major distinguishing feature of the probability sample is that the selections at every stage of the sampling operation are made by a rigid procedure which ensures the application of the mathematical theory of probability. As a result the probability that a given Individual has been included in the sample can be measured within fairly close limits.

The universe sampled for this study includes the entire population of Canada, 15 years and older, with the following exceptions;

1) The Northwest Territories and Yukon
2) The least accessible and most sparsely populated areas of each of the provinces
3) Inmates of institutions, inhabitants of lumber and mining camps
4) Members of the armed forces not living at home
5) Persons living on Indian reservations
6) Transients or others having no regular place of residence.

Only about 7 percent of the population falls within these excluded groups.

In constructing a probability sample of this universe, the following conditions have been met:

a) Each of the persons in the universe has to have some chance, which can be stated mathematically within fairly close limits, of being included in the sample
b) No arbitrary judgement can be exercised in determining which households or individuals are included.

The particular sampling procedure used for this research is called "modified probability" for the following reasons:

a) An individual's chance of inclusion in the sample is based on slightly different estimates due to the use of 1966 census data without updating counts. This will normally produce some under-representation of people in growing areas.
b) Non-response may not be sufficiently reduced to warrant grading the sample as a full probability design.

The sampling operation has been performed at four different and distinct levels and hence is termed multi-stage:

1. The selection of localities (metropolitan districts, individual cities over 10M, and urban under 10M and rural by township)
2. The selection of small areas or clusters within each locality to be visited by interviewers
3. The selection of the particular households to be visited
4. The selection of individuals at random by means of a listing procedure

The probability with which each individual would be finally selected, therefore, ultimately depends upon the separate probabilities at each of the four stages of sampling.

Selecting The Localities

In the first stage of sampling it was necessary to select a group of localities to represent all localities in Canada. Prior to the actual selection, it is necessary to define the term locality. In the case of larger cities, the locality consists of a combination of several cities, towns and townships. This is called a metropolitan district. In all other areas of the country, a locality is defined as a single city or township.

All of the localities in Canada are grouped into strata, based upon the following criteria:

a) Metropolitan districts, other urban over 10M by community size, urban under 10M and rural combined.
b) Geographic district
c) Degree of urbanization.

The strata were set up in such a manner as to group together all localities that are similar on the basis of the above criteria. At the same time, the strata are made approximately equal in terms of total population. In some cases, a stratum contains a single metropolitan district. This is because these districts contain larger populations than are ordinarily assigned to a stratum.

For each stratum, one locality was selected with probability proportionate to its population.

Sampling Clusters Within Selected Localities.

Further stratification was employed within the localities for the selection of clusters. The types and levels of stratification dependent upon the characteristics of the selected locality. In general, all cities and towns over 10M are sampled separately and, in many instances, they are further stratified by income or socio-economic groupings. Before selecting rural clusters, geographic strata are defined. Stratification was carried as far as possible (i.e., down to the selection of individual enumeration areas).

Individual block diagrams were prepared from street maps and aerial photographs. Rural area clusters are defined on topographical or military maps which show all roads, railroads, schools, churches, farm and non-farm households and the like. These clusters were organized to contain approximately an equal number of dwelling units; and selections were made with equal probability.

Selecting Households Within Clusters - When Applying The Politz Not-At-Home Weighting Formula

For each selected cluster, interviewers were provided with a detailed map showing the location, the road segments contained within the cluster, and outlining clearly its boundaries. Each open country cluster was bounded by distinct landmarks which could be identified by the interviewer, while for cities, towns and villages, interviewers were given map enlargements showing the names of the streets included within the clusters. For each cluster, a starting point was selected at random. Interviewers were instructed to begin at the start point and to work in a randomly determined direction indicated by red arrows, calling at each household on the way until the assigned number of households had been visited.

Selecting Individuals Within Households

The interviewer first determined how many people aged 15 years and over live in the particular household and how many are at home at the time of her call. Those at home were listed in a specified order on a special sheet. A random set of markings then automatically determined which particular individuals were to be interviewed. This selection was done in such a way as to give every such individual a known but random chance of being selected. Since men and single people tend to be out more frequently, they were given a greater chance of being selected.

Weighting the Results--Provisions For Not-At-Homes

The resultant sample is a weighted one in which interviews were not all given a uniform arbitrary weight of one. Some were given a little more and some a little less (by fractional or decimal computer weighting) to allow for some differences in their chance of inclusion and for residual adjustments to known population statistics.

The bulk of this weighting is accounted for by the application of the Politz Not-At-Home Weighting Formula. The purpose of the not-at-home weight is to adjust for bias that might be caused by non-representation in the sample of those away from home at the time the interviewer called. To obtain the weighting factor the respondent was questioned on past at home frequency, and an estimate was obtained of the probability of his being home when the interviewer called. To further minimize this bias, all locations were visited during the evening on week days and on Saturday afternoons. The only exceptions were some rural locations where, for practical field reasons, interviewing was also permitted during the afternoon on weekdays.

In addition to the not-at-home formula, a minor adjustment has been made to bring the various community sizes, regions and age groups into their correct relative proportions according to the latest Statistics Canada census of population.

The following table details the number of completions - both actual and weighted - by age and sex:

	Actual 2024		Weighted 2000	
TOTAL INTERVIEWS	#	%	#	%
AGE:				
15 years	72	4	58	3
16 - 17 years	121	6	108	5
18 - 19 years	124	6	115	6
20 years	68	3	65	3
21 - 24 years	204	10	181	9
25 - 29 years	201	10	196	10
30 - 34 years	203	10	184	9
35 - 39 years	167	8	176	9
40 - 44 years	163	8	157	8
45 - 49 years	147	7	173	9
50 - 55 years	170	8	181	9
56 - 64 years	168	8	190	9
65 years and over	216	11	216	11
SEX:				
MALE	1,010	50	992	50
FEMALE	1,014	50	1,008	50

Appendix D. Distribution of Interviews by Social Characteristics[1]

By Age

	% of Respondents	Sample Size
15-17	8.3%	166
18-24	18.0%	361
25-34	19.0%	380
35-44	16.7%	333
45 & Over	38.0%	760
	100.0%	2000

By Sex

	% of Respondents	Sample Size
Male	49.6%	992
Female	50.4%	1008
	100.0%	2000

By Education

	% of Respondents	Sample Size
Some High School or Less	62.0%	1239
Graduated High School	16.0%	320
Post-Secondary School	22.0%	439
	100.0%	1998[1]

By Mother Tongue

	% of Respondents	Sample Size
English	57.0%	1141
French	29.8%	575
Other	14.2%	284
	100.0%	2000

[1]The distribution of interviews is weighted as per Appendix C. Percentages quoted in the Main Tables for the public opinion poll are based upon the sample sizes indicated.

By Occupation

	% of Respondents	Sample Size
Manager/Professional	7.9%	158
White Collar	6.4%	128
Blue Collar	20.5%	410
Other	65.2%	1304
	100.0%	2000

By Region of Canada

	% of Respondents	Sample Size
Atlantic Provinces	9.2%	182
Quebec	27.9%	559
Ontario	36.3%	726
Prairies	16.2%	325
British Columbia	10.4%	208
	100.0%	2000

By Community Size

	% of Respondents	Sample Size
Urban	77.5%	1551
Urban---Over 500,000	(33.4%)	(668)
Urban---1,000-500,000	(44.1%)	(883)
Rural	22.5%	450
	100.0%	2001

Appendix E. Approximate Sampling Error in the Percentages Quoted for the Public Opinion Poll

Range of Error is Plus or Minus[1]

With a Sampling Size of:	Where percentage shown is: 1% or 99%	2% or 98%	3% or 97%	4% or 96%	5% or 95%	6% or 94%	8% or 92%	10% or 90%	12% or 88%	15% or 85%	20% or 80%	25% or 75%	30% or 70%	35% or 65%	40% or 60%	45% or 55%	50%
100..........	-	-	-	3.9	4.4	4.8	5.4	6.0	6.5	7.2	8.0	8.7	9.2	9.6	9.8	9.9	10.0
200..........	-	-	2.4	2.8	3.1	3.4	3.8	4.3	4.6	5.1	5.7	6.1	6.5	6.3	7.0	7.0	7.1
250..........	-	1.8	2.2	2.5	2.7	3.0	3.4	3.8	4.1	4.5	5.0	5.5	5.8	6.0	6.2	6.2	6.3
300..........	-	1.6	2.0	2.3	2.5	2.8	3.1	3.5	3.8	4.1	4.6	5.0	5.3	5.5	5.7	5.8	5.8
400..........	1.0	1.4	1.7	2.0	2.2	2.4	2.7	3.0	3.3	3.6	4.0	4.3	4.6	4.8	4.9	5.0	5.0
500..........	0.9	1.3	1.5	1.8	2.0	2.1	2.4	2.7	2.9	3.2	3.6	3.9	4.1	4.3	4.4	4.5	4.5
600..........	0.8	1.1	1.4	1.6	1.8	2.0	2.2	2.5	2.7	2.9	3.3	3.6	3.8	3.9	4.0	4.1	4.1
800..........	0.7	1.0	1.2	1.4	1.5	1.7	1.9	2.1	2.3	2.5	2.8	3.0	3.2	3.3	3.4	3.5	3.5
1,000..........	0.6	0.9	1.1	1.3	1.4	1.5	1.7	1.9	2.1	2.3	2.6	2.8	2.9	3.1	3.1	3.2	3.2
2,000..........	0.5	0.6	0.8	0.9	1.0	1.0	1.2	1.3	1.4	1.6	1.8	1.9	2.1	2.1	2.2	2.2	2.2

[1] The figures in this table are based on the standard error formula for simple random samples and represent two standard errors. Hence, for most items, chances are 95 in 100 that a percentage quoted lies within a range equal to the reported percentage, plus or minus the sampling error. (Departures from simple random sampling in the survey design such as stratification and clustering have not been included in the estimates.)

Appendix F. The Canadian Mass Media

DAILY NEWSPAPERS

B.C. (&5 NWT/Yukon Weeklies)	(25)
Alberta	(7)
Saskatchewan	(4)
Manitoba	(7)
Ontario	(49)
Québec	(14)
New Brunswick	(6)
Nova Scotia	(6)
Prince Edward Island	(3)
Newfoundland	(3)
	(Total - 124)

RADIO STATIONS

British Columbia	(53)
N.W.T. & Yukon	(4)
Alberta	(25)
Saskatchewan	(19)
Manitoba	(13)
Ontario	(45)
Québec	(60)
New Brunswick	(9)
Nova Scotia	(13)
Prince Edward Island	(2)
Newfoundland	(11)
	(Total - 304)

TV STATIONS

B.C. (& Yukon)	(9)
Alberta	(7)
Saskatchewan	(5)
Manitoba	(4)
Ontario	(20)
Québec	(13)
New Brunswick	(2)
Nova Scotia	(2)
Newfoundland & Labrador	(4)
	(Total - 66)

CBC RADIO & TELEVISIDN NETWORKS

(Total Production Stations-Radio 51, TV 28)

PRIVATE TV NETWORKS (3)

CTV, Global, TVA

EDUCATIONAL TV SYSTEMS (2)

OECA (Ontario); AECA (Alberta).

CANADIAN DAILY NEWSPAPER "GROUPS" (3)

F.P. Publications Ltd.; Southam Press Limited; Thomson Newspapers

CANADIAN WIRE SERVICES (5)

Agence France-Presse; Canada News-Wire; Canadian Press/Broadcast News; Telbec; United Press International

FOREIGN WIRE NEWS SERVICES (4)

AP; New York Times; Reuters; UPI

PARLIAMENTARY PRESS GALLERIES (11)

Canadian Parliament (National-Ottawa) Provincial Galleries

NEWS FEATURES & PHOTO SERVICES (7)

Bomac Batten; Canada Wide; GPI; Miller; Northern News; Toronto Star; Toronto Sun

BUSINESS NEWSPAPERS - DAILY (2)

Daily Commercial News (Toronto); Wall Street Journal (U.S.A.)

WEEKEND NEWSPAPERS (11)

Free Press Weekly Report on Farming (Winnipeg); The Canadian (Toronto); Hebdo-Revue (Ottawa); Dimanche-Dernière Heure, Le Dimanche-Matin (Montreal); La Patrie, Le Petit Journal, Photo Journal, Weekend Magazine (Montreal) Perspectives/Perspectives-Dimanche (Montreal)

ASSOCIATION (Daily & Spot News Media) (4)

CDNPA, CAB, CCBA, BES

NEWS MAGAZINES, FINANCIAL & BUSINESS (6)

Newsweek; Time; U.S. News & World Report; Business Week; Financial Post; Financial Times

Broadcaster

Maclean-Hunter Limited (See re Weekly Newspapers, Consumer Magazines, Trade, Foreign Language Publications, etc...)

PRIVATE RADIO & TV NEWS NETWORKS (8)

B.C. Radio News, CCNS, Capital, Newsradio, Radiomutuel, Selkirk, Standard, Télémedia

Source: Index to Matthews' List, Vol. 18, #2, August, 1974.

Appendix G. DAILY NEWSPAPERS IN CANADA (English & French)

		Circulation	Owner and Group
BRITISH COLUMBIA	(2,384,000)**		
Cranbrook	Daily Townsman	(3,808)	
Kamloops	Daily Sentinel	(12,149)	Thomson
Kelowna	Daily Courier	(10,859)	Thomson
Kimberley	Daily Bulletin	(2,330)	
Nanaimo	Daily Free Press	(9,639)	Thomson
Nelson	Daily News	(8,874)	
New Westminster	Columbian	(30,083)	
Penticton	Herald	(6,441)	Thomson
Port Alberni	Alberni Valley Times	(6,631)	
Prince George	Citizen	(17,619)	Southam
Prince Rupert	Daily News	(3,581)	
Trail	Times	(5,541)	
Vancouver	Province	(121,539)	Southam
	Sun	(241,821)	FP
Vernon	Daily News	(7,825)	Thomson
Victoria	Daily Colonist (42,018) Times (32,264)	(74,282)	FP
ALBERTA	(1,709,000)**		
Calgary	Albertan	(34,481)	FP
	Herald	(110,178)	Southam
Edmonton	Journal	(148,733)	Southam
Grande Prairie	Daily Herald-Tribune	(5,200)	
Lethbridge	Herald	(22,240)	FP
Medicine Hat	News	(8,839)	Southam
Red Deer	Advocate	(11,176)	
SASKATCHEWAN	(907,000)**		
Moose Jaw	Times-Herald	(8,330)	Thomson
Prince Albert	Daily Herald	(8,142)	Thomson
Regina	Leader-Post	(67,210)	
Saskatoon	The Star-Phoenix	(44,009)	
MANITOBA	(1,008,000)**		
Brandon	Sun	(13,783)	
Dauphin	Daily Bulletin	(2,987)	
Flin Flon	Daily Reminder	(3,600)	
Portage La Prairie	Daily Graphic	(3,756)	
Swan River	Report	(1,000)	
Thompson	Citizen	(4,339)	
Winnipeg	Free Press	(137,118)	FP
	Tribune	(75,016)	Southam

*Statistics Canada inter-censal estimates of the populations of the provinces for April 1974.

**Names and circulations extracted from Canadian Advertising Rates and Data (CARD) catalogue for April 1974.

DAILY NEWSPAPERS IN CANADA (English & French)

ONTARIO (8,067,000)**

Barrie	Examiner	(11,115)	Thomson
Belleville	Intelligencer	(16,995)	Thomson
Brampton	Daily Times	(8,680)	Thomson
Brantford	Expositor	(27,840)	Southam
Brockville	Recorder and Times	(11,534)	
Cambridge	Daily Reporter	(13,680)	Thomson
Chatham	News	(14,992)	Thomson
Cornwall	Daily Standard-Freeholder	(14,689)	Thomson
Fort Frances	Daily Bulletin	( )	
Guelph	Daily Mercury	(17,878)	Thomson
Hamilton	Spectator	(133,144)	Southam
Kenora	Miner & News	(4,500)	
Kingston	Whig-Standard	(32,540)	
Kirkland Lake	Northern Daily News	(5,813)	Thomson
Kitchener/Waterloo	Record	(59,670)	
Lindsay	Daily Post	(4,160)	
London	Free Press	(125,288)	
Niagara Falls	Review	(19,339)	Thomson
North Bay	Nugget	(21,809)	Southam
Oakville	Daily Journal Record	(8,567)	
Orillia	Packet and Times	(8,300)	Thomson
Oshawa	Times	(23,535)	Thomson
Ottawa	Citizen	(91,523)	Southam
	Le Droit (French)	(41,347)	
	Journal	(90,644)	FP
Owen Sound	Sun-Times	(16,169)	Southam
Pembroke	Observer	(7,403)	Thomson
Peterborough	Examiner	(25,315)	Thomson
Port Hope	Guide	(2,717)	
St. Catherines	Standard	(37,764)	
St. Thomas	Times-Journal	(11,149)	Thomson
Sarnia	Observer	(18,917)	Thomson
Sault Ste. Marie	Daily Star	(22,929	
Simcoe	Reformer	(8,999)	
Sioux Lookout	Daily Bulletin	(965)	
Stratford	Beacon Herald	(10,380)	
Sudbury	Daily Star	(38,569)	Thomson
Thunder Bay	Times-News (7,328) Chronicle-Journal (25,740)	(33,068)	Thomson
Timmins	Press	(11,257)	Thomson
Toronto	Globe and Mail	(292,539)***	CP
	Star	(543,375)	
	Sun	(98,556)	
Welland/Port Colborne	Evening Tribune	(19,186)	Thomson
Windsor	Star	(82,727)	Southam
Woodstock/ Ingersoll	Sentinel Review	(9,423)	Thomson

***Toronto Star is Canada's largest newspaper; Saturday edition of the Totonto Star had a circulation of 743,882 (April, 1974).

DAILY NEWSPAPERS IN CANADA (English & French)

QUEBEC	(6,124,000)**			
Chicoutimi	Le Quotidien du Saguenay Lac St. Jean (French)		(21,006)	
Granby	La Voix de l'Est (French)		(10,073)	
Montreal	Le Devoir (French)		(36,380)	
	Le Jour (French)		(32,454)	
	Le Journal de Montréal (French)		(141,089)	
	Montréal-Matin (French)		(128,687)	
	La Presse (French)		(194,840)	
	The Gazette		(130,455)	Southam
	The Montreal Star		(181,160)	FP
Québec	Le Journal de Québec (French)		(22,830)	
	Le Soleil (French)		(150,346)	
Sherbrooke	La Tribune (French)		(39,332)	
	Record		(6,226)	
Trois Rivieres	Le Nouvelliste (French)		(47,685)	
NEW BRUNSWICK	(660,000)**			
Fredericton	Daily Gleaner		(18,575)	
Moncton	L'Evangeline (French)		(9,880)	
	Times	(16,658)	(37,064)	
	Transcript	(20,406)		
Saint John & Lancaster	Telegraph-Journal	(31,352)	(58,689)	
	Evening Times-Globe	(27,337)		
NOVA SCOTIA	(811,000)**			
Amherst	Daily News		(3,892)	
Halifax	Chronicle-Herald	(67,955)	(115,878)	
	Mail Star	(47,923)		
New Glasgow	Evening News		(9,869)	Thomson
Sydney	Cape Breton Post		(28,689)	Thomson
Truro	Daily News		(5,322)	
PRINCE EDWARD ISLAND	(116,000)**			
Charlottetown	Guardian	(17,238)	(22,420)	Thomson
	Patriot	(5,182)		
Summerside	Journal-Pioneer		(9,150)	
NEWFOUNDLAND	(541,000)**			
Corner Brook	Western-Star		(8,571)	Thomson
St. John's	Daily News		(7,354)	
	Telegram		(28,769)	Thomson

Appendix H.

General Use of Mass Media by Canadians

Supplementary to our examination of the science-interested audience is the size and composition of the total newspaper and magazine readership and the total audience for radio and television.

The Size of the Mass Media Audience

More than half the Canadians sampled (55%) read a newspaper on a regular basis, that is, three of every four issues available.[1] A much higher percentage (83%, or more than four of every five Canadians) read a daily newspaper at least from time to time. Nivertheless, there are still 17% (one of every six respondents in our sample) who noted that they did not read newspapers at all.

Per Cent of Individuals:	
Read Daily Newspapers	
- Regularly	55.0
- From Time To Time	28.2
- Not At All	16.8
- Not Stated	.
Read Magazines	
- Regularly	33.0
- From Time To Time	31.8
- Not At All	35.2
- Not Stated	.
Listen to Radio (per day)	
Don't listen	10.2
Less Than 2 hours	52.0
2 hours or more	37.8
Watch Television (per day)	
Don't watch	4.1
Less than 2 hours	36.3
2 hours or more	59.5

(See Main Table 15)

Looking at the magazine audience, we find that a lower percentage of the population reads magazines on a regular basis (three of every four issues avaiable). One of every three Canadians polled (33%) reported reading magazines regularly; another third (32%) stated they read magazines from time to time.

The electronic media also serve a large and widespread audience. Nine in ten Canadians reported that they listen to the radio daily, with more than one of every three polled (38%) listening to radio more than two hours a day.

Only four per cent of the Canadians polled claimed they do not watch television at all. (According to the Davey Committee Report on Mass Media, 96% of Canadians have at least one television set in their home, with 86% claiming they make use of television daily.) Furthermore, three of every five persons (59%) polled in our survey said they watch television more than two hours per day.

By Social Characteristics

An association can be seen to exist between newspaper reading and age. Except for a higher readership in the 15-17 age category, younger Canadians appear to read daily newspapers less frequently than those in older age categories:

Per Cent of Individuals by Age:	15-17	18-24	25-34	35-44	45 & Over
TOTAL Read Daily Newspapers					
- Regularly	43.1	38.9	53.4	59.1	64.4
- From Time to Time	40.1	38.4	31.3	27.0	19.7
- Not At All	16.8	22.7	15.3	13.9	15.9
- Not Stated	.	.	.	.	.

More than one Canadian in five polled within the 18-24 age bracket (23%) did not read a daily newspaper, compared with about 14-17% in other age groups. A similar relation was found between frequency of newspaper reading and education. A higher proportion of persons with higher education read daily newspapers.

Per Cent of Individuals by Education:	High School or Less	Grad-High School	Post Secondary
TOTAL Read Daily Newspapers			
- Regularly	48.9	62.0	67.5
- From Time to Time	29.9	26.7	24.5
- Not At All	21.2	11.3	8.0
- Not Stated	.	.	.

French-language respondents and Canadians of other-than-English origins noted reading newspapers less frequently than English-speaking Canadians (See following page):

[1] We used the standard method tested and used in media research for claimed regular readership, which is defined as "having read at least 3 out of every 4 issues available." This method was established as an attitudinal measure to determine whether or not the respondent considers that he reads certain publications "regularly" and allows for the fact that one can still be a regular reader and miss the occasional issue. The question is not asked on an "everyday" basis to account for the number of weekly and bi-monthly papers.

Per Cent of Individuals by Mother Tongue:	English	French	Other
TOTAL Read Daily Newspapers			
- Regularly	62.7	44.8	45.2
- From Time to Time	24.9	31.6	34.4
- Not At All	12.4	23.6	20.4
- Not Stated	.	.	.

The situation was similar with magazines: Fewer differences are seen among the total of magazine readers because the total does not differentiate among the many kinds of magazines available. However, there appears to be a slight increase in magazine reading within the more-educated group. More English-speaking respondents also reported habitual as well as occasional reading of magazines.

Per Cent of Individuals by Age:	15-17	18-24	25-34	35-44	45 & over
TOTAL Read Magazines					
- Regularly	32.2	31.1	35.6	34.3	32.1
- From Time to Time	44.5	38.5	33.3	31.2	25.4
- Not At All	23.2	30.4	31.0	34.5	42.5
- Not Stated	.	.	.	.	.

Per Cent of Individuals by Education:	Some High School or Less	Grad-High School	Post Secondary
TOTAL Reads Magazines			
- Regularly	26.4	38.4	47.2
- From Time to Time	30.8	31.5	35.1
- Not At All	42.8	30.1	17.7
- Not Stated	.	.	.

Per Cent of Individuals by Mother Tongue:	English	French	Other
TOTAL Reads Magazines			
- Regularly	37.7	25.6	28.7
- From Time To Time	32.9	29.5	32.4
- Not At All	29.4	44.9	38.9
- Not Stated	.	.	.

Within the television audience (90% of Canadians 15 and over), a trend appears towards heavier viewing among people with less education. Canadians with high school or less appear to watch more TV than those who graduated from high school, and far more than those with post-secondary education. Hence, as found by the Davey Committee, college-educated rely less on television for news than do people with less education, preferring to use magazines and newspapers.

Per Cent of Individuals by Education:	Some High School or Less	Grad-High School	Post Secondary
TOTAL Watch Television (per day)			
Don't watch	3.3	5.9	5.2
Less than 2 hours	29.5	40.4	52.3
2 hours or more	67.1	53.7	42.6

Other variations with respect to the individual media may be found in Main Table 15.

Appendix I. Some Periodic Canadian Features on Science, Medicine/ Health or Science-Related Topics Carried Recently by Canadian Dailies

	TITLE/FEATURE/BY-LINE[1]	ORIGIN/ SOME DAILIES WHICH CARRIED FEATURE
PRIMARILY SCIENCE	"Les Sciences," "Sciences" by Pierre Sormany (column/ French)	Local/Le Soleil
	"The Realm of Science" by Neil Morris (column)	Local/London Free Press
	"Sciences & Techniques" by André Chenier (column/section/ French)	Local/La Presse
	"Sciences et Techniques" by Gilles Provost (section/French)	Local/Le Devoir
	"Photography" or "Let's Take Pictures" by Irvine A. Brace (column)	Syndicated by Miller Services (Toronto, Ont.)/ 5 Canadian dailies
	"Tell Me Why" by A. Loekum (youth science feature)	Syndicated by Miller Services (Toronto, Ont.)/ Ottawa Journal, Calgary Herald
PRIMARILY MEDICINE/ HEALTH	"Medecin d'aujourd'hui	Local/La Presse
	"Santé" by Maréchal Francoeur (column/French)	Local/Le Soleil
	"Dites-moi, docteur..." by Dr. Jean-Paul Ostiguy (column/French)	Local/La Presse
	"Dr. Wesley Dunn" (column on teeth care)	Canadian Dental Association/ Toronto Star
	"Medicine" by Manfred Jager (occasional column in supplement)	Local/Winnipeg Free Press

[1] For index of syndicated features, see Editor & Publisher, July 27, 1974, "Annual Directory of Syndicated Services."

OCCASIONALLY SCIENCE/SCIENCE-RELATED	"Economic Affairs" by Dian Cohen (column)	Toronto Star Syndicate; Ec-Co Features/Toronto Star, Ottawa Citizen
	"Your Business" by John Meyer	Syndicated/Montreal Gazette, Halifax Chronicle-Herald
	"Agricultural Alberta" by John Schmidt	Local/Calgary Herald
	"Business" by R.U. Mahaffy (column)	Local/Ottawa Journal
	"Business" by Pat Moauro (column)	Local/London Free Press
	"Emerson Creed" by Emerson Creed (business column)	Local/London Free Press
	"Economie et Finance" by professors of Laval University (column/French)	Local/Le Soleil
	"Le billet économique" by Claude Beauchamp (column/French)	Local/La Presse
	Business Column by Bruce Whitestone	Syndicated by Douglas Whiting Ltd./16 Canadian dailies
	"Energy Resources" by Jim Stott (column)	Local/Calgary Herald, Yellowknife News of the North
	"Viewpoint: Weekly guest energy column	Local/Calgary Herald
	"Environment" by François Mailhot (column/French)	Local/Le Soleil
	"Environment Manitoba" by Deiter Schwanke	Local/Winnipeg Free Press

Appendix J. Some Periodic Non-Canadian Features on Science, Medicine/ Health or Science-Related Topics Carried Recently by Canadian Dailies

	TITLE/ FEATURE/ BY-LINE [1]	ORIGIN/ SOME DAILIES WHICH CARRIED FEATURE
PRIMARILY SCIENCE	"Science and You" by Dr. Leonard Reiffel (youth column)	Los Angeles Times Syndicate (U.S.)/Calgary Herald
	"Frontiers of Science" (cartoon strip)	Los Angeles Times Syndicate (U.S.)/8 Canadian dailies
	"Ask Andy" by Ellen Walpole (youth science column)	Chronicle Features (San Francisco, U.S.)/Montreal Star, St-Catharines Standard
	"Science for You" by Bob Brown (youth column)	Los Angeles Times Syndicate (U.S.)/Montreal Star, St-Catharines Standard
	"Uncle Ray's Column" by Raman Coffman (youth science column)	Publishers-Hall Syndicate (Chicago, U.S.)/Halifax Chronicle-Herald
	"New" by Gene Fawcette (illustrated feature on technology)	Publishers-Hall Syndicate (Chicago, U.S.)/Montreal Gazette
	"Our New Age" by Gene Fawcette (cartoon strip in weekly supplements)	Publishers-Hall Syndicate (Chicage, U.S.)/ Dozen Canadian dailies
	Enterprise Science News (periodic columns on science by U.S. science writers/ correspondents)	Newspaper Enterprise Association (New York,U.S.)/ Montreal Star
	"Starchart" by Richard Knapp (illustration and column)	Newspaper Enterprise Association (Enterprise Science News) (New York, U.S.)/ 6 Canadian dailies

[1] For index of syndicated features, see <u>Editor & Publisher</u>, July 27, 1974, "Annual Directory of Syndicated Services."

PRIMARILY MEDICINE/ HEALTH	"Medical Column" by Dr. William J. Welch	The Register and Tribune Syndicate (Des Moines, U.S.)/ Halifax Chronicle-Herald
	"To Your Good Health" by Dr. George Thosteson (medical column)	Publishers-Hall Syndicate (Chicago, U.S.)/Marketed in Canada by Miller Services--12 Canadian dailies and 8 weeklies
	"For Women Only" by Dr. Lindsay Curtis, M.D.	National Newspaper Syndicate (Chicago, Ill.)/Montreal Gazette, St-Catharines Standard
	"Medical Column" by Dr. Walter Alvarez	The Register and Tribune Syndicate (Des Moines, U.S.)/ Vancouver Sun
	"Food and Your Health" by Dr. Frederick Stare, M.D. (Harvard University)	Los Angeles Times Syndicate (U.S.)/Vancouver Sun
	"Your Health/Stop Killing Yourself" by Dr. Peter J. Steincrohn, M.D.	The McNaught Syndicate (New York, U.S.)/4 Canadian dailies
	"The Private Life/To Help You Live Better/Doctor Says" by Dr. Lawrence E. Lamb, M.D.	Newspaper Enterprise Association (New York, U.S.)/ Thomson papers and other Canadian dailies
	"Ask Dr. Brothers" by Dr. Joyce Brothers	King Features Syndicate (New York, U.S.)/Winnipeg Free Press
	"Food for Thought" by Dr. Jean Mayer (Harvard University)	Chicago Tribune-New York Times Syndicate (New York, U.S.)/Ottawa Journal
	"Let's Stay Well" by Dr. F.J.L. Blasingame, M.D.	United Features Syndicate (New York, U.S.)/Summerside Journal Pioneer

Appendix K. Content Analysis of CBC English and French-language Television and Radio Programming

	PER CENT OF TOTAL WEEKLY NETWORK HOURS								
	TELEVISION					RADIO			
	ENGLISH SERVICE				FRENCH	ENGLISH SERVICE		FRENCH	
						Primary	*Alternate*		
	1970	1971	1972	1973	1973	1972/3	1972/3	1969	1973
INFORMATION:									
News and News Commentaries	3.7	3.0	3.7	4.5	5.2	13	8	10.6	14.8
Public Affairs, Talks, etc.	15.9	17.4	13.9	14.0	8.8	33	11	8.7	11.6
Religious			0.7	0.7	2.2			4.7	2.8
Educational - formal	3.5	3.4	3.3	3.3	2.2			3.8	1.9
- informal	15.5	27.7	24.8	26.9	8.4	10		6.9	6.8
Criticism of the Arts				0.7[1]		1[3]	3	4.4	3.6[4]
Science Research	0.7	2.7	2.0	2.0[1]	0.4[2]	1[3]		0.3	1.3[4]
Sub-Total	*39.3*	*54.2*	*48.4*	*52.1*	*27.2*	*58*	*22*	*39.4*	*42.8*
ENTERTAINMENT:									
Light Entertainment									
- Music, Dance	2.8	4.0	4.7	5.3	1.4	8	9	23.9	24.2
- Drama, Story, etc.	40.7	25.3	30.2	24.6	46.6	4	2	4.1	0.5
- Quiz Games	2.1	0.7	0.7	1.3	1.7			1.1	
- Variety/ Music Hall	4.9	6.1	6.3	5.6	11.3)	23	65	(8.4	8.7
Music and Dance	2.1	2.0	1.7	2.0	0.9)			(19.0	16.0
Drama, Poem and Story		0.3		1.0	0.9	3	2	1.5	3.1
Sports and Outdoors	8.1	7.4	8.0	8.0	10.0	4		4.5	4.7
Sub-Total	*60.7*	*45.8*	*51.6*	*47.8*	*72.8*	*42*	*78*	*62.5*	*57.2*
TOTAL HOURS OF NETWORK SERVICE (Hrs:Mins per Week)	71:13	74:13	74:30	75:10	115:45	84:02	93:14	130:26	132:51

Sources: Material in Support of CBC Application for Renewal of Network Licenses (CRTC Public Hearing, Ottawa, February 18, 1974).

1. Includes *Mr. Wizard/ Mr. Moffatt's Science Workshop*, *The World We Live In* and *The Nature of Things*.
2. Includes *La Flèche du Temps*.
3. Includes *Focus on Science (short features)* and a segment of *Sunday Supplement*.
4. Includes *La Science et Vous*, *La Cybernetique et Nous* and *Connaissance*.

Appendix L.

Audience Sizes to a Selection of CBC English Language Television Network Programs, January 21 to February 3, 1974.[1]

	RANK	PROGRAM	AUDIENCE SIZE
	1	World of Disney (U.S.)	4,485,000
	2	All in the Family (U.S.)	3,867,000
	3	Canadian Figure Skating (Sunday)	3,518,000
	4	M.A.S.H. (U.S.)	3,509,000
(S)	10	To the Wild Country	2,984,000
(S)	24	Canadian Energy Conference (Monday session)	1,963,000
(S)	32	Nature of Things	1,550,000
	34	National News (Monday to Sunday)	1,491,000
(S)	41	Man Alive	1,284,000
(S)	42	Inflation	1,253,000
(S)	66	Canadian Energy Conference (Tuesday session)	736,000
(S)	78	Professor Moffatt's Science Workshop	537,000
(S)	98	Audubon Wildlife Theatre (Monday to Friday)	192,000

[1]A total of 103 network programs were broadcast in the rating interval. Data is for viewers two years of age and over, according to BBM figures (January, 1974 survey). Emphasis is on programs which feature science (S); Other programs are included for comparison purposes.

Audiences to a Selection of Radio-Canada (CBC French-language Network) Programs, January 21 to February 3, 1974[1]

	RANK	PROGRAM	AUDIENCE SIZE
	1	Rue Des Pignons	2,441,000
	2	Quelle Famille	2,114,000
(S)	13	Le 60	1,228,000
(S)	16	Marcus Welby, M.D.	1,179,000
	33	Téléjournal (News)	714,000
(S)	46	La Flèche du Temps	617,000
(S)	52	Conference d'Energie (Wednesday session)	507,000
(S)	76	Semaine Verte	320,000
(S)	95	XYZ	243,000

[1]A total of 120 network programs were broadcast in the rating interval. S=programs which feature science.

Audiences to a Selection of CTV Television Network Programs, January 21 to February 3, 1974.[1]

	RANK	PROGRAM	AUDIENCE SIZE
	1	Sonny and Cher (U.S.)	2,860,000
	2	NHL Hockey	2,688,000
(S)	11	Medical Center (U.S.)	2,011,000
(S)	15	Marcus Welby, M.D. (U.S.)	1,923,000
(S)	23	Untamed World	1,289,000
(S)	24	Starlost	1,229,000
(S)	27	Human Journey	1,135,000
(S)	28	W-5	1,125,000
	33	CTV National News	837,000
(S)	34	Target: The Impossible	835,000
(S)	35	Canadian Energy Conference/Tuesday	752,000
	52	Canada AM	111,000
(S)	53	University of the Air	23,000

[1]A total of 53 network programs were broadcast in the rating interval.
S=programs which feature science.

Audiences to a Selection of TVA Television Network (French-language; Québec) Programs, January 21 to February 3, 1974.[1]

	RANK	PROGRAM	AUDIENCE SIZE
	1	Les Berger	2,624,000
	2	Symphorien	2,280,000
(S)	6	Medecin d'Aujourdhui	1,216,000
(S)	26	Patrouille du Cosmos	656,000
(S)	43	Choc des Idées	245,000

[1]A total of 48 network programs were broadcast in the rating interval.
S=programs which feature science.

Appendix M.

QUESTIONNAIRE FOR MANAGING EDITORS OF CANADIAN DAILIES

Orest Dubas
Lisa Martel
November, 1973

This questionnaire is being sent to managing editors of Canadian dailies because we felt that you would be in the best position to reply to the majority of questions. However, if you feel that a number of questions may require consultation with the city, news, or wire editor, please refer those questions to him/her. Your professional opinions on various issues in science reporting-- as the sole representation from your publication -- are especially valuable to our study.

DEPARTMENTAL/EDITING PROCEDURES

1 Within your present staff, have you assigned specific reporters or editors to cover exclusively any of the following science or science-related beats?

	Number of Reporters	Number of Editors		Number of Reporters	Number of Editors
a) Medicine and Health..	____	____	f) Business/Finance..	____	____
b) Science..............	____	____	g) Oil/Mining........	____	____
c) Ecology..............	____	____	h) Automotive/Trans..	____	____
d) Aviation.............	____	____	i) Other, such as:		
e) Agriculture..........	____	____			

Please elaborate,if necessary:

2 In particular, if your publication has not assigned or hired a special reporter to cover science news, in your opinion, is it because: (PLEASE ANSWER ALL QUESTIONS)

Yes	No	Uncertain	
___	___	___	a) science news is covered adequately by other staff writers?
___	___	___	b) science news is covered better by other staff members?
___	___	___	c) science is not of sufficient interest to our readers to warrant a specific reporter?
___	___	___	d) we do not have enough staff-written science news to justify a full-time science writer?
___	___	___	e) it is cheaper to supplement the paper's news with science news from the wire services?
___	___	___	f) we cannot afford a science writer?
___	___	___	g) no one on the staff is qualified for/capable of handling the science beat-- but the situation is acceptable as is?
___	___	___	h) no one on the staff is qualified for/capable of handling the science beat-- but we are currently looking for someone to handle science exclusively?
___	___	___	i) Other:

Of the above, which reasons predominate (eg.a,...)?

3 In the coming year, do you anticipate any changes in your staff structure in regard to the coverage of science news? Yes__ No__

If so, in what way?

4 How frequently are you involved in decisions to use/edit/ or reject science news or science features in your publication?
__Never __Once/year __Several times/year __Monthly __Weekly
__On a daily basis

It's more complicated than that. In our case:

5 Who most frequently assigns the science topics your reporters cover?

If you assign science topics, how frequently?
__Never __Once/year __Several times/year __Monthly __Weekly
__On a daily basis

6 In stories written about science and technology, who prepares the heads (news editor, reporter, wire editor,...)?

Do you consider the present arrangement satisfactory? Yes__ No__

Have you ever considered having a staff writer of a science story help with preparing heads?

Have you ever considered having a particular desk man deal with science stories? Is this being done, either formally or informally, at present?

NATIONAL SCIENCE COVERAGE

In the following section we would appreciate your views on the science news/ features reaching your publication from a number of national services.

7 Canadian Press (CP):

Yes __ No __ a) Adequate in quantity to meet the demands of your audience?

Yes __ No __ b) Adequate in quality to meet the demands of your audience?

In particular, how frequently do you find the following?(PLEASE WRITE DOWN THE LETTER(S) which best applies.)

N/A-NOT APPLICABLE
N -NEVER
S -SELDOM
NT -NOW & THEN
O -OFTEN
A -ALWAYS

___ c) Items insuffieient in their news value for your readers?

___ d) Items not of interest to your local readers?

___ e) Items do not offer enough background to make them meaningful?

___ f) Items too technically-written for your readers?

___ g) Items do not have sufficient illustration?

Are the above major issues, or do you feel other factors limit the inclusion of science articles from CP?

8 Wire services of your newspaper group: [redacted]

Yes __ No __ a) Adequate in quantity to meet the demands of your audience?

Yes __ No __ b) Adequate in quality to meet the demands of your audience?

In particular, how frequently do you find the following? (PLEASE WRITE DOWN THE LETTER(S) which best applies.)

N/A-NOT APPLICABLE
N -NEVER
S -SELDOM
NT -NOW & THEN
O -OFTEN
A -ALWAYS

___ c) Items insufficient in their news value for your readers?

___ d) Items not of interest to your local readers?

___ e) Items do not offer enough background to make them meaningful?

___ f) Items too technically-written for your readers?

___ g) Items do not have sufficient illustration?

Are the above major issues, or do you feel other factors limit the inclusion of science articles from your group?

9 How would you compare science news from Canadian wire services with those from foreign services (eg. AP, UPI, Reuters, NYTS,...)?

Is your publication satisfied with the science news which originates from the French-Canadian press and is received by your wire services: In Quantity? Yes__ No__
In Quality? Yes__ No__

10 Are there any practical suggestions you could offer to improve it further?

SCIENCE NEWS: PACKAGED OR SCATTERED?

11 It has been suggested that the science news of both Canadian and international origin could be packaged in a regular science feature section, indexed and identified on page 1 of daily newspapers. For example, just as Astrology, Sports, Ann Landers,etc. are listed, a daily paper might present such a section under the title "Science and the Environment", etc. (Necessarily front page stories would go on page 1, while the feature section would be reserved for interpretative pieces, a science column, photos,...)

What are your views on the feasibility of compartmentalizing science news for the science-oriented readership, as is currently done in La Presse,the London Free Press, Le Soleil,...?

12 Which way do you feel newspaper readers would prefer to see science news communicated?

	Full page?		Column Only?		Items as available?	
a) On a daily basis?	Yes__	No__	Yes__	No__	Yes__	No__
b) Twice a week?	Yes__	No__	Yes__	No__	Yes__	No__
c) Weekly?	Yes__	No__	Yes__	No__	Yes__	No__

13 What format does your publication use to run science features? (Eg. items as available, column every week,...)

If you have any regular features, such as a column,... which you would class as science, medical, or technology features, what are their titles, and how long have they been running?

IMPROVEMENT OF SCIENCE REPORTING

14 Does your publication presently send its reporters or editors to any science or technical workshops, seminars, or other programs to improve the quality of science reporting? Yes__ No__

If not, are there any major factors which militate against your doing so?

If expenses are a factor, would you be willing to send reporters to such a meeting if costs were defrayed to some extent by some national body?

You are probably aware that the Canadian Science Writers' Association holds regular science writing seminars where scientists discuss various aspects of their science news presentation with media reporters. Do you feel it would be advantageous for all parties if a number of editors were present?

15 If such a meeting were held in or near your area, do you feel that your publication would be interested in sending an editor to participate?

Yes__ No__

If not, why not?

BACKGROUND INFORMATION

16 And now we'd like to ask you some further questions pertaining specifically to your background in order to complete our statistics.

Sex: Male__ Female__

Age: Under 20__; 21-30__; 31-40__; 41-50__; 51-60__; Over 60__

17 Job title (if not Managing Editor):

Approximate circulation: Province:

Approximately what is the size of your reporting staff?

Your editorial staff?

18 More specifically, about the background you have had to assist you in editing or reporting:

__ Have taken courses in high school only, for ___ years;
__ Have taken courses in college for ___ years, majoring in:______________
__________________, with degree:________________or diploma:__________
__ Have done post-graduate work for ___years, specializing in:__________
__________________, with degree:________________________________
__ Have taken courses in journalism for ___ years
__ Have had reporting experience for ___ years, covering such beats as:

__ Have had editing experience for ___ years
__ Have done some science or technical writing for ___ years
__ Have had additional experience in communications, such as:

19 Have you taken any courses, or have you had any supplementary training (equivalent to a college course) in the following sciences?

College courses	Supplementary training		College courses	Supplementary training	
__	__	a) Medicine and Health	__	__	g) Political Science
__	__	b) Biological Sciences	__	__	h) Physics
__	__	c) Agricultural Sciences	__	__	i) Chemistry
__	__	d) Environmental Sciences	__	__	j) Mathematics
__	__	e) Sociology	__	__	k) Business/Economics
__	__	f) Psychology	__	__	l) Engineering

OTHERS:

20 Which of the fields below do you feel appeal most to the mass media audience? (PLEASE INDICATE THESE PREFERENCES USING THE CODE PROVIDED.)

X = NOT INTERESTED IN IT
✓ = MILDLY INTERESTED IN IT
✓✓ = VERY INTERESTED IN IT

___ a) Medicine and Health
___ b) Biological Sciences
___ c) Agriculture
___ d) Ecology
___ e) Social Sciences
___ f) Science & Provincial/ Municipal Government
___ g) Science & Federal Government
___ h) University Research
___ i) Industrial Innovation
___ j) Physical Sciences
___ k) Business/Economics
___ l) Space and Aviation
___ m) Education
___ n) Oil/Mining/Resources
___ o) Engineering Sciences
___ p) Other:

Thank you for participating in this study. We greatly appreciate any comments, criticisms or suggestions you may have to make on any issues we neglected or underemphasized.

When you finish writing your comments, if any, please return the questionnaire to us in the stamped self-addressed envelope provided.

COMMENTS AND SUGGESTIONS

Appendix N.

QUESTIONNAIRE FOR CANADIAN SCIENCE WRITERS AND BROADCASTERS

This questionnaire is being sent to approximately 250 Canadian writers and broadcasters who recently covered science and science-related news on a full or part-time basis. Based on your replies, we will develop questions for print and broadcast editors and for the major scientific associations in Canada. Because only persons with experience in these areas can determine where specific breakdowns--if any--exist in the communication flow, a substantial number of replies must be received to pinpoint these areas in the hope of minimizing or eliminating them.

You may find that a few questions seem inappropriate to your situation, since it is impossible to frame questions which are equally relevant to all science communicators in different geographical areas of Canada. (For instance, the present tense has been used throughout. **Please treat this to reflect either your present work, or if you've left the field, your most recent involvement in science reporting, editing, freelancing or teaching.** Also, the word **science** was used in the general sense, to include science and technology.) Taking this into account, we ask that you answer all questions as well as you can. [An N/A (Not Applicable) in the margin will suffice for questions not related to your work.]

We realize this questionnaire is extensive, requiring about 45 minutes to complete. However, in order to produce meaningful and applicable results---and because our study is the first of its kind---it was necessary to be thorough.

We assure you that your anonymity will be respected. Our primary interest is in the analysis of statistical relationships which affect the communication process---the flow of science news to the public.

Thank you for your help and cooperation.

POPULAR SCIENCE: ITS SCOPE AND AUDIENCE

a) The following represents a list of scientific and science-related fields covered by the mass media. We would like to know if you have ever written about/ or produced features on any of these areas, and, if so, how often? (PLEASE WRITE DOWN THE **NUMBER** WHICH APPLIES, USING THE CODE PROVIDED AS YOUR GUIDE.)

___ a) Medicine and Health
___ b) Biological Sciences
___ c) Agriculture
___ d) Ecology
___ e) Social Sciences
___ f) Science & Provincial/ Municipal Government
___ g) Science & Federal Government

1. NEVER
2. ONCE/YEAR
3. SEVERAL TIMES/YEAR
4. MONTHLY
5. WEEKLY
6. ON A DAILY BASIS

___ h) University Research
___ i) Industrial Innovation
___ j) Physical Sciences
___ k) Business Economics
___ l) Space and Aviation
___ m) Education
___ n) Oil Mining Resources
___ o) Engineering Sciences
___ p) Other:

b) Are there any specific areas which you feel warrant more extensive coverage than given to date? (PLEASE INDICATE THESE BY LETTER(S) FROM LIST ABOVE. Eg. **b . d**)

2

Which of the fields below do you feel appeal most to the mass media audience? (PLEASE INDICATE THESE PREFERENCES USING THE CODE PROVIDED.)

X = NOT INTERESTED IN IT
✓ = MILDLY INTERESTED IN IT
✓✓ = VERY INTERESTED IN IT

___ a) Medicine and Health
___ b) Biological Sciences
___ c) Agriculture
___ d) Ecology
___ e) Social Sciences
___ f) Science & Provincial/ Municipal Government
___ g) Science & Federal Government
___ h) University Research
___ i) Industrial Innovation
___ j) Physical Sciences
___ k) Business/Economics
___ l) Space and Aviation
___ m) Education
___ n) Oil/Mining/Resources
___ o) Engineering Sciences
___ p) Other:

3

a) Based on your experience in the science writing/broadcasting field, do you feel that the coverage of Canadian scientific activities by the Canadian mass media is:

	NEWSPAPERS		MAGAZINES		RADIO		TELEVISION	
Sufficient in **quantity** to meet the demands of the Canadian public?	YES☐	NO☐	YES☐	NO☐	YES☐	NO☐	YES☐	NO☐
Sufficient in **quality** to meet the demands of the Canadian public?	YES☐	NO☐	YES☐	NO☐	YES☐	NO☐	YES☐	NO☐

b) If you feel that the coverage of science is particularly inadequate in a specific medium, can you cite an example(s) to support this belief? Also how would you remedy this situation?

4

How would you rate the coverage of Canadian science by the mass media in comparison with the science news reaching the Canadian public from foreign sources, primarily the U.S.:

a) By the medium you work for?

b) By other media?

5

a) In your estimation, is there any significant difference between the quality of science reporting by the **English-Canadian** media and that by the **French-Canadian** media? YES___ NO ___ DON'T KNOW ___

b) If **yes**, which do you feel handles science reporting better, and why? Can you cite specific examples to support your choice?

6

a) Do you feel that the **science news of Quebec origin** reaching the Canadian public across Canada through the **mass** media **is**:

	NEWSPAPERS		MAGAZINES		RADIO		TELEVISION	
Sufficient in **quantity** to meet the public's demands?	YES[ ]	NO[ ]	YES[ ]	NO[ ]	YES[ ]	NO[ ]	YES[ ]	NO[ ]
Sufficient in **quality** to meet the public's demands?	YES[ ]	NO[ ]	YES[ ]	NO[ ]	YES[ ]	NO[ ]	YES[ ]	NO[ ]

b) If you feel that the coverage is more/ or less/ than adequate, what practical suggestions could you offer to improve it further? (For example, you may feel that some organizations within the mass media should play a greater or lesser role, or that...).

7

SCIENCE COVERAGE: THE NEWSBEAT

How much of the science or science-related meterial which you prepare is printed or broadcast by the mass media:

a) By your employer?
- ___ Everything you write
- ___ Nearly all
- ___ About 3/4
- ___ About half
- ___ About 1/4
- ___ Hardly any

b) Through freelancing and/or other means?
- ___ Everything you write
- ___ Nearly all
- ___ About 3/4
- ___ About half
- ___ About 1/4
- ___ Hardly any

c) Are you satisfied with this situation?

8

(a) If the editor/producer of your publication/network/station has not assigned or hired a special reporter to cover science news, in your opinion, is it because

(PLEASE ANSWER ALL QUESTIONS)

Yes	No	Uncertain	HE/SHE FEELS THAT:
___	___	___	a) science news is covered **adequately** by other staff writers?
___	___	___	b) science news is covered **better** by other staff members?
___	___	___	c) science is not of sufficiant interest to our readers to warrant a specific reporter?
___	___	___	d) we do not have enough staff-writtan science news to justify a full-time science writer?
___	___	___	e) it is cheaper to supplement the paper's news with science news from the wire services?
___	___	___	f) we cannot afford a science writer?
___	___	___	g) no one on the staff is qualified/capable of handling a science beat — but the situation is acceptable as is?
___	___	___	h) no one on the staff is qualified/capable of handling a science beat — but we are currently looking for someone to handle science exclusively?

(b) Of the above, which reasons predominate (eg. a)?

9

a) Who decides to use/ edit/ or reject science news/ features in your office?

___City editor
___Science editor
___Managing editor
___Publisher
___Wire editor
___Copy editor
___Magazine editor
___Producer
___Assignment editor
___Personal decision

It's more complicated than that. In my case:

b) Who essigns the topics you cover?

10

Do you have any specific areas of complaint or commendation about editing procedures related to science news/features? (For instance, accuracy, heads, style,...)

Would a full-time editor responsible for science coverage be more helpful in your tasks?
YES____ NO____ N/A____

Is this situation practical or feasible in your department?

11

SCIENCE NEWS: THE QUESTION OF RESOURCES

a) Are you familiar with any Canadian science-oriented organization or associations which have developed reliable procedures for dealing with the media--for example, organizations with good press officers, reliable communications, newsworthy press releases, etc...?

b) Are there any you feel have need of improvement?

12

a) Do you regularly make use of any **Canadian** scientific journals in researching your science stories/ programmes? YES ____ NO ____
If so, please list the major ones:

b) Are there any you used/ glanced through/ previously but decided were not useful? YES____ NO ____
If so, why were they not useful?

c) Do you regularly make use of any **foreign** scientific journals in researching your science stories/ programmes? YES____ NO____
If so, please list the major ones:

13

(a) We realize that with the tremendous influx of material crossing your desk every day, you must necessarily be quite selective in choosing your contacts and sources. In the following list, PLEASE WRITE DOWN THE NUMBERS which indicate the **frequency** with which you consult each of the sources and their **reliability**.

F FREQUENCY

1. NEVER
2. ONCE/YEAR
3. SEVERAL TIMES/YEAR
4. MONTHLY
5. DAILY

R RELIABILITY

1. Would use, but not handy
2. Poor, unreliable
3. Usually reliable
4. Always reliable

F	R	
___	___	a) University scientists, engineers
___	___	b) University information officers
___	___	c) University reports/publications
___	___	d) Doctors/Medical personnel
___	___	e) Hospital Administrators
___	___	f) Attendance at seminars/conventions
___	___	g) Professional/scientific associations
___	___	h) Industry spokesmen/PR officers
___	___	j) Industry R&D scientists
___	___	k) Industry reports/publications
___	___	l) Government scientists
___	___	m) Government information services
___	___	n) Departmental officials
___	___	o) Government reports/publications
___	___	p) Wire copy: CP
___	___	q) Wire copy: BN
___	___	r) Wire copy: AP, UPI
___	___	s) Canadian scientific journals
___	___	u) Popular or semipopular magazines
___	___	v) Other

(b) More specifically, please list in order of preference the five sources you feel are most essential in producing your stories/features. (SEE LIST ABOVE. e.g. 1.(b) 2.(e)...)

1___ 2___ 3___ 4___ 5___

14

SCIENCE NEWS: PACKAGED OR SCATTERED?

It has been suggested that the science news of both Canadian and international origin could be packaged in a **regular science feature section**, indexed and identified on page 1 of daily newspapers. For example, just as Astrology, Ann Landers, Sports, etc. are listed, a daily paper might present such a section under the title "Science and the Environment" or "Medicine and Health" or "Science and Technology", etc.

a) What are your views on this topic of compartmentalizing science news for the science-oriented readership, as is currently done in La Presse and the London Free Press?

b) Which way would **you prefer** to see science news communicated in the press?

	Full page?	Column only?	Items as available?
a) On a daily basis?	YES☐ NO☐	YES☐ NO☐	YES☐ NO☐
b) Twice a week?	YES☐ NO☐	YES☐ NO☐	YES☐ NO☐
c) Weekly?	YES☐ NO☐	YES☐ NO☐	YES☐ NO☐

c) Which way do you feel **newspaper readers** would prefer to see science news communicated? (See list above.)

d) Which format does your department use to run science features?

15

Please check the appropriate bracket in each case.

Do you write ( )/ or have you written ( )/ a **daily** science column? YES___ NO___
Do you write ( )/ or have you written ( )/ a **weekly** science column? YES___ NO___

If yes to either of the above, what is/was the title of this column? (Optional)

Time of running: (Optional):
If this column is no longer running, why not?

Thank you for participating in this study. We greatly appreciate any comments, criticisms or suggestions you may have to make on any issues we neglected or underemphasized.

When you finish writing your comments, if any, please return the questionnaire to us in the stamped self-addressed envelope provided.

16

a) What about your external barriers or difficulties in science reporting/broadcasting? Have you any experience of the following, and if so, how often? (Please write down the letter which applies to your situation).

N/A-NOT APPLICABLE
N -NEVER
S -SELDOM
NT -NOW AND THEN
O -OFTEN
A -ALWAYS

___ a. Trying to overcome the traditional distrust of the media by the scientific community.

___ b. Difficulty in translating the jargon of scientists into the language of my readers/audience.

___ c. Scientific groups keep inviting me to non-news press conferences.

___ d. Government officials keep inviting me to non-news press conferences.

___ e. Industry officials keep inviting me to non-news press conferences.

___ f. Find that scientists are reluctant to communicate the facts of their research to the public.

___ g. Find that scientists are reluctant to communicate the possible social implications of their research to the public.

___ h. Find that Canadian scientific journals are reluctant to publish material which has already appeared in the mass media.

___ i. Difficulty in locating authoritative scientific sources to verify the facts of my stories.

___ j. Find that scientists are unfamiliar with the day-to-day procedures for meeting science writers/broadcasters.

___ k. I find that scientists are psychologically unprepared to meet science writers.

___ l. I find that scientific organizations don't have standard procedures for meeting science writers/broadcasters.

___ m. Hesitate to cover stories because of difficulties in communicating with sources fluent in **French** ___ /English ___ only.

___ n. I find it hard to convince my editor(s) that I should be allotted funds to attend national scientific meetings.

Have difficulty in gaining access to scientific information from such groups as.

____

____

b) Which ones disturb you the most? (Please indicate by letter).

MOST SERIOUS
1. ___
2. ___
3. ___
4. ___
5. ___

c) Do you feel that these are the central issues facing the science writer from outside the mass media, or are there more pressing ones?

BACKGROUND INFORMATION

And now we'd like to ask you some further questions pertaining specifically to your background in order to complete our statistics.

1

a) **Sex**: Male __; Female __

b) **Age**: Under 20 __; 21-30 __; 31-40 __; 41-50 __; 51-60 __; Over 60 __

2

a) Primary employer (eg. Daily, weekly, magazine, TV, etc.):

b) Job title:

c) Main audience:

3

Approximate circulation/audience size:

4

If you freelance or hold a part-time job, which media carry/carries your material?

5

(Optional) In order to compare the salaries of science writers with those of other media personnel, we would like an estimate of your approximate annual salary (excluding freelance returns):

$4-5999___ $6-7999___ $8-9999___ $10-11,999___ $12-13,999___

$14-15,999___ $16-17,999___ $18,000 plus ___

(Optional) Approximate freelancing returns :

6

a) Looking at the last three months and taking an average week, how many hours did you devote to science writing/broadcasting? (Please note that we are including reporting, editing, freelancing and teaching).

0-10___ 11-20___ 21-30___ 31-40___ 41-50___ Over 50 ___

This included the following work:

b) Apart from the above, the rest of your working week involved what type of work?

7

More specifically, about the background you have had to assist you in the reporting/broadcasting of science and related news

___Have had science courses in high school **only**, for___years

___Have had science courses in college for___years, majoring in: ___________

___________ Degree: ___________

___Have done post-graduate work in science for___years, specializing in: ___________

___________ Degree: ___________

___Have taken courses in journalism for___years; have also received Degree or Diploma ___________

___Have had reporting experience for___years, covering beats such as:

___Have done some science or technical writing for___years

___Have had additional experience in communications such as:

8

We've listed below some of the fields which science writers/broadcasters frequently cover for their publication/station/network. In which of these fields have you had **related college courses** and/or **supplementary training** (equivalent to a college course)?

College courses	Supplementary training			College courses	Supplementary training		
□	□	a)	Medicine and Health	□	□	g)	Political Science
□	□	b)	Biological Sciences	□	□	h)	Physics
□	□	c)	Agricultural Sciences	□	□	i)	Chemistry
□	□	d)	Environmental Sciences	□	□	j)	Mathematics
□	□	e)	Sociology	□	□	k)	Business/Economics
□	□	f)	Psychology	□	□	l)	Engineering
			Others:				

9

a) How many news releases do you receive monthly from the following sources, and about what fraction are useful for your purposes?

		NUMBER	FRACTION USEFUL
(a)	federal gov't	___	___
(b)	provincial gov't	___	___
(c)	industry	___	___
(d)	universities	___	___
(e)	scientific/ professional assoc.	___	___

b) How would you characterize an "optimum" news release for your purposes?

10

a) What prime factors prompted you to become a science writer/broadcaster?

b) Based upon your experience, what would you recommend as the best **route** for a student wishing to become a science writer/broadcaster?

11

Many highly qualified science journalists have left the mass media for other types of work at universities, industry, or government. Why do you believe this to be so?

12

a) To which professional organization(s) do you belong?

b) Have you won any awards for science writing or related work? If so, please specify.

13

a. About how many science writing seminars do you attend annually? ____________ per year

b. About how many major scientific meetings or conventions on the average do you attend annually? ____________ per year

14

Did you take any science courses or other training to improve your science writing/broadcasting background in the last two years? If so, please state.

15

POPULARIZING SCIENCE: ITS ALL-AROUND PROBLEMS

a) Here's a list of situations which science writers/broadcasters have suggested they encounter in covering science stories/features. In order to establish their seriousness, we would like to know how often they occur to you. In the following list, **please write down the letters** which best apply to your situation.

N/A-NOT APPLICABLE
N -NEVER
S -SELDOM
NT -NOW & THEN
O -OFTEN
A -ALWAYS

___ a. Too little time allotted to thoroughly research my science stories.

___ b. Too little space provided for the science stories I write/ produce.

___ c. Difficulty in keeping the details of stories I write simple yet still scientifically accurate.

___ d. Difficulty in gleaning the "news" from the large number of press releases I receive daily.

___ e. Hard to convince my editors of the importance of science news.

___ f. Find that I miss opportunities for science stories because I am forced to cover other topics.

___ g. Find that I miss opportunities to cover the national science scene because I am forced to cover local interest science.

___ h. Feel uncertain about the interest level of my audience/ readership for science news.

___ i. Feel uncertain about the comprehension level of my audience/ readership for science news.

___ j. Dislike having someone else write the heads for my science stories.

___ k. Find that I must work on a hit-and-miss approach on the sciences because my beat/range of topics/ covers too broad a spectrum.

___ l. I consider it a handicap not having a full-time science editor to edit my copy.

b) Which ones disturb you the most? (Please indicate by letter).

MOST SERIOUS
1. ___
2. ___
3. ___
4. ___
5. ___

c) Do you feel that these are central issues facing the science writer within the mass media, or are there more pressing ones?

Appendix O.

Some Characteristics of the Communicators Polled

THE MANAGING EDITORS

By Age and Sex

The age distribution of the 50 editors who replied to this question was as follows: Under 30 years-- seven editors (none under 20); 31-40 years-- 18 editors; 41-50 years-- 15 editors; over 60 years of age-- three editors. The median age was 40 years.

By Language

Three French-language dailies who responded (of 11 polled) were from Quebec-- one with a circulation greater than 75,000 and two with less than 25,000. The fourth was a Moncton (New Brunswick) daily.

By Newspaper Circulation (See Appendix G)

From 41 dailies with circulations between 5,000 and 25,000 to which questionnaires were sent-- 25 editors replied (61%). This was 48% of the 52 editors in our sample.

From 20 dailies polled with circulations between 25,000 and 75,000-- 14 replies were received (70%). This represents 27% of the sample.

From 20 dailies surveyed with circulations greater than 75,000, 13 replies were received (65%), constituting 25% of the sample of editors. Seven were from Ontario (all the major dailies), three from Quebec and one each from Manitoba, Alberta and British Columbia. The largest daily among our replies was Canada's major one, The Toronto Star, with over 500,00 circulation.

By Region of Canada

Five replies were from the Maritimes, seven from Quebec, 25 from Ontario, eight from the Prairie Provinces, six from British Columbia and one from the North-West Territories.

THE SCIENCE WRITERS

By Age and Sex

Of the 107 science writers who replied to this question, 86 (80%) were men and 21 (20%) were women-- a 4:1 ratio in male to female communicators (See Main Table 37). Including only the daily reporters, ie., newspaper and news services reporters, the ratio was 3:1 (42 men to 14 women).

Four writers in five (85% of the sample) were under 50 years of age (71 men, 20 women) and 60% were under 40 years (48 men, 16 women). The median age of all the science writers polled, as also for the writers with the daily press, was between 31 and 40 years.

By Language

Eighteen French-language replies were received, consitituting 16% of the 113 questionnaires. Seventeen of the science writers employed by the print media were French; one French-language producer was listed as working for television.

By Region

Thirteen writers were employed by news services such as Canadian Press (CP), FP Publications, Southam News Service and a variety of national business, trade or professional publications. Their audience was national. The other mass media writers were based as follows: Five were in the Maritimes, 27 in Quebec, 24 in Ontario, three in the Prairies and seven in British Columbia. (Nine were unspecified.)

All ten radio and television writers and producers polled worked either in Ontario or Quebec. Writers with the media/information services of the federal government or with university journalism schools were (with the exception of one B.C. information officer) from Ontario.

By Income

From the distribution of salaries shown in Main Table 38, it can be seen that 62 writers polled (69% of the 90 who replied) and 33 of the daily reporters (56%) received more than $10,000. The median salary of all writers polled (and daily reporters specifically) was in the range of $12-14,000. Writers employed by government and universities (ie., the difference between Total Sample and Daily Reporters in Main Table 38) earned a median salary in the $14-16,000 range.

Ten of the reporters (17%) noted salaries more than $16,000. Of non-reporters, this percentage was higher (32%, or 13 of 41 writers).

In addition to regular salaries, a number of science writers also freelanced their material to various outlets. Twenty-six writers (29%) replied that they received additional income from such freelancing. The amount of annual freelance returns ranged from $150. to close to $2,000. for 11 writers; from $2,000 to $5,000 for 12 writers; and to more than $5,000 for three others.

Appendix P. Science Writing Associations and Awards Available in Canada

ASSOCIATIONS:

The major association linking science writers across Canada is the Canadian Science Writers' Association (CSWA) which number more than 100 members. (See Part IV).

The Canadian Business Writers' Association numbers many writers who dealt on occasion with Canadian and international research and development; so does the Canadian Fram Writers' Federation. Among the 20 or so members of the Canadian Petroleum Writers' Association are a number who cover science as it pertains to the areas of oil, mining and resource development.

Canadian chapters of such U.S. organizations as the National Association of Science Writers Inc. (NASW); the Aviation/Space Writers' Association and international groups such as the International Science Writers' Association (ISWA) also include some Canadian writers.

AWARDS:

In the list below, we present some of the awards available as of 1974 for material which includes science-related subjects. A number of foreigh awards also have been won by science writers.

Awards specifically for science writing:

Canadian:

*The Ortho Medical Journalism Award -- $1,000 annually for outstanding articles in the general field of medicine appearing in the Canadian print media; sponsored by Ortho Pharmaceutical (Canada) Limited.

*Bell-Northern Research Award of Excellence for Science Journalism in the Electronic Media -- $1,000 annually for an outstanding contribution to science reporting in Canadian radio or television and to encourage continued excellence in this field.

*Ministry of State for Science and Technology Science Writing Prize -- $1,000 annual award for outstanding newspaper or magazine writing in the sciences.

(The Canadian Science Writers' Association is the custodian of all three prizes.)

Some of the awards for which science-related articles or broadcast programs are eligible:

Canadian:

*The National Newspaper Awards -- annual prizes open to members of the editorial staffs of Canadian daily newspapers or staff associations. Eight $400 awards for the categories of: Editorial Writing, Spot News Reporting, Feature Writing, Staff Corresponding, Spot News Photography, Feature Photography, Editorial Cartooning and Sports Writing. (Administered by the Toronto Men's Press Club.)

*The Roland Michener Award -- given annually for meritorious public service by daily, weekly newspapers, news agencies, magazines, radio and TV stations and broadcast corporations or other publications.

*National Business Writing Awards -- sponsored jointly by the Toronto Men's Press Club and the Royal Bank of Canada; Five open categories offered since 1973, "to encourage excellence in Canadian reporting and writing on business and finance through annual recognition of outstanding achievement".

*The Kenneth R. Wilson Memorial Awards "for editorial achievement in business papers", sponsored by the Business Press Editors Association and the Canadian Business Press.

*Awards of the Media Club of Canada for writers and broadcasters in such categories as best article, column or editorial, news story or radio feature.

*ACTRA Awards -- The Association of Canadian Television and Radio Artists awards presented for noteworthy contributions to broadcasting.

*Cybil Award -- the Canadian Broadcasting League's Cybil Award given annually for "upholding and promoting the public interest in broadcasting".

*Major Armstrong Awards -- given annually to FM radio stations in public affairs, news, music and education.

*Western Ontario Newspaper Awards -- given annually for outstanding reporting by any newspaper in Southwestern Ontario. The awards are sponsored by Ford Motor Co. of Canada Ltd. and B.F. Goodrich Canada Ltd. and administered by the Kitchener-Waterloo Press Club.

Awards and fellowships for journalistic improvement include:

*Privately-funded scholarships offered to university students for outstanding writing or study in, broad areas, include the National Press Club of Canada Scholarship in Journalism; Maclean-Hunter Award in Journalism; Thomson Award in Journalism; Kingston Whig-Standard Award for Journalism graduates; International Nickel Co. of Canada Ltd. Award in Journalism and the Ottawa Citizen Scholarship in Journalism.

*Five annual Southam Fellowships awarded to practising journalists, permitting them to pursue academic study in any division of the University of Toronto. Tuition is paid and salaries underwritten for the winners while they are at university.

A more complete listing of awards and prizes available for all categories of Canadian journalism is given by Barrie Zwicker ("Awards, awards,'everywhere awards" in Content, May, 1973, pp. 2-4).

Some Foreign Competitions

Canadians have entered and won distinction in a number of foreign science writing competitions. A detailed listing of prizes awarded by some 45 U.S. and international societies and organizations may be found in the Appendix of D.W. Burkett's book "Writing Science for the Mass Media". Included are nearly two dozen multimedia awards, three broadcast awards and more than a dozen study or training programs and fellowship awards for scientists and science journalists. Examples of such awards offered outside Canada are the Science-in-Society Journalism Awards and the Kalinga Prize for the Popularization of Science.

Appendix Q.

SEMINAR ON SCIENCE COMMUNICATION

OTTAWA, APRIL 10, 1974

Welcome by Dr. Aurèle Beaulnes

Secretary,

Ministry of State for

Science and Technology

I would like to welcome you all to this seminar on science communication. I am very pleased to see that the response to the seminar and, in fact, to all phases of the Media Impact project, has been so good. As most of you are aware, the Media Impact study has been underway for more than a year and in that time a great deal has been accomplished. The fact that this seminar is being held demonstrates that we know much more now about the dissemination of scientific information to the general public than we did when the project began. I might add that what has been accomplished would not have been possible without the high degree of co-operation shown by all of you involved in communicating science to the general public - the writers, editors, broadcasters and managers of Canada's media.

By the time it is concluded, the Media Impact project will have examined every link in the chain of communication from the scientists through the media to the general public. I think the co-ordinators of the project were very wise to begin their study with the media whose responsibility it is to deal directly with both the scientists and the public. If there is one thing that we have come to appreciate through this study, it is that your job is a difficult one. On the one hand, you are faced with a scientific community which has been traditionally reluctant to talk about its work. On the other hand, you are asked to provide effective communication with a public that is generally so bombarded with information of all kinds that competing for public attention is a herculean task in itself.

In the questionnaires that many of you answered earlier this year, your relationships with scientists, with your management and with the general public were examined to determine the obstacles that currently exist to science communication in this country. Your replies have taught us much about the problems you face and how important you feel these problems are in your work. In the coming months we will learn more through the consumer survey currently in progress across the country.*

This seminar is also part of the learning process for the coordinators of the project. They have asked both Dr. Siminovitch and Jeff Carruthers to interpret the results of the media survey and they will ask you to comment on their interpretations. I cannot over-emphasize the importance of this feedback to the ultimate success of the project. In any undertaking of this kind, dealing largely with attitudes, it is often dangerous to base conclusions on the results of one survey. The co-ordinators feel that you should have the opportunity to provide your own interpretations of the results. The organizers of the conference will be recording your discussions here today and the tapes will be analyzed before the final report is put together. Those of you who wish to are invited to put your thoughts down in writing and send them to the project organizers. Quite simply, the purpose of this seminar is to further enlist your help in defining problems and even in suggesting ways in which these problems can be solved.

The Media Impact project is not simply another study destined to end up on library shelves. Rather, it is intended to provide scientists and the media with insights into the effectiveness of science communication channels. There is no doubt that these channels must be improved in the future if the public is to understand and not fear or mistrust science and scientists. Every effort must be made to ensure public access to as much information as possible about scientific activities in Canada. It is a fact that, more and more, research and development in science and technology is being financed through public funds. Nearly 50% of all research and development money comes from the federal government alone and I think most of you will agree that where there is public spending, there must be public understanding. Obviously, this cannot be achieved overnight but we must make a beginning and I believe the Media Impact project is that beginning. Through the identification of barriers to communication and through your discussions here today on ways of tearing down those barriers, I believe you will have made substantial progress towards the effective communication of science information to the public.

* Results of the national public opinion poll were not yet available.

Appendix R.

A SCIENTIST'S VIEW OF SCIENCE COMMUNICATION

Dr. Louis Siminovitch

Chairman, Department of Medical Genetics

University of Toronto

Toronto, Ontario

An Address for "Science Communication 74",

A Media Impact Seminar held at the National

Library Auditorium,

Ottawa, Ontario, April 10, 1974.

Mr. Chairman, comrades and science writers. Before starting I'd like to tell two stories. We are dealing with communications today, and my stories relate to communications. When I was studying in Paris, and when I first got there, I began to correspond with my folks back home. I went to the French post office to mail a letter. I noticed that there were various little boxes on the outside of the post office where one's letter was supposed to be placed. These boxes would be labeled as "Banlieu" or "Paris", or "États Unis" or something like that. I placed my letter into what I thought was an appropriate box, and I realized that I had put it into the wrong box; instead of placing it into "Pays Étranger" which was appropriate for Canada, I had placed it into another box. I dashed disconcernedly into the Post Office and I said "je me suis trompé, j'ai mis ma lettre dans le mauvais guichet". The response provided one of my little lessons in French culture and communication "Ne vous en faites pas Monsieur, tous tombe dans la même boîte".

Also, in relation to communication, yesterday I lectured on somatic cell genetics to a graduate class; this afternoon I'm talking at Guelph on Genetic Engineering, and today I'm talking to Canadian science writers. All of this reminded me of the possible consequences when one is involved in giving a variety of presentations. I suspect some of you have heard the story of the gynaecologist who was asked to present a lecture to a woman's club in about four months. In the evening he informed his wife of his task and she enquired as to what he was going to talk about... "Your usual thing - sex?" and he said - "Hell, no, I've given that so often, I'm going to change, I'll prepare a different kind of talk. I'll speak about sailing". She said, "Oh that's great, but you don't know anything about it - how will you do it?" He replied, "Oh, I have four months to prepare". And so four months went by and he, being a very busy gynaecologist, of course, didn't prepare anything. Eventually he had to present his usual talk. His wife wasn't there, and, in common with the usual busy professionals, the gynaecologist neglected to communicate to her what he had done. But a week later she met a friend of hers in the supermarket, who had been there, and this friend said, "Oh your husband's talk was just marvelous, he was so erudite, he knew his subject so well, he was obviously so very familiar with it, and such an expert". The amazed wife replied - "That's very odd, he's only done it twice. And once his hat fell off". Well, as Dr. Beaulnes indicated, my terms of reference were really to comment on the questionnaire; I looked at it very carefully, and it seemed to me that this was a rather difficult task -- my difficulty relates to questionnaires in general. I don't argue with the purposes of this questionnaire, but you have to realize, first of all, that for people who've been in the communication business for a while, and in contact with science writers and writing, most of the information that surfaces is almost self-evident, and we were aware of much of it before. To some extent, because of the limited size of the sample, the second problem that arises in questionnaires of this kind is that one is dealing with a broad spectrum of people with various levels of expertise, and it's very difficult just taking averages, or any other least conceivable that some sort of genetic manipulation may eventually be possible in man. At the moment, decisions in this area are being taken mainly by scientists, themselves. But, the importance of the outcome of all of society is overwhelming.. In this case, geneticists are making a serious effort to communicate the basic information to the public, with the view of involving them as much as possible. But, how can the public assess the merits of controversies in respect to energy, pollution, the development and testing of new medical drugs, and several other problems of this kind, unless it understands some of the basic scientific principles involved. It's very difficult for people to understand the issues involved. These are two general reasons for scientists to communicate. And, then, there's the purely pragmatic problem. Science is supported by government and by the public - it is, therefore, important for scientists to really sell their case. In these days where governments have to make a choice between one sort of program and another, when the public has to make choices, scientists are obliged to communicate to the public. I'm familiar with one particular example where this works very well and that's in the National Cancer Institute. This organization has made a very serious attempt to communicate with science writers, and with the public. The National Cancer Institute is obliged to go out and solicit their money directly from the public, and this communication effort works extremely well. Such communication is not only self-serving, because in the process of selling their case, they also are informing the public at the same time of the nature of their science. So, I think the example of the National Cancer Institute is one which works very well. Now, as I indicated before, much of what I've said represents self-evident truths. What I want to really get to now is the core of the problem in the sense of the nature of the problems in science communication. These are of various kinds and what I'm going to emphasize are the problems as I see them from the scientist's point of view.

We would all agree, I am sure, that there is not enough of it, and the results of the survey indicate this, as well. And, I think that we would all agree that there is much to be done in the quality of science communication. The science writers in their response to the questionnaire refer to lack of time to research their stories, inadequate space, and the traditional difficulty of keeping stories both simple and accurate, as important problems, for them. But, I suspect that the most significant step that one could take in improving science communication would be to enhance communication and trust between the scientist and the science writer. In their response to the questionnaire, the writers indicated that their most serious problems in this area were distrust of the media by the scientist, difficulty of translating scientific jargon into simple language and difficulty in obtaining an assessment of social relevance of the scientist of his work. How do these problems look from the viewpoint of a scientist?

measure, in order to derive a message. I, therefore, found it very difficult to reach any particular idea of trends from the questionnaire. So, rather than talking about the questionnaire, I took the liberty of deciding to present some of my own views in relation to communication. In so-doing, I shall try, however, to use whatever information I did gleen from the questionnaire. I intend to cover three major points essentially: (1) I shall say something very briefly about the need for science communication. Here, I think I am preaching to the converted to some extent but I shall try to place the focus where I think it should be in relation to why we have to communicate science; (2) to indicate some of the problems in communication, as I see them and, mainly, from the scientists's point of view; and then (3) I wish to raise problems in relation to what I consider the potential survival, not of science perhaps, but of first-rate science in Canada.

Let me first talk about the need for Science communication. My thoughts, here, are not especially original, but they bear repeating, since they serve to govern the extent of the commitment that should be made by individual scientists and by the news media. In my prepared text I began by referring to some articles that C.P. Snow had written many years ago, in which he talked about the existence of two cultures. His intent at the time was to emphasize the need for people expert in the Sciences, and others expert in the Humanities to bridge the gap between them. In his view this gap was just too wide. C.P. Snow was essentially directing his message to intellectuals but I think the whole philosophy that he enunciated can be applied in a much more general context. Those in the scientific community obviously have to respond to the public and to what the public expects, and there is a great need for extensive flow of information in the other way, i.e., from scientists to the public. I say this for a number of reasons.

Science is obviously very, very complicated and is becoming much more so all the time. As you all know, it's already rather difficult for scientists to communicate to each other. So, it is really no surprise that the public finds it difficult to comprehend what science is all about and they find that what the scientist is trying to do is beyond their reach. Still, the need is there, and science has to be communicated. For one thing, as C.P. Snow indicated, science is part of our culture, and just from that point of view the public should be aware of it. I find it incongruous in this age that the majority of laymen in Canada are really very unfamiliar with many of the basic principles of the abc's of science; they are unfamiliar with what I would call the heroes of science, even in Canada.

If the culture argument is not persuasive enough, one can approach the argument in another direction. Science touches all of us, and affects our daily lives in multiple ways. Yet many are prevented from either thinking about the consequences of advances in science, or how to participate in decisions in this area, by their lack of even the most elementary knowledge of the subject. As an example, recent advances in genetics are such that it is at

Well, the first thing one has to realize, and I think you do realize it, is that a scientist's job is to do science. He's involved in numerous other activities at the same time - he's usually at a university, so he has to teach, and he has to be involved in administration at the university level. These activities are a drain on both his reflective and practical research time. Now, if he wishes to maintain himself in the first rank of science, he obviously must conduct very good science. In this context one can understand at least some reluctance on the part of a scientist to devote considerable time to science communication. Now, I realize that in communicating, a scientist gets something in return from the public. He obtains some feel of what science is considered most relevant to society. But, if he becomes heavily involved in communicating he may cease to be the expert scientist who can best communicate science to the science writer. So, there is really an important pragmatic problem from the point of view of the scientist. Second, although we all have the same objectives in relation to communication of science, we operate under different ground rules. The scientist is trained to submit facts as accurately as possible; he wishes to do this in a lucid and interesting way, but the "entertainment" aspect of the presentation is of secondary importance. The latter, however, is of utmost importance to the communicator since, otherwise, the article will not be read, or the program will not be viewed. The scientist and the science writer both have to realize that the traditional ways they look at things are different. In my view, both accuracy and communication can be achieved, but it requires some understanding on both sides.

The latter problem is exacerbated by consideration of the time scales. The objective of the mass media is to disseminate news and information as quickly as possible. This is true in science as well. However, progress in science is determined by self-correcting mechanisms. In principle, publication of any scientific work is only possible after the data and the paper are scrutinized by peers. Even then, the acceptance of any new result or concept is dependent on further confirmation by related work of others. Early description of scientific information in the mass media short circuits this process. The reporter is really not in a position to assess the validity of the data, and thus early communication is as liable as not to provide poorly documented information to the public. This is particularly troublesome in medicine, where we are all aware of the many so-called cancer cures which have been published in the press.

Although I recognize the value of "early" reporting of some science news, in many cases, either because of excess enthusiasm by the scientist himself, or excess interpretation by the writer, the story can be dreadfully misleading, and engender false expectations. Obviously this sort of thing does not serve the public well. Nor does it do justice to science, itself, because much of this type of reporting does not stand the test of time, and the test of careful refereeing. No wonder there is some trepidation in the scientific community about "publishing" their work this way. Scientists are becoming increasingly aware and sympathetic to the science writer's concern with deadlines, to his desire to be out first with some stories, and to his adhorrence of material which is "old hat". But, at the same time, in several cases, these deadlines are probably not necessary, and compromises are possible. In my own experience, because of the increasing sophistication of both writers and scientists in this area, this problem is becoming less important. But, I emphasize it because the difficulty will persist where we continue to have science writing done by non-experts in the field. And, of course, as we know, and as the survey results indicate, many newspapers in Canada use secondary sources for their science stories.

Scientists face particular problems of another kind, particularly in medicine. An example will indicate the nature of the problem. There is considerable controversy among medical scientists on whether there is sufficient scientific evidence to justify some of the screening procedures now being used routinely in medicine. You are also aware of controversies about the benefits of Vitamin C, and new cancer drugs, about the hazards of nuclear energy, and several other such problems. Should this type of discussion take place in the news media, where the data and the intricacies cannot be brought to bear, or should it be settled by scientific investigation before it gets to the public? Here, again, close relationships between scientists and the writer will be beneficial.

Many of these problems are not equally evident across the country, they are not common to all scientists, and they're not common to all communicators. I, myself, for example, find in Toronto that I really don't have any problems with the science communicators. I just don't have any trouble with those I work with in the Toronto area, such as Joan Hollobon, Lydia Dotto, Marilyn Dunlop, the producers of "Nature of Things", Jim Murray, etc., because I think we do understand each other. I should emphasize the fact that the people we're working with in Toronto are quite experienced and I, myself, have a certain amount of experience. But, the overall message I want to communicate so far is that scientists and science writers operate to some extent in different frameworks, and we've got to realize that we do so and have confidence in each other.

In all of this I've assumed that we're really often dealing with transmission of information from the scientist to the communicator to the public. But, in some areas, especially in TV and in radio, the scientist often communicates directly to the public. In my own view, this type of communication is really very, very important. The points I wish to emphasize are twofold. I think it's really very important to try to get to the consumer directly. Any alterations in the information stemming from the scientist to the science writer to the public tend to be avoided by that sort of procedure. It represents an important education for the scientist because he obtains feedback in carrying on this process, but he also is communicating directly. Direct communication helps to obviate one of the difficulties in the public's understanding of science; they really find it difficult to visualize what a scientist does, or what he does do in that little test-tube. If you haven't been in a laboratory it is difficult to come to grips with the kind of thinking that scientists do. That's one problem. The other problem involves the fact that scientists are excited about what they're trying to do. It's really difficult to communicate that excitement through the intermediary of another person. There are problems, of course, in these procedures because not many science communicators are good communicators. The people on TV will tell you that a large number of scientists become terribly inarticulate when they face the camera. They are often not good communicators. Not only are scientists deficient in this way, but they often can't write in an interesting way. As I indicated earlier, we still have this problem of the "entertainment" value of the material. The scientist has to learn that not only does he have to make it simple and lucid, he also has to fit it into a small space frame (which he's not used to doing), and he's got to express his information in a manner that the public will understand. Actually, I don't think the material has to be simplified as much as some people think it should be, but he has to realize that if it isn't interesting it won't be read or it won't be looked at. And so the scientist has a great deal to learn. I really do think we have come a long way. Suzuki, for example, is an obvious example of a scientist who knows how to do these things. But there aren't many like Suzuki, and when he began his efforts in this area he really had to take a tremendous amount of time off his science. However, he had a natural talent, and the point is that there are other people in the science community who have a natural talent at doing these things.

In summary, therefore, although I think there is a place for the transfer of information from the scientist to the science writer to the public, there should also be more and more place for the scientist going directly to the public. To repeat again, I think in all of this that the important element is the development of trust between scientists and science writers. We are both interested in exactly the same objectives and we must be able to talk to each other, and to know that no one is going to stab anybody else in the back.

Now, I want to turn to the last part of my talk, which, again, relates to the need for communication in science. The area I wish to talk about now represents something that has troubled me for the last few years. It is what I call the "negative ethos" of our society in relation to science, and something which may represent a threat to the evolution of science. In my opinion, even though they want to know more about science, a large majority of people have a jaundiced view of science and a jaundiced view of scientists themselves. In talking about this, I start from a prejudiced point of view. As I indicated earlier, I think that science is an important activity in our society and that the abrogation of science in any serious way, will seriously reflect negatively on the whole development of our culture in our society. So, I think it is really very, very important that we protect the science community to some extent.

The impact on science of what I call a "negative social ethos" is of several kinds. Science offers a high order of challenge to the experimentalist, and requires most of his intellectual resources. It is difficult to maintain enthusiasm and energy in such endeavours when your very activity is being questioned, and often labelled as antisocial. But, perhaps more important, is the effect on the yough of the country. The progress of science is dependent on the continuous infusion of bright young imaginative people into the field. My own experience, and that of many of my colleagues, is that the number of young people who see challenges in this area is constantly diminishing. Several reasons can be adduced for this, many of them made by Brooks before me. There is the fact that the negative consequences of science are painfully public; our pollution, transportation, and urban problems, for example, are associated with the advances of technology and thus with science. There is perhaps the dichotomy between the increased desire of youth for egalitarianism in all aspects of society, and the fact that science is essentially an elitist activity, where progress and the full exercise of the work ethic are almost synonymous. There is the increased tendency to believe that the exercise of rational thought has not and will not solve our major societal problems, and since science represents the ultimate in rationale thought, we should have less, rather than more, ot it. How else can one understand the amazing success of films such as the "Exorcist" which, to my mind, had little virtue as a film, and of books such as Roszok's "The Making of a Counter Culture". There is the thought that science provides power to the state and that there is already too much such concentration of power. There is the belief, propagated by scientists, themselves, that most of the major challenges in science have been met, and thus the major challenges for youth lie elsewhere. Then there is the very vastness of the science enterprise. Science has become so complicated and extensive, it is difficult for any one investigator to handle more than a small part of the action. In cancer, for example, although a young investigator may wish to "solve the problem of cancer", more than likely his role will be to provide a very small element to the final solution. This is not the Arrowsmith image and tends to temper or to narrow the challenge. There is what I consider the excess distortion in the definition of our idols. The goals of yough are to some extent set by the value judgments of their elders. The glorification of athletes and entertainers is not new, and perhaps is not of too much concern but, I believe that the general neglect of scientists, as people, is of major concern. Of course scientists, themselves, have been the major culprits in wishing it so. But should this state of affairs continue? Finally, there is the general feeling that science and culture do not represent high priorities for governments, and that support, at best, is liable to be haphazard and insecure. Scientists, themselves, have contributed to this problem in that they have provided very little solid leadership, or perhaps unanimity, in debates on long-range science policy and, to my mind, have not presented the case for a healthy scientific enterprise in the most positive terms. Since it takes a minimum of 10 years, or so, to become a scientist, and there is no guarantee at the outset that one will be good at it, the added uncertainty at the end renders the choice of a career in science a rather risky undertaking at best.

Without wishing to become an alarmist, I believe that the combination of all of these factors seriously threatens the future of innovative science in the long run. Thus, when one begins to list the reasons for effective science communication, the youth target should be of considerable priority. Since I believe the challenges in science are there, since I believe that much of the negative ethos of science is misdirected and misleading, and since I believe that the goals of science are terribly important to the achievement of a better society, it is important for scientists to take an active part in science communication and to try to take their message to society in general and to the youth of the country in particular.

The science community, itself, has been guilty in many different ways of creating the negative ethos of science. But, they are not the only ones, since I think the science writers have also erred on the wrong side, exaggerating to some extent the negative rather than the positive. In any event, there is a job to do in creating excitement about science. I start from the point of view that there are important challenges in science, there are numerous things to do, and that it is a very exciting field to be in. I believe that science can do a lot for the community and, therefore, scientists have some sort of a responsibility for preaching the virtues of science. We've got to communicate the excitement, we've got to communicate some of the positive aspects of what science is trying to do in relation to the community. A scientist has to show that what he's trying to do is relevant, how it is relevant to the goals of society. Even if it's the most basic research, how he has some obligation to show its relevance to the goals of society, or to the goals of Canada, or to the goals of anything you want.

In summary, I think that many of the problems I have discussed are solvable problems. We need more science communication. We need increased sophistication among science writers and less reliability on secondary sources, science news services, etc. We need some education for scientists themselves in this area. This is happening but I think we need much more of it. Perhaps groups like the Medical Research Council ought to be meeting every so often with science writers explaining what they're doing and having people in the science community explaining their program, to the science writers. The Department of National Health and Welfare, and the National Research Council ought to be doing the same thing. This should not be done through a public relations officer; but should involve scientists talking directly to the community. I actually have proposed, a long time ago, that scientists ought to be talking to people in Parliament about what they are trying to do, and what their objectives are. I am conscious of the effort that all of this takes. If we don't do this, science will survive, but I think good science will not survive. If we really cannot do a good job of creating an interesting potential environment for bright young people we are going to have science going on in Canada, but it will be done by second raters, and science writers will not have anything to write about.

Thank You

Louis Siminovitch, Ph.D.
F.R.S.C.

10th April 1974

Appendix S.

INFORMATION AND THE SCIENCE WRITER

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and

Science Writer

for

FP Publications

Notes prepared for an Address

For "Science Communication 74", A Media Impact Seminar held at the National Library Auditorium, Ottawa, Ontario; April 10, 1974.

Ideally and theoretically, scientists and journalists are very similar; they are "seekers after the truth" whether it be the truths of the universe or the truths of a local political scandal, and how these truths fit into a larger scheme of the universe, the body politic or the social fabric; their job consists primarily of research into an area usually within their sphere of interest (or to put it differently, they get paid by society for doing something they enjoy, whether they find anything or not); and most important of all, they have to communicate the results of their diligent searching to a broader audience (usually defined as "the general public" but often a more restricted, special interest group) or the whole exercise is for nought in the big scheme of things. Publish or perish is as much an evil and a benefit in the profession of journalism as it is in the more academic realms of science.

At the same time, in reality, journalists and scientists share many of the same vices and pitfalls: there's the aforementioned "publish or perish syndrome"; there's the hyper-competitive urge to publish first (called a "scoop" in the journalism trade, often leading to a Pulitzer Prize or the such; and called a scientific first in science, often leading to a Nobel Prize); there's the associated sin of "sensationalism", that is, turning something mundane into a "breakthrough" or unique event when it doesn't really deserve the special status; there's the plague of duplication in reporting both similar events over and over again and reporting non-events or discoveries in the first place; and there's the general interference of one's "bias" in determining not only where one looks for a particular truth, but what one finds and how the find is described to the "public".

I think that should do for a start to convince those in the audience who are scientists that those cursed, lower-caste scoundrels known as reporters, rumor-mongers, and the like are really playing the same game in society that scientists are, and vice-versa for those in the audience on the journalism side of the fence. The rather crude analogy might even help those who are really in neither camp: the public relations personnel. Of course, it's an oversimplification, but it is not so far from the truth as many scientists would like to believe. Yet, before I get carried away, I should point out some important distinctions between the stereotype journalist and the stereotype scientist. While both are, in the final analysis, accountable first and foremost to their own conscience (that is, their ethical and moral framework), the scientist more and more today has become a hireling of governments, while journalists have shied away from government support and interference like...well, like most scientists have tried to stay away from journalists. On the other hand, journalists have tended to become beholden to corporate communications giants .... the Southam chain, the FP chain, and the Thomson chain among newspapers; Maclean-Hunter Publications and Southam Business Publications among magazines; and the CTV, Global and semi-corporate CBC television networks .... with different side-effects.

Both groups have tried desperately to ignore the source of their income and general financial support. But scientists, I would suggest, have tried the hardest and up until now, succeeded the most ... to their own and to the public's disadvantage. Despite the fact that today's scientist cannot survive without some form of public financial support .... I point to the squawks emanating from the medical profession over the miniscule increase in the Medical Research Council's budget this year ..., most scientists continue to act and think as if this public support were their God-given right. Which leads me to the first of many findings of a survey of Canadian science writers by the federal Ministry of Science and Technology; most science writers responding to the survey complained about finding scientists reluctant to communicate either their research results or the social implications of their research to the public. In addition, there was a traditional mistrust of journalists by scientists that was difficult to overcome.

Now, having been in this business for almost six years now .... in Canada, that is, ... it didn't take a government-funded survey to open my eyes to this distrust that exists between journalists and scientists or to the lack of co-operation most scientists display towards journalists. I can think of one of my first interviews ... it was with a world-famous heart surgeon and researcher at the Civic Hospital who told me to my face that he didn't feel the slightest compunction to tell me what he was doing, despite the fact that the research was totally underwritten by federal funds.

Not long after that, a Dean of Science at Carleton University said bluntly that he felt his only responsibility was to report his research findings to the admittedly esoteric scientific journal in his speciality. That action, which would, of course, take months, was the way he communicated his research results to the public.

Canadian scientists, I would suggest, are slightly worse than their more funding-conscious American research comrades. Down there, science writers as often have to worry about detecting the latest charlatan who, with his eye on Washington or the state capital, announces the latest "breakthrough" only days after the laboratory staff have completed the work. In six years, I have run into three instances of scientists trying to "sell" their research in a distorted fashion to an unaware public. I successfully evaded two, when bells rang in my head, warning me there was something funny ---- one of them involved a local doctor who later wound up in trouble over some bowel by-pass operations, for helping people to lose weight. In one instance, I did get sucked in --- but knowingly so, I should add. It was one of those developments on the fringe of good and bad science ---- a VD vaccine developed here in Canada that scientists are still trying to prove whether it is useful or not. Anyway, the risk is slight. And more important, I think it is a risk worth taking. Any reporter who gets caught out once is very careful in the future, and less likely to be fooled again.

Scientists and journalists share another problem: the information explosion. The science writer's survey uncovered another obvious fact: journalists specializing (and I stress specializing) in science find they have too little time to research subjects thoroughly and, perhaps more shocking, often find their beats too broad. In the scientific field, the response to the information overload has been for scientists to become more and more narrow in their focus, in an attempt to keep a slice of science on their plate that they can still cope with. One of the distrubing results is that more and more scientists don't know what other scientists in the same discipline, let alone different disciplines are doing. The jargon grows by leaps and bounds, making it difficult for scientists, let alone the public, to understand what is transpiring in specialized scientific journals. This situation has in fact placed more of a load and a responsibility on science journalists. More and more, it is the journalist who is enough of a generalist to recognize the broader implications of a specialized piece of research. I remember a British Columbia psychologist who mentioned that a newspaper article about his research had actually given him new insight into what he was accomplishing. Scientists, believe it or not, are having to depend more and more on the lay press and the semi-technical press to keep up with related fields of science. More and more, you hear about incidents of scientists discovering that another scientist has stumbled over a missing piece on a scientific jigsaw puzzle ---- by reading the local newspaper.

It is ironic --- perhaps it is justice --- that scientists who a few years ago looked on science journalists as a way of "educating" the public about the great things science does and can do, are now discovering that the same science journalists are "educating" and informing them about science, science policy and the like. I'll have more to say about this "educational" role later. But I would suggest that scientists not only have a responsibility to the public that financially supports them to communicate their research results and implications to the public; but more and more they have a responsibility to themselves and their fellow scientists in Canada and abroad to communicate quickly and accurately the skeleton, if not the substance, of their research findings via the news media. This, of course, means that scientists should realize it is in their interest if they help the writer cut through the jargon and gobbledygook and get the story out as accurately as possible. But of course, it won't be as scientifically-accurate --- that is, qualified a hundred times over --- in the lay press now as it could be six months to a year from now in the Journal of Esoterica. Which, by the way, leads to another obvious --- to writers that is --- finding of the survey: science journalists complain they have the most difficulty keeping their stories simple but scientifically accurate. The task is not impossible, but often some sort of compromise is needed --- especially in the first few paragraphs of a news story, when the writer is trying to sum everything up in a fashion that is interesting and enticing to the reader. Remember: if a story isn't read or run, all the scientific accuracy in the world becomes worthless. Communication is the game.

So far, I've been comparing the scientist and the journalist. I hope I have convinced some of you that the two fish are not that different in terms of their social roles and responsibilities. If more scientists would concentrate on communicating their work, society would be better informed and I suspect science would be subject to a lot fewer of the traditional heart-quickening ups and downs. We seem to be heading into a down here in Canada, by the way. But before I turn to a couple of my more favorite targets, scientific institutions and the middle-men, I would like to attempt to make one thing clear. The survey talks about science writers; the Canadian organization is called the Canadian Science Writers' Association; and many scientists and scientific institutions like to fondly think of science writers as being something closer to scientists than to reporters or journalists or the like. While I cannot speak for my comrades in arms, I for one believe we are journalists first and foremost. And this will undoubtedly bring us into conflict with scientists and science. Individuals and institutions, being human and bureaucratic respectively, often want to keep some information to themselves --- journalists use the perjorative term SECRET --- when in fact the information should be made public. In the past and in the future, science writers ---- that is, reporters specializing in science --- will face a conflict: do they not report a story in order to ruffle the feathers of someone or some group that has been co-operative with them in the past; or do they follow their journalistic sense (which, I might point out, is not always right in all circumstances) and publish it? It's a decision only the journalist can make.

And it is both a dilemma and a responsibility daily facing journalists in this area that more scientists and scientific institutions should be constantly aware of ---- and I point a finger of experience at such groups as the National Research Council, the Science Council of Canada and the federal health department.

Which, by happenstance, leads right into the next section. The science reporters and broadcasters surveyed seemed to have the most praise --- restrained as it was --- for the NRC, the Science Council, in the federal sector; Bell Northern Research in the industrial sector (by the way, the Canadian Centre for Inland Waters is not an industrial lab, despite what the survey results say); McGill University and the University of British Columbia in the university sector; and the Canadian Medical Association and the Royal College of Physicians and Surgeons in the professional sector. But the science writers added that all need improvement in the way they communicate.

I would interject a few comments of my own. Generally, I agree with the above list. All of the institutions and groups have done excellent work in providing good, accurate and generally complete information on science research they are doing, and more important, of attempting more and more to explain the social implications of the research. The universities have shown the most improvement in recent years, in my experience, while the federal agencies have fallen back on their laurels and slick publications.

But glossy pictures and slick magazines are no substitute for what I call an "open shop". The NRC, perhaps, is a good example of the distance that can build up between "education" and information. the NRC, like many other federal agencies in science, obviously feels it has to prove itself to the public and the NRC and others therefore publish a lot of "stories" on science, have large information staffs, and hold numerous press conferences and briefings. At first glance, it looks great. But after a few years, one gets the nagging feeling that you've heard it all or read it all before, which in fact is all too true. The NRC rewrites and reglorifies story after story, year after year. There's the annual shoot a chicken through the gun at the aircraft windshield news conference; there are the countless devices invented by NRC scientists that the NRC is still trying to sell to the world. The Science Council, which has to be given four stars for trying harder, churns out report after report asking for the same thing: usually more money, the establishment of a coordinating council and more studies. What's worse, the reports are often barely intelligible to scientists in the field, let alone dumb reporters and the public. But that's not the worst of it. Ask a tricky question, perhaps with a little politics rubbed in; or ask for some sensitive information, and the great, oiled information machines grind to an unceremonious halt. Agencies supposedly constructed to serve the public good suddenly become interested in finding any bureaucratic regulation under which to hide. In other words, they're not designed so much as to inform as to educate and even propagandize.

Finally, to a favorite topic of mine: sources. Here is where the science writers' survey is most illuminating. Surprisingly enough, most writers depend heavily on the Canadian Press news service to keep up with science matters on a daily basis, accompanied by scientific magazines on a weekly or monthly basis. University scientists, despite their ivory tower location, are considered the most reliable source on a daily basis, followed by government officials. Doctors and government scientists are slightly tainted when it comes to reliability, along with government reports. Then come government public relations men and women, noticeably more unreliable, and industry reports and publications, the most unreliable as far as daily sources go.

Science writers resort to industry spokesmen considerably less frequently than most other sources of information --- perhaps because they are classified as unusually unreliable sources. Government PR types are slightly less unreliable, followed up the reliability scale by University PR and industry reports and publications. University reports and scientific journals are quite reliable, as are scientists.

Let's go back a second. Public Relations men and women in industry and government fare the worst when it comes to their reliability rating, which I would suggest is not too surprising. Basically, their job is to act as an intermediary, often to act as a hindrance rather than a help to journalists on the prowl for information and stories.

Here in Ottawa, at least, there is only one route of attack that will take more time in obtaining information than going through a department's information services: and that's to go to Information Canada. There are a few exceptions to the rule that most information officers in government and industry are a bloody nuisance. I could count the exceptions on my fingers. Information officers, as a rule, are ignorant about what is going on in their department. Often they are kept ignorant as a matter of policy by scientists and administrators who look down on these ex-newspaper types and who believe they'll leak out anything important if given a chance. If this latest survey is any indication --- and it would not be a new indication --- then many information officers in government and industry are expensive insults to the term "information". I know that if I can get ahold of a scientist or an official, I have at least a chance of obtaining the information I want in a matter of minutes or hours. But give a request to an information man, and he'll spend hours getting the same information and will end up calling the fellow you could have called directly anyway. (An up-to-date federal phone book is a boon to an Ottawa journalist). The concept of a middle-man, to handle queries from the press, is ludicrous in practice in Canada. It goes against all theories of second and third-hand communication (in less polite terms, called gossip) to have an intermediary take a reporter's queries and try and find answers for them. At most, information officers should tell a reporter who he can call and then make sure the official or scientist will provide the requested information when questioned by the reporter.

The information services of the federal health department, as one example, is great for churning out press releases --- The Honorable Minister Marc Lalonde today announced a $3,500 grant for the New Brighton Old Ladies Euchre Club under the Canada Fitness Program --- and often for producing a few slick publications. In fact, they often take so long to write up, clear and then print news releases that Ottawa reporters regard it as a personal insult if they haven't written about the subject of the press release days, if not weeks, before. The information services is also great for tallying up how many press queries have been received on a given subject on a given day, all for the benefit of the chief mandarin. I shudder at the thought that the National Energy Board, not known for its communicativeness in the past, has just hired an information officer.

But I've gone too long, as you will all undoubtedly agree. Two more quick points, though, before I finish. It is a bit disheartening to see that there are only 22 full-time science writers in Canada, according to the survey. One-third of the respondents were in newspapers, which by the way fared reasonably well in providing the needed quantity of science news but placed third in terms of quality, behind magazines and television. But it is heartening I think, to see that most of the respondents had college degrees and training in science at college. Most, I would note, were trained as journalists, with a science background. Few were highly-trained scientists, turned writers, of the Isaac Asimov genre.

Now, in closing, I would like to leave with you a concept that wasn't covered by this survey: the idea that there are a number of different roles open to writers specializing in covering science. The classic role, developed in the United States following the advent of the Atomic Age and with the co-operation of many scientists there, is what I call the "educational role". The writer perceives himself or herself as a person trying to explain to the general public what science is and does for society, realizing rightly that society doesn't know enough about science. The emphasis is on lengthy feature articles, detailing the happenings of science and the generally good implications of science. Many scientists prefer this role for the science writer, since the writer in effect becomes a bridge between science and society, sometimes even an apostle for the religion that is science. The writer is more likely to follow many of the dictates of science when it comes to scientific peer review, to delaying publication until "all the results are in", and to quoting the accepted "wise ones" of science. Many of the writers eventually are accepted into the hallway, but not the inner sanctum of science. There's usually a cure for cancer discovered once a week, and somewhere each month, some astronomer unlocks the secrets of the universe. The coverage surrounding the U.S. space missions were for many the pinnacle of this type of reporting.

There is at least one other type of science reporting, which I choose to call "conflict" science reporting. There is less overriding concern with the "science" of it all, the trappings of the religion, and more focus on social implications bad and good, along with the politics.

The basic assumptions of "conflict" science reporting tend to be considerably more cynical than the generally optimistic "science and technology can solve everything" philosophy of the more classical reporting --- more like the professional cynicism of the fourth estate generally in watching over government, for example. There's an underlying concern that science could be used for evil as well as good (as seems to have happened a few times in the past) and a feeling of responsibility to try and judge how science is and could be used. Environmental reporting is perhaps the best (and at the same time, the worst) example. Some would say it smacks of muckracking -- yellow journalism and the like.

Yet it is exactly the sort of science journalism that many scientists say they want from science writers --- that is, as long as the science journalist is uncovering portends of evil in someone else's backyard. Most scientists who are not geneticists, for example, applaud when writers publish well-researched articles depicting the good and bad side of genetics research now and in the future. Federal Science Minister Jeanne Sauvé, for example, who classes herself as a social scientist, believes that the public needs to know both sides of the story to decide what course of action in research and development should be pursued.

Yet a scientist involved in trying to make genetics work for the good of mankind views anyone casting a cloud over his discipline as a biased, irresponsible troublemaker. The sad truth of the matter is that the public seems prone to ignore all warnings of a crisis until the crisis is upon them anyway. So perhaps science writers should stick to glorifying and recording science's achievements, for the record and to give people hope. What do you think?

Appendix T.

SCIENCE, COMMUNICATION, AND THE CITIZEN

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Notes prepared for an Address

For "Science Communication 74", A Media Impact Seminar held at the National Library Auditorium, Ottawa, Ontario: April 10, 1974.

"It is essential that scientists discuss more thoroughly in public the implications of their findings with regard not only to the practical applications of science but also to its influence on the concepts of man's place in the order of things. The philosophical and social uncertainties that are emerging from scientific progress must be emphasized just as much as the prospects of technological breakthroughs. Science and the technologies derived from it will increasingly create economic, educational and ethical problems for which our communities can make responsible choices only if steps are taken to increase general scientific awareness.

A society that blindly accepts the decisions of experts is a sick society. The time has come when we must produce, alongside specialists, another class of scholars and citizens who have broad familiarity with the facts, methods and objectives of science and thus are capable of making judgments about scientific policies ... persons who work at the "interface" of science and society have become essential because almost everything that happens in society is influenced by science."

René Dubos,
Rockefeller University

November 4, 1966 - Science

Man has tried to understand the world about him, and to apply this knowledge, even before the first great scientist --Aristotle--was born. Before science became a discipline, human beings evolved an understanding of tides, seasons, and environment to forage for food and shelter. Man learned to control fire, to construct tools, to make clothing, to raise animals and grow plants. Each technological breakthrough -- fire, needles, crops, spears, metal, pottery and weaving -- was followed by hundreds or even thousands of years of cultural evolution during which that change could be assimilated.

As societies evolved and villages grew to cities, a complex web of interactions increasingly dependent on technology became pervasive. Transportation, communication, sanitation, education, etc., became integral parts of all communities. Sir Francis Bacon and Descartes in the seventeenth century predicted that societies that could harness science through technology could rapidly conquer the elements of nature even to the point of controlling disease, aging and death. Indeed, the industrial revolution and the flowering of physics at the turn of the last century were accompanied by heavy national investments in science, and scientists became members of an important and elite profession.

The Baconian concept of modern science equated progress with human conquest of "nature", and was based on a fundamental optimism that the advance of science would inevitably improve man's condition. This optimism was profoundly shaken by the use of science and technology in support of militarism in world wars I and II that culminated in Dresden, Hiroshima, Nagasaki, Korea and Vietnam. The idea of the inevitable benefits of man's domination of nature has been severely questioned by issues arising from the threats of the extinction of species, overpopulation, pollution, and energy depletion. Thus, in a period of heavy national investment in science and technology (Canada alone spends an estimated 1.5 to 2 billion dollars annually on research and development), increasing numbers of people are questioning whether there is a direct relationship between high scientific development and a good quality of life.

Today, the fruits of science and technology pervade all aspects of human activity around the entire planet. Yet the collective public knowledge about science is incredibly low. In man-in-the-street interviews I've made for television, I have been amazed at the ignorance of the average citizen about how science affects him personally. Let me pose three questions:

1. Why is the average person so uninformed about science?
2. Does it matter?
3. How can we remedy the situation?

Ignorance about science has existed since science arose as a discipline. What a different today is that the patrons of science now are the taxpayers, and the products of science often have an immediate and dramatic impact on society as a whole. The history of science shows that scientists have always had their own language, concepts, and methods which tended to create a mystification about the profession. But today we now have an enormous number of scientists and technologists (90 percent of all scientists who ever lived, practice science now), billions of dollars in costs, a plethora of specialized disciplines each with its own jargon, an output of new knowledge which "doubles" in less than a decade, and the almost immediate application of many discoveries. We only have to look at television, computers, interplanetary rockets, MIRVs, antibiotics, synthetic fibres, the pill, transistors, etc., to know how great this impact is on our society. So while the societal effects of science accelerate, we as citizens have less and less understanding of, let alone control over, science.

Today, the primary users and beneficiaries of basic science are industry and the military, both groups having scientists and technicians who can transform scientific knowledge into products. Too often, industry introduces a product for immediate profits without determining its potential long-term impact on society as a whole. Stilbestrol, pesticides, thalidomide, antibiotics, and plastics have already had unexpected and deleterious side effects which may also be found for synthetic hormones, television, and the thousands of new chemicals created annually. It seems to me that the only way science and technology will be used for the long-term public interest will result from pressure from a public well informed on science and its implications.

This brings us directly to the question of how science can be communicated to the lay public. There is no question of the public's interest in science -- best-selling books in the recent past have been studded with the names of scientists such as Pauling, Watson, Lorenz, and Comfort, as well as medical doctors and science writers. Television programs such as Bronowski's "The Ascent of Man", Cronkite's "Twenty-First Century", the National Geographic Series, the space shot coverages, Cousteau's series, "Star Trek", and "The Nature of Things", have enjoyed enormous success. Movies such as "The Andromeda Strain", "Hellstrom's Chronicles", "Westworld", "2001", and even "Sleeper", attest to a fascination with science. Magazines such as Time, Newsweek, Atlantic, Harpers and Saturday Review regularly feature major articles on science. So there is no question that there is enormous public interest in, and a willingness to learn about, science.

What of newspapers then? In spite of the existence of special sections for such things as politics, religion, sports, travel and entertainment, and the overwhelming endorsement of the idea of a science section by the science writers in this survey, very few papers have such a section. On any day, in any major newspaper in Canada, one can find a dozen or more news items concerning science, technology and medicine. Yet too often the articles are so sketchy as to be misleading, incorrect or uninformative. It is clear from the results of MOSST's survey that there are numerous reasons for this: low newspaper priority for science articles, difficulty in translating science into the vernacular while retaining fidelity, lack of time for background research and a lack of good resource personnel, journals, or articles. It is also clear that scientists are reluctant to become involved with science writers, and that news releases are too often uninformative and self-serving.

Present coverage of science in Canada is shocking. Fewer than half of the writers questioned do more than one article per year on engineering (56 percent), physical sciences (50 percent), space and aviation (47 percent), education (47 percent), and agriculture (45 percent). Even in areas such as medicine, 25 percent of the writers put in one or no articles annually. There is a universal recognition by writers for the need for more coverage of medicine and ecology (100 percent), space and aviation (96 percent), and education (91 percent), and over two-thirds of the writers feel an inadequacy of both quantity and quality of coverage of science by all forms of communication. So most writers agree on the inadequacies of present communication about science which may be partially responsible for the state of public ignorance.

There is one point that I would like to introduce at this time. I believe that newspaper policy which, of necessity, biases the news in selection and presentation, has led to the irresponsible reporting of facts. Let me give you one example. S veral years ago, a short article was published in the journal Science, purporting to show an effect of the halucinogen LSD on chromosome breakage. This note was, in fact, based on a very small sample, had no proper controls, was barely significant statistically and offered no direct proof that the effect was due to LSD. Yet this paper was prominently written up in a sensational fashion. After three years of extensive experimentation, it was finally concluded that LSD does not cause mutations, chromosome breaks, cancer or birth defects, a report that gained virtually no press notice. All of this took place at the same time that very well documented studies showed extremely high chromosome breakage by caffeine. Now I don't mean to say LSD is not a dangerous drug, I believe it is; but "not" for any genetic reasons. The press, perhaps for what it conceived as the public good, in fact did an enormous disservice, to the public, by perpetuating bad science and disenchanting young people with the validity of "scientific proof"; to the scientific community, for biased reporting of scientific information; and to journalism, because it only exacerbated the reluctance of scientists to participate in news stories for fear of sensationalism or misrepresentation.

I suppose a corollary issue is whether the public and politicians do, in fact, make decisions based on logic and scientific data. It is possible that science, in fact, is only used to reinforce preconceived opinions, prejudices and decisions. It is very clear from the response to the Le Dain Commission on Drugs, white papers on pornography, and the issue of race, social class and I.Q., that scientific data play a minor role in swaying public opinion. It is my belief that this is a reflection of the failure of the media to provide a dispassionate source of information for the public.

I would like to make one final observation before concluding with some specific recommendations. Toffler, in "Future Shock", suggests that half of the information learned by a Ph.D. student is out of date five years after he graduates. The increasing number of disciplines (for example, genetics alone has proliferated into more than twenty-five sub-disciplines) and the rapid doubling in page numbers, published articles and new journals, all lead to rapid specialisation into one small area of science and to a cessation of communication between disciplines. Think then, on the present Canadian science writers, over a third of whom have no training beyond high school, and of those who have higher education, half were trained in the arts or in economics. Thus, the average science writer, with a median age in the early forties, has very little education in science (and that training having been received several years ago) and must cover an expanding, rapidly compartmentalizing field. If scientists lose touch with their discipline so quickly, then the science writer must be able to understand less and less of the basic information coming out. That is a tremendous dilemna.

What recommendations can I conclude with? First let me list some nuts-and-bolts things.

1. The high priority of science as important news and interest value must be recognized by all members of the media. MOSST as the governmental agency for science should hold seminars with media people and should write position papers stressing the value and importance of science. These should not be just sales jobs for science but should point out the double-edged nature of the use of science, with potential for good and for harm.

2. The overwhelming support by science writers for science sections in newspapers suggests that this should be an innovation to be started very soon.

3. Writers find that news releases have little vlue. It should be pointed out to those agencies that issue such releases that they will be more useful if they are succinct and clear, and most important, they should include possible references and the names and phone numbers of experts who could be consulted by reporters.

4. There is a need for greater liaison between writers of science articles, and scientists in the area being reported on.

The above suggestions can be implemented now. In the long run, there are other suggestions that could change science reporting considerably. MOSST, in my view, can play a key role in studying the following suggestions for implementation.

A) There should be a directory of the names, addresses, and phone numbers of all Canadian scientists and technologists with an index indicating their fields of expertise. This would provide ready access of the media to experts to be consulted for articles on any science topic.

B) MOSST as the agency setting guidelines and funding could emphasize to all scientists the need to communicate science through the press, and endorse the cooperation of scientists. Closer interaction between scientists and writers should result in greater accuracy and detail in articles.

C) Minister of Education in British Columbia, Eileen Dailly, has supported my proposal to publish a magazine featuring articles summarizing current progress in a variety of fields written by scientists for high school teachers. This will provide a means of keeping teachers "plugged in" to advances in science, as well as pointing out key references for further reading. Such a magazine could be very useful to science writers as well, and I would suggest that MOSST could be a major source of support for the magazine.

D) There should be schools or programs in science writing to train journalists in this area. Such a program would involve scientists with writers, could provide the source of more science writers, and could be used as refresher courses for established science writers.

E) MOSST should institute a series of seminars and symposia built around specific topics. The National Cancer Institute of Canada has such an annual meeting with science writers.

F) Scientists should be approached by MOSST and newspapers to write articles, or, like Nobel Laureate Josh Lederberg, to produce syndicated columns on research.

G) MOSST ought to invest considerable time and resources into methods of science communication through magazines, films, television, and newspapers.

The ultimate objective in all of this is to demystify science in order to have an informed lay public, capable of making decisions on the future use and directions of scientific activity.

INDEX OF MAIN TABLES

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Main Table 1. Public Awareness of Canadian Scientists/ Achievements in the Sciences and Sources of this Information -- by Social Characteristics.

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL INTERVIEWS	*2000*	*166*	*361*	*380*	*333*	*760*	*992*	*1008*	*1141*	*575*	*284*	*1239*	*320*	*439*
RECALLED NEITHER CANADIAN SCIENTISTS NOR ACHIEVEMENTS/ OR GAVE NO RESPONSE	59.4	64.0	61.3	58.3	51.8	61.5	55.8	63.0	52.0	68.6	70.7	69.5	57.8	32.7
SCIENTISTS RECALLED:														
Names of zero Canadian scientists	64.4	67.4	67.4	64.9	57.8	65.0	62.0	66.8	57.1	74.6	73.9	73.3	64.9	39.6
Name only or work only of one or more Canadian scientists	2.0	1.3	1.7	1.5	1.3	2.7	1.7	2.2	2.2	0.4	3.6	1.8	2.3	1.9
Name and work accurately of one Canadian scientist	16.7	24.2	14.2	14.1	24.5	14.2	17.2	16.2	17.5	16.7	13.3	15.1	16.2	21.7
Name and work accurately of two Canadian scientists	10.4	4.7	10.5	12.7	8.8	11.2	11.3	9.6	13.8	6.0	5.7	7.0	13.7	17.4
Name and work accurately of more than two Canadian scientists	6.5	2.4	6.2	6.8	7.6	6.9	7.8	5.2	9.4	2.3	3.5	2.8	2.9	19.4
SCIENTISTS: SUPPLEMENTARY DATA [1]														
International scientists and/or achievements only	4.0	8.6	3.7	5.7	4.1	2.3	4.1	3.9	4.5	4.2	1.5	3.7	3.2	5.5
Popularizers/public figures in science/ miscellaneous only	1.8	1.8	0.6	2.1	2.9	1.8	2.9	1.3	0.3	5.3	0.8	2.1	1.0	1.6
Frederick Banting	17.6	8.1	15.7	18.9	21.4	18.4	18.9	16.4	27.2	2.2	10.5	10.3	19.0	37.4
Charles Best	11.1	3.2	12.8	9.7	12.5	12.1	10.7	11.5	16.8	1.4	7.6	6.4	11.8	23.7
Banting or Best, together with insulin	19.2	8.6	17.6	19.0	22.4	21.0	20.5	17.9	30.3	1.7	10.2	10.9	22.2	40.5
Alexander G. Bell/ telephone	13.9	20.4	12.8	13.6	15.6	12.4	15.9	11.9	17.0	9.4	10.6	11.6	15.7	18.8
Contemporary Canadian scientists or achievements among listed	19.7	12.6	19.5	22.7	25.0	17.6	24.1	15.5	18.5	25.1	13.7	13.3	16.0	40.5
International scientists among listed	7.4	10.3	7.9	8.5	5.5	7.0	7.1	7.8	8.7	6.5	4.1	5.7	6.8	12.4
Popularizers/public figures in science among listed	2.7	3.7	3.7	4.0	2.7	1.4	3.7	1.8	2.9	3.4	0.5	1.9	0.5	6.6
ACHIEVEMENTS RECALLED:														
Zero Canadian achievements	61.4	67.1	63.5	60.0	54.3	63.0	57.5	65.4	54.7	69.6	72.1	71.8	59.4	33.9
One Canadian achievement	22.8	23.1	21.8	22.8	29.4	20.3	23.5	22.1	24.9	20.9	18.3	18.9	26.1	31.4
Two Canadian achievements	9.7	6.9	9.6	10.2	10.4	9.7	10.1	9.2	11.9	6.8	6.3	6.9	10.7	16.7
More than two Canadian achievements	6.1	2.9	5.1	7.0	5.7	7.0	8.9	3.3	8.5	2.7	3.3	2.4	3.8	18.0
ACHIEVEMENTS: SUPPLEMENTARY DATA [1]														
James Bay listed	4.4	7.1	2.4	4.1	5.0	4.5	6.6	2.2	2.1	10.4	1.3	4.3	3.6	5.0
One or more general Canadian technological projects only	6.0	8.5	6.1	3.8	6.0	6.3	7.6	4.4	3.1	10.5	8.2	7.5	3.9	3.1
Non-specific science projects, stories dealing with science in general	7.1	11.1	9.8	7.7	7.1	4.6	8.0	6.1	7.2	6.6	7.3	7.8	5.8	6.1
In addition to achievements, projects in science/technology or current science work listed	8.7	8.9	8.4	8.6	9.8	8.2	10.4	6.9	9.2	9.5	4.9	6.7	7.9	14.8
SOURCES OF INFORMATION FOR CANADIAN SCIENCE [1,2]														
Media in general, or both print and electronic	41.8	58.6	50.0	37.2	35.7	40.2	46.7	35.3	32.9	65.8	59.9	52.7	28.6	37.0
Newspapers/Magazines	30.2	20.1	24.8	34.1	33.2	31.1	33.3	26.1	27.0	39.4	37.2	31.5	32.2	27.9
Radio/Television	31.9	58.6	39.8	30.4	28.5	25.8	33.3	30.5	18.4	69.9	58.7	52.2	25.2	15.9
School or books	27.0	46.0	44.0	24.3	24.7	17.8	27.1	26.9	29.5	17.1	27.9	22.8	14.6	36.1
Personal experience, friends, work	23.9	24.3	19.9	27.7	13.3	30.7	24.0	24.1	15.6	57.0	19.2	33.3	17.9	17.9

[1] Percentages in the sections "Supplementary Data" and "Sources of Information for Canadian Science" do not total up to 100%, since not all individuals replied to these sections; multiple responses possible.

[2] Percentages for "Sources of Information for Canadian Science" were derived using individuals who responded to both Scientist/Achievement and Source.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
158	*128*	*410*	*1304*	*182*	*559*	*726*	*325*	*208*	*1551*	*666*	*883*	*450*
34.3	52.7	62.3	62.3	69.3	66.3	51.2	60.7	59.2	55.9	52.8	58.2	71.8
43.2	57.3	68.0	66.5	71.8	72.0	56.3	62.8	66.9	61.1	59.4	62.4	75.1
1.2	0.8	1.9	2.2	.	0.1	3.0	3.4	2.4	2.2	3.4	1.3	1.0
16.7	19.8	18.5	15.8	10.2	16.4	18.5	15.7	18.6	17.7	17.1	18.1	13.4
16.5	15.0	9.1	9.7	12.3	6.4	12.4	13.0	8.6	11.6	10.1	12.7	6.4
22.4	7.1	2.5	5.8	5.7	4.5	9.9	4.5	4.1	7.2	10.1	5.1	4.0
2.4	3.9	5.0	3.9	8.3	3.1	3.9	3.7	3.6	3.4	2.7	3.9	6.2
0.7	4.0	2.2	1.6	.	5.7	0.5	0.2	.	1.9	1.4	2.3	1.5
30.8	21.0	14.4	16.7	19.8	3.3	25.4	24.1	17.1	19.3	19.0	19.6	11.9
23.0	8.1	7.8	11.0	12.9	1.8	17.1	13.1	10.6	12.3	13.3	11.6	6.9
36.9	21.4	16.2	17.8	23.0	2.8	28.3	26.3	17.4	21.0	19.1	22.5	12.9
21.8	23.6	14.1	12.0	10.3	10.0	20.1	13.1	7.6	14.3	12.0	16.0	12.7
46.8	24.0	17.3	16.8	8.4	29.5	18.1	13.5	18.8	22.4	28.0	18.2	10.4
10.7	5.6	6.6	7.5	4.4	6.2	7.5	10.6	8.3	7.4	5.0	9.2	7.7
4.4	3.7	4.1	2.0	3.3	4.0	2.0	0.6	4.8	2.9	3.3	2.5	2.3
34.6	50.9	63.2	65.1	69.2	66.9	54.1	61.2	61.8	57.7	55.5	59.4	72.3
23.9	27.9	25.4	21.4	14.8	20.3	27.8	22.6	19.2	24.7	26.3	23.6	16.1
11.4	16.1	7.4	9.5	9.0	7.4	10.2	9.2	15.1	10.6	10.7	10.4	6.5
30.1	5.1	4.0	4.0	6.3	5.4	7.2	6.6	3.3	6.6	7.3	6.2	4.3
6.4	8.7	5.5	3.3	5.0	11.8	1.5	0.4	.	5.0	5.2	4.8	2.2
5.3	10.0	7.4	5.2	3.6	10.8	4.1	5.0	3.0	5.9	4.2	7.1	6.3
5.2	8.2	9.6	6.4	13.5	6.3	6.2	8.7	3.8	6.5	3.8	8.5	9.1
9.4	10.7	8.7	8.3	11.4	10.1	7.0	8.4	8.6	9.4	7.3	11.1	5.9
33.2	51.4	48.8	40.2	67.2	64.4	29.7	40.8	35.9	42.2	34.5	49.2	37.3
25.4	31.8	40.2	28.1	28.0	39.4	23.7	34.9	34.1	28.4	27.1	29.6	42.9
15.5	25.0	46.1	32.8	36.0	63.4	20.7	31.6	17.1	28.4	21.9	34.0	57.1
25.2	32.4	16.0	30.1	47.8	18.1	25.9	33.1	29.3	25.3	25.9	24.6	39.1
17.9	16.8	32.8	23.8	37.1	55.6	12.8	18.4	11.5	21.9	19.7	23.6	39.8

Main Table 2. Public Awareness of Canadian Scientists/ Achievements in the Sciences and Sources of this Information -- by Degree of Interest in the Sciences.

	TOTAL VERY/QUITE INTERESTED IN [1]			INTEREST IN: NATURAL SCIENCES		SOCIAL SCIENCES /HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
TOTAL INTERVIEWS	224	351	1425	825	786	1215	481	1457	291	383	692
RECALLED NEITHER CANADIAN SCIENTISTS NOR ACHIEVEMENTS, OR GAVE NO RESPONSE	81.2	63.5	55.0	51.8	66.5	54.4	71.2	57.4	69.9	53.7	67.0
SCIENTISTS RECALLED:											
Names of zero Canadian scientists	82.7	68.9	60.5	57.4	70.3	59.5	73.2	62.0	74.5	60.2	70.7
Name only or work only of one or more Canadian scientists	1.3	0.9	2.3	3.4	1.6	2.0	1.4	1.9	0.6	2.1	1.7
Name and work accurately of one Canadian scientist	9.8	17.4	17.6	18.2	14.5	17.9	14.5	17.2	13.5	18.7	12.6
Name and work accurately of two Canadian scientists	5.4	10.5	11.2	11.7	10.1	11.7	8.0	11.0	8.5	10.9	9.1
Name and work accurately of more than two Canadian scientists	0.8	2.3	8.4	10.2	3.1	8.7	2.5	7.6	3.0	7.9	5.6
SCIENTISTS: SUPPLEMENTARY DATA [2]											
International scientists and/or achievements only	4.0	4.0	4.0	4.6	3.1	4.0	3.0	3.9	4.6	4.3	3.2
Popularizers/public figures in science/miscellaneous only	0.9	0.9	2.2	2.5	1.1	2.4	0.8	2.1	0.7	2.2	1.5
Frederick Banting	6.7	14.8	20.1	21.1	14.8	20.1	13.7	18.4	12.3	20.1	14.2
Charles Best	5.4	9.7	12.4	12.9	9.8	12.3	8.2	12.3	7.3	11.0	11.2
Banting or Best, together with insulin	8.0	15.4	21.9	23.7	15.8	21.5	14.7	20.6	12.9	21.8	15.4
Alexander G. Bell/ telephone	7.6	12.5	15.2	17.5	11.4	15.4	9.6	13.9	13.5	16.2	10.6
Contemporary Canadian scientists or achievements among listed	4.0	14.5	23.5	26.2	12.9	23.8	11.9	22.6	8.3	25.6	12.8
International scientists among listed	4.9	6.6	8.1	8.9	7.5	8.0	6.2	7.7	6.9	8.4	5.8
Popularizers/public figures in science among listed	1.8	2.0	3.1	3.7	1.4	3.1	1.7	2.9	0.9	3.3	1.2
ACHIEVEMENTS RECALLED:											
Zero Canadian achievements	83.5	66.4	56.9	53.1	69.2	56.6	72.7	58.9	73.1	55.7	69.2
One Canadian achievement	12.1	23.4	24.3	23.9	21.2	24.6	17.6	23.7	18.6	24.8	19.8
Two Canadian achievements	4.0	8.8	10.7	12.4	7.2	11.0	6.8	10.2	5.6	10.9	7.5
More than two Canadian achievements	0.4	1.4	8.1	10.6	2.4	7.8	2.9	7.2	2.7	8.6	3.5
ACHIEVEMENTS: SUPPLEMENTARY DATA [2]											
James Bay listed	1.3	1.7	5.4	6.1	2.8	5.6	2.4	4.8	1.4	6.7	1.1
One or more general Canadian technological projects only	3.1	5.7	6.4	6.6	4.5	5.9	5.4	6.3	3.1	7.5	2.7
Non-specific science projects, stories dealing with science in general	6.2	7.7	7.0	8.3	4.2	7.1	4.6	6.8	4.6	8.1	4.8
In addition to achievements, projects in science/technology or current science work listed	3.6	6.3	10.1	10.8	5.8	9.3	5.9	9.3	5.5	10.3	5.8
SOURCES OF INFORMATION FOR CANADIAN SCIENCE [2]											
Media in general, or both print and electronic	*	37.2	41.0	41.3	36.4	37.6	54.5	40.3	37.8	43.9	28.2
Newspapers/Magazines	*	34.0	29.5	31.0	27.6	29.6	29.9	30.5	23.9	31.6	27.8
Radio/Television	*	27.9	31.3	28.0	33.6	29.6	39.5	32.8	26.1	30.1	33.0
School or books	*	25.8	26.1	27.4	28.5	26.9	21.0	27.2	26.1	22.5	33.0
Personal experience, friends, work	*	23.4	23.1	24.1	24.8	23.6	22.2	23.3	23.3	24.6	21.5

[1] Science areas as defined in Appendix B: Natural sciences, Social sciences and Humanities, Life sciences and Engineering sciences.

[2] Percentages in the sections "Supplementary Data" and "Sources of Information for Canadian Science" do not total up to 100%, since not all individuals replied to these sections; multiple responses possible. For the latter section, percentages were derived using individuals who responded to both Scientist/Achievement and Source.

* Base less than 30 individuals.

MAIN TABLE 3. ATTITUDES OF THE PUBLIC TOWARDS SCIENCE IN GENERAL--BY SOCIAL CHARACTERISTICS.

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
IT IS IMPORTANT TO BE KEPT INFORMED ABOUT SCIENCE														
AGREE	82.1	83.5	84.6	85.2	86.5	77.2	81.9	82.4	80.8	83.9	84.1	78.2	88.3	88.8
DISAGREE	4.0	4.1	2.1	3.6	2.2	5.9	4.5	3.5	4.7	3.2	2.9	4.9	2.2	2.7
IT VARIES	7.7	7.8	7.0	7.5	7.3	8.3	7.7	7.7	8.0	8.6	4.5	9.1	5.6	5.3
NO OPINION	4.7	4.3	3.6	3.1	3.0	7.0	4.7	4.8	4.8	2.9	8.2	6.4	3.0	1.5
NOT STATED	1.4	0.3	2.7	0.7	1.1	1.6	1.2	1.6	1.7	1.5	0.2	1.5	0.9	1.7
SCIENTIFIC DEVELOPMENTS ARE DISTANT FROM MY EVERY DAY LIFE														
AGREE	35.8	32.3	29.7	33.3	33.4	41.8	37.0	34.5	39.3	26.0	41.7	40.1	36.4	23.0
DISAGREE	46.8	54.5	57.2	50.9	49.5	37.0	47.4	46.2	44.9	55.3	37.3	39.3	47.0	67.8
IT VARIES	9.2	7.7	7.8	10.5	11.2	8.8	8.2	10.3	8.3	10.8	9.8	10.2	9.8	6.3
NO OPINION	6.5	5.2	2.7	4.3	4.7	10.5	6.1	6.9	5.5	6.4	10.8	8.6	5.7	1.2
NOT STATED	1.7	0.3	2.7	1.1	1.3	2.0	1.3	2.0	2.1	1.5	0.4	1.8	1.2	1.7
SCIENCE IS MAINLY FOR WELL-EDUCATED PEOPLE														
AGREE	19.1	5.8	13.7	16.1	17.1	27.0	18.6	19.6	17.9	18.7	25.1	23.5	15.0	9.7
DISAGREE	68.1	82.9	78.2	74.2	69.2	56.5	67.8	68.3	69.4	69.8	59.3	62.5	74.1	79.5
IT VARIES	6.8	6.3	2.5	5.8	9.1	8.4	7.0	6.5	6.6	7.8	5.3	6.8	6.4	7.1
NO OPINION	4.0	4.3	2.3	2.1	3.5	5.9	4.7	3.3	3.7	2.0	9.1	5.5	2.4	0.8
NOT STATED	2.0	0.8	3.2	1.9	1.1	2.2	1.8	2.3	2.4	1.7	1.2	1.7	2.1	2.9
I WOULD LIKE TO FIND OUT MORE ABOUT CANADIAN ACHIEVEMENTS IN SCIENCE														
AGREE	62.9	76.2	69.8	64.0	64.9	55.4	64.0	61.8	60.7	66.3	65.1	60.1	63.3	70.8
DISAGREE	16.5	8.5	11.1	14.7	15.8	22.1	16.4	16.6	18.1	14.4	14.5	16.7	19.0	13.8
IT VARIES	10.2	8.3	11.1	13.0	12.2	7.9	9.6	10.8	10.2	10.6	9.3	11.4	9.0	7.7
NO OPINION	8.8	6.8	5.3	7.7	6.0	12.8	8.7	9.0	9.1	7.3	10.9	10.1	7.9	5.9
NOT STATED	1.5	0.3	2.7	0.7	1.1	1.9	1.2	1.8	1.9	1.5	0.2	1.7	0.9	1.7
YOUNG PEOPLE ARE BETTER EQUIPPED TO UNDERSTAND MODERN SCIENCE THAN ARE OLDER PEOPLE														
AGREE	56.7	41.5	43.8	54.8	62.1	64.8	56.5	56.9	53.3	60.0	63.8	57.7	61.2	50.8
DISAGREE	27.8	48.3	39.7	29.5	22.5	19.0	27.0	28.5	30.3	25.8	21.5	26.0	29.6	31.0
IT VARIES	10.0	7.1	10.9	11.9	10.8	9.0	10.8	9.3	10.9	10.2	6.3	9.5	5.8	14.7
NO OPINION	4.0	2.8	3.0	2.7	3.5	5.6	4.5	3.5	3.6	2.6	8.3	5.2	2.5	1.7
NOT STATED	1.5	0.3	2.7	1.2	1.1	1.6	1.2	1.8	1.9	1.5	0.2	1.6	0.9	1.7
THE MAJOR MEDIA-- DAILY NEWSPAPERS/MAGAZINES/RADIO/TV-- PROVIDE SUFFICIENT COVERAGE OF SCIENCE														
AGREE	39.6	38.3	27.7	37.9	36.6	47.6	38.1	41.1	37.6	39.3	48.1	44.1	38.2	28.1
DISAGREE	42.8	47.9	57.6	47.3	45.7	31.0	45.1	40.5	45.4	41.4	35.0	36.3	48.8	56.4
IT VARIES	9.3	9.1	8.7	9.0	11.6	8.8	8.8	9.8	9.3	10.4	7.2	9.1	8.3	10.7
NO OPINION	6.7	3.9	3.3	5.1	4.7	10.5	6.5	6.8	5.7	7.4	9.2	8.7	3.9	3.0
NOT STATED	1.7	0.8	2.7	0.7	1.4	2.0	1.5	1.8	2.1	1.5	0.5	1.8	0.9	1.9
MOST INFORMATION ABOUT SCIENCE IS DIFFICULT TO UNDERSTAND BECAUSE OF THE VOCABULARY USED														
AGREE	53.9	56.9	51.3	51.9	54.3	55.4	53.5	54.3	51.8	54.6	60.9	60.8	49.8	37.8
DISAGREE	25.9	22.5	28.9	31.3	27.4	21.8	26.1	25.7	28.8	24.0	17.9	18.4	33.2	41.4
IT VARIES	13.8	15.9	14.4	12.6	14.3	13.3	14.0	13.5	12.8	15.8	13.7	13.1	13.1	16.2
NO OPINION	4.7	4.4	2.4	3.3	2.9	7.5	5.0	4.5	4.7	3.9	6.8	6.2	2.7	2.2
NOT STATED	1.7	0.3	3.1	0.9	1.1	2.0	1.3	2.1	1.9	1.7	0.8	1.5	1.2	2.5
NOT ENOUGH SCIENTIFIC INFORMATION IS MADE PUBLIC														
AGREE	53.7	67.2	63.3	54.8	56.6	44.4	54.9	52.6	50.5	62.6	48.6	52.7	58.9	52.5
DISAGREE	21.6	17.2	15.8	22.8	18.5	26.0	21.9	21.3	23.2	16.6	25.1	19.8	21.8	26.6
IT VARIES	10.4	8.0	11.9	12.5	12.1	8.4	9.7	11.1	10.6	11.2	7.8	10.5	9.7	10.8
NO OPINION	12.6	7.4	6.3	8.9	11.7	19.0	12.1	13.2	13.6	7.9	18.3	15.3	8.7	8.0
NOT STATED	1.7	0.3	2.7	1.0	1.1	2.1	1.5	1.8	2.0	1.7	0.2	1.7	0.9	2.2
I WOULD LIKE TO FIND OUT MORE ABOUT THE PEOPLE INVOLVED IN SCIENCE														
AGREE	45.2	54.2	52.5	42.5	46.8	40.3	44.6	45.7	38.1	56.8	49.9	44.8	43.4	47.5
DISAGREE	32.1	29.7	26.7	35.4	30.1	34.4	31.1	33.1	37.0	25.4	26.0	31.1	37.6	30.6
IT VARIES	9.4	9.3	11.2	9.3	8.7	9.0	10.5	8.4	10.5	8.2	7.8	9.1	9.3	10.7
NO OPINION	11.8	6.5	7.1	12.0	13.2	14.3	12.5	11.0	12.6	8.0	15.9	13.3	8.8	9.5
NOT STATED	1.5	0.3	2.7	0.7	1.1	1.9	1.3	1.7	1.8	1.5	0.5	1.6	0.9	1.7
MOST INFORMATION ABOUT SCIENCE IS DIFFICULT TO UNDERSTAND BECAUSE THE SUBJECTS ARE TOO TECHNICAL														
AGREE	54.1	48.6	44.6	50.9	54.2	61.3	53.8	54.4	[illegible]0.8	57.5	60.6	60.8	48.8	39.0
DISAGREE	23.3	31.3	27.7	27.6	26.7	15.8	24.6	22.0	26.4	19.7	18.0	16.4	29.5	38.2
IT VARIES	15.7	14.6	22.5	17.2	14.0	12.7	15.3	16.0	16.1	15.7	14.0	14.0	17.7	19.3
NO OPINION	5.5	5.2	2.6	3.6	4.0	8.5	5.0	5.9	5.0	5.6	7.3	7.4	3.1	1.8
NOT STATED	1.4	0.3	2.7	0.7	1.1	1.6	1.2	1.6	1.7	1.5	0.2	1.5	0.9	1.7

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
85.2	84.6	81.3	81.8	75.4	86.6	79.1	82.5	86.0	83.1	86.3	80.6	79.0
5.2	5.9	3.8	3.7	3.4	3.7	4.6	3.5	4.0	4.2	4.0	4.3	3.4
6.9	7.1	8.7	7.5	7.9	6.9	9.4	6.6	5.2	7.6	6.2	8.6	8.0
2.2	2.4	5.5	5.0	9.6	2.0	5.1	6.6	3.9	4.4	2.3	5.9	6.0
0.4	.	0.7	1.9	3.8	0.8	1.8	0.7	1.0	0.8	1.1	0.6	3.6
28.8	26.4	36.4	37.4	39.4	23.0	41.0	41.4	39.9	33.9	32.2	35.2	42.2
62.7	58.6	48.0	43.4	40.2	59.1	39.4	42.0	52.9	49.8	51.8	48.3	36.3
6.1	8.6	9.6	9.6	5.2	11.0	10.3	8.7	5.3	9.5	9.9	9.2	8.5
2.1	6.5	5.2	7.4	9.8	6.2	7.3	6.9	0.9	5.7	4.9	6.4	9.1
0.4	.	0.9	2.2	5.4	0.8	1.9	1.0	1.0	1.0	1.2	0.9	3.9
10.5	14.0	21.8	19.9	25.0	18.5	20.4	17.7	13.4	18.8	18.5	19.1	20.1
79.7	73.4	68.0	66.2	53.1	70.7	66.6	67.1	80.7	70.1	70.8	69.5	61.1
5.7	6.2	4.7	7.6	8.1	8.0	6.4	7.2	2.9	6.5	6.6	6.5	7.5
1.3	6.0	4.3	4.0	8.9	1.9	4.0	6.1	2.1	3.1	2.0	3.9	7.2
2.8	0.5	1.2	2.4	4.9	0.8	2.7	1.9	1.0	1.5	2.2	0.9	4.0
62.8	70.7	63.8	61.9	49.5	69.0	58.8	66.6	67.0	64.5	66.0	63.4	57.4
21.8	12.0	16.7	16.3	9.9	14.7	19.7	14.7	18.9	17.2	18.6	16.1	14.2
9.0	10.5	9.9	10.4	14.0	9.8	10.4	9.5	8.1	10.2	8.6	11.5	10.0
6.1	6.8	8.8	9.4	21.8	5.6	9.4	8.5	5.0	7.1	5.6	8.3	14.7
0.4	.	0.7	2.1	4.9	0.8	1.8	0.7	1.0	0.9	1.1	0.8	3.6
54.6	46.8	55.1	58.5	52.6	59.6	55.7	55.3	58.3	57.6	59.9	55.9	53.6
29.5	35.7	25.9	27.4	25.6	27.4	28.0	27.4	30.5	29.0	28.0	29.8	23.4
14.2	10.1	13.8	8.3	10.8	10.3	10.3	9.6	8.3	9.6	9.6	9.7	11.3
1.3	7.3	4.6	3.8	7.3	1.9	4.0	7.0	2.0	2.8	1.4	3.9	8.0
0.4	.	0.7	2.1	3.8	0.8	2.0	0.7	1.0	0.9	1.1	0.8	3.6
26.3	28.5	38.6	42.6	42.1	36.9	43.3	38.7	32.9	37.8	35.8	39.3	45.6
61.3	49.7	45.0	39.1	28.3	45.7	39.9	44.4	54.9	46.1	50.1	43.1	31.4
8.1	13.7	8.9	9.2	13.7	10.2	8.6	8.6	7.0	9.4	9.2	9.5	9.2
3.9	8.2	6.3	7.0	11.0	6.4	6.2	7.6	3.8	5.7	3.7	7.1	10.1
0.4	.	1.1	2.2	4.9	0.8	2.0	0.7	1.4	1.1	1.3	1.0	3.6
41.1	47.6	55.6	55.6	57.2	51.3	54.4	57.4	51.1	53.2	50.9	54.9	56.3
41.8	30.5	23.6	24.2	22.8	26.5	24.9	24.8	32.3	27.6	29.3	26.3	20.0
12.8	17.6	14.4	13.3	8.1	17.7	13.4	12.1	11.9	14.1	14.9	13.4	12.7
3.9	3.8	5.4	4.7	7.8	3.5	5.5	4.8	2.8	4.1	3.4	4.6	7.1
0.4	0.5	0.9	2.2	4.1	1.0	1.9	0.9	1.9	1.1	1.5	0.7	3.9
54.9	55.7	58.6	51.8	41.2	63.5	49.3	53.0	54.8	56.4	60.8	53.1	44.4
30.4	23.6	16.1	22.0	19.7	16.5	24.8	19.8	28.4	22.0	19.9	23.6	20.2
5.4	9.5	12.3	10.5	15.8	12.2	8.3	10.4	8.3	9.4	8.2	10.3	13.9
7.9	11.2	12.2	13.5	18.4	6.8	15.8	16.0	7.2	11.1	9.6	12.3	17.8
1.4	.	0.7	2.2	4.9	1.0	1.9	0.7	1.4	1.1	1.5	0.8	3.6
44.0	52.1	45.2	44.6	33.4	59.8	37.4	43.3	46.1	47.0	51.0	43.9	38.9
35.9	26.4	32.0	32.3	25.1	24.4	39.7	27.7	39.5	32.8	32.5	33.0	29.8
10.6	14.1	8.2	9.2	14.6	8.2	8.7	11.7	7.6	9.1	7.5	10.3	10.7
9.1	7.3	13.9	11.8	23.0	6.8	12.3	16.5	5.9	10.2	7.9	11.9	17.0
0.4	.	0.7	2.1	3.8	0.8	1.9	0.9	1.0	0.9	1.1	0.8	3.6
35.6	47.7	59.6	55.2	55.2	56.0	52.7	55.0	51.2	53.8	53.8	53.7	55.2
41.8	24.3	21.4	21.6	20.3	22.1	23.7	21.5	30.4	24.4	26.4	23.0	19.4
20.2	21.7	14.3	15.0	12.3	15.9	16.3	16.0	15.4	16.2	15.2	16.9	14.1
2.1	6.4	4.0	6.3	8.5	5.1	5.4	6.8	2.0	4.9	3.5	5.9	7.6
0.4	.	0.7	1.9	3.8	0.8	1.8	0.7	1.0	0.8	1.1	0.6	3.6

MAIN TABLE 4. ATTITUDES OF THE PUBLIC TOWARDS SCIENCE IN GENERAL--BY DEGREE OF INTEREST IN THE SCIENCES.

	TOTAL VERY/QUITE INTERESTED IN [1]			INTEREST IN							
				NATURAL SCIENCES		SOCIAL SCIENCES /HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
TOTAL INTERVIEWS	*224*	*351*	*1425*	*625*	*786*	*1215*	*481*	*1457*	*291*	*983*	*692*
IT IS IMPORTANT TO BE KEPT INFORMED ABOUT SCIENCE											
Agree	37.1	76.6	9D.6	92.7	72.9	90.5	64.B	89.0	56.7	9D.5	72.0
Disagree	7.6	8.8	2.3	1.9	7.2	2.7	8.1	3.D	10.4	2.2	7.D
It varies	15.6	1D.8	5.7	4.7	8.7	5.5	11.2	6.2	1D.6	5.9	8.9
No opinion	29.D	4.0	1.2	0.8	8.4	1.2	12.3	1.5	16.3	1.2	8.7
Not stated	11.2	.	0.3	.	2.9	D.1	3.5	D.3	6.1	D.3	3.4
SCIENTIFIC DEVELOPMENTS ARE DISTANT FROM MY EVERY DAY LIFE											
Agree	41.1	45.3	32.6	29.3	44.0	32.2	46.0	34.8	42.3	33.5	41.6
Disagree	12.5	36.2	54.8	60.1	34.9	55.3	30.2	52.2	25.8	56.3	34.D
It varies	4.9	1D.3	9.7	9.0	7.5	8.9	6.5	9.5	4.4	8.5	9.D
No opinion	29.5	8.3	2.4	1.6	1D.3	3.2	13.2	3.1	2D.7	1.4	11.6
Not stated	11.6	2.8	D.4	.	3.3	D.3	4.0	0.4	6.8	D.3	3.8
SCIENCE IS MAINLY FOR WELL-EDUCATED PEOPLE											
Agree	32.6	25.9	15.4	11.7	25.3	15.9	24.9	17.D	29.3	14.6	26.1
Disagree	24.5	60.1	76.9	80.7	59.1	76.9	53.5	74.4	41.9	77.9	55.6
It varies	6.7	8.5	6.3	6.8	6.0	5.8	7.6	6.6	7.5	6.2	7.3
No opinion	24.6	4.8	0.6	0.3	6.0	D.8	9.6	1.2	13.9	0.6	7.1
Not stated	11.6	1.1	D.8	D.5	3.6	0.6	4.4	D.8	7.4	D.8	4.D
I WOULD LIKE TO FIND OUT MORE ABOUT CANAOIAN ACHIEVEMENTS IN SCIENCE											
Agree	12.1	57.5	72.3	78.0	49.9	71.3	47.8	7D.2	34.9	75.7	47.1
Disagree	25.9	21.1	13.9	11.2	23.1	14.6	22.9	14.8	24.9	12.2	23.4
It varies	14.3	14.2	8.5	6.5	11.9	8.8	9.2	9.6	9.8	7.2	12.5
No opinion	36.2	7.1	5.0	4.3	11.9	5.2	16.2	5.1	23.5	4.7	13.4
Not stated	12.1	.	D.3	.	3.1	0.1	4.0	0.3	6.8	0.3	3.6
YOUNG PEOPLE ARE BETTER EQUIPPED TO UNDERSTAND MODERN SCIENCE THAN ARE OLDER PEOPLE											
Agree	48.7	58.4	57.5	54.8	59.2	57.4	56.4	58.2	52.5	57.2	58.4
Disagree	12.9	25.9	30.5	33.5	23.3	30.D	23.5	28.9	23.3	31.3	22.6
It varies	5.4	9.7	10.9	10.7	8.7	11.5	6.5	11.3	5.5	10.0	9.2
No opinion	21.9	6.3	0.7	0.8	5.9	0.9	9.7	1.2	12.7	1.0	6.5
Not stated	11.2	.	D.4	D.2	2.9	D.1	3.9	D.4	6.1	D.4	3.4
THE MAJOR MEDIA-DAILY NEWSPAPERS/MAGAZINES/ RADIO/TV PROVIDE SUFFICIENT COVERAGE OF SCIENCE											
Agree	41.1	47.0	37.6	34.1	45.8	36.8	46.9	39.6	42.7	35.7	45.3
Disagree	8.5	35.0	5D.1	55.2	33.0	49.9	29.D	47.6	26.3	52.8	31.0
It varies	6.7	10.D	9.6	8.9	8.D	1D.D	6.7	9.4	5.9	9.2	8.3
No opinion	32.1	8.0	2.3	1.7	9.8	3.0	13.2	3.D	18.0	1.9	11.5
Not stated	12.1	.	D.4	0.1	3.3	0.3	4.1	D.4	7.1	0.4	3.8
MOST INFORMATION ABOUT SCIENCE IS DIFFICULT TO UNDERSTAND BECAUSE OF THE VOCABULARY USED											
Agree	50.4	62.4	52.4	47.8	6D.D	51.9	59.1	54.1	56.7	51.6	56.2
Disagree	5.4	17.9	31.1	34.6	19.8	31.5	16.1	28.6	14.4	32.7	18.6
It varies	6.7	14.8	14.6	16.2	9.9	14.7	1D.3	15.1	8.0	13.B	13.1
No opinion	26.3	4.6	1.4	1.2	7.1	1.4	10.9	1.7	14.8	1.5	8.4
Not stated	11.2	2.8	D.6	0.2	3.1	0.5	3.5	D.5	6.1	0.4	3.7
NOT ENOUGH SCIENTIFIC INFORMATION IS MADE PUBLIC											
Agree	19.2	52.7	59.3	61.7	48.3	58.5	45.1	57.8	39.3	62.8	44.2
Disagree	17.9	16.5	23.5	22.1	22.5	23.4	2D.1	22.9	16.4	2D.6	22.7
It varies	7.1	16.0	9.6	9.8	9.1	9.8	9.1	1D.8	8.9	9.9	9.9
No opinion	44.2	14.5	7.2	6.3	16.9	8.1	21.8	8.1	28.7	6.4	19.5
Not stated	11.6	2.8	0.4	D.1	3.1	0.3	4.0	0.4	6.8	0.3	3.8
I WOULD LIKE TO FIND OUT MORE ABOUT THE PEOPLE INVOLVED IN SCIENCE											
Agree	8.0	37.6	52.8	6D.3	31.9	53.0	29.6	51.1	22.7	55.9	31.2
Disagree	32.1	35.D	31.4	25.7	4D.3	31.2	36.4	31.6	34.4	29.5	37.1
It varies	7.6	12.5	9.0	9.1	7.9	8.9	7.D	9.5	8.2	7.5	1D.2
No opinion	4D.6	14.5	6.5	4.9	16.8	6.7	23.0	7.5	28.3	6.8	17.9
Not stated	11.6	2.8	0.3	.	3.1	0.1	3.9	D.3	6.5	0.3	3.6
MOST INFORMATION ABOUT SCIENCE IS DIFFICULT TO UNDERSTAND BECAUSE THE SUBJECTS ARE TOO TECHNICAL											
Agree	50.D	6D.7	53.2	47.3	62.2	53.1	60.5	55.1	54.6	52.7	56.7
Disagree	4.9	17.7	27.6	31.1	16.4	27.2	14.9	26.1	12.4	29.9	15.7
It varies	6.7	17.4	16.7	19.0	1D.7	17.2	1D.2	16.1	10.4	15.3	14.6
No opinion	28.1	42.7	2.2	2.6	7.8	2.4	10.B	2.4	16.4	1.8	9.6
Not stated	11.2	.	0.3	.	2.9	0.1	3.5	0.3	6.1	D.3	3.4

[1] As for other tables, science areas as defined in Appendix B: Natural sciences, Social sciences and Humanities, Life sciences and Engineering sciences

MAIN TABLE 5. PUBLIC INTEREST IN A SELECTION OF GENERAL TOPICS AND ASSESSMENT OF MEDIA INFORMATION PROVIDED ON THESE TOPICS--BY SOCIAL CHARACTERISTICS.

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
SPORTS														
Total														
Very interested	29.7	46.7	35.0	26.8	32.9	23.6	40.0	19.6	30.5	31.4	23.2	29.7	28.4	30.9
Quite interested	26.5	31.5	28.9	24.4	24.4	26.3	27.6	25.4	27.1	24.9	27.6	26.2	25.8	28.0
Neither interested nor uninterested	10.3	6.7	14.8	9.8	10.7	9.1	8.9	11.7	10.4	11.4	7.8	8.8	9.1	15.6
Not very interested	18.0	11.4	13.6	24.6	18.3	18.1	13.5	22.4	18.7	15.4	20.5	18.3	20.2	15.7
Not at all interested	15.3	3.6	7.6	14.4	13.7	22.7	9.8	20.7	13.4	16.7	20.3	16.9	16.5	9.8
Not stated	0.1	.	0.2	.	.	0.2	0.1	0.1	.	0.2	0.5	0.2	.	.
Total very/quite interested														
Can get information [1]	88.6	79.1	88.2	90.5	87.3	91.8	88.2	89.2	89.3	88.1	86.4	89.0	89.2	87.2
Cannot get information	9.4	17.3	9.2	7.5	11.2	6.8	10.4	7.9	9.0	9.1	11.5	8.7	9.2	11.2
Not stated	2.0	3.6	2.6	2.0	1.5	1.3	1.4	2.9	1.6	2.7	2.0	2.3	1.5	1.7
SOCIETY NEWS														
Total														
Very interested	5.6	4.6	6.4	3.9	7.1	5.7	4.7	6.5	4.5	6.6	8.1	5.1	5.0	7.5
Quite interested	20.7	20.1	23.8	22.2	18.8	19.3	14.0	27.2	19.3	23.2	20.9	20.6	23.5	18.7
Neither interested nor uninterested	14.7	16.9	14.7	17.9	17.4	11.3	15.0	14.4	13.9	16.0	15.1	14.0	15.1	16.3
Not very interested	27.7	33.9	28.9	28.1	24.8	26.8	26.8	28.5	31.0	22.0	25.8	26.4	28.2	31.0
Not at all interested	31.0	24.6	26.1	27.7	31.9	35.9	39.0	23.0	31.1	31.7	28.9	33.3	27.9	26.5
Not stated	0.4	.	0.2	0.3	.	0.9	0.4	0.4	0.2	0.5	1.2	0.6	0.3	.
Total very/quite interested														
Can get information	86.1	90.9	84.0	77.9	87.5	89.9	81.7	88.5	89.3	84.2	79.5	87.0	90.5	80.1
Cannot get information	11.8	9.1	14.0	18.7	11.4	7.8	17.2	8.9	8.4	14.8	17.1	11.3	7.9	16.4
Not stated	2.1	.	2.0	3.5	1.0	2.3	1.1	2.6	2.3	1.0	3.4	1.6	1.6	3.6
NATIONAL POLITICS														
Total														
Very interested	15.9	5.1	10.2	13.5	21.8	19.7	18.0	13.9	16.3	13.5	19.6	11.4	18.9	26.6
Quite interested	32.7	17.8	23.4	34.4	40.1	36.4	35.7	29.8	35.0	28.7	32.1	28.9	33.6	42.8
Neither interested nor uninterested	14.0	14.6	18.0	16.8	13.3	11.0	14.6	13.5	14.0	13.8	14.9	13.8	18.0	12.0
Not very interested	20.3	30.8	29.0	22.5	12.0	16.3	17.7	22.8	18.7	22.5	22.1	23.3	18.9	12.9
Not at all interested	16.7	31.8	19.2	12.7	12.7	15.9	13.6	19.6	16.0	21.0	10.7	22.1	10.3	5.6
Not stated	0.3	.	0.2	.	0.2	0.7	0.4	0.3	0.2	0.6	0.5	0.5	0.2	.
Total very/quite interested														
Can get information	77.4	74.2	79.3	76.2	76.9	78.0	77.7	77.1	78.5	76.3	75.3	76.3	79.7	78.1
Cannot get information	20.2	25.8	19.9	21.6	19.7	19.5	20.4	20.1	19.6	20.5	22.4	21.0	18.9	19.7
Not stated	2.3	.	0.8	2.1	3.3	2.6	1.9	2.9	2.0	3.1	2.3	2.7	1.5	2.2
ENTERTAINMENT														
Total														
Very interested	18.5	24.9	25.9	16.9	18.0	14.6	14.6	22.4	17.3	20.2	19.7	17.2	21.6	19.9
Quite interested	44.5	49.1	46.9	54.0	45.1	37.4	44.7	44.4	48.2	39.5	40.2	43.4	47.7	45.6
Neither interested nor uninterested	14.2	15.1	14.6	14.3	12.4	14.4	15.3	13.0	13.9	14.3	15.0	12.4	15.1	18.6
Not very interested	15.2	8.2	8.5	11.5	15.7	21.5	17.7	12.8	15.7	14.0	15.6	17.0	10.4	13.6
Not at all interested	7.3	2.7	3.7	3.2	8.8	11.4	7.6	7.0	4.7	11.8	8.7	9.6	5.2	2.2
Not stated	0.3	.	0.4	.	.	0.5	0.1	0.4	0.2	0.2	0.8	0.4	.	.
Total very/quite interested														
Can get information	86.4	79.1	87.0	85.0	89.0	87.8	86.4	86.4	86.5	86.2	86.3	86.9	85.3	85.8
Cannot get information	11.0	16.6	11.4	12.9	7.3	9.6	12.6	9.6	11.2	10.7	10.6	10.2	12.8	11.5
Not stated	2.6	4.3	1.6	2.2	3.7	2.6	1.1	4.0	2.4	3.1	3.0	2.9	1.8	2.7
FOREIGN EVENTS														
Total														
Very interested	17.3	8.0	11.5	15.7	21.6	20.9	18.5	16.1	17.1	16.7	19.1	13.1	16.4	29.8
Quite interested	37.9	34.6	39.6	38.4	40.7	36.4	38.4	37.4	36.4	40.4	38.9	33.4	48.2	43.0
Neither interested nor uninterested	14.5	17.1	18.5	15.2	14.7	11.5	15.2	13.8	14.4	14.9	14.1	15.1	12.2	14.6
Not very interested	18.7	32.6	16.9	19.4	16.3	17.2	16.0	21.4	19.8	16.3	19.4	22.1	17.3	10.1
Not at all interested	11.3	7.6	13.1	11.0	6.6	13.3	11.7	10.9	12.0	11.5	7.8	15.8	5.9	2.3
Not stated	0.3	.	0.4	0.2	.	0.6	0.2	0.5	0.3	0.2	0.8	0.5	.	0.2
Total very/quite interested														
Can get information	76.9	83.7	73.4	73.6	77.1	78.8	75.3	78.6	77.6	80.0	68.1	76.7	81.8	74.1
Cannot get information	20.8	14.2	24.0	23.5	19.7	19.8	23.1	18.4	20.6	17.2	29.0	20.8	17.3	23.2
Not stated	2.3	2.1	2.6	2.9	3.2	1.4	1.6	3.0	1.8	2.8	2.9	2.6	0.9	2.6

[1] Percentages for the assessment of information being provided on the various topics derived using the very/quite interested individuals as base.

MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR- IES	BRITISH COLUM- BIA	URBAN TOTAL	URBAN OVER 500M	URBAN 1M-500M	TOTAL RURAL
29.0	45.6	40.3	24.9	28.3	32.7	28.4	29.7	27.4	31.4	33.4	29.8	24.0
30.4	24.6	26.8	26.1	29.1	24.8	26.0	27.6	29.0	25.7	23.2	27.6	29.2
14.5	10.6	8.3	10.4	14.0	11.0	10.5	8.5	7.5	10.3	11.9	9.1	10.5
14.9	9.1	17.1	19.5	14.3	13.4	18.8	22.4	23.8	17.5	16.1	18.5	19.8
11.1	10.1	7.0	18.9	14.4	17.5	16.3	11.8	12.2	15.0	15.1	14.9	16.5
.	.	0.4	0.1	.	0.5	.	.	.	0.2	0.2	0.1	.
87.5	87.7	89.5	88.5	94.7	86.9	88.8	89.1	86.5	88.7	86.7	90.1	88.5
11.8	10.6	9.5	8.8	5.3	9.7	9.9	9.4	10.3	9.4	10.7	8.5	9.1
0.7	1.8	1.0	2.6	.	3.3	1.3	1.5	3.2	1.9	2.6	1.4	2.4
3.9	4.2	4.2	6.4	9.8	6.3	4.3	4.5	6.7	6.2	8.0	4.7	3.8
18.3	14.7	15.4	23.2	25.4	21.0	19.1	22.8	17.8	20.1	20.2	20.0	22.6
6.9	15.4	16.3	15.0	21.3	15.6	13.6	14.9	9.7	15.7	17.1	14.7	11.1
24.3	37.6	23.8	28.3	21.2	23.2	30.2	30.1	32.6	28.5	25.8	30.5	24.9
46.5	26.9	39.7	26.7	21.6	33.0	32.5	27.7	33.2	29.1	28.1	29.8	37.5
.	1.2	0.7	0.3	0.7	0.9	0.3	.	.	0.5	0.8	0.3	0.2
84.2	*	79.3	88.9	86.5	82.8	90.4	84.2	84.5	85.8	83.5	87.7	87.2
13.9	*	18.8	8.9	9.6	15.6	6.9	15.3	13.7	12.4	12.5	12.3	9.9
1.8	*	1.9	2.1	3.9	1.5	2.7	0.5	1.8	1.8	3.9	.	2.9
28.2	15.4	16.0	14.5	11.5	15.8	15.9	15.0	21.9	17.3	21.3	14.3	11.2
41.1	43.2	28.8	32.0	38.6	31.1	31.8	32.3	36.1	33.3	34.6	32.3	30.8
12.8	16.0	17.7	12.8	17.8	12.9	14.7	15.3	9.5	14.2	12.1	15.8	13.5
12.5	18.3	18.4	22.0	14.4	20.8	20.1	22.4	21.3	20.0	18.6	21.0	21.3
5.4	5.9	18.8	18.4	17.4	18.7	17.2	15.0	11.2	14.8	12.7	16.4	23.1
.	1.2	0.4	0.3	0.3	0.7	0.3	.	.	0.4	0.7	0.3	.
80.9	70.6	81.1	76.6	88.6	76.0	80.1	75.0	67.6	77.3	77.2	77.4	77.9
18.0	27.6	16.3	20.9	8.6	20.7	19.0	23.0	27.9	20.4	20.3	20.5	19.3
1.2	1.8	2.5	2.5	2.7	3.3	0.8	2.0	4.5	2.2	2.4	2.0	2.8
15.7	20.5	15.1	19.7	15.3	19.6	17.9	22.1	14.9	20.6	23.3	18.6	11.2
44.9	46.5	45.0	44.2	47.1	40.0	44.3	50.0	46.7	45.1	43.5	46.3	42.7
17.4	16.7	16.1	12.9	13.6	14.6	15.4	10.0	15.8	14.4	15.9	13.3	13.4
17.4	11.5	16.1	15.0	17.6	14.0	15.5	14.4	16.5	13.8	12.1	15.0	20.1
4.6	4.3	7.4	7.9	5.4	11.3	6.8	3.5	6.1	5.9	5.0	6.6	12.2
.	0.5	0.4	0.2	1.1	0.5	0.1	.	.	0.3	0.2	0.3	0.3
88.0	82.4	85.8	86.8	86.6	83.2	90.6	86.8	78.9	86.0	84.8	87.0	87.8
11.4	15.8	12.6	10.0	10.7	13.5	8.2	10.7	15.1	11.5	12.5	10.7	8.9
0.7	1.8	1.6	3.3	2.7	3.3	1.3	2.5	6.0	2.5	2.7	2.4	3.2
31.5	14.2	16.7	16.0	14.0	19.9	16.1	15.0	20.7	18.4	24.7	13.6	13.5
40.6	52.1	33.9	37.5	34.6	42.0	35.2	37.6	39.8	39.1	37.6	40.2	34.0
8.0	10.5	18.1	14.5	20.7	13.6	13.8	17.0	9.7	14.1	14.1	14.2	15.8
14.5	12.6	16.8	20.4	17.3	14.7	20.3	19.2	24.3	17.9	14.7	20.4	21.4
5.4	10.0	14.1	11.2	12.4	9.1	14.4	11.0	5.4	10.2	8.6	11.3	15.1
.	0.5	0.4	0.4	1.1	0.6	0.1	0.2	.	0.4	0.3	0.4	0.3
72.3	78.4	75.7	77.9	84.3	77.6	80.3	72.2	66.1	77.6	75.0	79.9	74.0
26.0	19.6	21.9	19.8	11.1	19.4	18.5	26.5	30.4	20.5	22.6	18.7	21.9
1.7	2.0	2.5	2.4	4.6	3.0	1.1	1.2	3.4	1.8	2.3	1.4	4.1

Spanning headings: OCCUPATION (MANAGER/PROF. – OTHER); REGION (ATLANTIC PROV. – BRITISH COLUMBIA); COMMUNITY SIZE (URBAN: TOTAL, OVER 500M, 1M-500M; TOTAL RURAL).

* Base less than 30 individuals

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SECONDARY
CRIME														
Total														
Very interested	11.0	11.8	15.6	9.2	13.0	8.7	10.2	11.8	12.1	7.8	13.2	10.8	12.5	10.6
Quite interested	33.9	41.7	35.1	37.3	34.8	29.5	36.2	31.6	39.6	23.0	33.1	34.2	31.6	34.8
Neither interested nor uninterested	15.8	13.8	17.0	18.0	16.5	14.3	17.4	14.2	14.9	18.8	13.5	13.4	19.2	20.3
Not very interested	20.0	18.9	17.3	22.1	17.5	21.7	18.6	21.5	19.6	20.7	20.7	19.5	19.2	22.4
Not at all interested	18.8	13.8	14.6	13.1	17.3	25.4	17.0	20.6	13.6	29.1	18.8	21.7	17.2	11.5
Not stated	0.4	.	0.5	0.3	0.8	0.4	0.6	0.3	0.3	0.6	0.7	0.4	0.4	0.4
Total very/quite interested														
Can get information	78.9	78.5	78.9	78.1	79.9	79.0	79.6	78.2	79.0	81.6	75.2	77.6	84.0	79.0
Cannot get information	18.8	17.3	19.3	20.1	19.0	18.2	18.3	19.4	18.9	15.3	23.1	19.9	14.9	18.8
Not stated	2.2	4.2	1.8	1.8	1.1	2.8	2.1	2.4	2.1	3.1	1.7	2.5	1.1	2.2
MEDICINE AND HEALTH														
Total														
Very interested	31.4	18.7	23.3	30.6	39.7	34.7	22.3	40.3	29.5	35.0	31.3	29.4	35.7	33.3
Quite Interested	42.7	41.3	40.7	46.3	36.5	44.9	41.8	43.6	43.6	40.8	43.0	43.2	44.1	40.5
Neither interested nor uninterested	12.0	13.5	18.3	12.1	12.3	8.6	16.5	7.6	12.2	11.3	12.7	11.4	11.1	14.6
Not very interested	9.1	20.2	12.1	7.7	7.6	6.5	12.6	5.7	9.6	8.0	9.1	10.0	6.1	8.7
Not at all interested	4.6	5.8	4.9	3.1	3.9	5.2	6.6	2.6	4.9	4.3	3.9	5.8	2.8	2.5
Not stated	0.2	0.5	0.6	0.1	.	.	0.2	0.2	.	0.5	.	0.1	0.2	0.4
Total very/quite interested														
Can get information	64.9	69.3	61.6	63.2	55.6	70.2	65.9	64.2	65.8	64.6	61.8	65.0	66.4	63.4
Cannot get information	32.3	27.6	34.9	34.7	41.2	27.1	31.8	32.6	31.7	32.0	35.2	31.8	32.6	33.1
Not stated	2.8	3.1	3.5	2.0	3.2	2.8	2.4	3.2	2.5	3.4	3.0	3.2	1.0	3.4
OTHER SCIENCE														
Total														
Very interested	14.7	15.7	16.0	18.7	15.2	11.6	15.0	14.3	14.1	15.8	14.8	10.5	17.6	24.3
Quite interested	34.0	44.3	34.7	35.0	37.8	29.1	37.8	30.2	34.8	35.0	28.5	32.0	32.2	40.7
Neither interested nor uninterested	17.0	18.6	17.0	17.1	18.3	16.2	15.9	18.2	16.2	17.5	19.6	17.3	17.5	16.1
Not very interested	20.9	13.6	18.9	19.9	18.8	25.0	19.3	22.6	22.6	17.3	21.5	23.8	18.9	14.4
Not at all interested	13.1	7.7	13.1	9.3	9.5	17.7	12.0	14.1	11.8	14.3	15.7	16.1	13.5	4.4
Not stated	0.3	.	0.4	.	0.5	0.5	0.1	0.6	0.5	0.2	.	0.4	0.4	0.2
Total very/quite interested														
Can get information	63.1	60.1	62.4	65.8	59.7	64.6	60.7	65.8	64.8	61.5	59.2	63.7	64.5	60.9
Cannot get information	33.7	37.2	34.4	30.3	37.4	32.3	35.8	31.2	32.8	33.7	37.8	31.9	34.5	36.8
Not stated	3.2	2.7	3.2	3.9	2.9	3.1	3.5	2.9	2.4	4.8	3.0	4.4	1.1	2.3
LOCAL NEWS/EVENTS														
Total														
Very interested	37.4	25.2	27.5	35.4	44.6	42.6	37.0	37.9	36.4	41.3	33.6	38.8	44.0	28.8
Quite interested	46.7	54.5	47.2	47.1	44.2	45.7	45.3	48.1	47.6	42.6	51.4	46.1	42.7	51.3
Neither interested nor uninterested	7.2	8.0	12.4	8.7	5.2	4.6	8.9	5.4	8.0	6.3	5.2	6.6	6.2	9.5
Not very interested	6.3	9.2	9.0	6.8	5.2	4.5	6.5	6.0	5.7	6.8	7.4	6.0	4.9	7.7
Not at all interested	2.2	3.2	3.8	1.3	0.8	2.4	2.2	2.3	2.0	2.5	2.3	2.3	2.1	2.1
Not stated	0.2	.	0.2	0.7	.	0.2	0.2	0.3	0.2	0.4	.	0.2	0.2	0.5
Total very/quite interested														
Can get information	86.8	91.6	86.7	86.1	85.3	86.9	88.1	85.5	87.5	85.9	85.9	85.9	87.8	88.7
Cannot get information	10.5	7.0	11.4	12.0	12.0	9.4	9.9	11.0	10.1	10.9	11.1	10.9	10.7	9.0
Not stated	2.7	1.4	1.9	1.9	2.8	3.7	1.9	3.5	2.4	3.3	3.1	3.2	1.5	2.3
LABOUR AND INDUSTRY														
Total														
Very interested	20.5	9.0	15.1	20.4	25.0	23.8	27.4	13.8	21.9	16.7	22.7	20.3	21.7	20.6
Quite interested	38.7	24.5	38.4	41.5	44.7	37.9	40.8	36.6	38.7	38.1	39.8	37.7	35.6	43.7
Neither interested nor uninterested	15.1	21.2	19.3	17.0	11.8	12.3	13.5	16.7	14.4	18.6	10.8	14.7	14.2	17.1
Not very interested	15.7	25.6	18.5	15.3	12.0	14.0	11.3	19.9	16.2	14.9	15.0	15.1	18.5	15.0
Not at all interested	9.8	19.7	8.4	5.8	6.5	11.7	6.8	12.7	8.6	11.4	11.4	11.9	9.8	3.7
Not stated	0.2	.	0.4	.	.	0.4	0.2	0.3	0.2	0.4	0.2	0.3	0.2	.
Total very/quite interested														
Can get information	74.3	64.8	76.4	73.6	72.8	75.7	73.9	74.9	76.3	66.9	79.9	73.2	75.2	76.5
Cannot get information	22.6	34.2	21.0	23.1	24.4	20.7	23.7	21.0	21.3	29.1	15.9	23.2	23.2	20.7
Not stated	3.1	1.1	2.6	3.3	2.7	3.6	2.4	4.1	2.5	4.0	4.1	3.6	1.6	2.8

OCCUPATION				REGION					COMMUNITY SIZE — URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
10.4	13.5	10.1	11.2	15.1	8.2	10.7	11.5	15.7	11.5	12.8	10.4	9.6
39.5	39.4	32.9	33.0	40.7	22.1	36.9	40.3	39.0	33.8	30.5	36.3	34.1
21.4	22.6	17.5	14.0	11.6	19.4	18.1	12.1	7.9	15.8	16.6	15.3	15.7
11.8	9.9	21.9	21.4	15.0	21.2	17.7	22.1	26.2	20.5	21.6	19.7	18.3
14.9	14.2	17.3	20.2	17.5	28.4	16.3	13.5	11.4	17.9	17.6	18.1	22.0
2.0	0.3	0.4	0.3	.	0.8	0.3	0.6	.	0.5	0.9	0.2	0.2
78.2	83.1	81.9	77.6	83.2	81.4	82.7	71.8	70.5	79.3	80.5	78.4	77.7
17.0	15.5	16.1	20.3	13.2	16.9	16.0	26.5	24.1	18.9	18.2	19.4	18.6
4.8	1.3	2.0	2.1	3.6	1.8	1.3	1.7	5.4	1.8	1.3	2.2	3.7
30.3	31.5	21.1	34.7	37.7	35.6	27.8	29.0	30.3	32.7	34.6	31.1	26.9
48.6	36.8	44.3	42.1	34.3	39.8	44.6	45.8	46.8	42.1	40.1	43.5	45.0
10.2	15.1	16.7	10.5	16.6	11.5	13.2	10.3	8.3	11.8	12.4	11.3	13.0
6.6	9.5	10.2	9.0	5.2	8.7	9.3	11.4	9.2	8.8	8.9	8.7	10.1
4.4	7.1	7.5	3.5	6.1	3.9	5.1	3.4	5.3	4.5	3.8	5.1	4.9
.	.	0.1	0.3	0.3	0.6	.	.	.	0.2	0.1	0.2	0.1
62.6	60.0	68.7	64.6	69.2	62.1	69.1	67.6	50.8	64.8	64.2	65.3	65.3
33.4	38.7	28.9	32.5	27.2	33.9	29.7	31.0	42.3	32.4	32.8	32.0	31.8
4.0	1.3	2.4	2.9	3.5	3.9	1.2	1.4	6.9	2.8	3.0	2.7	2.9
24.2	13.9	13.7	13.9	12.4	17.7	12.7	14.2	16.4	15.3	18.7	12.8	12.5
48.4	40.6	36.5	30.7	28.2	36.8	32.8	34.4	34.7	35.8	34.8	36.5	27.7
4.8	18.8	17.7	18.2	24.8	16.0	18.1	14.6	13.3	17.3	18.9	16.0	16.3
16.5	15.7	20.8	22.0	21.7	16.0	21.1	24.4	27.7	19.2	18.2	20.0	26.8
6.1	10.4	11.1	14.8	11.8	13.4	15.0	12.2	7.6	12.1	9.1	14.4	16.3
.	0.5	0.2	0.4	1.1	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.4
66.5	47.4	64.1	63.9	73.7	57.8	65.3	64.6	61.7	62.4	61.4	63.3	65.9
31.8	46.4	31.5	33.3	23.1	36.3	33.4	34.2	33.7	34.3	34.4	34.2	31.1
1.7	6.2	4.4	2.7	3.2	5.9	1.4	1.1	4.6	3.3	4.3	2.5	3.0
36.6	38.2	35.7	38.0	46.8	40.8	32.2	40.9	32.8	36.9	32.7	40.1	39.1
42.5	40.0	47.0	47.8	43.0	41.8	49.3	46.5	54.7	46.1	47.2	45.3	48.7
8.5	8.5	8.6	6.4	6.8	6.7	9.3	4.9	4.9	7.9	9.6	6.6	4.7
10.0	8.7	5.6	5.8	1.9	7.6	6.8	6.1	4.8	6.4	7.6	5.5	5.7
2.3	3.3	2.9	1.9	0.4	2.9	2.3	1.6	2.8	2.3	2.6	2.1	1.9
.	1.2	0.1	0.2	1.2	0.4	0.1	.	.	0.3	0.3	0.3	.
89.3	78.7	87.1	87.1	88.6	84.4	87.7	90.6	82.2	86.1	86.9	85.5	89.1
9.7	19.6	10.4	9.8	7.4	11.8	10.4	7.7	14.5	11.3	10.7	11.7	7.8
1.1	1.7	2.4	3.1	4.0	3.9	1.9	1.6	3.3	2.6	2.4	2.8	3.1
31.7	26.3	29.8	15.7	30.7	18.1	18.8	20.6	24.4	20.9	19.6	21.9	19.2
44.5	36.6	41.2	37.4	30.6	39.8	36.5	41.1	46.7	37.4	39.6	35.7	43.1
8.0	18.0	13.0	16.4	16.0	18.2	14.9	11.9	11.8	15.8	16.5	15.2	12.8
11.3	13.5	9.2	18.4	16.1	13.0	18.2	16.8	11.7	16.3	14.9	17.4	13.4
4.5	3.8	6.8	11.9	6.4	10.5	11.4	9.5	5.4	9.4	9.0	9.6	11.1
.	1.8	.	0.2	0.4	0.4	0.2	.	.	0.2	0.3	0.1	0.3
77.0	70.7	75.5	73.8	79.4	68.2	78.9	76.7	68.3	74.4	73.5	75.0	74.1
21.3	25.8	21.5	22.9	16.1	26.8	20.1	21.2	26.6	22.7	23.5	22.0	22.3
1.7	3.4	3.0	3.3	4.4	5.0	0.9	2.2	5.1	3.0	3.0	3.0	3.6

MAIN TABLE 6. PUBLIC INTEREST IN A SELECTION OF GENERAL TOPICS AND ASSESSMENT OF MEDIA INFORMATION PROVIDED ON THESE TOPICS--BY DEGREE OF INTEREST IN THE SCIENCES.

	TOTAL VERY/QUITE INTERESTED IN			INTEREST IN: NATURAL SCIENCES		SOCIAL SCIENCES /HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
SPORTS											
Total											
Very interested	19.6	25.9	32.3	35.1	24.3	30.1	27.2	31.3	21.3	38.5	19.6
Quite interested	21.9	25.9	27.4	28.7	25.2	27.5	23.4	26.0	24.4	27.0	26.1
Neither interested nor uninterested	9.8	12.8	9.7	8.8	9.0	10.2	9.0	10.0	10.2	8.3	9.7
Not very interested	23.2	16.2	17.6	15.3	21.1	18.3	20.4	18.0	20.1	15.2	22.0
Not at all interested	25.0	18.8	12.9	11.9	20.2	13.7	19.9	14.5	24.1	11.0	22.4
Not stated	0.5	0.4	0.1	0.1	0.1	0.2	.	0.1	.	.	0.2
Total very/quite interested											
Can get information [1]	95.7	87.4	88.2	87.3	89.3	89.3	88.1	88.0	89.5	88.3	88.6
Cannot get information	4.3	12.1	9.4	9.5	9.6	8.8	9.3	9.6	9.1	10.3	8.2
Not stated	.	0.5	2.5	3.2	1.2	1.8	2.6	2.4	1.4	1.4	3.2
SOCIETY NEWS											
Total											
Very interested	3.1	2.8	6.7	7.2	5.3	6.8	3.5	6.3	4.9	6.3	6.0
Quite interested	11.6	19.4	22.4	23.3	19.2	23.7	16.2	22.4	15.5	21.9	20.5
Neither interested nor uninterested	15.6	16.8	14.0	13.3	12.4	14.2	12.1	14.1	13.5	13.1	12.5
Not very interested	26.3	26.8	28.1	27.0	27.7	28.1	26.9	28.3	22.6	27.7	25.3
Not at all interested	42.0	33.9	28.5	29.0	35.3	26.9	41.2	28.5	43.5	31.0	35.3
Not stated	1.4	0.3	0.3	0.3	0.2	0.3	0.1	0.4	.	0.1	0.3
Total very/quite interested											
Can get information	*	91.0	84.1	85.1	86.2	84.4	94.5	85.0	92.4	85.6	87.9
Cannot get information	*	7.7	13.6	12.8	11.1	13.4	5.5	12.7	5.5	12.5	9.2
Not stated	*	1.3	2.3	2.1	2.7	2.2	.	2.3	2.1	1.8	2.9
NATIONAL POLITICS											
Total											
Very interested	3.1	8.8	19.7	22.3	11.6	20.5	8.3	18.7	7.6	22.0	10.1
Quite interested	20.5	30.5	35.2	33.6	30.2	36.0	25.5	34.5	26.3	36.7	29.1
Neither interested nor uninterested	16.1	16.2	13.2	12.8	12.2	11.8	13.3	12.7	10.3	13.0	10.7
Not very interested	26.3	21.7	19.0	18.1	23.1	19.0	22.7	19.8	22.4	16.7	24.8
Not at all interested	33.5	21.9	12.7	13.0	22.5	12.5	29.9	14.1	33.0	11.5	24.8
Not stated	0.5	0.9	0.2	0.2	0.4	0.3	0.3	0.3	0.5	0.1	0.4
Total very/quite interested											
Can get information	92.5	73.9	77.0	75.4	78.0	77.8	79.5	76.8	81.0	77.9	73.5
Cannot get information	7.5	23.9	20.4	22.4	19.2	20.1	18.7	20.6	19.0	19.4	24.3
Not stated	.	2.2	2.5	2.2	2.7	2.1	1.6	2.6	.	2.7	2.2
ENTERTAINMENT											
Total											
Very interested	10.7	15.1	20.6	21.7	15.9	20.9	14.3	20.4	11.6	19.5	17.5
Quite interested	25.9	43.3	47.8	49.5	41.6	48.9	36.4	47.6	33.4	48.6	41.1
Neither interested nor uninterested	21.9	17.1	12.2	12.8	11.3	10.8	15.2	12.7	15.8	11.8	12.2
Not very interested	21.4	15.7	14.1	10.9	19.8	13.4	20.7	13.9	21.0	15.0	17.3
Not at all interested	18.8	8.8	5.1	4.9	11.3	5.8	13.1	5.1	18.1	5.0	11.7
Not stated	1.3	.	0.2	0.2	0.2	0.2	0.3	0.2	.	0.1	0.3
Total very/quite interested											
Can get information	93.9	86.8	85.6	86.1	86.4	84.7	89.1	86.1	88.7	87.8	84.4
Cannot get information	3.7	10.7	11.6	11.4	10.5	12.8	7.7	10.8	9.9	10.5	10.8
Not stated	2.4	2.5	2.8	2.5	3.1	2.5	3.2	3.1	1.4	1.7	4.8
FOREIGN EVENTS											
Total											
Very interested	4.5	12.8	20.4	24.6	11.8	21.1	9.5	18.9	11.5	23.2	12.7
Quite interested	17.9	31.1	42.8	42.9	35.5	43.1	29.3	42.1	26.0	43.1	30.7
Neither interested nor uninterested	17.9	17.4	13.3	11.8	11.9	12.1	13.7	13.2	14.5	12.5	12.9
Not very interested	30.8	25.4	15.3	13.2	23.6	15.6	26.9	16.6	23.2	13.6	26.6
Not at all interested	28.9	13.3	7.9	7.2	16.9	7.9	20.1	8.8	24.8	7.3	16.9
Not stated	.	.	0.3	0.4	0.2	0.2	0.5	0.3	.	0.2	0.3
Total very/quite interested											
Can get information	84.0	77.9	76.3	74.6	80.2	77.0	79.9	76.7	83.9	76.8	76.3
Cannot get information	14.0	20.8	21.2	22.9	17.5	20.9	19.1	20.6	15.7	21.2	21.4
Not stated	2.0	1.3	2.6	2.5	2.4	2.2	1.0	2.6	0.4	2.0	2.3

* Base less than 30 individuals.

[1] Percentages for the assessment of information being provided on the various topics derived using the very/quite interested individuals as base.

	TOTAL VERY/QUITE INTERESTED IN			INTEREST IN: NATURAL SCIENCES		SOCIAL SCIENCES /HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
CRIME											
Total											
Very interested	4.5	10.3	12.3	12.1	10.0	12.3	10.1	11.9	9.2	13.2	9.7
Quite interested	25.9	30.8	35.9	37.7	31.2	35.2	28.7	34.7	29.6	37.6	27.7
Neither interested nor uninterested	13.4	17.4	15.8	15.5	13.1	15.4	13.3	15.2	13.7	17.0	11.6
Not very interested	23.7	21.9	19.0	18.7	20.6	19.2	21.9	20.1	19.4	17.5	23.3
Not at all interested	32.1	18.5	16.8	15.7	24.5	17.4	25.8	17.8	27.1	14.5	27.1
Not stated	0.4	1.1	0.3	0.3	0.6	0.5	0.2	0.3	1.0	0.1	0.6
Total very/quite interested											
Can get information	82.4	74.5	79.4	81.7	75.1	78.7	76.2	78.3	76.9	80.7	75.9
Cannot get information	16.2	20.0	18.7	16.9	22.6	19.3	20.9	19.2	22.1	18.0	21.8
Not stated	1.4	5.5	1.9	1.4	2.3	2.0	3.0	2.5	1.0	1.3	2.3
MEDICINE AND HEALTH											
Total											
Very interested	15.2	21.4	36.4	37.9	28.8	38.7	22.1	37.6	16.7	32.7	30.2
Quite interested	29.5	42.7	44.8	41.7	42.8	44.3	37.1	45.5	32.5	44.1	41.5
Neither interested nor uninterested	22.8	16.0	9.4	10.2	9.7	8.8	13.2	8.2	17.6	10.9	10.5
Not very interested	18.8	13.7	6.5	6.2	12.2	6.0	15.8	5.8	18.4	8.4	10.7
Not at all interested	13.7	6.2	2.8	3.7	6.5	2.1	11.7	2.7	14.7	3.7	6.8
Not stated	.	.	0.2	0.3	0.1	0.2	0.2	0.2	.	0.2	0.2
Total very/quite interested											
Can get information	75.0	67.1	63.7	63.8	65.0	62.9	67.0	63.5	66.2	62.8	67.6
Cannot get information	22.0	29.3	33.7	33.9	31.6	34.6	29.5	33.7	29.6	34.7	29.5
Not stated	3.0	3.6	2.6	2.4	3.4	2.5	3.5	2.8	4.2	2.5	2.9
OTHER SCIENCE											
Total											
Very interested	2.7	6.8	18.5	23.9	8.5	17.7	9.9	17.6	6.1	19.7	9.8
Quite interested	10.3	29.6	38.8	43.4	23.6	39.1	23.4	37.7	19.0	40.5	25.1
Neither interested nor uninterested	20.5	21.4	15.5	13.3	15.1	15.8	14.4	15.4	16.1	13.7	15.6
Not very interested	27.3	26.5	18.6	12.1	30.8	18.6	25.7	19.5	27.9	17.7	26.9
Not at all interested	38.8	15.7	8.3	7.0	21.8	8.6	26.2	9.5	31.0	8.0	22.5
Not stated	0.4	.	0.3	0.4	0.2	0.2	0.5	0.3	.	0.3	0.2
Total very/quite interested											
Can get information	*	55.4	63.7	62.8	62.2	64.3	60.7	63.0	58.4	62.3	66.8
Cannot get information	*	39.1	33.3	33.9	35.7	33.1	35.1	33.6	40.3	34.9	31.1
Not stated	*	5.5	3.0	3.3	2.1	2.6	4.2	3.4	1.3	2.8	2.1
LOCAL NEWS/EVENTS											
Total											
Very interested	27.7	29.9	40.8	38.0	41.8	41.3	32.8	40.6	29.2	41.9	35.4
Quite interested	45.5	50.7	45.9	46.9	44.8	46.4	45.5	46.4	50.2	45.3	47.2
Neither interested nor uninterested	9.4	9.4	6.3	7.0	4.5	6.1	6.4	6.0	5.2	6.0	6.3
Not very interested	10.7	7.4	5.3	5.8	6.3	4.7	10.6	5.5	8.3	4.9	7.7
Not at all interested	5.8	2.3	1.6	2.0	2.6	1.3	4.7	1.2	7.1	1.7	3.3
Not stated	0.9	0.3	0.2	0.3	.	0.2	.	0.3	.	0.3	0.1
Total very/quite interested											
Can get information	89.2	86.5	86.5	85.6	87.2	86.0	88.0	86.0	88.8	86.6	87.3
Cannot get information	4.8	11.0	11.1	12.2	9.1	11.8	8.4	11.2	8.0	11.5	8.9
Not stated	6.0	2.5	2.4	2.2	3.7	2.2	3.6	2.8	3.2	1.9	3.8
LABOUR AND INDUSTRY											
Total											
Very interested	8.9	13.4	24.2	24.7	18.0	24.1	14.0	22.2	15.5	29.5	12.2
Quite interested	22.3	37.0	41.7	41.5	36.8	42.6	31.7	40.9	29.7	45.6	30.7
Neither interested nor uninterested	20.5	15.4	14.1	13.7	12.8	13.2	13.3	14.1	12.4	10.9	14.8
Not very interested	18.3	18.8	14.5	14.3	16.9	14.7	18.7	15.5	18.1	10.3	22.7
Not at all interested	29.5	14.8	5.4	5.6	15.3	5.3	21.9	7.0	24.0	3.6	19.3
Not stated	0.5	0.6	0.1	0.2	0.2	0.1	0.5	0.2	0.4	0.1	0.3
Total very/quite interested											
Can get information	81.4	76.8	73.3	74.6	74.2	73.0	79.4	73.3	78.7	73.9	76.3
Cannot get information	12.9	20.3	23.6	22.7	22.0	24.2	18.1	23.4	19.1	23.4	20.3
Not stated	5.7	2.9	3.1	2.7	3.8	2.8	2.5	3.3	2.2	2.7	3.4

* Base less than 30 individuals

MAIN TABLE 7. PUBLIC INTEREST IN A SELECTION OF SCIENCE-RELATED TOPICS AND ASSESSMENT OF MEDIA INFORMATION PROVIDED ON THESE TOPICS--BY SOCIAL CHARACTERISTICS.

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
BUSINESS OR ECONOMICS														
Total														
Very interested	15.7	13.1	12.5	15.8	21.3	15.3	17.7	13.7	14.9	18.9	12.5	14.3	14.6	20.5
Quite interested	32.8	24.7	31.0	37.6	31.0	33.8	33.4	32.2	31.2	37.1	30.6	30.7	37.5	35.4
Neither interested nor uninterested	15.4	21.0	15.3	15.2	19.6	12.6	16.5	14.4	14.4	16.1	18.1	14.8	13.0	19.0
Not very interested	22.3	21.5	26.6	18.9	18.8	23.8	19.5	25.2	25.0	17.0	22.8	23.9	22.0	18.1
Not at all interested	13.5	19.8	14.7	12.0	9.2	14.3	13.0	14.1	14.4	10.6	15.9	16.0	13.0	6.7
Not stated	0.2	.	.	0.4	0.1	0.3	0.1	0.4	0.2	0.3	0.2	0.2	.	0.4
Total very/quite interested														
Can get information [1]	70.5	56.7	69.1	66.6	72.7	74.4	67.9	73.3	72.5	66.9	71.1	69.3	70.2	73.3
Cannot get information	26.8	40.9	28.4	31.2	26.3	21.6	29.8	23.5	24.6	29.8	28.4	28.0	28.7	22.8
Not stated	2.7	2.4	2.5	2.2	1.0	4.0	2.3	3.2	2.9	3.4	0.5	2.7	1.1	3.9
TAX DOLLARS SPENT BY GOVERNMENT ON SCIENCES														
Total														
Very interested	19.0	8.5	15.6	19.4	23.0	21.1	20.9	17.3	20.5	14.5	22.5	18.4	20.3	20.1
Quite interested	37.4	27.1	35.3	34.7	42.0	39.8	38.2	36.5	38.3	35.0	38.2	36.8	40.3	36.8
Neither interested nor uninterested	15.2	23.9	19.5	17.4	14.5	10.4	15.2	15.1	15.2	17.2	11.1	13.7	14.4	20.1
Not very interested	16.5	28.1	15.8	15.5	13.2	16.4	15.4	17.7	15.3	19.6	15.5	17.6	13.8	15.3
Not at all interested	11.6	12.4	13.8	12.4	7.2	11.9	10.2	12.9	10.5	13.3	12.5	13.3	11.3	7.1
Not stated	0.3	.	.	0.7	.	0.4	0.1	0.4	0.3	0.3	0.2	0.2	.	0.6
Total very/quite interested														
Can get information	51.8	49.4	50.8	44.6	52.3	55.4	48.8	55.0	50.7	52.8	54.4	51.6	52.1	51.8
Cannot get information	45.8	49.5	47.4	53.9	45.7	41.2	49.5	41.8	46.6	45.0	44.2	46.0	46.6	44.8
Not stated	2.4	1.2	1.8	1.5	2.0	3.4	1.8	3.1	2.8	2.2	1.4	2.4	1.3	3.4
AGRICULTURE														
Total														
Very interested	21.6	11.7	16.5	17.5	25.1	26.8	25.2	18.1	21.8	20.2	23.7	23.5	18.2	18.6
Quite interested	31.2	28.0	25.3	30.9	33.6	33.8	33.1	29.3	33.1	27.6	30.8	30.7	35.1	29.9
Neither interested nor uninterested	15.5	20.6	21.7	20.5	15.7	8.9	15.2	15.8	15.4	16.5	13.8	13.2	11.6	25.0
Not very interested	19.4	21.6	20.7	19.8	17.9	18.8	18.2	20.7	19.1	21.0	17.9	19.6	21.5	17.7
Not at all interested	12.0	17.8	15.8	11.1	7.1	11.4	8.0	15.8	10.3	14.8	13.1	12.8	13.6	8.3
Not stated	0.3	0.2	.	0.1	0.6	0.3	0.2	0.3	0.2	.	0.8	0.2	.	0.6
Total very/quite interested														
Can get information	72.5	73.1	73.3	72.0	70.7	73.2	71.9	73.3	74.7	68.3	71.2	71.7	84.6	65.2
Cannot get information	25.5	25.6	25.2	26.7	27.2	24.4	27.0	23.7	23.3	29.3	27.5	26.2	15.2	31.9
Not stated	2.0	1.3	1.5	1.4	2.1	2.4	1.1	3.0	2.0	2.4	1.2	2.2	0.2	2.9
BIOLOGY OR THE NATURE OF LIVING THINGS														
Total														
Very interested	23.2	28.6	27.1	19.9	24.4	21.4	21.6	24.9	22.0	26.4	21.6	20.0	26.5	30.0
Quite interested	40.1	47.2	43.9	40.5	40.5	36.5	40.0	40.3	42.5	34.8	41.4	39.0	40.9	42.7
Neither interested nor uninterested	12.1	12.0	12.1	14.0	12.0	11.2	13.8	10.4	11.4	12.9	13.2	13.4	8.3	11.1
Not very interested	15.6	7.8	9.5	17.1	15.8	19.5	16.3	15.0	16.4	15.0	14.1	16.5	16.6	12.4
Not at all interested	8.6	4.5	7.4	8.4	7.3	10.6	8.3	8.8	7.5	10.5	9.0	10.5	7.6	3.8
Not stated	0.4	.	.	0.1	.	0.9	0.1	0.7	0.3	0.4	0.6	0.5	.	0.1
Total very/quite interested														
Can get information	68.1	68.7	66.1	68.9	64.0	70.7	66.4	69.6	69.7	63.5	70.5	70.2	65.3	65.0
Cannot get information	29.5	31.3	31.5	30.2	33.7	25.3	31.2	27.9	28.0	34.2	26.2	27.6	33.0	31.6
Not stated	2.4	.	2.4	0.9	2.2	4.0	2.4	2.5	2.3	2.4	3.2	2.2	1.7	3.4
POLLUTION, ECOLOGY, OR THE ENVIRONMENT														
Total														
Very interested	31.2	27.0	36.5	28.6	35.9	28.8	29.6	32.8	31.5	30.1	32.1	25.6	38.1	41.7
Quite interested	42.5	49.5	42.2	46.0	38.7	41.2	43.0	42.1	45.9	36.5	41.2	43.0	38.2	44.5
Neither interested not uninterested	10.8	10.6	8.6	10.9	11.2	11.7	11.7	9.9	9.0	14.1	11.5	12.1	10.5	7.4
Not very interested	9.4	6.5	7.9	9.9	9.1	10.7	9.6	9.2	9.2	10.3	8.4	11.3	9.5	4.2
Not at all interested	5.8	6.5	4.9	4.5	5.0	7.1	6.0	5.7	4.2	8.6	6.6	7.7	3.7	2.2
Not stated	0.2	.	.	0.1	.	0.6	0.1	0.3	0.2	0.4	0.2	0.3	.	0.1
Total very/quite interested														
Can get information	70.5	67.6	70.7	65.8	70.1	73.7	69.6	71.2	71.2	67.9	71.9	69.7	71.8	71.1
Cannot get information	27.9	32.4	28.5	33.3	27.9	23.5	28.9	26.9	27.0	30.4	26.9	28.9	27.6	26.0
Not stated	1.7	.	0.9	0.9	1.9	2.8	1.5	1.8	1.8	1.7	1.1	1.4	0.6	3.0

[1] Percentages for the assessment of information being provided on the various topics derived using the very/quite interested individuals as base.

OCCUPATION				REGION					COMMUNITY SIZE — URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
30.7	31.6	14.1	12.8	12.5	21.0	14.5	13.5	11.9	16.5	18.5	15.0	12.9
32.2	33.0	31.2	33.4	38.3	37.3	27.2	34.5	32.7	32.0	31.9	32.0	35.7
12.2	8.9	18.7	15.4	17.3	14.5	15.7	17.4	12.4	15.3	15.2	15.3	16.0
15.3	18.2	22.6	23.5	20.7	16.9	24.9	20.4	32.5	23.0	23.4	22.7	20.2
9.5	8.3	13.2	14.6	10.8	10.0	17.5	14.3	10.6	13.1	10.7	14.9	15.1
.	.	0.1	0.3	0.4	0.3	0.3	.	.	0.2	0.4	0.1	0.1
73.2	66.3	70.6	70.6	87.4	65.2	77.3	62.4	63.7	71.2	73.0	69.7	68.1
24.8	32.8	25.6	26.7	9.4	31.0	21.6	36.3	30.2	26.0	24.1	27.6	29.3
2.0	1.0	3.8	2.8	3.3	3.8	1.1	1.3	6.1	2.8	2.9	2.7	2.6
27.3	20.2	20.5	17.5	23.9	16.7	16.4	24.0	22.4	19.5	18.1	20.5	17.6
32.7	36.7	35.5	38.6	30.8	36.1	39.1	37.2	40.6	36.6	38.8	35.0	39.8
10.9	17.8	18.0	14.5	21.1	15.4	15.3	14.5	9.8	15.0	13.9	15.9	15.8
19.9	19.9	13.6	16.7	14.8	18.2	16.0	14.2	19.5	17.1	18.4	16.2	14.6
9.2	5.3	12.0	12.4	9.1	13.2	12.9	10.1	7.2	11.4	10.2	12.4	12.2
.	.	0.3	0.3	0.4	0.4	0.3	.	0.4	0.4	0.7	0.1	.
53.3	41.3	49.7	53.3	72.9	50.0	53.7	48.1	39.3	52.4	53.5	51.5	49.8
45.2	55.9	47.5	44.3	22.8	47.1	44.5	51.2	56.1	44.9	43.7	45.9	48.7
1.5	2.8	2.8	2.4	4.3	2.9	1.7	0.7	4.6	2.7	2.8	2.6	1.5
25.8	20.4	16.9	22.7	13.7	20.7	19.3	34.6	18.8	16.0	15.4	16.4	41.1
29.3	30.9	35.6	30.1	29.1	26.9	34.9	29.2	34.8	31.1	31.1	31.0	31.8
23.0	19.9	15.2	14.2	20.9	17.1	14.2	13.2	14.5	17.6	18.9	16.6	8.4
11.2	20.8	21.3	19.7	24.4	20.9	18.7	14.0	22.5	21.9	22.5	21.5	10.9
10.8	7.9	10.4	13.0	10.7	14.4	12.6	9.0	9.1	13.2	11.9	14.1	7.8
.	.	0.5	0.2	1.1	.	0.3	.	0.3	0.3	0.2	0.4	.
70.9	62.4	78.5	71.8	76.0	66.2	79.8	73.4	57.9	73.3	65.8	78.8	70.9
29.1	36.4	19.8	25.8	20.1	30.6	19.1	26.0	38.6	24.6	31.3	19.7	27.4
.	1,2	1.7	2.4	3.9	3.2	1.1	0.6	3.4	2.1	2.9	1.5	1.7
23.9	20.7	23.0	23.5	22.2	27.8	18.5	26.0	24.0	22.7	22.9	22.5	25.2
44.3	42.4	38.6	39.9	31.3	36.2	42.7	42.8	45.4	40.8	41.0	40.6	37.9
9.8	12.8	13.9	11.7	20.3	11.5	12.1	10.9	8.3	12.4	11.7	13.0	10.8
15.1	19.2	15.9	15.3	17.5	14.0	17.6	13.4	14.9	15.6	16.9	14.7	15.7
6.9	4.9	8.4	9.2	8.4	10.0	8.5	7.0	7.5	8.0	7.0	8.8	10.4
.	.	0.1	0.5	0.4	0.4	0.6	.	.	0.5	0.6	0.4	.
67.4	71.3	66.7	68.3	79.7	62.0	72.0	70.4	59.7	68.7	68.3	69.1	65.8
30.1	27.7	30.5	29.3	17.2	35.1	26.1	28.7	35.7	28.8	28.8	28.9	31.8
2.5	1.0	2.7	2.5	3.1	2.9	1.9	1.0	4.6	2.4	2.9	2.0	2.4
36.0	34.2	25.6	32.1	26.9	33.0	31.0	31.8	29.8	32.0	34.2	30.4	28.4
47.1	45.3	43.0	41.6	40.4	36.7	45.6	42.7	49.2	43.6	41.9	45.0	38.8
9.9	12.0	13.4	10.0	16.5	12.1	9.7	10.4	6.6	10.0	9.4	10.4	13.7
5.4	6.6	11.7	9.5	6.0	10.8	8.8	9.1	11.2	9.0	10.2	8.1	10.8
1.6	1.9	6.3	6.6	9.8	7.1	4.6	5,9	3.1	5.1	3.8	6.0	8.4
.	.	0.1	0.3	0.4	0.4	0.3	.	.	0.3	0.5	0.1	.
70.1	73.8	67.5	71.0	83.3	65.3	72.7	75.7	57.7	71.2	71.0	71.4	67.5
28.9	25.0	30.2	27.4	14.2	32.3	26.7	22.7	39.4	27.1	27.0	27.2	30.7
1.0	1.1	2.3	1.6	2.5	2.4	0.6	1.6	3.0	1.6	1.9	1.4	1.8

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
INDUSTRIAL DISCOVERIES, SUCH AS NEW INVENTIONS														
Total														
Very interested	19.7	22.8	21.4	18.4	22.0	18.0	25.0	14.6	19.4	20.9	18.9	18.3	21.0	22.8
Quite interested	40.5	43.4	42.5	41.7	39.8	38.5	42.5	38.4	41.2	38.5	41.5	37.8	40.0	48.2
Neither interested nor uninterested	13.8	11.9	16.1	16.3	15.0	11.5	12.1	15.5	14.2	14.2	11.5	14.0	13.7	13.5
Not very interested	15.5	13.1	11.2	14.0	15.2	19.1	13.0	18.1	16.2	13.9	16.0	16.1	19.3	11.3
Not at all interested	9.9	8.8	8.3	8.5	7.8	12.6	7.3	12.5	8.5	12.2	10.8	12.9	6.0	4.1
Not stated	0.5	.	0.6	1.1	0.3	0.5	0.1	1.0	0.4	0.3	1.3	0.8	.	0.1
Total very/quite interested														
Can get information	60.0	59.7	60.1	55.2	62.3	61.5	55.4	65.8	61.5	53.7	66.7	59.5	59.8	61.1
Cannot get information	37.2	39.2	37.2	43.7	35.9	34.0	42.5	30.6	35.9	42.7	31.6	37.9	38.2	35.2
Not stated	2.8	1.1	2.7	1.1	1.8	4.6	2.1	3.5	2.6	3.6	1.7	2.6	2.0	3.7
EDUCATION														
Total														
Very interested	40.5	31.1	37.5	41.6	50.4	39.0	33.8	47.1	37.5	48.1	37.0	37.7	45.1	45.1
Quite interested	39.3	37.8	43.1	42.5	38.0	36.9	40.6	38.1	40.7	34.8	43.0	40.3	36.6	38.7
Neither interested nor uninterested	8.4	11.5	9.5	7.9	6.1	8.3	11.5	5.3	8.8	6.9	9.7	9.0	8.3	6.6
Not very interested	7.8	13.3	7.5	5.5	3.3	9.9	10.3	5.4	9.1	6.0	6.4	8.2	7.5	7.1
Not at all interested	3.7	6.2	2.5	2.4	1.6	5.4	3.6	3.8	3.5	4.1	3.7	4.5	2.2	2.4
Not stated	0.3	.	.	0.1	0.6	0.4	0.3	0.3	0.5	.	0.2	0.3	0.3	0.1
Total very/quite interested														
Can get information	72.7	76.7	76.3	67.2	67.9	75.5	73.2	72.2	75.8	67.8	70.9	72.4	77.9	69.9
Cannot get information	24.8	22.4	20.7	31.8	30.8	20.5	24.7	25.0	22.1	28.9	27.1	25.3	20.4	26.8
Not stated	2.5	0.9	3.0	1.0	1.3	3.9	2.1	2.8	2.1	3.3	2.0	2.4	1.7	3.3
PHYSICAL SCIENCE RESEARCH AND DISCOVERIES ABOUT NATURE														
Total														
Very interested	20.3	17.3	23.9	20.7	23.7	17.5	19.0	21.5	22.3	16.6	19.7	16.5	22.4	29.6
Quite interested	37.9	50.9	35.6	38.2	39.4	35.3	38.6	37.1	40.4	32.2	39.2	39.0	38.6	34.6
Neither interested nor uninterested	14.8	13.2	19.1	15.5	16.0	12.3	17.3	12.4	13.0	18.3	15.1	15.1	10.7	16.8
Not very interested	16.0	9.1	13.9	16.2	12.2	20.2	15.2	16.9	16.0	17.7	12.7	16.0	19.4	13.7
Not at all interested	10.1	7.8	7.0	8.5	8.8	13.4	9.4	10.8	7.5	15.0	10.5	12.3	8.4	5.0
Not stated	0.9	1.7	0.6	1.0	.	1.2	0.5	1.3	0.8	0.2	2.8	1.2	0.5	0.3
Total very/quite interested														
Can get information	65.0	62.0	62.8	58.8	71.4	67.1	62.0	67.9	67.3	58.2	66.8	66.1	65.2	62.1
Cannot get information	33.2	38.0	34.5	40.0	27.5	30.3	36.6	29.9	31.2	39.7	30.8	31.9	33.0	36.6
Not Stated	1.8	.	2.7	1.2	1.0	2.5	1.4	2.2	1.5	2.1	2.4	2.0	1.8	1.3
AVIATION OR SPACE EXPLORATION														
Total														
Very interested	18.0	16.3	21.6	18.6	23.8	13.8	23.7	12.3	18.2	17.9	17.2	16.0	17.7	24.0
Quite interested	26.5	34.2	32.9	28.6	24.1	21.8	29.4	23.7	25.5	24.8	34.0	24.0	29.4	31.7
Neither interested nor uninterested	14.7	19.0	14.4	16.8	15.7	12.4	14.7	14.7	14.2	17.6	10.7	13.7	13.3	18.5
Not very interested	21.1	16.9	18.8	19.5	22.3	23.5	17.6	24.6	23.1	18.3	18.7	22.3	23.1	16.2
Not at all interested	19.5	13.6	12.3	16.4	14.2	28.2	14.6	24.4	18.7	21.4	19.1	23.8	16.5	9.4
Not stated	0.2	.	.	0.1	.	0.4	0.1	0.3	0.3	.	0.2	0.2	.	0.1
Total very/quite interested														
Can get information	72.0	72.2	73.5	71.7	76.4	68.5	70.7	73.9	75.3	66.1	70.8	74.1	69.3	69.3
Cannot get information	26.2	26.8	24.4	28.3	21.4	28.7	26.8	25.2	22.9	32.7	26.3	24.4	29.1	28.0
Not stated	1.8	1.0	2.1	.	2.3	2.9	2.5	0.9	1.9	1.2	2.8	1.5	1.6	2.6
RESEARCH DONE BY UNIVERSITY SCIENTISTS														
Total														
Very interested	14.5	9.1	16.6	11.8	14.6	16.1	13.2	15.8	13.8	15.9	14.7	10.9	18.8	21.6
Quite interested	31.7	24.0	29.8	33.2	36.7	31.3	29.9	33.4	31.9	28.0	37.9	29.0	32.7	38.6
Neither interested nor uninterested	18.6	21.3	23.6	20.3	14.4	16.6	20.7	16.6	18.0	21.9	14.3	18.8	16.7	19.5
Not very interested	19.6	30.4	17.5	16.4	22.8	18.5	21.0	18.3	21.7	16.0	18.5	22.0	20.4	12.2
Not at all interested	15.1	15.2	12.5	16.9	11.5	17.0	15.2	15.0	14.2	17.8	13.3	18.5	11.3	7.9
Not stated	0.5	.	.	1.3	.	0.6	0.1	0.9	0.3	0.4	1.3	0.7	0.1	0.2
Total very/quite interested														
Can get information	56.1	60.2	56.2	56.6	53.7	56.4	56.1	56.1	57.4	53.1	56.6	56.0	59.4	54.3
Cannot get information	40.7	39.8	40.7	43.4	42.6	38.6	40.6	40.7	39.4	44.4	38.7	41.1	38.9	41.0
Not stated	3.2	.	3.2	.	3.7	5.1	3.3	3.2	3.2	2.5	4.7	2.9	1.7	4.7

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
30.4	26.8	21.0	17.4	20.0	22.1	18.5	22.2	13.5	20.3	22.0	19.0	17.9
45.3	42.8	39.3	40.0	31.4	39.9	39.0	47.9	43.3	40.0	38.7	41.0	42.0
9.6	9.6	17.9	13.5	22.2	13.0	16.0	8.5	9.6	13.9	13.5	14.1	13.7
11.4	17.7	12.8	16.7	14.4	14.0	15.8	13.4	23.3	16.1	18.0	14.6	13.8
3.4	3.0	8.8	11.7	11.6	10.7	10.2	7.6	8.6	9.3	7.4	10.7	12.1
.	.	0.1	0.8	0.4	0.2	0.6	0.4	1.5	0.5	0.5	0.6	0.4
55.5	51.9	53.9	63.7	69.8	53.6	64.8	61.4	51.7	61.3	62.2	60.6	55.6
42.8	46.0	43.5	33.2	27.0	42.0	34.0	36.7	44.1	35.8	34.5	36.8	42.1
1.7	2.1	2.6	3.1	3.2	4.4	1.3	1.9	4.2	2.9	3.3	2.6	2.3
43.7	44.2	32.5	42.2	41.8	49.3	37.2	37.0	32.3	41.2	42.6	40.1	38.1
36.5	40.5	41.5	38.9	45.7	34.2	39.1	42.2	44.1	38.3	37.9	38.6	42.9
10.2	7.0	13.4	6.7	7.0	6.0	9.5	11.1	7.7	7.9	7.8	8.0	9.8
5.5	6.9	9.9	7.5	4.5	6.5	8.5	6.6	13.8	8.1	9.2	7.4	6.8
4.1	1.4	2.0	4.5	0.6	4.0	5.0	3.1	2.2	4.2	2.2	5.7	2.2
.	.	0.7	0.2	0.4	.	0.7	.	.	0.3	0.4	0.2	0.2
65.2	74.0	75.0	72.8	85.0	65.8	76.7	77.1	59.4	72.1	69.0	74.5	74.6
31.8	24.4	22.9	24.6	12.2	30.1	21.8	22.1	37.1	25.3	27.8	23.3	23.5
3.1	1.6	2.1	2.6	2.8	4.1	1.5	0.8	3.5	2.6	3.1	2.2	2.0
23.1	24.4	18.6	20.1	23.8	18.4	19.8	21.8	21.6	20.8	20.9	20.7	18.4
37.4	42.2	38.8	37.2	30.2	32.7	41.4	42.8	38.7	38.3	37.0	39.4	36.3
17.5	17.7	17.3	13.4	16.0	17.8	15.0	12.8	8.4	14.7	15.0	14.5	15.2
12.3	10.6	16.3	16.9	17.9	17.4	12.7	14.8	24.5	15.8	16.6	15.2	16.9
9.4	5.1	8.7	11.1	11.7	13.5	9.9	7.2	4.6	9.7	9.8	9.6	11.5
0.4	.	0.3	1.2	0.4	0.2	1.3	0.7	2.1	0.7	0.7	0.6	1.7
58.4	68.2	60.8	66.8	87.3	56.0	68.0	66.8	54.3	65.5	64.8	66.0	63.1
39.4	30.9	37.4	31.4	12.7	41.2	30.8	32.5	40.8	32.4	31.6	33.0	36.2
2.2	0.9	1.8	1.8	.	2.9	1.1	0.7	4.9	2.1	3.5	1.0	0.6
26.4	32.6	24.9	13.4	17.7	19.5	17.6	18.4	15.1	20.2	21.8	19.0	10.3
36.0	36.6	25.3	24.7	17.9	25.9	24.4	31.2	35.7	26.3	23.5	28.4	27.2
16.4	12.3	16.7	14.1	23.6	15.8	15.2	12.4	6.0	14.3	15.8	13.2	16.1
9.7	11.8	18.2	24.3	21.5	19.5	21.5	21.0	24.0	19.9	21.8	18.5	25.3
11.6	6.6	14.8	23.3	18.9	19.4	21.1	17.0	19.2	19.1	16.9	20.8	20.9
.	.	0.1	0.2	0.4	.	0.4	.	.	0.2	0.2	0.1	0.2
66.3	80.0	69.9	72.6	79.9	64.3	76.4	71.7	73.3	72.9	73.8	72.2	68.3
29.7	19.2	27.4	26.2	20.1	33.6	22.1	27.5	21.9	25.0	24.0	25.7	31.1
4.0	0.9	2.7	1.2	.	2.0	1.6	0.8	4.8	2.1	2.2	2.1	0.5
19.8	13.7	12.5	14.6	16.3	17.9	12.8	14.6	9.8	16.0	19.0	13.7	9.5
35.6	33.3	27.2	32.4	28.4	29.6	31.7	37.0	31.8	30.8	30.8	30.8	34.7
15.1	20.1	22.5	17.7	20.4	20.5	20.5	14.4	12.0	20.0	20.8	19.4	13.9
17.1	18.5	21.7	19.4	19.3	15.3	19.6	22.3	27.6	18.8	16.8	20.3	22.4
12.4	14.4	16.1	15.2	15.0	16.4	15.0	11.7	17.3	13.9	12.2	15.1	19.3
.	.	0.1	0.7	0.6	0.3	0.5	.	1.5	0.6	0.4	0.7	0.2
55.6	60.1	55.7	55.9	74.9	49.7	58.0	59.4	44.9	57.4	54.1	60.2	51.4
42.0	38.6	40.0	40.9	22.1	47.0	39.2	38.3	48.7	39.1	42.6	36.2	46.4
2.4	1.3	4.3	3.2	3.1	3.3	2.8	2.2	6.4	3.5	3.3	3.6	2.3

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
SOCIAL ISSUES SUCH AS OVER-POPULATION, URBAN PLANNING OR CHILD DEVELOPMENT														
Total														
Very interested	26.8	22.8	26.4	30.2	37.8	21.4	20.4	33.1	25.5	30.7	24.1	21.2	33.2	37.7
Quite interested	38.9	39.1	44.4	40.7	38.7	35.4	37.3	40.4	41.3	34.5	38.1	39.5	33.4	41.2
Neither interested nor uninterested	13.0	16.4	11.3	14.1	9.7	14.0	17.9	8.2	11.8	14.4	15.1	13.8	12.4	11.4
Not very interested	12.0	15.5	10.4	7.1	7.7	16.3	13.5	10.5	12.7	11.0	11.4	13.2	15.5	6.0
Not at all interested	8.9	6.3	7.5	6.8	5.8	12.7	10.8	7.1	8.6	9.3	9.7	11.8	5.5	3.5
Not stated	0.4	.	.	1.0	0.3	0.3	0.1	0.6	0.2	.	1.6	0.5	.	0.2
Total very/quite interested														
Can get information	66.2	64.3	61.8	65.0	62.8	72.0	67.0	65.6	69.5	62.1	60.6	65.6	65.4	67.9
Cannot get information	31.6	34.3	35.5	34.2	34.5	25.3	31.5	31.7	28.6	34.8	37.8	32.4	33.2	29.1
Not stated	2.2	1.4	2.6	0.7	2.7	2.7	1.5	2.7	1.8	3.2	1.6	2.0	1.3	3.0
THE ROLE OF SCIENTISTS IN THE ENERGY CRISIS, OIL, MINING AND RESOURCE DEVELOPMENT														
Total														
Very interested	22.8	13.7	20.5	23.1	30.7	22.3	24.8	20.8	21.5	26.6	20.4	19.9	25.9	28.6
Quite interested	36.4	39.9	40.4	38.1	35.3	33.3	38.5	34.2	37.0	34.5	37.6	36.1	34.0	39.0
Neither interested nor uninterested	15.0	13.8	17.8	14.8	13.5	14.7	14.7	15.2	15.2	14.7	14.8	13.8	17.6	16.5
Not very interested	15.1	17.9	14.8	12.1	12.3	17.3	13.2	16.9	15.7	14.4	13.8	16.5	15.9	10.3
Not at all interested	10.3	14.8	6.5	10.8	7.8	11.9	8.5	12.0	10.3	9.4	11.8	13.1	6.6	5.2
Not stated	0.5	.	.	1.2	0.5	0.5	0.2	0.8	0.2	0.5	1.6	0.7	.	0.3
Total very/quite interested														
Can get information	61.1	63.5	57.5	61.1	61.8	62.2	58.1	64.6	61.7	60.4	60.5	60.1	65.6	60.5
Cannot get information	37.0	35.2	41.6	37.7	36.5	34.8	40.0	33.6	36.7	37.4	37.3	38.3	33.9	36.0
Not stated	1.9	1.3	0.9	1.2	1.8	2.9	1.9	1.9	1.7	2.2	2.2	1.6	0.4	3.5
ENGINEERING PROJECTS SUCH AS TRANSPORTATION SYSTEMS, PIPELINES, ETC.														
Total														
Very interested	15.6	10.0	13.7	14.5	22.4	15.4	20.8	10.5	15.5	16.4	14.8	14.7	17.1	17.3
Quite interested	33.1	25.6	32.0	36.7	34.9	32.8	39.5	26.9	35.1	29.4	32.8	31.0	36.4	36.9
Neither interested nor uninterested	17.3	20.2	22.1	17.9	14.6	15.3	16.1	18.5	16.3	20.6	14.6	16.4	16.3	20.8
Not very interested	20.0	29.7	19.3	18.8	18.2	19.6	14.0	25.9	20.7	19.5	18.5	20.7	20.1	17.9
Not at all interested	13.5	14.4	12.9	11.0	9.6	16.6	9.5	17.5	12.2	14.2	17.7	16.7	10.1	6.9
Not stated	0.4	.	.	1.0	0.3	0.3	0.1	0.6	0.2	.	1.6	0.5	.	0.2
Total very/quite interested														
Can get information	66.5	84.3	65.6	61.0	67.4	66.6	65.8	67.7	67.8	62.4	69.4	66.4	72.2	62.9
Cannot get information	30.7	14.9	32.7	36.7	30.8	29.2	32.1	28.5	29.2	35.5	28.0	31.4	25.1	33.2
Not stated	2.7	0.8	1.7	2.2	1.8	4.2	2.1	3.7	3.1	2.0	2.6	2.2	2.7	3.9

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
32.6	26.2	20.1	28.3	26.4	33.6	22.3	24.6	28.2	28.5	33.4	24.7	21.1
50.7	36.7	33.6	39.3	30.3	34.8	40.7	47.0	38.1	38.3	36.7	39.6	40.8
6.8	18.1	21.8	10.5	17.0	13.0	13.6	11.4	10.3	13.4	12.9	13.7	11.9
5.3	14.1	11.9	12.7	13.7	10.8	13.2	10.9	11.2	11.2	9.5	12.6	14.7
4.6	5.0	12.3	8.8	12.2	7.7	9.8	6.1	10.7	8.2	7.4	8.8	11.5
.	.	0.4	0.4	0.4	.	0.4	.	1.5	0.4	0.2	0.6	0.1
67.2	69.8	65.6	65.9	85.7	59.6	70.7	66.6	54.4	66.1	61.9	69.5	66.7
31.8	29.2	33.1	31.4	9.6	36.6	28.2	32.8	43.6	32.0	35.6	29.0	30.2
1.0	1.0	1.3	2.7	4.7	3.8	1.1	0.6	2.0	1.9	2.5	1.5	3.0
35.5	30.9	22.7	20.5	22.1	30.7	18.7	20.2	20.9	24.0	25.1	23.2	18.7
35.0	33.5	39.9	35.7	34.3	33.2	35.0	42.0	42.9	35.4	35.7	35.2	39.7
9.7	24.7	15.5	14.5	15.7	12.8	19.3	11.1	11.2	15.9	17.4	14.7	12.0
11.9	9.7	13.1	16.6	16.0	14.9	15.9	13.6	14.4	14.3	12.9	15.3	17.8
7.6	1.1	8.6	12.0	11.5	8.1	10.7	13.1	9.1	9.8	8.2	11.0	11.8
0.3	.	0.4	0.6	0.4	0.5	0.4	.	1.5	0.6	0.6	0.6	0.1
54.8	59.3	59.5	62.9	80.3	57.0	63.5	63.4	47.1	62.0	59.5	64.0	58.1
44.0	39.7	38.0	35.2	16.2	40.0	36.1	36.0	49.0	36.2	38.1	34.6	39.8
1.2	1.0	2.5	1.9	3.5	3.0	0.5	0.6	3.9	1.8	2.4	1.4	2.0
24.1	18.2	23.3	12.0	12.6	18.7	14.9	15.7	12.7	16.8	18.2	15.8	11.5
42.3	37.4	38.4	30.0	29.0	29.7	32.1	37.1	43.6	33.5	35.3	32.1	31.8
12.4	26.5	14.6	17.9	20.3	20.5	17.9	12.5	11.6	18.1	18.4	17.9	14.7
13.1	13.3	13.8	23.5	21.5	18.5	20.4	20.3	21.1	19.2	17.8	20.3	22.8
8.1	4.5	9.6	16.3	16.3	12.6	14.3	14.4	9.5	11.9	10.1	13.3	19.1
.	.	0.4	0.4	0.4	.	0.4	.	1.5	0.4	0.2	0.6	0.1
64.0	64.9	62.4	69.2	72.7	63.1	72.6	68.6	49.8	67.1	69.0	65.4	64.5
35.4	34.0	35.2	27.3	22.6	33.9	25.2	31.1	44.2	30.5	27.5	33.0	31.7
0.6	1.1	2.4	3.5	4.7	2.9	2.2	0.3	6.0	2.5	3.5	1.5	3.8

Main Table 8. Public Interest in a Selection of Science-Related Topics and Assessment of Media Information Provided on these Topics--by Degree of Interest in the Sciences.

	---- TOTAL VERY/QUITE ---- INTERESTED IN			INTEREST IN: NATURAL SCIENCES		SOCIAL SCIENCES /HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
BUSINESS OR ECONOMICS											
Total											
Very interested	5.4	5.7	19.8	21.5	11.9	21.0	6.3	18.2	8.8	21.1	9.9
Quite interested	15.2	27.6	36.8	37.9	27.5	38.4	21.7	35.7	19.9	39.8	25.0
Neither interested nor uninterested	17.0	21.7	13.7	13.5	11.5	14.3	11.2	13.8	12.7	13.5	11.4
Not very interested	30.8	26.2	20.1	17.2	29.1	18.0	29.9	21.3	28.2	17.6	30.0
Not at all interested	32.1	18.8	9.3	9.8	19.7	8.1	30.8	10.8	30.4	7.8	23.3
Not stated	.	.	0.3	0.1	0.3	0.3	.	0.3	.	0.1	0.4
Total very/quite interested											
Can get information [1]	78.3	76.9	69.0	70.1	67.3	69.3	72.7	69.8	70.5	69.0	70.4
Cannot get information	17.4	21.4	28.1	26.8	29.9	28.6	23.8	27.0	27.9	28.2	27.3
Not stated	4.3	1.7	2.9	3.2	2.9	2.2	3.5	3.1	1.6	2.8	2.3
TAX DOLLARS SPENT BY GOVERNMENT ON SCIENCES											
Total											
Very interested	6.3	10.8	23.1	26.3	13.4	22.6	13.1	22.3	9.7	27.0	12.0
Quite interested	20.1	31.3	41.6	41.7	32.1	41.7	29.0	40.5	23.0	42.6	30.2
Neither interested nor uninterested	16.1	19.1	14.1	14.3	13.4	13.5	10.8	13.7	13.3	13.0	12.4
Not very interested	28.1	21.9	13.4	10.6	22.6	14.2	24.0	14.4	26.4	11.3	23.7
Not at all interested	29.9	16.5	7.5	7.1	18.2	7.6	23.0	8.9	27.7	5.8	21.6
Not stated	.	5.7	0.3	0.1	0.3	0.3	0.2	0.2	.	0.3	0.2
Total very/quite interested											
Can get information	61.0	56.8	50.3	50.9	50.8	51.8	50.8	50.8	54.7	49.9	54.5
Cannot get information	33.9	43.2	47.0	46.7	45.7	45.6	47.4	46.6	43.2	47.6	42.6
Not stated	5.1	.	2.7	2.5	3.5	2.6	1.8	2.6	2.1	2.5	2.9
AGRICULTURE											
Total											
Very interested	12.9	16.0	24.4	24.6	22.3	23.2	22.2	25.1	15.2	25.7	18.5
Quite interested	22.3	25.4	34.1	36.2	26.5	33.0	26.8	33.4	20.7	35.8	25.9
Neither interested nor uninterested	10.3	22.5	14.6	15.0	10.7	15.2	11.4	14.5	11.4	14.2	11.1
Not very interested	30.8	19.1	18.4	16.2	23.0	19.9	17.6	17.9	25.1	16.7	24.6
Not at all interested	27.7	16.8	8.3	7.7	17.2	8.3	22.0	8.7	27.6	7.3	19.7
Not stated	.	2.8	0.3	0.3	0.3	0.4	.	0.3	.	0.2	0.3
Total very/quite interested											
Can get information	69.6	77.2	72.0	73.2	70.1	71.1	74.3	71.8	73.5	71.4	71.9
Cannot get information	26.6	22.1	25.9	25.0	26.9	26.9	24.1	26.1	25.0	26.7	25.6
Not stated	3.8	0.7	2.1	1.8	2.9	2.0	1.6	2.1	1.5	1.9	2.5
BIOLOGY OR THE NATURE OF LIVING THINGS											
Total											
Very interested	8.0	13.7	28.0	35.3	16.3	27.2	19.2	28.1	13.6	28.3	18.6
Quite interested	21.0	36.5	44.0	45.3	35.1	43.6	31.7	43.4	26.9	40.6	38.3
Neither interested nor uninterested	12.5	17.4	10.7	7.7	10.1	11.3	9.8	10.3	9.1	11.6	8.5
Not very interested	30.4	20.2	12.2	9.1	22.6	13.0	20.5	12.4	28.5	14.1	19.6
Not at all interested	28.1	12.0	4.7	2.4	15.2	4.4	18.4	5.3	21.8	5.3	14.5
Not stated	.	2.8	0.4	0.2	0.6	0.4	0.4	0.5	.	0.1	0.5
Total very/quite interested											
Can get information	71.9	73.6	66.8	65.8	70.1	66.6	74.3	67.5	68.7	65.1	71.2
Cannot get information	25.0	23.6	30.8	31.8	27.0	31.0	23.8	30.1	29.1	32.7	25.9
Not stated	3.1	2.8	2.4	2.4	2.9	2.3	1.9	2.4	2.1	2.1	2.8
POLLUTION, ECOLOGY OR THE ENVIRONMENT											
Total											
Very interested	12.5	19.1	37.1	43.7	24.0	37.6	22.8	36.3	18.4	37.9	24.7
Quite interested	21.0	42.7	45.9	43.6	42.1	45.1	37.0	44.6	36.1	47.0	36.3
Neither interested nor uninterested	17.0	17.1	8.3	6.0	10.1	8.2	9.9	8.6	11.7	7.3	12.4
Not very interested	23.7	13.1	6.2	4.5	14.2	6.4	16.1	7.1	17.4	6.1	14.0
Not at all interested	25.9	7.4	2.3	2.1	9.3	2.3	14.2	3.1	16.3	1.7	12.3
Not stated	.	5.7	0.2	0.2	0.3	0.3	.	0.2	.	0.1	0.4
Total very/quite interested											
Can get information	77.3	78.8	68.5	68.9	71.2	69.1	73.5	69.5	73.9	67.0	74.5
Cannot get information	21.3	20.7	29.6	29.4	26.6	29.1	25.6	28.5	25.7	31.0	23.9
Not stated	1.3	0.5	1.9	1.6	2.2	1.8	0.9	2.0	0.3	2.0	1.7

[1] Percentages for the assessment of information being provided on the various topics derived using the very/quite interested individuals as base.

	TOTAL VERY/QUITE INTERESTED IN			INTEREST IN: NATURAL SCIENCES		SOCIAL SCIENCES /HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
INDUSTRIAL DISCOVERIES, SUCH AS NEW INVENTIONS											
Total											
Very interested	4.9	12.0	24.0	30.4	12.4	22.4	14.9	22.6	9.2	30.0	9.7
Quite interested	20.5	35.3	44.8	45.9	34.1	44.6	32.0	42.1	31.8	46.4	31.9
Neither interested nor uninterested	15.6	19.1	12.3	10.5	12.7	13.2	11.7	13.4	11.7	9.8	13.7
Not very interested	31.3	18.8	12.3	7.1	24.1	13.0	21.0	13.5	25.1	9.8	23.4
Not at all interested	27.7	13.7	6.2	5.4	16.2	6.2	20.0	7.9	21.6	3.9	20.0
Not stated	.	11.4	0.5	0.7	0.5	0.6	0.4	0.5	0.7	0.1	1.3
Total very/quite interested											
Can get information	69.0	62.0	59.2	58.6	62.5	61.0	58.9	59.8	63.7	56.6	66.8
Cannot get information	27.6	36.7	37.8	38.6	34.7	36.4	39.1	37.1	34.2	40.9	30.6
Not stated	3.4	1.2	3.0	2.7	2.8	2.6	1.9	3.2	2.1	2.5	2.6
EDUCATION											
Total											
Very interested	18.8	28.8	46.8	48.1	35.1	50.8	24.0	45.3	25.9	45.0	35.4
Quite interested	35.3	41.0	39.6	38.9	38.1	39.2	36.2	40.0	34.1	38.2	39.0
Neither interested nor interested	16.5	13.4	5.9	5.5	8.7	4.7	11.3	6.1	9.9	7.1	8.8
Not very interested	16.5	10.5	5.8	5.1	12.0	4.0	17.6	5.8	18.2	8.0	9.4
Not at all interested	12.5	6.0	1.8	2.1	5.8	1.1	10.4	2.4	11.5	1.5	6.9
Not stated	8.9	.	0.3	0.3	0.4	0.2	0.5	0.3	0.5	0.2	0.5
Total very/quite interested											
Can get information	80.8	74.9	71.4	71.9	71.1	69.6	77.6	71.6	72.5	71.6	71.0
Cannot get information	15.8	23.1	26.1	25.6	25.9	28.1	19.9	25.8	24.6	26.1	26.5
Not stated	3.3	2.0	2.5	2.5	3.0	2.3	2.5	2.6	2.9	2.3	2.5
PHYSICAL SCIENCE RESEARCH AND DISCOVERIES ABOUT NATURE											
Total											
Very interested	7.1	14.2	24.2	31.9	13.1	24.8	11.6	24.2	8.2	25.3	14.8
Quite interested	17.4	31.6	42.7	42.6	34.0	41.5	33.9	41.8	28.6	43.1	31.4
Neither interested nor uninterested	18.3	20.2	12.9	12.4	11.1	13.0	11.2	11.9	14.0	12.9	12.7
Not very interested	26.8	19.1	13.6	7.7	23.8	14.2	19.4	14.3	21.9	12.8	20.8
Not at all interested	30.4	14.8	5.8	4.2	17.1	5.6	22.6	6.9	26.7	5.4	18.5
Not stated	.	14.2	0.9	1.1	0.9	0.9	1.3	0.9	0.7	0.4	1.8
Total very/quite interested											
Can get information	77.4	71.8	63.1	62.5	66.9	64.2	68.7	63.9	71.1	61.6	70.4
Cannot get information	22.0	25.6	35.2	36.1	30.6	33.3	31.3	34.6	28.2	37.0	26.9
Not stated	0.6	1.6	1.7	1.4	2.6	2.5	.	1.5	0.7	1.4	2.7
AVIATION OR SPACE EXPLORATION											
Total											
Very interested	2.2	7.7	23.1	31.0	8.7	20.5	13.4	20.4	7.8	28.5	7.9
Quite interested	15.6	23.4	29.0	32.7	19.7	28.0	21.0	27.5	19.4	34.9	15.4
Neither interested nor uninterested	20.5	16.0	13.5	11.9	11.2	14.2	10.3	13.7	12.5	10.6	12.8
Not very interested	24.1	27.9	19.0	13.9	27.9	21.5	20.9	20.1	27.6	16.3	27.3
Not at all interested	37.9	25.1	15.3	10.4	32.2	15.6	34.5	18.1	32.6	9.7	36.3
Not stated	.	.	0.2	0.1	0.3	0.2	.	0.2	.	0.1	0.3
Total very/quite interested											
Can get information	72.5	74.1	71.8	71.5	69.6	69.6	76.1	72.1	65.6	72.8	69.1
Cannot get information	27.5	24.1	26.4	26.8	27.9	28.1	22.9	26.2	31.5	25.6	29.1
Not stated	.	2.8	1.8	1.7	2.5	2.3	1.0	1.7	2.9	1.6	1.9
RESEARCH DONE BY UNIVERSITY SCIENTISTS											
Total											
Very interested	4.6	5.4	18.4	23.9	8.5	19.0	8.0	17.6	4.9	20.4	9.6
Quite interested	14.3	26.5	35.8	38.6	25.8	36.2	23.2	35.5	18.2	34.8	27.5
Neither interested nor uninterested	15.2	26.2	17.3	18.5	13.0	16.7	14.8	16.4	17.7	17.3	14.3
Not very interested	24.1	22.8	18.1	11.3	27.1	18.5	22.5	19.1	24.2	18.0	22.1
Not at all interested	42.0	19.1	9.9	7.1	25.2	8.8	31.5	10.8	35.0	9.5	25.5
Not stated	.	2.8	0.6	0.6	0.4	0.7	.	0.6	.	0.1	1.1
Total very/quite interested											
Can get information	65.9	59.8	55.1	56.4	50.4	54.5	57.5	54.8	48.6	57.5	53.5
Cannot get information	31.7	36.6	41.8	41.2	44.3	42.1	39.8	41.9	47.6	39.4	43.6
Not stated	2.4	4.5	3.1	2.4	5.3	3.3	2.7	3.3	3.8	3.1	2.9

	---- TOTAL VERY/QUITE --- INTERESTED IN			---- I N T E R E S T I N ---- NATURAL SCIENCES		SOCIAL SCIENCES /HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
SOCIAL ISSUES SUCH AS OVER-POPULATION, URBAN PLANNING OR CHILD DEVELOPMENT											
Total											
Very interested	6.7	15.7	32.7	35.9	21.0	35.3	13.3	31.8	12.4	30.2	23.9
Quite interested	21.0	35.9	42.5	40.5	37.2	43.0	30.0	41.5	28.6	42.1	34.4
Neither interested nor uninterested	18.3	20.2	10.4	9.8	11.0	9.6	12.7	10.3	12.5	12.7	10.1
Not very interested	24.6	13.4	9.7	9.5	15.5	7.8	21.4	10.4	21.6	9.4	15.6
Not at all interested	29.5	14.5	4.4	3.9	15.1	3.9	22.6	5.5	24.9	5.5	15.3
Not stated	.	5.7	0.4	0.5	0.2	0.5	.	0.4	.	0.2	0.7
Total very/quite interested											
Can get information	69.4	67.4	65.8	65.7	65.6	64.9	72.0	65.5	69.7	65.8	67.4
Cannot get information	29.0	30.9	31.8	32.4	32.1	33.1	26.8	32.0	29.3	32.4	30.7
Not stated	3.2	0.6	2.4	1.9	2.3	2.0	1.2	2.5	1.0	1.8	1.9
THE ROLE OF SCIENTISTS IN THE ENERGY CRISIS, OIL, MINING AND RESOURCE DEVELOPMENT											
Total											
Very interested	5.4	13.4	27.9	30.8	16.4	29.0	11.9	26.9	10.4	33.3	11.2
Quite interested	15.2	32.8	40.7	40.6	31.0	38.8	25.8	39.3	20.8	42.4	25.8
Neither interested nor uninterested	20.5	17.4	13.5	13.2	14.0	13.8	15.0	12.4	16.8	12.5	15.0
Not very interested	26.3	19.4	12.2	10.6	20.4	12.3	22.8	14.0	23.7	8.0	24.8
Not at all interested	33.0	16.2	5.2	4.2	17.8	5.5	24.5	7.0	28.3	3.6	22.3
Not stated	.	0.9	0.5	0.6	0.4	0.7	.	0.5	.	0.3	0.9
Total very/quite interested											
Can get information	71.1	66.7	59.8	60.7	60.5	60.9	60.9	60.1	51.9	58.3	58.9
Cannot get information	31.1	32.7	38.0	37.3	37.1	37.1	38.3	37.7	48.1	39.3	39.9
Not stated	.	.	2.3	1.9	2.4	1.9	0.9	2.3	.	2.4	1.2
ENGINEERING PROJECTS SUCH AS TRANSPORTATION SYSTEMS PIPELINES, ETC.											
Total											
Very interested	3.6	12.8	18.3	20.5	13.4	17.7	12.1	17.1	10.9	25.2	5.3
Quite interested	11.2	25.4	38.5	41.2	27.4	37.3	24.9	36.2	18.1	48.6	16.7
Neither interested nor uninterested	19.2	20.2	16.3	15.1	12.7	16.1	12.8	16.1	14.7	12.0	16.0
Not very interested	28.6	24.8	17.5	14.4	25.4	18.9	23.7	19.5	24.7	10.0	31.5
Not at all interested	37.9	16.0	9.1	8.2	20.9	9.6	26.4	10.7	31.6	3.9	29.9
Not stated	.	0.6	0.4	0.5	0.2	0.5	.	0.4	.	0.2	0.7
Total very/quite interested											
Can get information	68.8	68.1	66.1	65.5	65.6	65.5	71.5	65.9	63.0	65.2	60.9
Cannot get information	28.1	29.6	31.0	32.1	30.1	31.5	26.8	31.1	33.1	32.3	33.9
Not stated	6.3	1.5	2.8	2.4	4.3	3.0	1.8	2.9	3.9	2.5	5.2

MAIN TABLE 9. PUBLIC PERCEPTION OF THE WORD "SCIENCE"--ACCORDING TO SOCIAL CHARACTERISTICS.

VOLUNTEERED PUBLIC OEFINITIDN OF SCIENCE, WITHIN THE GUIOELINES OF:[1]	TOTAL	AGE 15-17	18-24	25-34	35-44	45 & OVER	SEX MALE	FEMALE	MOTHER TONGUE ENGLISH	FRENCH	OTHER	EOUCATION SOME HIGH SCHOOL OR LESS	GRAO-HIGH SCHOOL	POST SEC-ONOARY
NATURAL SCIENCES-														
Chemistry/Physics/ mathematics	11.6	33.9	22.9	8.9	9.0	3.9	13.2	10.0	12.5	11.5	8.0	9.9	8.7	18.4
Atoms/atomic energy	2.1	2.1	3.0	1.4	1.7	2.1	2.2	2.0	2.4	1.1	2.5	2.0	2.6	2.0
Geology/mineralogy	2.3	2.8	1.8	4.6	2.1	1.4	2.9	1.7	2.8	1.3	2.1	2.4	2.3	1.8
SOCIAL SCIENCES/HUMANITIES-														
Education	4.7	9.0	6.2	5.8	4.4	2.7	3.5	6.0	4.3	7.0	2.0	5.1	5.1	3.7
8usiness and industries	2.5	0.2	1.8	1.2	4.0	3.4	3.2	1.9	2.5	1.7	4.1	2.7	1.6	2.7
Psychology/sociology/ anthropology/politics	3.3	0.4	4.7	2.8	3.0	3.5	3.1	3.5	3.0	4.2	2.4	2.4	3.3	5.6
LIFE SCIENCES-														
Ecology/environment/ pollution	5.6	5.6	5.9	4.6	7.7	5.1	5.2	6.0	7.6	2.4	4.2	4.1	9.6	6.9
Biology/zoology/botany	10.2	32.7	17.5	12.1	4.8	3.2	9.5	10.8	11.5	6.8	11.7	10.5	5.5	12.8
Nature/natural resources /agriculture	9.3	10.6	8.3	11.9	10.4	7.8	10.4	8.2	10.8	4.4	13.5	10.4	7.6	7.7
Medicine/medical research	32.0	20.5	30.0	35.3	34.0	33.1	27.9	36.1	35.3	28.2	26.8	30.7	40.2	29.8
Oceanography/marine studies	1.0	1.7	0.6	1.7	0.4	0.8	1.1	0.8	0.9	0.4	2.3	0.8	0.4	1.8
ENGINEERING SCIENCES-														
Mechanics/engineering/ technology	6.3	2.5	8.3	9.2	7.4	4.4	9.8	3.0	7.1	5.4	5.4	3.6	5.5	14.8
Aviation/space/astronomy	23.2	13.9	23.3	26.4	24.2	23.2	23.8	22.7	26.0	14.6	29.8	21.9	28.3	23.5
GENERAL														
Scientists	1.6	0.8	1.4	1.2	1.0	2.3	2.1	1.1	1.5	2.5	0.3	1.9	1.2	1.0
General discoveries/ inventions/projects/ developments	28.9	36.3	31.8	31.4	24.0	26.8	29.7	28.1	28.1	33.6	22.2	28.7	26.9	30.8
Science Fiction/ Futuristic	0.4	0.3	0.1	0.6	0.4	0.4	0.6	0.2	0.1	0.6	0.9	0.3	0.5	0.5
Occult/Parapsychology	0.8	1.1	0.7	1.1	0.7	0.6	0.6	1.0	0.3	2.2	.	0.6	1.1	0.9
General knowledge/evalu- ation/deduction	4.9	7.3	4.5	6.3	2.7	4.9	4.6	5.2	4.5	5.5	5.2	4.1	4.3	7.6
Miscellaneous	0.9	0.5	0.2	0.4	0.8	1.7	0.8	1.1	0.8	1.5	0.3	0.9	0.9	1.0
Nothing/not too much	4.6	2.4	2.9	3.2	4.5	6.6	4.5	4.6	2.9	5.5	9.1	5.7	2.2	3.0
OON'T KNOW/CAN'T DEFINE/ TOO OIFFICULT	6.4	2.5	3.6	5.4	6.9	8.9	5.7	7.1	3.3	11.6	8.1	8.6	4.0	1.5

[1] Column totals add up to more than 100% because multiple responses are possible.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
14.7	12.4	11.1	11.3	10.0	12.1	11.0	9.3	17.2	12.9	13.7	12.2	7.3
3.1	1.2	1.0	2.4	0.7	1.6	2.1	2.9	3.0	2.1	2.8	1.5	2.1
1.6	5.0	2.4	2.1	2.1	1.3	2.6	1.7	5.0	2.5	2.3	2.6	1.7
2.8	5.7	2.9	5.5	6.3	7.0	3.5	3.6	3.5	5.2	4.5	5.7	3.2
6.3	3.4	1.9	2.2	2.0	1.9	3.4	2.2	2.2	2.8	2.4	3.1	1.6
2.9	1.6	1.2	4.1	4.2	3.9	2.6	3.9	1.8	3.5	3.4	3.6	2.3
8.8	7.1	3.9	5.6	5.5	2.8	7.4	5.6	7.3	6.0	5.9	6.0	4.4
7.2	8.4	10.5	10.6	9.4	5.4	12.2	11.5	14.5	10.8	9.8	11.6	8.1
6.4	8.3	9.7	9.7	9.1	3.9	13.7	11.2	5.9	7.7	8.0	7.4	15.0
22.0	30.5	30.6	33.9	35.2	29.7	32.0	30.3	38.6	33.5	30.5	35.7	27.1
1.7	0.5	1.4	0.8	0.4	1.0	0.5	1.4	2.3	1.1	2.1	0.5	0.3
14.6	13.8	6.9	4.4	3.5	6.0	6.5	9.1	5.0	7.5	8.6	6.6	2.5
26.0	31.0	27.4	20.8	21.0	17.6	23.1	26.5	35.6	23.7	23.9	23.4	21.8
0.7	0.6	4.2	1.0	4.2	2.6	1.0	0.8	.	1.4	1.1	1.6	2.3
33.8	32.2	29.6	27.7	25.4	31.9	27.7	28.6	28.4	28.4	30.5	26.9	30.4
0.9	.	0.4	0.3	.	0.5	0.2	0.6	0.5	0.4	0.4	0.5	0.2
1.3	0.7	0.3	0.9	.	2.1	0.3	0.5	.	0.8	1.4	0.4	0.5
5.0	9.6	3.4	4.9	1.0	5.8	3.5	5.4	9.9	4.8	5.3	4.4	5.3
0.8	.	0.5	1.2	0.7	1.8	0.5	1.0	0.4	0.9	1.1	0.8	1.0
0.9	4.4	6.1	4.6	2.3	4.7	4.9	5.0	4.4	4.5	3.9	5.0	4.8
2.1	0.6	6.2	7.5	7.1	10.4	5.0	5.7	0.8	5.9	5.5	6.2	8.1

Main Table 10. Public Perception of the Word "Science"--According to Degree of Interest in the Sciences.

VOLUNTEERED PUBLIC DEFINITION OF SCIENCE, [1] WITHIN THE GUIDELINES OF:	TOTAL VERY/QUITE INTERESTED IN: NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	INTEREST IN: NATURAL SCIENCES VERY/ QUITE	NOT VERY/NOT AT ALL	SOCIAL SCIENCES /HUMANITIES VERY/ QUITE	NOT VERY/NOT AT ALL	LIFE SCIENCES VERY/ QUITE	NOT VERY/NOT AT ALL	ENGINEERING SCIENCES VERY/ QUITE	NOT VERY/NOT AT ALL
NATURAL SCIENCES-											
Chemistry/Physics/ Mathematics	4.5	10.0	13.1	16.6	6.0	12.3	9.0	12.0	6.9	13.6	8.2
Atoms/atomic energy	.	1.1	2.6	2.0	2.2	2.3	1.9	2.3	0.3	2.6	1.7
Geology/mineralogy	1.8	0.6	2.8	2.8	2.4	2.0	3.3	2.6	1.5	3.1	1.3
SOCIAL SCIENCES/HUMANITIES-											
Education	4.0	7.1	4.3	4.1	4.6	4.8	3.8	4.6	3.5	4.4	4.7
Business and industries	0.4	2.6	2.9	2.7	1.9	2.6	2.8	2.6	0.6	3.1	1.7
Psychology/sociology/ anthropology/politics	0.4	4.3	3.4	3.4	3.0	4.1	1.8	3.6	2.1	3.3	2.5
LIFE SCIENCES-											
Ecology/environment/ pollution	0.9	2.8	7.0	8.3	3.8	7.1	2.7	6.4	1.8	7.3	3.6
Biology/zoology/botany	5.4	9.4	11.2	13.6	6.3	10.7	8.8	11.1	6.9	10.6	9.1
Nature/natural resources/ agriculture	8.5	6.8	10.1	11.5	8.2	9.6	7.6	10.1	6.1	9.9	8.5
Medicine/medical research	21.0	35.1	34.7	32.6	33.2	35.5	26.3	35.4	24.0	33.0	33.8
Oceanography/marine studies	.	.28	1.2	1.6	0.7	1.1	1.0	1.1	0.3	1.4	0.6
ENGINEERING SCIENCES-											
Mechanics/engineering/ technology	2.2	4.8	7.4	8.8	3.9	7.6	3.5	5.9	6.2	9.4	3.2
Aviation/space/astronomy	14.7	20.2	25.3	26.5	21.2	23.5	22.0	24.0	18.4	27.2	18.6
GENERAL											
Scientists	0.9	1.7	1.7	1.3	1.0	1.7	1.1	2.0	0.7	1.7	1.2
General Discoveries/ Inventions/Projects/ Developments	19.2	33.9	29.2	28.1	27.2	29.9	23.6	29.3	22.4	29.2	26.2
Science Fiction/ Futuristic	1.3	.	0.3	0.5	0.4	0.4	0.5	0.2	0.7	0.1	0.9
Occult/Parapsychology	.	0.9	0.8	1.3	0.3	1.0	0.6	0.9	.	0.4	1.3
General knowledge/Evaluation/deduction	0.9	4.6	5.6	5.7	3.2	6.0	2.5	5.5	2.1	5.5	3.9
Miscellaneous	1.3	0.6	1.0	1.5	0.7	0.9	0.9	1.0	0.8	0.8	1.3
Nothing/not too much	16.5	4.3	2.7	2.9	6.6	2.5	9.1	2.7	13.7	3.1	6.8
DON'T KNOW/CAN'T DEFINE/ TOO DIFFICULT	20.5	6.3	4.2	2.4	11.0	4.8	10.6	5.1	12.7	2.5	12.2

[1] Column totals add up to more than 100% because multiple responses are possible.

MAIN TABLE 11. PUBLIC INTEREST IN THE FOUR REPRESENTATIVE AREAS OF SCIENCE--BY SOCIAL CHARACTERISTICS.

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
NATURAL SCIENCES														
Very interested	13.4	21.0	12.9	14.1	14.5	11.2	15.5	11.4	12.9	14.5	13.4	11.6	9.7	20.9
Quite interested	27.8	32.2	35.6	30.3	26.1	22.7	28.5	27.1	27.9	28.4	26.4	24.2	32.3	34.7
Neither interested nor uninterested	19.4	23.3	20.0	18.8	20.3	18.1	20.4	18.3	16.9	23.1	21.7	20.6	13.9	20.0
Not very interested	28.5	17.9	25.4	27.1	28.7	33.0	25.4	31.6	31.3	23.8	26.8	30.5	35.7	17.9
Not at all interested	10.7	5.7	6.1	9.5	10.0	15.0	10.0	11.5	10.8	10.3	11.7	13.0	8.3	6.3
Not stated	0.1	.	.	0.3	0.4	.	0.1	0.1	0.2	.	.	0.1	.	0.3
SOCIAL SCIENCES AND HUMANITIES														
Very interested	25.4	20.6	30.1	27.6	31.7	20.3	18.6	32.1	24.2	30.9	19.1	18.0	32.3	41.0
Quite interested	35.3	30.8	33.2	39.7	38.1	33.9	35.8	34.9	33.0	38.2	38.8	35.4	35.7	34.8
Neither interested nor uninterested	15.1	14.7	16.7	16.9	12.2	14.8	18.6	11.7	14.5	15.6	16.7	16.0	13.7	13.7
Not very interested	17.4	27.2	16.5	12.7	12.9	20.0	20.3	14.5	20.5	10.8	18.1	22.1	13.5	6.9
Not at all interested	6.7	6.6	3.3	3.0	4.7	11.0	6.6	6.7	7.7	4.5	7.0	8.3	4.8	3.6
Not stated	0.1	.	0.2	.	0.4	.	0.1	0.1	0.1	.	0.2	0.2	.	.
LIFE SCIENCES														
Very interested	32.9	27.2	27.2	37.2	39.3	31.8	25.8	39.8	29.1	40.4	32.6	28.5	39.6	40.0
Quite interested	40.0	41.7	42.7	39.5	36.8	39.9	41.5	38.5	40.5	39.9	38.3	42.0	37.6	36.1
Neither interested nor uninterested	12.5	19.9	15.3	14.3	11.1	9.3	17.0	8.1	13.4	11.0	12.1	12.8	9.1	14.3
Not very interested	10.3	9.6	13.1	6.2	8.6	12.0	10.9	9.8	12.3	6.0	11.2	11.9	9.5	6.6
Not at all interested	4.2	1.6	1.6	2.5	4.1	7.0	4.7	3.8	4.6	2.7	5.7	4.8	4.1	2.7
Not stated	0.1	.	0.2	0.3	.	.	0.2	.	0.1	.	0.2	0.1	.	0.3
ENGINEERING SCIENCES														
Very interested	17.1	13.4	15.1	19.4	20.3	16.4	24.4	10.0	17.1	17.9	15.7	15.6	15.5	22.8
Quite interested	32.0	31.2	37.5	34.4	33.7	27.6	42.2	22.0	33.5	30.9	28.3	29.7	34.4	36.9
Neither interested nor uninterested	16.1	23.1	17.9	17.7	14.7	13.5	11.5	20.6	14.2	18.2	19.4	16.2	16.9	15.3
Not very interested	22.1	20.9	19.9	17.9	19.3	26.6	13.7	30.3	23.1	19.8	22.4	24.4	21.4	16.2
Not at all interested	12.5	11.5	9.4	10.3	11.6	15.9	8.0	17.0	11.9	13.2	14.0	14.1	11.8	8.5
Not stated	0.2	.	0.2	0.3	0.4	.	0.2	0.1	0.2	.	0.2	0.2	.	0.3

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
20.2	18.0	13.6	12.1	12.4	16.7	11.6	12.7	13.4	13.5	13.7	13.4	13.0
37.3	31.5	27.3	26.5	20.0	31.4	26.2	28.0	30.6	29.5	30.9	28.4	22.1
15.8	29.8	19.7	18.7	27.0	22.3	17.8	14.6	17.7	19.6	19.7	19.6	18.5
21.1	20.2	28.7	30.2	23.2	21.8	32.1	34.5	29.3	27.0	27.2	26.8	33.9
5.6	0.5	10.7	12.4	16.8	7.8	12.2	10.3	9.1	10.3	8.4	11.8	12.2
.	.	.	0.2	0.7	.	0.2	.	.	0.1	0.2	.	0.3
30.1	33.7	14.0	27.6	24.6	33.3	22.0	20.4	24.2	27.9	31.1	25.6	16.6
41.3	41.7	33.1	34.7	30.6	38.2	34.6	34.5	35.6	35.3	36.6	34.3	35.5
14.9	17.1	22.1	12.8	17.1	14.4	14.0	16.7	16.7	15.3	15.1	15.4	14.6
12.0	6.9	23.1	17.3	15.6	10.4	19.7	23.9	19.3	15.0	12.9	16.7	25.4
1.7	0.5	7.5	7.6	11.5	3.5	9.6	4.4	4.2	6.4	4.3	8.0	7.6
.	.	0.2	0.1	0.7	0.1	.	.	.	.	0.1	.	0.3
34.9	28.3	25.7	35.3	29.1	41.9	27.9	31.6	31.2	32.9	34.0	32.1	32.7
39.0	47.2	38.5	39.9	34.3	38.5	39.5	43.7	44.8	41.1	40.7	41.4	36.2
15.4	17.1	18.3	9.9	16.2	11.8	13.1	10.7	11.8	12.7	12.3	13.0	11.7
7.6	6.2	12.6	10.3	11.3	5.8	13.2	11.1	10.3	9.3	9.1	9.5	13.7
3.2	1.2	4.6	4.5	9.1	1.9	6.1	2.9	1.9	3.8	3.6	4.0	5.7
.	.	0.2	0.1	.	0.1	0.2	.	.	0.1	0.3	.	.
34.1	22.5	25.5	11.9	17.2	18.8	14.1	17.0	23.6	18.3	18.8	17.9	13.1
35.8	43.7	43.6	26.8	27.7	31.0	33.7	32.0	32.7	32.5	31.4	33.3	30.4
10.6	24.2	9.8	17.9	19.6	18.5	15.0	16.2	10.1	16.6	16.3	16.9	14.2
13.4	6.7	13.1	27.4	21.7	19.4	23.0	22.6	25.4	20.4	21.4	19.6	27.8
6.1	3.0	7.8	15.8	13.1	12.2	14.1	12.2	8.1	12.1	11.8	12.3	14.3
.	.	0.2	0.2	0.7	0.1	0.2	.	.	0.1	0.3	.	0.3

MAIN TABLE 12-A. DEGREE OF INTEREST IN THE SCIENCES--ACCORDING TO SOCIAL PROFILE.

	AGE							SEX	
	15-17	18-24	25-34	35-44	45-54	55-64	65 & over	Male	Female
Total Interviews	166	361	380	333	354	190	216	992	1008
Total Interested in:									
No areas of science	7.8	10.0	8.2	6.3	11.0	15.3	25.9	10.8	11.7
One area only	30.1	14.4	14.2	19.8	17.8	16.3	20.8	17.4	17.6
Two areas or more	68.1	75.6	77.6	73.9	71.2	68.4	53.3	71.8	70.7

	MOTHER TONGUE				OCCUPATION			
	English	French Quebec	French Non-Quebec	Other	Manager/ Prof.	White Collar	Blue Collar	Other
Total Interviews	1141	492	83	284	158	127	410	1304
Total Interested in:								
No areas of science	12.1	7.3	12.0	14.1	5.1	5.5	11.5	12.3
One area only	18.5	13.8	24.1	18.3	14.6	10.2	19.8	10.4
Two areas or more	69.4	78.9	63.9	67.6	80.3	84.3	68.7	77.3

	EDUCATION			STUDY SCIENCES IN HIGH SCHOOL		STUDY SCIENCES IN POST-SECONDARY SCHOOL		
	Some High School Or Less	Grad. High School	Post Second. School	None	Some	None	Few	Science Major/ Graduate
Total Interviews	1239	320	439	307	752	118	192	117
Total Interested in:								
No areas of science	14.0	10.0	4.1	12.7	7.6	11.0	1.6	0.9
One area only	20.3	14.1	12.5	19.9	16.1	16.1	11.4	7.7
Two areas or more	65.7	75.9	83.4	67.4	76.3	72.9	87.0	91.4

	MARITAL STATUS			TOTAL FAMILY INCOME						
	Single	Married	Widower Div./Sep.	Less Than $5,000	$5,000 to $7,499	$7,500 to $9,999	$10,000 to $14,999	$15,000 to $16,999	$17,000 to $19,999	$20,000 or More
Total Interviews	561	1254	186	259	246	336	480	200	192	218
Total Interested in:										
No areas of science	9.4	10.8	19.4	22.8	14.2	13.1	5.8	11.0	9.4	4.1
One area only	19.1	16.4	21.0	21.6	15.9	17.3	19.4	13.0	15.1	12.8
Two areas or more	71.5	72.8	59.6	55.6	69.9	69.6	74.8	76.0	75.5	83.1

	FAMILY COMPOSITION		SOCIO-ECONOMIC LEVEL				
	Adults Only	Have Children	Upper	Upper-Middle	Middle	Lower-Middle	Lower
Total Interviews	839	1161	409	368	418	415	391
Total Interested in:							
No areas of science	14.1	9.1	5.1	7.6	10.0	15.4	17.9
One area only	19.0	16.6	13.0	19.8	13.2	21.0	21.5
Two areas or more	66.9	74.3	81.9	72.6	76.8	63.6	60.6

MAIN TABLE 12-B. SOCIAL PROFILE OF CANADIANS--BY DEGREE OF INTEREST IN THE SCIENCES.

	TOTAL VERY/QUITE INTERESTED IN			INTEREST IN: NATURAL SCIENCES		SOCIAL SCIENCES / HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
SOCIAL CHARACTERISTICS	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
AGE											
15-17	5.8	11.5	8.0	10.7	5.0	7.0	11.7	7.8	6.4	7.5	7.7
18-24	16.1	14.8	19.3	21.2	14.5	18.8	14.9	17.3	18.1	19.4	15.2
25-34	13.7	15.4	20.8	20.4	17.7	21.1	12.4	20.1	11.4	20.8	15.5
35-44	9.3	18.8	17.2	16.4	16.5	19.2	12.2	17.4	14.6	18.3	14.9
45-54	17.3	17.9	17.7	16.7	18.9	17.3	18.0	18.9	17.4	17.4	18.8
55-64	12.8	8.8	9.0	7.7	12.1	9.3	10.8	9.2	11.1	7.8	12.3
65 and over	25.0	12.8	8.8	6.9	15.3	7.3	20.1	9.3	21.0	8.9	15.5
SEX											
Male	47.3	49.6	50.0	53.0	44.7	44.4	55.6	45.8	53.0	67.2	31.1
Female	52.7	50.4	50.0	47.0	55.3	55.6	44.4	54.2	47.0	32.8	68.9
MOTHER TONGUE											
English	61.6	60.1	55.6	56.4	61.2	53.7	67.0	54.5	66.4	58.8	57.7
French Quebec	16.1	19.4	27.2	27.0	20.2	28.7	14.9	27.2	12.6	24.8	22.8
French Non-Quebec	4.5	5.7	3.7	2.9	4.7	4.0	3.3	4.5	4.6	3.7	4.7
Other	17.8	14.8	13.5	13.7	13.9	13.5	14.8	13.8	16.4	12.7	14.9
EDUCATION											
Some High School or less	77.7	71.5	57.1	54.2	68.7	72.6	78.2	60.1	71.0	59.9	69.0
Graduated High School	14.3	12.8	17.1	16.3	17.9	17.9	12.2	17.0	15.0	16.3	15.3
Post-secondary School	8.0	15.7	25.8	29.5	13.4	27.4	9.6	22.9	14.0	26.5	15.7
STUDY/ STUDIED SCIENCES [1] IN HIGH SCHOOL											
None	33.3	25.4	17.9	13.1	18.4	14.8	18.3	15.2	19.7	13.5	17.3
Some	48.6	50.5	49.6	42.4	35.5	38.5	33.9	39.1	29.5	39.6	34.4
Not stated	3.4	0.4	0.6	0.6	0.9	0.6	0.5	0.5	0.9	0.7	0.7
IN POST-SECONDARY SCHOOL											
None	11.1	7.9	7.4	5.9	5.3	6.2	3.9	5.3	6.6	7.3	4.7
Few	2.5	9.2	14.4	12.1	6.2	13.3	3.0	10.8	4.7	11.0	7.2
A Science Major	0.8	2.5	5.3	6.7	1.0	4.1	1.3	3.4	1.9	4.9	1.3
Graduate Science	.	1.2	4.1	4.3	0.9	3.3	0.7	2.8	0.9	3.0	2.0
Not stated	0.3	2.0	0.6	0.6	0.2	0.5	0.8	0.6	.	0.4	0.5
OCCUPATION OF RESPONDENTS											
Professional/Managerial	3.6	6.6	8.9	11.0	5.3	9.3	4.5	8.0	5.9	11.2	4.5
White Collar	3.1	3.7	7.5	7.7	3.3	7.9	2.0	6.6	3.2	8.6	1.8
Blue Collar	21.0	23.1	19.8	20.3	20.6	15.9	26.2	18.1	24.3	28.8	12.4
Other	72.3	66.6	63.8	61.0	70.8	66.9	67.3	67.3	66.6	51.4	81.3
FAMILY COMPOSITION											
Adults only	52.7	45.3	39.4	39.7	46.3	38.5	51.2	40.4	54.2	41.9	44.2
Have children	47.3	54.7	60.6	60.3	53.7	61.5	48.8	59.6	45.8	58.1	55.8
MARITAL STATUS											
Single	23.5	30.5	28.1	33.1	21.5	25.8	29.9	26.8	25.0	28.9	23.8
Married	60.5	58.4	64.1	60.4	66.4	65.6	59.1	64.3	62.1	64.7	62.3
Widower/divorced/ separated	16.0	11.1	7.8	6.5	12.2	8.6	11.0	9.0	12.9	6.4	13.9
TOTAL FAMILY INCOME											
Less than $5,000	26.3	16.0	10.1	9.1	17.3	11.0	19.0	11.5	21.5	8.4	19.8
$5,000-$7,499	15.6	11.1	12.1	10.1	15.0	11.6	14.9	12.7	13.0	10.6	14.2
$7,500-$9,999	19.6	16.5	16.4	14.8	19.6	15.9	19.7	16.4	16.7	18.1	15.1
$10,000-$14,999	12.5	26.5	25.2	26.7	20.5	25.7	18.0	24.8	17.7	22.8	24.8
$15,000-$16,999	9.8	7.4	10.7	12.7	7.6	10.5	8.9	10.3	8.3	10.8	8.6
$17,000-$19,999	8.0	8.3	10.2	10.6	8.5	9.8	8.9	9.7	9.9	12.7	7.6
$20,000 or more	4.0	8.0	12.5	13.1	8.9	12.7	7.0	11.6	7.9	13.3	6.6
Refused	1.5	3.4	1.0	1.3	0.9	1.2	0.9	1.1	1.2	1.6	1.2
Don't know	2.7	2.8	1.8	1.8	1.6	1.7	2.7	1.8	3.7	1.7	2.2
SOCIO-ECONOMIC LEVEL											
Upper	9.4	15.1	23.5	26.0	15.1	24.9	11.4	22.3	14.3	24.8	14.1
Upper-middle	12.5	20.8	18.7	20.0	17.6	18.0	16.6	18.8	15.8	20.9	16.2
Middle	18.8	15.7	22.5	21.1	20.7	22.3	17.9	21.5	19.0	21.6	18.7
Lower-middle	28.6	24.8	18.5	18.8	22.7	17.8	26.8	19.5	24.2	18.1	23.7
Lower	31.3	23.9	16.6	14.0	23.9	17.0	27.3	17.8	26.6	14.6	27.3

[1] Percentages for the section "STUDY/STUDIED SCIENCES" total to 100% when the categories "IN HIGH SCHOOL" and "IN POST-SECONDARY SCHOOL" are included.

MAIN TABLE 13. SCIENCE-INTERESTED CANADIANS AND SOURCES USED "AT ALL" FOR INFORMATION ON THE SCIENCES.

NATURAL SCIENCES	TOTAL	AGE 15-17	18-24	25-34	35-44	45 & OVER	SEX MALE	FEMALE	MOTHER TONGUE ENGLISH	FRENCH	OTHER	EDUCATION SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SECONDARY
TOTAL VERY/QUITE INTERESTED-NATURAL SCIENCES SOURCES WOULD USE AT ALL	*825*	*88*	*175*	*169*	*136*	*258*	*437*	*388*	*466*	*247*	*113*	*444*	*135*	*244*
MASS MEDIA [1]														
Daily newspapers	44.6	33.0	35.9	47.1	52.6	48.8	42.0	47.7	45.4	43.5	44.1	45.5	50.7	40.1
Magazines	59.7	70.2	68.1	62.4	55.3	50.9	60.3	58.9	64.7	51.3	57.4	52.0	68.1	68.7
Radio	25.2	17.6	17.5	27.1	27.4	30.8	22.0	29.0	25.8	20.5	33.1	26.7	32.2	18.3
Television	58.4	58.2	46.6	59.9	60.4	64.2	56.5	60.4	55.9	62.9	58.6	62.3	61.5	50.0
None of above	4.8	4.3	8.5	1.7	6.4	3.7	5.0	4.6	6.5	1.5	5.1	2.2	4.3	10.0
SOURCES OTHER THAN MASS MEDIA [1]														
Course(s)	26.2	30.4	39.9	27.5	19.0	18.6	28.2	24.0	29.7	18.9	28.0	21.3	24.1	36.7
Journal(s)	37.5	27.8	39.8	37.9	43.7	35.8	41.2	33.4	40.2	38.1	25.1	29.4	39.0	51.7
Textbooks	44.6	56.7	51.0	39.4	47.0	38.2	42.1	47.4	52.1	29.8	46.0	41.1	32.7	57.3
Other related books	41.0	37.8	48.1	41.9	39.8	37.3	43.2	38.5	47.4	31.2	36.0	38.2	41.6	45.9
Gov't publications	33.3	23.0	32.6	33.5	36.6	35.3	34.1	32.3	31.2	37.6	32.5	33.3	30.9	34.8
OTHER SOURCES VOLUNTEERED [1]														
Library	5.8	2.2	3.7	5.3	7.7	7.7	7.2	4.2	8.8	1.1	3.4	3.7	11.5	6.3
Encyclopedia	1.7	.	0.9	4.8	1.6	0.6	1.5	1.8	2.0	1.6	0.6	2.2	1.9	0.6
Films	0.5	.	1.8	0.5	.	.	0.4	0.6	0.7	.	0.8	0.3	.	1.1
Discussion with friend /relatives/people	0.8	.	1.2	1.4	.	0.9	1.3	0.3	1.0	0.6	0.5	0.5	.	2.0
Discussion with professionals doctor/nurse /professor/expert	1.6	1.6	3.5	0.6	3.2	0.2	2.1	1.2	2.7	.	1.0	1.1	3.0	1.9
Miscellaneous	1.8	2.1	2.7	0.6	1.1	2.2	2.0	1.6	2.0	1.2	2.4	1.9	2.3	1.5
NONE/DON'T KNOW	7.4	3.9	2.8	4.4	5.6	14.8	6.3	8.7	7.3	4.4	14.5	9.0	9.9	3.4
DETAILS OF MASS MEDIA AS SOURCES OF INFORMATION														
Daily newspapers only	8.0	4.3	7.3	5.9	8.1	11.1	7.4	8.7	7.3	9.5	7.4	9.2	4.5	7.8
Magazines only	20.4	27.2	28.1	20.6	16.4	14.8	23.2	17.3	23.1	16.5	17.7	16.9	22.0	25.7
Radio only	0.9	.	0.3	1.9	0.6	1.0	0.2	1.6	0.1	0.8	3.9	1.6	.	.
TV only	9.8	11.6	4.6	7.7	10.9	13.4	10.4	9.1	7.8	13.6	9.6	14.6	5.5	3.4
Daily newspapers and magazines	5.5	5.2	7.8	7.5	2.4	4.3	5.1	5.8	5.9	5.2	4.4	5.1	5.5	6.0
Daily newspapers and radio	0.9	.	0.8	1.8	1.3	0.6	1.1	0.8	1.0	0.6	1.3	1.6	0.3	.
Daily newspapers and TV	8.6	4.5	5.6	9.7	11.6	9.9	9.3	7.9	6.1	13.4	8.6	9.0	10.3	7.1
Magazines and radio	0.7	0.8	0.7	.	2.5	0.2	0.9	0.5	.	1.7	1.5	0.7	0.8	.
Magazines and TV	11.7	19.3	16.4	12.8	8.1	7.1	10.8	12.6	10.9	14.2	9.6	10.3	11.6	14.3
Radio and TV	4.1	1.8	2.6	4.3	2.5	6.7	4.1	4.2	3.0	6.5	3.8	6.2	1.1	2.1
Daily newspapers and magazines and radio	0.5	.	.	0.7	2.0	.	0.6	0.3	0.1	1.3	.	0.3	1.0	0.4
Daily newspapers and magazines and TV	6.0	6.1	4.2	7.0	8.7	5.0	6.8	5.0	6.5	5.6	4.4	5.8	4.1	7.4
Daily newspapers and radio and TV	3.1	3.2	2.1	4.7	3.4	2.7	2.3	4.1	3.4	2.8	2.8	3.6	5.8	0.9
Magazines and radio and TV	2.9	1.9	2.9	3.9	.	4.2	3.4	2.4	3.1	1.8	4.6	1.9	4.0	4.3
Daily newspapers and magazines and radio and TV	12.1	9.8	8.1	9.8	15.2	15.4	9.4	15.0	15.0	5.1	15.2	10.8	19.2	10.5

[1] Percentages total to more than 100% because multiple responses possible.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
91	*63*	*168*	*503*	*59*	*269*	*274*	*132*	*91*	*667*	*298*	*369*	*158*
41.7	52.6	39.7	45.8	53.3	42.3	49.2	37.4	42.9	44.4	46.8	42.4	45.9
74.5	60.6	52.7	59.2	64.6	50.9	64.6	61.0	65.8	60.7	59.0	62.0	55.4
20.2	17.6	25.7	27.0	24.4	20.4	27.5	23.7	35.5	24.6	30.4	20.0	27.8
42.6	57.4	62.8	59.9	59.8	63.4	56.0	54.5	55.1	58.3	61.5	55.8	58.4
9.3	6.7	1.6	4.9	7.1	2.1	6.3	8.1	2.2	5.0	3.8	5.9	4.3
38.4	28.3	24.0	24.5	26.0	21.7	29.5	25.7	30.5	26.4	29.6	23.9	25.3
62.8	29.3	34.9	34.8	34.4	40.7	36.7	32.2	40.4	38.4	39.7	37.4	33.7
50.8	45.3	37.1	45.9	49.0	30.0	55.0	50.3	45.2	45.2	49.0	42.2	41.9
45.9	44.6	39.9	40.0	49.1	31.2	47.3	42.2	44.1	42.2	41.3	42.9	36.0
38.6	31.8	34.0	32.3	23.9	36.5	29.9	29.2	45.7	31.0	31.4	30.7	42.8
10.0	0.8	8.3	4.8	8.2	1.0	7.6	11.4	4.8	6.1	1.7	9.7	4.2
.	.	3.5	1.5	0.6	1.4	2.0	1.9	1.6	1.7	1.0	2.3	1.3
.	0.6	.	0.7	2.5	.	0.9	.	.	0.6	0.1	1.0	.
2.9	1.4	0.9	0.4	1.4	0.8	1.0	0.4	1.0	1.0	1.2	0.9	.
0.7	1.1	3.6	1.2	6.1	.	3.1	0.3	1.0	1.5	1.2	1.7	2.1
0.9	5.2	1.4	1.7	1.2	2.3	2.6	0.2	0.9	1.7	2.0	1.5	2.3
1.3	2.5	8.8	8.7	7.0	4.1	8.4	7.8	14.2	7.7	9.3	6.4	6.5
4.8	10.7	7.6	8.4	12.5	8.2	7.9	6.9	6.3	7.9	7.6	8.2	8.3
30.7	23.0	18.4	18.9	12.4	18.5	20.1	24.0	26.9	20.7	20.3	21.0	19.2
.	.	0.5	1.2	.	0.8	0.3	0.9	3.4	1.0	0.7	1.2	0.4
3.2	3.5	16.1	9.7	6.6	14.4	7.1	8.2	8.9	9.0	10.2	8.1	12.9
8.4	2.1	4.8	5.6	8.3	4.3	6.8	4.7	4.1	5.7	4.7	6.4	4.6
1.6	.	1.9	0.6	.	0.4	1.8	.	1.9	0.4	0.3	0.5	3.0
4.9	12.0	11.1	8.1	6.1	13.7	6.3	8.3	2.7	8.8	7.9	9.5	8.0
1.8	.	1.5	0.3	.	1.5	0.2	0.9	.	0.5	0.2	0.7	1.7
8.8	9.5	11.2	12.6	18.2	12.8	10.3	12.9	6.5	11.8	9.0	14.0	11.3
1.7	3.7	6.4	3.9	.	6.2	4.3	1.7	3.8	4.3	6.1	2.9	3.3
0.7	.	1.2	0.3	.	0.7	0.6	.	0.2	0.6	0.9	0.3	0.1
9.6	14.9	3.7	4.9	4.5	5.6	7.6	3.3	7.0	6.5	6.1	6.8	3.7
.	2.8	2.3	4.0	3.1	3.4	1.4	4.9	5.1	2.9	4.3	1.7	4.3
2.8	1.0	4.7	2.6	2.5	1.4	2.2	6.0	5.5	3.4	2.8	3.9	0.9
11.6	10.1	7.2	14.0	18.8	6.0	16.7	9.4	15.7	11.6	15.0	8.9	13.9

SOCIAL SCIENCE AND HUMANITIES	TOTAL	AGE: 15-17	18-24	25-34	35-44	45 & OVER	SEX: MALE	FEMALE	MOTHER TONGUE: ENGLISH	FRENCH	OTHER	EDUCATION: SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL VERY/QUITE INTERESTED-SOCIAL SCIENCES SOURCES WOULD USE AT ALL	*1215*	*65*	*229*	*256*	*233*	*412*	*539*	*676*	*653*	*398*	*164*	*662*	*218*	*333*
MASS MEDIA [1]														
Daily newspapers	55.5	37.7	49.0	58.8	59.5	58.4	53.3	57.2	60.9	46.2	56.3	53.0	61.3	56.7
Magazines	51.6	57.2	57.9	56.6	47.9	45.8	50.7	52.3	56.4	43.3	52.4	44.8	52.6	64.1
Radio	29.3	18.4	25.3	26.4	31.1	34.6	27.3	31.0	31.9	22.8	34.8	31.0	32.5	23.6
Television	62.3	53.5	54.9	63.1	72.2	62.2	61.2	63.3	59.3	66.8	63.7	65.5	62.1	56.6
None of above	4.9	5.4	5.8	3.8	2.8	6.2	5.9	4.1	7.2	1.8	3.2	3.1	5.0	8.5
SOURCES OTHER THAN MASS MEDIA [1]														
Course(s)	27.8	36.5	43.4	27.7	26.9	17.8	26.2	29.0	31.5	20.2	31.2	22.6	24.4	40.4
Journal(s)	33.9	25.3	35.4	36.0	36.6	32.1	36.7	31.7	37.2	31.1	27.7	26.3	31.6	50.9
Textbooks	41.6	55.7	48.5	43.7	39.5	34.9	40.9	42.2	50.2	28.7	38.8	36.2	36.4	55.6
Other related books	36.6	47.1	41.8	36.6	41.0	29.2	36.5	36.7	41.6	27.1	40.2	33.8	33.7	44.3
Gov't. publications	32.2	20.5	26.5	32.9	35.4	35.5	36.4	28.8	30.7	32.5	37.2	32.5	30.2	33.2
OTHER SOURCES VOLUNTEERED [1]														
Library	3.2	4.6	2.0	4.0	2.6	3.4	3.8	2.7	4.9	0.8	2.1	2.5	3.6	4.3
Encyclopedia	1.1	.	0.8	2.0	1.8	0.4	1.0	1.1	1.2	1.1	0.5	1.4	1.0	0.5
Films	0.2	.	0.2	0.6	0.3	.	0.2	0.2	0.3	.	0.5	.	.	0.8
Discussion with friend /relatives/people	1.0	.	1.3	1.8	.	1.2	1.3	0.8	1.1	0.6	1.8	0.7	.	2.3
Discussion with professionals doctor/nurse /professor/expert	1.9	2.3	3.8	1.7	1.4	1.2	2.3	1.6	2.7	1.0	0.8	2.4	0.6	1.8
Miscellaneous	1.9	1.9	1.5	2.3	2.9	1.2	2.0	1.7	2.5	0.9	1.7	1.4	1.3	3.1
NONE/DON'T KNOW	11.3	2.4	4.1	8.3	13.2	18.0	8.7	13.4	9.7	12.6	14.4	14.0	14.6	3.8
DETAILS OF MASS MEDIA AS SOURCES OF INFORMATION														
Daily newspapers only	10.4	7.5	6.8	11.0	8.6	13.7	8.5	11.9	10.5	9.6	12.1	10.1	11.7	10.2
Magazines only	10.8	20.7	16.9	10.7	4.8	8.8	12.9	9.1	10.7	11.3	9.9	9.5	10.3	13.8
Radio only	1.6	5.4	1.1	1.1	1.7	1.3	1.3	1.8	0.9	2.1	2.9	2.6	0.3	0.4
TV only	10.1	9.8	5.6	9.3	16.6	9.6	10.9	9.5	6.3	17.1	8.5	14.0	8.3	3.8
Daily newspapers and magazines	7.0	6.2	11.1	7.5	6.2	5.0	6.9	7.1	8.7	5.2	4.8	5.9	8.4	8.4
Daily newspapers and radio	1.8	0.9	2.0	2.3	1.7	1.7	2.0	1.7	1.8	2.0	1.8	2.5	1.3	0.8
Daily newspapers and TV	10.0	8.8	11.3	8.1	11.7	9.8	11.2	9.1	8.7	13.4	7.1	11.1	10.1	8.0
Magazines and radio	0.6	.	0.7	0.5	1.4	0.4	0.7	0.6	0.3	1.2	0.4	0.5	0.7	0.5
Magazines and TV	9.4	17.3	12.2	11.7	8.6	5.2	7.9	10.6	7.9	12.3	8.4	8.9	8.2	11.2
Radio and TV	4.7	3.0	5.7	2.0	3.7	6.7	4.3	5.0	3.3	6.6	5.4	6.4	3.3	2.3
Daily newspapers and magazines and radio	0.5	0.5	0.5	0.1	0.6	0.6	0.6	0.4	0.5	.	1.3	0.3	D.3	1.0
Daily newspapers and magazines and TV	8.0	5.9	4.9	11.6	9.6	6.9	8.3	7.6	8.0	6.5	11.3	6.4	5.5	12.7
Daily newspapers and radio and TV	4.8	2.0	3.7	5.9	5.3	5.1	5.1	4.5	4.8	4.1	6.6	5.4	7.5	2.D
Magazines and radio and TV	2.4	0.8	2.8	2.2	0.8	3.4	2.8	2.0	2.3	1.3	5.0	2.0	2.7	2.9
Daily newspapers and magazines and radio and TV	12.9	5.8	8.7	12.4	15.9	15.4	10.5	14.8	17.9	5.4	11.4	11.4	16.6	13.8

[1] Percentages total to more than 100% because multiple responses possible.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
113	*96*	*193*	*812*	*100*	*400*	*411*	*178*	*124*	*981*	*452*	*529*	*234*
53.4	55.7	51.0	56.8	56.8	46.4	63.1	50.5	65.3	57.0	60.7	53.8	49.1
64.2	62.8	43.4	50.4	58.2	43.5	58.9	51.3	48.2	52.9	52.2	53.6	45.8
24.5	23.6	31.7	30.1	24.9	24.0	32.4	29.5	39.5	29.0	35.8	23.3	30.5
55.0	62.4	67.3	62.2	59.7	66.8	59.0	65.3	56.7	61.1	62.0	60.3	67.5
8.7	7.1	3.0	4.6	4.3	2.1	6.1	5.2	10.0	5.5	5.4	5.6	2.4
36.1	30.6	22.4	27.5	30.4	23.1	27.2	32.9	35.1	27.8	30.2	25.7	27.7
56.8	18.9	32.2	32.9	32.0	35.4	34.0	23.9	44.7	35.0	38.4	32.1	29.3
42.0	46.0	41.2	41.2	56.6	27.3	48.9	44.7	47.4	42.9	43.2	42.6	36.4
39.9	36.9	36.2	36.3	30.7	27.4	40.3	41.0	53.0	38.1	40.4	36.1	30.7
36.7	37.7	33.4	30.6	18.0	32.2	31.5	31.5	46.8	32.3	33.7	31.0	31.9
4.2	2.7	3.6	3.0	6.4	0.1	5.6	4.0	1.3	3.5	2.0	4.8	1.7
.	1.9	1.5	1.0	1.1	1.1	1.4	0.9	.	1.1	0.5	1.6	0.9
1.1	.	.	0.2	.	.	0.6	.	.	0.3	0.2	0.4	.
3.0	.	1.8	0.7	2.2	0.7	1.5	0.8	.	1.2	0.9	1.4	0.3
1.4	3.3	1.1	2.0	7.6	.	3.0	0.9	1.2	1.7	2.0	1.4	2.9
2.9	2.5	0.7	1.9	0.7	1.7	2.6	2.7	.	1.8	2.5	1.2	2.2
3.6	4.1	11.3	13.2	8.4	12.0	12.5	11.2	7.8	10.5	13.3	8.1	14.6
7.7	5.9	6.6	12.3	17.7	9.9	9.7	8.4	11.4	10.3	10.7	9.9	11.1
13.4	16.1	10.3	9.9	7.5	11.8	10.3	13.7	7.6	10.9	9.4	12.1	10.4
.	1.8	2.4	1.6	1.5	2.1	1.3	1.6	0.7	1.8	1.0	2.4	0.8
7.5	5.6	12.3	10.5	5.1	16.6	6.2	11.5	4.7	8.7	7.6	9.6	16.3
10.4	5.5	6.6	6.8	7.8	4.2	10.6	5.3	5.8	7.7	7.1	8.3	3.9
1.6	.	3.4	1.7	.	1.8	2.0	0.4	4.8	1.7	2.7	0.8	2.6
7.7	9.7	15.4	9.1	7.9	12.6	7.5	10.6	11.0	10.2	9.0	11.2	9.4
2.1	.	0.4	0.5	1.5	1.1	0.4	.	0.3	0.6	0.7	0.5	0.8
9.5	8.0	8.7	9.7	16.4	12.4	5.9	10.1	4.8	8.7	6.2	10.9	12.4
1.4	2.9	8.2	4.5	1.9	6.3	4.0	4.3	4.9	4.4	5.2	3.7	5.9
1.0	1.1	.	0.4	.	0.1	0.5	.	2.7	0.5	0.9	0.1	0.5
10.6	18.4	5.5	6.9	8.4	6.4	11.2	5.7	5.2	9.0	8.7	9.2	3.8
1.2	4.1	5.4	5.2	3.5	5.0	4.2	6.7	4.4	4.6	6.2	3.2	5.9
4.0	2.7	3.7	1.8	5.0	1.3	2.7	3.1	1.7	2.5	3.7	1.4	2.0
13.1	11.0	8.2	14.3	11.5	6.3	17.4	13.4	20.0	13.1	15.5	11.2	12.0

LIFE SCIENCES	TOTAL	AGE 15-17	AGE 18-24	AGE 25-34	AGE 35-44	AGE 45 & OVER	SEX MALE	SEX FEMALE	MOTHER TONGUE ENGLISH	MOTHER TONGUE FRENCH	MOTHER TONGUE OTHER	EDUCATION SOME HIGH SCHOOL OR LESS	EDUCATION GRAD-HIGH SCHOOL	EDUCATION POST SEC-ONDARY
TOTAL VERY/QUITE INTERESTED-LIFE SCIENCES SOURCES WOULD USE AT ALL	*1457*	*114*	*252*	*292*	*254*	*545*	*668*	*789*	*794*	*462*	*201*	*873*	*247*	*334*
MASS MEDIA [1]														
Daily newspapers	47.9	38.5	38.9	49.2	53.5	50.7	45.2	50.2	54.2	38.0	45.5	46.8	52.5	47.7
Magazines	55.6	65.9	67.2	58.8	52.7	47.7	53.4	57.5	61.6	45.5	54.8	48.0	61.4	70.7
Radio	28.8	23.2	22.8	30.5	27.8	32.4	26.8	30.5	32.0	23.4	28.9	30.9	29.3	23.0
Television	64.8	58.5	57.1	68.8	67.1	66.4	62.8	66.4	64.3	66.1	63.6	68.8	62.4	56.4
None of above	4.4	3.3	6.3	1.9	4.1	5.3	5.0	3.9	5.3	3.4	3.4	3.0	5.9	7.1
SOURCES OTHER THAN MASS MEDIA [1]														
Course(s)	22.4	38.9	36.1	20.5	21.7	14.0	20.1	24.4	24.8	18.2	22.5	20.4	18.0	31.0
Journal(s)	33.6	30.5	38.3	39.9	30.6	30.0	33.6	33.6	36.5	31.4	27.0	26.3	35.4	51.3
Textbooks	40.2	59.2	50.6	40.4	40.0	31.3	37.3	42.6	46.3	31.1	36.9	36.3	37.4	52.0
Other related books	36.4	45.7	39.7	41.6	38.2	29.4	35.5	37.3	41.1	28.9	35.3	35.4	33.4	41.5
Gov't. publications	31.0	23.4	28.1	30.1	32.0	33.9	32.7	29.6	31.8	28.4	33.8	30.4	26.4	36.3
OTHER SOURCES VOLUNTEERED [1]														
Library	3.4	3.9	2.8	3.3	3.0	3.9	4.3	2.7	5.2	0.7	2.8	2.5	5.1	4.6
Encyclopedia	1.5	0.6	0.9	3.0	2.5	0.6	1.5	1.5	1.7	1.4	0.8	1.8	1.5	0.5
Films	0.4	.	1.6	0.5	0.3	.	0.5	0.4	0.7	.	0.4	0.1	.	1.4
Discussion with friend /relatives/people	0.8	.	0.6	1.4	0.2	1.1	1.1	0.7	0.9	0.5	1.5	0.7	0.3	1.7
Discussion with professionals doctor/nurse /professor/expert	1.8	.	4.5	1.8	1.3	1.1	1.7	1.8	2.3	0.8	2.0	1.7	1.4	2.2
Miscellaneous	2.1	1.4	2.5	1.2	2.8	2.3	2.2	2.1	2.8	0.6	2.9	1.6	2.0	3.6
NONE/DON'T KNOW	12.1	3.9	3.6	8.7	14.7	18.2	11.5	12.5	10.7	14.3	12.3	14.9	9.1	7.0
DETAILS OF MASS MEDIA AS SOURCES OF INFORMATION														
Daily newspapers only	6.8	4.5	3.6	4.9	8.4	8.9	6.8	6.8	7.0	6.2	7.2	7.0	6.9	6.0
Magazines only	15.1	24.3	21.7	13.8	12.3	12.2	17.4	13.2	14.0	16.3	16.7	12.7	14.5	21.8
Radio only	0.9	0.8	0.2	1.3	.	1.5	0.7	1.1	0.5	1.7	0.6	1.3	.	0.5
TV only	12.1	12.1	9.9	14.1	13.3	11.5	12.5	11.8	7.7	18.4	15.1	16.3	8.1	4.2
Daily newspapers and magazines	5.7	5.0	10.4	6.8	5.3	3.2	4.3	6.8	7.2	3.3	5.0	4.4	8.7	6.9
Daily newspapers and radio	1.5	3.1	0.3	2.1	1.2	1.6	2.0	1.1	1.0	2.2	2.1	1.9	1.0	0.8
Daily newspapers and TV	9.0	3.4	4.3	7.1	12.1	11.8	10.3	7.8	7.7	11.9	7.3	10.3	7.8	6.5
Magazines and radio	0.4	.	0.1	.	1.5	0.4	0.7	0.2	0.1	0.9	0.7	0.4	0.3	0.3
Magazines and TV	11.0	15.0	15.0	12.3	10.3	8.0	10.3	11.7	10.9	11.8	9.8	9.3	13.1	14.0
Radio and TV	5.2	4.3	4.4	4.1	3.3	7.2	4.9	5.5	4.4	6.9	4.4	7.2	2.3	2.1
Daily newspapers and magazines and radio	0.4	0.6	0.3	0.3	.	0.6	0.3	0.4	0.5	.	0.6	0.4	0.3	0.3
Daily newspapers and magazines and TV	7.0	9.4	5.9	8.6	6.3	6.6	6.5	7.5	8.2	5.2	6.7	6.1	5.7	10.6
Daily newspapers and radio and TV	4.5	2.7	3.7	5.6	4.8	4.5	4.4	4.6	4.7	3.8	5.2	4.8	6.6	2.2
Magazines and Radio and TV	2.8	1.8	3.5	3.2	1.7	3.1	3.3	2.5	2.8	2.6	3.8	2.9	3.3	2.4
Daily newspapers and magazines and radio and TV	13.1	9.9	10.4	13.8	15.3	13.6	10.5	15.2	17.9	5.4	11.4	11.9	15.4	14.5

[1] Percentages total to more than 100% because multiple responses possible.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
117	*96*	*264*	*980*	*115*	*450*	*489*	*245*	*158*	*1148*	*499*	*649*	*310*
37.9	48.1	42.6	50.5	49.3	37.6	59.1	38.9	55.4	48.9	54.1	44.9	44.0
66.6	64.7	49.8	54.9	64.6	44.4	63.6	51.0	63.2	56.8	58.7	55.4	51.0
18.8	22.4	29.1	30.6	25.1	23.2	31.6	30.4	36.6	27.9	34.2	23.0	32.4
51.7	63.6	68.6	65.4	69.4	67.3	61.4	65.6	63.4	64.6	61.7	66.8	65.3
8.9	5.5	4.2	3.8	4.1	3.0	5.6	4.5	5.0	4.7	4.4	5.0	3.3
20.2	25.4	15.7	24.2	32.6	18.4	21.0	24.5	27.5	21.1	24.8	18.3	27.2
49.4	35.9	29.7	32.5	29.7	35.2	33.0	26.7	44.1	34.8	38.6	32.0	28.9
37.8	35.9	37.5	41.6	51.6	29.0	45.9	42.3	42.5	41.4	43.0	40.2	35.5
37.0	36.7	35.2	36.7	42.6	28.7	38.7	34.0	50.9	37.8	40.7	35.5	31.5
32.5	30.4	33.3	30.3	23.2	28.4	29.0	31.9	49.1	28.9	32.9	25.8	38.9
4.6	2.7	4.1	3.2	5.1	0.1	4.6	6.8	2.8	3.5	1.7	4.9	3.1
.	1.9	3.1	1.1	1.0	1.3	2.1	1.5	.	1.5	0.5	2.2	1.5
1.0	.	.	0.5	1.3	.	0.9	.	.	0.5	0.3	0.7	.
0.7	0.9	1.3	0.7	1.9	0.5	1.0	0.6	1.0	1.0	0.9	1.0	0.2
0.6	3.3	0.8	2.0	6.1	0.1	2.1	2.8	0.9	1.3	1.3	1.3	3.3
1.1	3.4	2.6	2.0	0.6	1.3	1.7	5.9	0.8	1.8	2.4	1.3	3.2
10.9	8.1	10.1	13.1	12.8	13.2	14.1	8.4	7.4	11.9	12.8	11.3	12.5
4.1	3.7	5.2	7.8	6.0	6.3	6.7	8.2	6.8	6.4	8.4	4.9	8.1
23.8	24.0	13.4	13.7	9.1	16.4	15.3	15.6	14.9	15.5	16.4	14.8	13.8
1.4	.	.	1.2	.	1.7	0.8	0.8	.	0.9	0.9	0.8	1.1
8.5	8.0	15.0	12.2	11.6	18.8	6.0	14.7	8.4	11.4	7.3	14.5	14.9
5.5	3.1	7.2	5.5	10.4	2.3	7.8	4.0	7.8	6.0	5.4	6.5	4.4
2.8	.	0.8	1.7	0.5	2.1	1.7	1.1	0.6	1.3	1.7	0.9	2.4
5.6	11.9	12.2	8.2	7.6	12.8	8.3	6.3	5.3	9.5	8.4	10.3	7.1
1.9	.	0.6	0.3	0.6	1.0	.	0.3	0.4	0.3	0.5	0.1	1.0
15.1	9.8	10.2	10.9	21.2	12.0	7.9	12.2	8.6	10.8	8.2	12.9	11.7
.	2.4	8.8	5.1	0.5	7.2	3.8	6.7	4.9	5.0	5.2	4.9	6.0
.	.	.	0.5	.	.	0.7	.	1.1	0.3	0.6	0.1	0.4
9.7	11.4	3.5	7.2	5.0	5.3	10.7	4.2	6.6	7.8	7.3	8.2	4.3
2.2	3.7	4.1	5.0	5.1	3.8	3.5	6.8	5.8	4.1	5.1	3.3	6.1
2.6	2.0	5.3	2.3	3.7	2.3	1.5	6.4	2.5	2.5	3.0	2.1	4.1
8.0	14.3	9.7	14.5	14.7	5.2	19.7	8.3	21.3	13.6	17.3	10.7	11.2

ENGINEERING SCIENCES	TOTAL	AGE 15-17	AGE 18-24	AGE 25-34	AGE 35-44	AGE 45 & OVER	SEX MALE	SEX FEMALE	MOTHER TONGUE ENGLISH	MOTHER TONGUE FRENCH	MOTHER TONGUE OTHER	EDUCATION SOME HIGH SCHOOL OR LESS	EDUCATION GRAD-HIGH SCHOOL	EDUCATION POST SECONDARY
TOTAL VERY/QUITE INTERESTED-ENGINEERING SCIENCES WOULD USE AT ALL	*983*	*74*	*190*	*205*	*180*	*335*	*661*	*322*	*578*	*281*	*125*	*560*	*160*	*262*
MASS MEDIA [1]														
Daily newspapers	54.8	50.4	49.5	60.7	55.4	54.9	51.1	62.4	58.6	46.9	54.7	54.4	60.6	52.2
Magazines	50.3	60.5	52.5	54.0	50.4	44.3	54.0	42.7	54.1	42.6	49.8	45.6	50.0	60.5
Radio	23.1	17.9	19.0	23.5	23.9	25.9	22.3	24.8	26.0	16.3	25.1	26.4	22.9	16.2
Television	57.2	55.1	49.6	58.7	63.1	58.0	58.1	55.5	52.6	68.5	53.5	63.0	50.2	49.3
None of above	6.2	3.1	7.0	4.3	4.8	8.5	6.1	6.4	8.4	2.0	5.5	4.0	8.3	9.6
SOURCES OTHER THAN MASS MEDIA [1]														
Course(s)	20.3	35.1	30.9	20.3	18.1	12.2	22.2	16.4	22.2	13.5	26.6	21.6	11.4	23.1
Journal(s)	33.7	38.5	32.8	41.6	33.7	28.2	36.1	28.7	33.1	34.3	34.5	26.3	32.9	50.0
Textbooks	35.8	48.5	51.6	33.7	34.2	26.1	35.6	36.2	40.6	27.2	33.1	34.0	27.8	44.6
Other related books	34.8	40.9	38.7	40.8	34.1	28.1	36.8	30.8	39.6	26.2	31.9	34.7	35.6	34.5
Gov't. publications	34.4	29.2	32.8	39.9	39.3	30.4	34.9	33.3	31.7	37.2	40.1	33.2	28.8	40.3
OTHER SOURCES VOLUNTEERED [1]														
Library	3.9	.	3.9	4.4	4.3	4.3	4.5	2.7	5.9	.	3.5	2.7	6.7	4.7
Encyclopedia	1.1	.	1.7	2.6	1.5	.	0.7	2.0	1.4	0.8	0.9	1.4	1.0	0.6
Films	0.4	.	1.3	.	0.4	0.2	0.6	.	0.5	0.3	.	0.4	.	0.7
Discussion with friends /relatives/people	1.4	.	2.3	1.3	0.4	1.7	1.2	1.7	1.3	1.3	1.9	0.6	.	3.7
Discussion with professionals doctor/nurse /professor/expert	1.4	.	1.9	2.8	0.8	1.0	1.9	0.4	1.9	1.0	0.4	1.4	0.3	2.2
Miscellaneous	1.9	.	2.8	1.8	0.8	2.5	2.5	0.8	2.3	0.4	3.8	1.3	1.8	3.4
NONE/DON'T KNOW	12.0	2.6	4.5	4.9	11.9	22.8	9.8	16.6	12.4	11.2	12.1	12.8	17.0	7.4
DETAILS OF MASS MEDIA AS SOURCES OF INFORMATION														
Daily newspapers only	12.7	11.0	15.7	9.8	10.9	14.2	8.8	20.7	14.4	9.5	12.3	11.5	15.7	13.6
Magazines only	14.3	17.8	20.0	13.4	14.0	11.0	17.0	8.8	13.6	14.8	16.5	11.3	15.9	19.9
Radio only	1.2	.	2.4	0.6	0.7	1.4	1.4	0.8	1.4	0.7	1.5	2.1	.	.
TV only	11.0	13.3	6.0	9.2	16.6	11.3	10.8	11.4	5.9	20.7	12.6	14.8	5.7	5.9
Daily newspapers and magazines	6.4	9.1	4.9	9.2	5.1	5.6	6.7	5.8	7.5	4.2	6.4	6.6	7.3	5.5
Daily newspapers and radio	0.8	.	0.4	2.5	0.2	0.6	0.8	0.9	0.9	0.4	1.7	0.9	0.5	1.0
Daily newspapers and TV	10.8	8.5	9.7	13.1	11.0	10.3	11.5	9.3	7.8	17.4	9.8	11.4	12.4	8.4
Magazines and radio	.	0.6	.	.	.	.	.	0.1	.	.	0.3	.	0.3	.
Magazines and TV	7.1	12.7	10.3	6.7	5.6	5.2	8.2	5.0	6.6	9.9	3.3	6.6	5.7	9.1
Radio and TV	3.5	1.1	3.4	3.5	1.7	5.2	3.2	4.1	3.5	4.0	2.6	5.3	1.8	0.8
Daily newspapers and magazines and radio	1.0	3.3	.	1.5	1.1	0.7	1.0	1.0	1.2	.	2.1	0.7	1.9	1.1
Daily newspapers and magazines and TV	8.4	6.5	7.3	10.8	8.1	8.0	8.6	7.8	9.8	5.4	8.4	7.5	6.1	11.7
Daily newspapers and radio and TV	3.4	2.5	3.0	3.0	3.6	4.1	3.3	3.8	3.6	2.8	4.1	4.4	5.5	0.1
Magazines and radio and TV	1.8	1.0	1.4	1.7	1.2	2.5	2.1	1.0	1.9	1.1	2.9	1.4	1.8	2.5
Daily newspapers and magazines and radio and TV	11.3	9.4	8.5	10.7	15.3	11.4	10.3	13.2	13.5	7.4	9.9	11.6	11.1	10.7

[1] Percentages total to more than 100% because multiple responses possible.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
111	*85*	*283*	*505*	*82*	*278*	*347*	*159*	*117*	*788*	*335*	*452*	*196*
54.0	52.9	49.7	58.2	52.7	45.7	63.6	49.6	58.9	55.9	62.8	50.8	50.5
62.5	55.7	54.5	44.3	56.4	41.0	57.9	45.8	51.2	52.9	54.0	52.2	39.4
20.2	13.5	21.9	26.0	20.7	16.3	26.7	26.1	26.2	22.2	27.3	18.3	26.9
48.1	57.7	63.0	55.9	54.5	69.4	52.1	50.5	54.8	57.3	59.5	55.7	57.0
8.4	5.3	4.7	6.8	8.9	2.4	7.6	5.4	10.9	6.3	4.2	7.9	6.0
21.3	26.3	22.0	18.1	18.6	15.4	22.2	25.7	20.1	20.1	20.9	19.5	21.1
54.6	39.6	32.3	28.8	21.2	36.6	35.4	26.4	40.2	34.8	38.7	31.8	29.2
34.2	37.6	35.9	35.8	45.3	26.0	41.2	38.1	33.5	37.5	38.7	36.6	28.8
40.4	37.7	37.3	31.7	31.1	24.1	38.7	37.0	48.7	37.6	40.3	35.7	23.6
42.9	31.7	32.9	33.8	30.8	37.5	30.7	30.5	45.5	33.0	38.1	29.1	40.0
5.7	.	4.4	3.8	2.6	.	6.1	7.7	2.5	4.1	1.2	6.3	3.0
.	0.9	1.5	1.2	1.4	0.7	1.7	1.4	.	1.4	0.8	1.8	0.2
0.6	0.4	.	0.6	.	0.3	0.9	.	.	0.5	0.5	0.4	.
0.7	1.0	1.3	1.6	2.7	1.1	0.8	2.9	0.8	1.2	1.2	1.1	2.1
1.2	3.7	1.3	1.2	4.6	.	1.8	1.0	2.0	1.2	2.0	0.6	2.3
4.1	2.1	1.8	1.5	0.9	1.2	3.5	1.8	.	2.0	2.8	1.4	1.6
7.2	6.4	10.1	15.1	9.7	11.3	12.8	14.7	9.4	11.9	11.5	12.1	12.7
9.4	9.5	6.0	17.8	10.7	8.2	15.0	14.9	15.2	11.8	13.0	10.9	16.6
20.5	22.3	17.7	9.7	15.1	15.6	14.9	14.3	8.9	15.6	15.6	15.6	9.1
.	.	0.5	2.1	2.6	0.7	0.2	4.5	.	0.5	0.4	0.5	4.3
8.3	9.4	9.3	12.8	6.5	21.3	4.3	12.1	7.7	10.5	7.7	12.6	12.9
10.5	4.6	6.3	5.8	7.3	3.3	7.2	7.6	9.0	6.8	5.7	7.6	4.7
3.0	.	0.5	0.7	0.9	0.4	1.6	0.4	0.3	0.7	1.1	0.5	1.3
5.2	14.8	16.5	8.1	10.7	17.5	9.1	7.1	4.6	11.0	11.8	10.4	10.0
.	0.5	.	.	.	0.2	.	.	.	0.1	0.1	.	.
6.6	6.9	9.9	5.7	9.1	9.4	5.9	5.3	6.3	6.6	4.4	8.2	9.3
.	1.9	5.4	3.5	.	4.2	2.3	5.1	5.9	3.0	3.3	2.7	5.8
.	.	1.3	1.2	.	.	1.5	2.3	0.8	1.0	0.4	1.4	1.1
10.8	13.7	7.8	7.3	11.0	5.9	9.3	7.2	11.0	9.3	10.3	8.6	4.5
3.2	3.5	2.7	3.9	3.3	4.3	2.0	4.7	4.1	3.3	4.6	2.4	3.8
2.2	0.8	2.9	1.2	5.2	0.6	1.2	3.7	1.4	1.7	1.5	1.8	2.2
11.8	6.9	8.7	13.3	8.7	6.1	17.9	5.3	13.8	12.0	15.9	9.1	8.5

MAIN TABLE 14. SCIENCE-INTERESTED CANADIANS AND SOURCES USED "MOST OFTEN" FOR INFORMATION ON THE SCIENCES.

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL VERY/QUITE INTERESTED-NATURAL SCIENCES SOURCE WOULD USE MOST OFTEN														
MASS MEDIA														
Daily newspapers	22.7	15.5	13.7	20.8	29.3	29.1	19.9	25.9	22.3	24.1	21.5	29.1	36.9	29.0
Magazines	40.6	51.7	54.8	39.6	36.7	30.0	44.2	36.6	43.8	36.0	37.7	25.9	30.4	42.8
Radio	5.2	2.0	5.9	7.2	6.7	3.6	4.1	6.4	4.1	4.8	10.4	6.4	4.2	2.7
Television	27.8	27.0	17.5	30.6	26.4	34.0	28.7	26.8	23.7	36.1	26.4	35.7	20.6	16.9
Don't know/not stated	.	.	.	.	.	.	.	.	.	.	.	0.3	.	0.3
Would not use major media	4.8	4.3	8.5	1.7	6.4	3.7	5.0	4.6	6.5	1.5	5.1	4.0	8.3	9.6
SOURCES OTHER THAN MASS MEDIA														
Course(s)	10.6	18.1	15.9	10.3	6.6	6.8	12.1	8.9	11.1	10.0	9.9	10.0	2.1	8.4
Journal(s)	18.6	12.9	11.8	22.1	26.6	18.8	20.5	16.6	16.2	25.9	12.7	14.0	25.3	25.8
Textbooks	24.7	36.7	33.9	19.8	22.7	18.7	18.5	31.7	28.8	14.7	29.6	19.9	17.1	21.7
Other books that relate to the area	22.0	17.0	23.0	24.7	22.0	21.2	24.6	19.1	23.2	21.8	17.4	20.7	22.8	14.8
Govt. publications	12.1	11.8	7.6	12.3	12.4	15.1	12.8	11.4	6.1	22.2	15.1	18.1	12.4	15.2
Other														
Library	3.0	.	2.0	1.9	3.1	5.2	3.4	2.4	4.4	0.9	1.6	1.8	1.6	2.9
Encyclopedia	1.3	.	0.9	4.0	1.6	.	1.2	1.3	1.7	0.9	0.6	1.2	0.5	0.2
Films	.	.	.	.	.	.	.	.	.	.	.	.	.	0.3
Discussion with friend /relatives/people	0.3	.	0.5	0.8	.	.	0.3	0.2	0.4	.	0.5	0.4	.	1.4
Discussion with profes-sionals doctor/nurse /professor/expert	0.2	.	0.5	.	.	0.2	0.3	.	0.3	.	.	0.8	.	1.0
Miscellaneous	1.0	1.1	2.5	0.6	0.6	0.3	1.2	0.7	1.4	0.2	1.0	1.1	1.3	2.6
None/don't know	.	.	.	.	.	.	.	.	.	.	.	0.4	.	.
Would not use secondary source	7.4	3.9	2.8	4.4	5.6	14.8	6.3	8.7	7.3	4.4	14.5	12.8	17.0	7.4
TOTAL VERY/QUITE INTERESTED-SOCIAL SCIENCES SOURCE WOULD USE MOST OFTEN														
MASS MEDIA														
Daily newspapers	31.6	19.9	28.7	30.5	31.0	36.6	28.6	34.0	35.4	26.0	30.2	25.7	20.2	18.9
Magazines	29.7	46.1	36.8	29.7	28.1	23.2	33.1	26.9	31.7	26.5	29.4	33.3	43.4	51.9
Radio	6.2	7.3	5.6	6.1	8.4	5.0	5.3	6.9	4.6	6.8	10.8	5.6	8.4	2.6
Television	28.4	22.1	23.2	29.9	32.8	29.2	28.4	28.4	21.1	41.0	27.1	34.5	24.3	17.8
Don't know/not stated	0.2	.	.	.	0.5	0.3	0.1	0.3	0.4	.	.	.	.	.
Would not use major media	4.9	5.4	5.8	3.8	2.8	6.2	5.9	4.1	7.2	1.8	3.2	2.2	4.3	10.0
SOURCES OTHER THAN MASS MEDIA														
Course(s)	12.6	18.3	23.6	12.8	9.9	6.9	11.5	13.6	13.3	11.3	13.4	11.0	6.5	12.2
Journal(s)	16.2	10.5	14.3	17.9	16.3	17.3	18.2	14.6	14.8	20.2	12.0	15.3	24.7	21.7
Textbooks	23.1	40.9	24.6	23.2	21.7	19.3	19.9	25.7	28.9	14.6	20.9	24.0	18.8	28.8
Other books that relate to the area	18.6	21.4	20.6	19.2	19.8	15.9	19.3	18.0	19.2	17.2	19.6	21.6	24.8	21.2
Govt. publications	13.6	7.0	10.2	12.7	13.5	17.6	16.9	11.1	7.8	22.1	16.2	16.3	8.0	7.1
Other														
Library	2.0	0.5	0.8	2.0	2.1	2.9	3.2	1.0	3.4	.	1.5	2.3	4.6	3.2
Encyclopedia	0.7	.	0.7	1.1	1.8	.	0.4	0.9	0.8	0.6	0.5	1.7	1.3	0.6
Films	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Discussion with friend /relatives/people	0.7	.	0.9	1.3	.	0.7	0.7	0.6	0.6	0.2	1.8	.	.	0.9
Discussion with profes -sionals doctor/nurse /professor/expert	0.8	0.7	0.7	0.7	1.1	0.9	1.1	0.6	1.0	1.0	.	.	.	0.6
Miscellaneous	0.8	1.1	1.0	1.4	0.6	0.5	0.9	0.8	1.1	0.5	0.9	0.5	2.3	1.0
None/don't know	0.4	.	.	0.8	0.2	0.5	.	0.7	0.2	0.8	.	.	.	.
Would not use secondary source	11.3	2.4	4.1	8.3	13.2	18.0	8.7	13.4	9.7	12.6	14.4	9.0	9.9	3.4

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
28.7	28.3	22.0	35.7	31.0	20.6	28.9	17.3	12.8	22.7	24.2	21.5	22.8
45.6	38.5	37.0	23.4	40.3	37.2	40.2	40.6	52.2	41.0	38.4	43.0	39.2
1.7	4.6	4.1	6.4	.	6.1	4.2	3.9	10.6	4.6	5.0	4.4	7.4
15.6	27.5	33.0	28.4	21.6	36.5	21.2	30.6	22.2	28.2	29.7	26.9	26.3
0.6	.	0.3	0.1	.	.	.	.	.	.	.	.	.
8.4	5.3	4.7	6.8	7.1	2.1	6.3	8.1	2.2	5.0	3.8	5.9	4.3
8.5	10.0	9.6	7.1	11.7	11.6	10.4	8.7	10.2	10.6	13.1	8.5	10.8
27.1	27.5	15.7	17.6	12.0	26.6	14.4	16.5	15.3	19.2	17.9	20.3	16.1
15.1	17.9	21.6	20.3	31.3	14.6	30.3	35.1	18.4	24.1	24.5	23.8	27.3
19.5	21.0	23.6	17.0	27.4	21.1	22.2	20.6	22.4	22.1	20.5	23.4	21.5
17.3	16.1	15.3	16.8	7.2	20.7	6.6	8.0	12.6	11.2	11.7	10.8	16.1
2.4	.	1.6	2.6	2.5	0.8	4.5	4.1	3.4	3.0	0.9	4.7	2.8
.	0.9	0.7	1.0	0.6	0.8	1.8	1.3	1.6	1.5	1.0	2.0	0.2
.	.	.	0.2	.	.	.	.	.	.	.	.	.
.	1.0	0.5	0.7	.	.	0.3	0.4	1.0	0.3	0.8	.	.
1.2	.	0.8	0.7	1.5	.	0.2	.	.	0.2	0.2	0.2	.
3.5	1.3	1.3	1.3	.	0.7	1.9	.	0.9	1.0	1.0	1.0	0.8
.	.	.	0.5	.	.	.	.	.	.	.	.	.
7.2	6.4	10.1	15.1	7.0	4.1	8.4	7.8	14.2	7.7	9.3	6.4	6.5
22.5	17.9	19.0	24.6	34.9	25.8	37.3	26.8	35.8	32.4	33.8	31.1	28.4
53.0	48.0	36.1	38.9	41.9	25.7	30.2	31.5	28.1	29.3	25.4	32.7	31.1
0.7	10.2	8.1	4.4	3.4	7.8	5.2	7.3	5.0	6.0	6.9	5.2	6.8
14.4	22.8	36.9	27.8	15.4	40.7	21.3	29.5	21.5	27.4	28.8	26.2	32.7
.	.	.	.	.	0.3	0.3	.	.	0.3	0.4	0.1	.
9.3	6.7	1.6	4.9	4.3	2.1	6.1	5.2	10.0	5.5	5.4	5.6	2.4
12.6	9.4	12.0	9.9	9.6	13.2	8.9	20.7	14.1	12.2	11.5	12.8	14.5
29.2	16.0	20.7	16.4	10.8	22.2	13.3	8.7	21.4	16.4	17.7	15.2	15.5
20.3	23.8	17.1	28.2	37.9	13.6	29.1	25.1	19.1	23.5	22.5	24.4	21.3
22.7	28.0	25.0	20.1	18.0	17.4	18.9	18.2	22.4	19.4	19.4	19.4	15.3
10.2	14.8	10.0	12.9	5.5	20.6	8.9	13.9	13.0	13.5	11.8	14.9	14.2
2.9	.	3.7	3.1	3.1	.	3.6	2.7	1.3	2.1	1.1	3.0	1.5
.	.	3.2	1.0	1.1	0.6	1.0	0.5	.	0.8	0.5	1.1	0.2
.	.	.	.	.	.	.	.	.	.	.	.	.
.	1.4	.	0.3	1.4	0.2	1.3	0.3	.	0.7	0.8	0.6	0.3
0.7	.	0.5	.	4.9	.	1.0	.	1.1	0.6	0.5	0.8	1.7
0.9	4.1	0.9	0.6	.	0.7	1.7	.	.	0.7	0.8	0.5	1.6
.	.	.	.	.	0.5	0.6	.	.	0.5	0.4	0.5	.
1.3	2.5	8.8	8.7	8.4	12.0	12.5	11.2	7.8	10.5	13.3	8.1	14.6

	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD- HIGH SCHOOL	POST SEC-ONDARY
		AGE					SEX		MOTHER TONGUE			EDUCATION		
TOTAL VERY/QUITE INTERESTED-LIFE SCIENCES SOURCE WOULD USE MOST OFTEN														
MASS MEDIA														
Daily newspapers	24.4	20.1	19.4	21.1	28.9	27.3	21.8	26.7	27.1	19.5	25.1	23.4	28.2	24.5
Magazines	34.3	49.9	45.6	34.0	32.9	26.6	37.2	31.9	36.0	30.9	35.1	27.9	36.6	48.7
Radio	6.7	1.4	5.9	7.0	6.7	7.9	6.7	6.6	6.5	6.8	7.4	7.6	7.2	3.8
Television	31.1	25.6	23.1	36.2	30.4	33.6	30.9	31.3	25.7	41.1	29.8	38.9	23.3	16.9
Don't know/not stated	.	.	.	.	0.3	.	0.1	.	0.1	.	.	.	.	0.2
Would not use major media	4.4	3.3	6.3	1.9	4.1	5.3	5.0	3.9	5.3	3.4	3.4	3.0	5.9	7.1
SOURCE OTHER THAN MASS MEDIA														
Course(s)	9.4	17.0	15.1	8.3	9.2	5.8	8.8	9.9	9.6	8.4	10.7	9.0	7.7	11.8
Journal(s)	17.2	15.1	17.2	21.7	15.3	16.1	17.2	17.1	15.2	22.6	12.6	13.3	24.0	22.4
Textbooks	23.0	35.1	31.1	19.7	23.5	18.2	20.4	25.2	26.7	16.9	22.4	21.7	23.1	26.1
Other books that relate to the area	19.6	20.3	20.0	22.7	21.3	16.9	19.6	19.6	20.7	18.9	17.1	20.6	17.3	18.7
Govt. publications	13.8	7.6	8.1	13.5	11.5	18.9	16.8	11.3	10.6	17.4	18.3	16.3	10.5	9.8
Other														
Library	2.2	0.4	2.5	1.4	1.7	3.2	3.3	1.4	3.6	.	1.9	1.8	3.1	2.7
Encyclopedia	0.9	0.6	0.6	2.2	1.8	.	0.7	1.0	1.2	0.5	0.8	1.1	1.2	0.2
Films	.	.	0.2	.	.	.	.	0.1	0.1	.	.	.	.	0.2
Discussion with friend /relatives/people	0.5	.	0.3	0.7	0.2	0.7	0.5	0.5	0.6	0.2	0.9	0.3	0.3	1.1
Discussion with profes -sionals doctor/nurse /professor/expert	0.9	.	0.6	0.6	1.3	1.1	0.9	0.8	0.9	0.8	1.0	0.9	1.2	0.5
Miscellaneous	1.1	0.8	0.9	0.6	0.7	1.6	1.3	0.8	1.3	0.1	2.2	1.1	2.0	0.3
None/don't know	0.3	.	.	0.7	0.2	0.4	.	0.6	0.2	0.7	.	0.2	0.7	0.3
Would not use secondary source	12.1	3.9	3.6	8.7	14.7	18.2	11.5	12.5	10.7	14.3	12.3	14.9	9.1	7.0

	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD- HIGH SCHOOL	POST SEC-ONDARY
TOTAL VERY/QUITE INTERESTED-ENGINEERING SCIENCES SOURCE WOULD USE MOST OFTEN														
MASS MEDIA														
Daily newspapers	30.3	25.1	30.7	31.4	31.4	30.0	25.5	40.2	33.1	24.9	29.3	30.0	34.0	33.2
Magazines	31.1	41.6	35.0	33.8	30.7	25.2	36.9	19.3	32.2	26.5	36.5	24.5	27.6	41.0
Radio	5.0	.	5.4	5.6	4.7	5.8	4.6	5.8	5.6	4.6	3.2	7.4	6.3	3.7
Television	28.2	30.8	21.9	25.0	31.9	31.1	28.1	28.4	20.9	43.9	26.4	35.6	28.3	14.4
Don't know/not stated	0.2	.	.	.	0.7	0.3	0.2	0.2	0.4	.	.	0.3	.	0.2
Would not use major media	6.2	3.1	7.0	4.3	4.8	8.5	6.1	6.4	8.4	2.0	5.5	3.1	5.0	8.5
SOURCE OTHER THAN MASS MEDIA														
Course(s)	8.2	15.6	10.5	7.7	5.9	6.9	9.0	6.7	7.3	7.9	13.3	11.2	7.2	19.2
Journal(s)	19.0	18.2	17.2	22.5	19.9	17.5	18.7	19.5	16.5	23.9	19.4	13.3	21.4	18.6
Textbooks	19.9	30.2	31.1	15.8	20.8	13.3	19.1	21.5	23.4	13.7	17.3	21.7	22.3	26.0
Other books that relate to the area	19.5	20.7	22.1	19.5	21.7	16.7	21.8	14.9	21.4	18.0	14.4	18.1	18.4	19.6
Govt. publications	16.4	12.0	12.1	22.0	17.4	15.8	16.4	16.4	12.6	23.2	18.8	16.9	12.0	8.2
Other														
Library	2.1	.	1.9	1.2	2.0	3.1	2.5	1.1	2.9	.	2.6	1.7	1.5	2.9
Encyclopedia	0.8	.	0.4	2.2	1.5	.	0.3	1.8	1.1	0.6	.	1.0	0.6	0.2
Films	0.1	.	0.4	.	.	.	0.1	.	0.1	.	.	.	.	.
Discussion with friend /relatives/people	0.6	.	0.5	0.7	.	1.0	0.5	0.7	0.5	0.5	0.9	0.3	.	1.8
Discussion with profes -sionals doctor/nurse /professor/expert	0.7	.	0.5	1.0	0.4	1.0	1.0	0.3	0.7	1.0	.	1.2	0.4	0.5
Miscellaneous	1.5	0.6	2.0	1.8	.	2.1	2.0	0.5	1.9	.	3.2	0.8	0.9	0.7
None/don't know	0.2	.	.	1.0	.	0.1	.	0.8	0.1	0.7	.	0.3	0.7	0.3
Would not use secondary source	12.0	2.6	4.5	4.9	11.9	22.8	9.8	16.6	12.4	11.2	12.1	14.0	14.6	3.8

OCCUPATION				REGION					COMMUNITY SIZE URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
20.1	19.4	19.5	26.7	26.1	18.9	29.9	22.8	24.2	24.2	25.1	23.5	25.2
50.3	48.9	32.0	31.6	46.3	30.4	34.3	33.6	37.9	34.5	35.5	33.7	33.6
3.5	4.5	7.3	7.1	1.0	7.5	5.8	9.8	6.4	5.4	6.3	4.7	11.4
16.7	25.4	38.8	31.4	22.5	42.0	25.5	29.3	26.6	32.2	29.3	34.4	27.2
0.6	.	.	.	.	.	0.1	.	.	0.1	0.1	.	.
8.9	5.5	4.2	3.8	4.1	3.0	5.6	4.5	5.0	4.7	4.4	5.0	3.3
10.3	11.0	7.2	9.7	9.3	9.1	6.9	11.0	15.5	8.8	10.1	7.9	11.5
27.6	20.3	16.8	15.8	7.2	26.5	15.6	10.1	13.7	18.6	19.9	17.6	11.9
19.8	21.8	21.1	24.0	33.1	15.4	25.4	28.4	21.4	22.9	22.1	23.6	23.3
18.4	23.0	20.4	19.2	23.3	18.3	20.0	17.7	22.6	20.3	20.1	20.5	17.1
12.8	13.1	16.2	13.3	7.4	17.0	10.8	15.9	15.3	12.0	11.9	12.1	20.3
2.3	.	2.8	2.3	2.7	.	3.4	4.1	2.0	2.2	0.9	3.2	2.3
.	0.8	2.1	0.7	1.0	0.5	1.4	1.1	.	1.0	0.5	1.5	0.4
.	.	.	0.1	.	.	0.1	.	.	.	.	0.1	.
.	0.9	0.8	0.5	1.2	0.2	0.6	0.2	1.0	0.6	0.7	0.5	0.2
0.6	0.7	0.3	1.0	3.8	.	1.0	1.2	0.3	0.8	0.6	0.9	1.1
.	1.6	2.3	0.8	.	0.4	1.1	2.9	0.8	1.0	0.9	1.1	1.3
.	.	.	0.5	.	0.4	0.5	.	.	0.4	0.4	0.4	.
10.9	8.1	10.1	13.1	12.8	13.2	14.1	8.4	7.4	11.9	12.8	11.3	12.5
34.2	27.9	23.0	33.7	33.2	21.4	36.6	27.5	34.6	29.6	31.7	28.0	33.4
37.9	40.6	27.9	27.7	33.1	28.3	33.0	33.3	28.2	32.2	33.7	31.1	26.7
2.6	7.5	8.4	6.0	5.1	5.8	3.4	8.1	3.7	3.6	4.3	3.1	10.6
16.6	20.7	38.6	28.6	19.8	44.5	20.0	26.6	21.8	29.2	26.6	31.2	23.9
0.6	.	.	0.2	.	.	0.4	.	0.8	0.3	0.5	0.1	.
8.7	7.1	3.0	4.6	8.9	2.4	7.6	5.4	10.9	6.3	4.2	7.9	6.0
15.7	17.7	12.2	11.7	5.1	8.5	7.8	10.3	8.2	8.3	8.8	7.9	8.1
23.4	12.7	17.7	15.3	8.1	25.9	17.8	14.8	19.1	19.9	22.4	18.1	15.2
17.5	24.5	21.6	24.1	34.1	13.7	21.5	23.7	15.0	19.7	16.8	21.9	20.7
19.3	26.4	16.2	18.1	18.1	15.4	21.6	20.4	22.9	21.0	19.1	22.4	13.7
13.7	14.9	15.5	13.0	17.3	23.8	10.7	12.5	20.0	14.8	16.8	13.3	22.7
4.2	.	2.4	1.8	.	.	3.4	3.5	2.5	1.8	0.6	2.8	3.0
.	0.8	1.2	0.7	1.4	0.6	1.5	.	.	1.0	0.5	1.3	0.2
.	.	.	.	.	.	0.2	.	.	0.1	0.2	.	.
1.8	.	1.0	0.5	1.7	0.5	0.4	0.4	0.8	0.6	0.8	0.5	0.4
1.4	.	0.5	1.0	4.6	.	0.4	.	1.8	0.3	0.4	0.3	2.3
1.8	0.7	0.4	0.8	.	0.7	2.9	1.8	.	1.5	2.5	0.8	1.6
.	.	.	0.6	.	0.7	.	.	0.4	0.3	0.6	0.1	.
3.6	4.1	11.3	13.2	9.7	11.3	12.8	14.7	9.4	11.9	11.5	12.1	12.7

MAIN TABLE 15. GENERAL MASS MEDIA AUDIENCE--BY SOCIAL CHARACTERISTICS.

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL INTERVIEWS	*2000*	*166*	*361*	*380*	*333*	*760*	*992*	*1008*	*1141*	*575*	*284*	*1239*	*320*	*439*
TOTAL READ DAILY NEWSPAPERS														
Regularly	55.0	43.1	38.9	53.4	59.1	64.4	55.6	54.6	62.7	44.8	45.2	48.9	62.0	67.5
From time to time	28.2	40.1	38.4	31.3	27.0	19.7	26.6	29.7	24.9	31.6	34.4	29.9	26.7	24.5
Not at all	16.8	16.8	22.7	15.3	13.9	15.9	17.8	15.7	12.4	23.6	20.4	21.2	11.3	8.0
Not stated	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TOTAL READ MAGAZINES														
Regularly	33.0	32.3	31.1	35.6	34.3	32.1	29.9	36.0	37.7	25.6	28.7	26.4	38.4	47.2
From time to time	31.8	44.5	38.5	33.3	31.2	25.4	31.1	32.5	32.9	29.5	32.4	30.8	31.5	35.1
Not at all	35.2	23.2	30.4	31.0	34.5	42.5	39.0	31.4	29.4	44.9	38.9	42.8	30.1	17.7
Not stated	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TOTAL LISTEN TO RADIO PER DAY														
Not at all	10.2	12.1	7.7	9.6	9.3	11.7	10.8	9.7	8.1	13.5	12.2	11.6	8.8	6.9
Less than 2 hours	52.0	49.4	51.0	50.7	52.9	53.3	59.0	45.1	53.5	48.2	53.8	48.8	52.9	60.6
2 hours or more	37.8	38.5	41.4	39.6	37.8	35.1	30.3	45.1	38.4	38.3	34.0	39.7	38.3	32.5
TOTAL WATCH TELEVISION PER DAY														
Not at all	4.1	2.3	4.8	5.1	4.9	3.4	4.1	4.1	4.4	2.4	6.4	3.3	5.9	5.2
Less than 2 hours	36.3	31.6	40.9	32.5	40.7	35.2	38.1	34.7	39.2	29.5	39.0	29.5	40.4	52.3
2 hours or more	59.5	66.2	54.4	62.4	54.3	61.4	57.8	61.1	56.5	68.1	54.6	67.1	53.7	42.6

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
158	*128*	*410*	*1304*	*182*	*559*	*726*	*325*	*208*	*1551*	*668*	*883*	*450*
63.2	62.8	50.9	54.6	57.9	46.4	63.0	49.5	56.9	60.1	60.4	59.9	37.6
26.3	25.7	29.1	28.4	25.0	32.4	23.6	30.8	31.4	26.3	28.4	24.8	34.6
10.5	11.5	20.1	17.0	17.0	21.2	13.4	19.7	11.7	13.6	11.2	15.4	27.8
.	.	.	.	.	.	.	.	.	.	.	.	.
47.9	30.8	25.7	33.7	32.7	28.8	35.6	36.1	30.5	34.6	35.9	33.7	27.3
30.8	41.6	29.3	31.8	30.8	29.4	31.6	32.0	39.7	30.7	31.9	29.8	35.6
21.2	27.6	45.0	34.6	36.5	41.8	32.8	31.9	29.8	34.7	32.2	36.5	37.1
.	.	.	.	.	.	.	.	.	.	.	.	.
11.4	5.8	12.7	9.7	11.7	12.1	9.4	8.1	9.8	10.2	7.8	12.1	10.1
65.9	66.1	54.7	48.1	47.7	48.5	53.8	59.2	47.7	51.8	50.2	53.1	52.8
22.7	28.0	32.6	42.1	40.6	39.4	36.7	32.5	42.6	37.9	42.1	34.9	37.0
7.2	4.5	3.2	4.0	2.0	2.1	6.1	4.3	4.0	4.1	3.5	4.6	4.1
59.0	50.9	29.2	34.4	30.6	28.9	41.2	39.4	39.6	36.5	38.4	35.1	35.5
33.9	44.5	67.6	61.6	67.4	69.0	52.7	56.2	56.4	59.2	58.1	60.2	60.5

MAIN TABLE 16. GENERAL MASS MEDIA AUDIENCE--BY DEGREE OF INTEREST IN THE SCIENCES.

	TOTAL VERY/QUITE INTERESTED IN			INTEREST IN: NATURAL SCIENCES		SOCIAL SCIENCES /HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
TOTAL INTERVIEWS	*224*	*351*	*1425*	*825*	*786*	*1215*	*481*	*1457*	*291*	*983*	*692*
TOTAL READ DAILY NEWSPAPERS											
Regularly	38.4	48.2	59.2	59.4	51.0	59.4	46.3	57.3	42.7	60.0	48.1
From time to time	25.9	33.0	27.4	28.8	26.9	28.1	28.7	28.8	26.2	26.0	29.9
Not at all	35.3	18.8	13.4	11.7	22.1	12.5	25.0	14.0	31.1	14.0	21.9
Not stated	.	.	.	.	.	.	.	.	.	.	.
TOTAL READS MAGAZINES											
Regularly	12.0	31.6	36.6	39.2	30.0	38.1	25.3	35.3	24.9	36.4	28.4
From time to time	25.4	31.3	33.0	33.5	28.2	32.9	28.1	33.3	24.2	32.1	30.1
Not at all	62.9	37.1	30.4	27.3	41.8	29.0	46.5	31.4	50.9	31.5	41.5
Not stated	.	.	.	.	.	.	.	.	.	.	.
TOTAL LISTEN TO RADIO PER DAY											
Not at all	18.7	11.4	8.5	8.0	12.5	8.6	13.5	9.1	14.3	9.4	11.5
Less than 2 hours	51.8	49.0	52.9	53.2	50.3	52.4	51.8	51.9	54.4	54.5	48.2
2 hours or more	29.5	39.6	38.6	38.9	37.2	39.0	34.8	39.1	31.2	35.9	40.3
TOTAL WATCH TELEVISION PER DAY											
Not at all	7.6	4.0	3.7	4.2	3.7	4.0	5.0	3.6	5.1	3.5	4.6
Less than 2 hours	31.7	33.6	37.8	38.2	35.2	38.6	31.1	36.3	35.3	38.4	32.3
2 hours or more	60.7	63.0	58.5	57.6	61.0	57.2	63.8	60.1	59.6	58.1	63.0

MAIN TABLE 17. OVERALL PUBLIC ASSESSMENT OF NEWSPAPER PRESENTATION OF THE SCIENCES--BY SOCIAL CHARACTERISTICS.

NATURAL SCIENCES		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL NEWSPAPER READERS VERY/QUITE INTERESTED IN THAT SCIENCE														
MOST NEWSPAPER ARTICLES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED														
Agree	40.8	48.0	34.3	39.2	36.2	46.3	43.1	38.1	37.9	50.7	32.8	42.1	37.5	40.2
Disagree	28.5	29.6	35.4	26.3	29.6	24.5	29.2	27.8	30.3	23.7	30.8	31.6	23.1	26.6
It varies	19.4	12.7	20.1	25.3	21.0	16.5	17.5	21.6	19.7	19.1	18.9	17.5	23.1	20.6
No opinion	10.5	9.6	9.0	8.3	13.3	11.8	9.9	11.2	10.9	6.5	17.1	8.5	13.8	12.0
Not stated	0.7	.	1.3	0.9	.	1.0	0.3	1.3	1.2	.	0.4	0.3	2.5	0.6
MOST NEWSPAPER ARTICLES DEALING WITH THAT SCIENCE ARE INTERESTING TO READ														
Agree	67.8	56.9	62.9	68.7	72.3	71.6	66.9	68.8	66.0	72.0	66.6	69.0	72.2	63.4
Disagree	9.6	15.5	15.8	6.5	4.2	8.5	11.9	7.0	10.2	7.4	11.4	8.9	4.7	13.3
It varies	19.7	25.3	16.0	21.5	21.9	17.8	18.6	20.9	20.0	19.5	18.6	19.8	18.1	20.3
No opinion	2.2	2.3	4.0	2.4	1.5	1.2	2.4	2.0	2.6	1.1	3.0	2.0	2.5	2.4
Not stated	0.7	.	1.3	0.9	.	1.0	0.3	1.3	1.2	.	0.4	0.3	2.5	0.6
ENJOY READING ARTICLES IN NEWSPAPER ON THAT SCIENCE														
Agree	67.3	66.7	57.3	71.7	70.6	69.7	67.7	66.9	66.7	69.6	65.3	68.6	67.7	65.0
Disagree	7.8	8.7	10.4	4.9	5.4	8.8	7.8	7.7	8.0	7.2	8.0	7.5	5.4	9.5
It varies	20.9	20.8	24.1	21.2	22.7	17.6	21.4	20.4	20.7	20.3	23.3	19.9	21.0	22.7
No opinion	3.1	3.8	6.9	1.3	1.3	2.4	2.8	3.3	3.2	2.9	3.0	3.4	3.4	2.3
Not stated	0.9	.	1.3	0.9	.	1.5	0.3	1.6	1.5	.	0.4	0.6	2.5	0.6
ARTICLES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND														
Agree	56.7	44.0	56.7	62.6	54.7	58.1	58.6	54.6	58.2	57.5	48.6	50.8	52.2	68.7
Disagree	14.4	20.9	14.2	11.0	15.8	14.0	13.1	15.9	14.0	15.9	13.5	18.7	12.6	8.6
It varies	26.4	34.0	25.9	22.7	29.5	24.8	25.7	27.2	24.9	25.6	34.3	28.3	31.8	20.4
No opinion	1.5	1.2	1.6	2.8	.	1.5	2.2	0.7	1.4	1.0	3.1	2.0	.	1.6
Not stated	1.0	.	1.5	0.9	.	1.5	0.4	1.6	1.5	.	0.4	0.3	3.5	0.7
NOT ENOUGH ARTICLES ON THAT SCIENCE IN NEWSPAPER														
Agree	59.0	73.6	65.5	60.8	51.0	53.1	59.2	58.9	58.7	62.4	53.8	57.8	65.3	57.8
Disagree	23.5	16.5	17.4	20.0	30.1	28.5	23.5	23.5	24.4	21.0	24.6	25.4	20.4	22.2
It varies	9.5	6.8	7.5	9.6	12.4	10.1	11.1	7.7	9.3	9.9	9.7	8.3	7.4	12.3
No opinion	7.1	3.1	8.3	8.7	6.4	6.9	5.7	8.7	6.5	6.4	11.5	8.0	4.4	7.2
Not stated	0.8	.	1.3	0.9	.	1.3	0.5	1.3	1.2	0.4	0.4	0.5	2.5	0.6
DIFFICULTY TO FIND SPECIFIC ARTICLES ON THAT SCIENCE														
Agree	48.6	51.5	49.6	53.1	47.4	44.6	50.3	46.6	48.8	51.0	42.5	46.9	50.5	50.1
Disagree	30.3	27.7	23.9	30.0	28.2	36.9	30.7	29.9	30.2	30.4	30.9	31.9	32.4	26.8
It varies	10.8	13.8	10.3	8.7	11.5	11.3	10.5	11.3	9.8	11.4	14.3	11.1	9.8	11.0
No opinion	9.5	7.0	15.0	7.4	12.8	6.2	8.2	11.0	10.1	7.2	11.9	9.9	4.8	11.5
Not stated	0.7	.	1.3	0.9	.	1.0	0.3	1.3	1.2	.	0.4	0.3	2.5	0.6

OCCUPATION				REGION					COMMUNITY SIZE			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
44.6	49.7	36.8	40.2	39.5	49.4	39.1	34.4	31.6	38.7	35.0	41.7	50.1
29.0	24.7	29.8	28.5	30.8	23.9	28.3	34.2	32.8	31.2	31.6	30.8	16.8
18.2	13.6	20.1	20.2	19.5	20.2	18.6	17.4	22.3	19.8	20.4	19.2	17.9
8.2	9.2	12.6	10.4	10.2	6.5	12.0	14.1	12.5	9.7	12.3	7.6	14.2
.	2.8	0.7	0.6	.	.	1.9	.	0.8	0.7	0.7	0.7	1.0
60.3	73.9	69.9	67.7	79.1	68.5	68.3	62.9	62.9	66.4	63.8	68.6	73.9
18.3	7.8	8.0	8.7	10.4	10.3	9.9	9.8	6.3	10.2	10.8	9.7	6.9
17.0	14.1	18.4	21.3	10.5	20.3	18.5	20.0	27.2	20.3	21.6	19.3	16.8
4.4	1.5	3.0	1.6	.	0.9	1.5	7.3	2.8	2.4	3.1	1.8	1.4
.	2.8	0.7	0.6	.	.	1.9	.	0.8	0.7	0.7	0.7	1.0
66.4	76.9	63.8	67.5	77.9	65.8	67.7	70.9	58.9	66.9	62.5	70.5	69.3
15.6	2.4	7.4	7.1	8.9	9.6	6.3	5.7	8.9	8.7	9.2	8.3	3.5
15.2	16.5	25.2	21.1	8.1	21.3	21.7	19.2	28.6	20.3	24.0	17.3	23.7
2.8	1.5	2.8	3.4	5.2	2.7	2.5	4.3	2.8	3.2	3.2	3.2	2.6
.	2.8	0.7	0.9	.	0.5	1.9	.	0.8	0.9	1.2	0.7	1.0
73.5	61.0	52.4	54.4	62.3	57.5	58.5	46.3	58.8	57.4	57.1	57.7	53.6
3.0	10.9	15.6	16.7	22.5	14.5	12.8	14.9	12.9	14.3	11.6	16.6	14.9
21.4	23.5	28.0	27.2	15.1	25.3	26.4	37.1	23.0	25.7	27.5	24.2	29.5
2.1	1.9	3.2	0.8	.	2.0	0.4	1.7	4.5	1.6	2.5	0.9	1.0
.	2.8	0.7	1.0	.	0.7	1.9	.	0.8	1.0	1.3	0.7	1.0
57.2	61.7	56.2	60.0	55.1	63.1	58.3	62.5	48.2	58.3	57.7	58.9	62.1
25.5	24.8	26.4	22.0	34.3	20.8	24.1	15.5	31.6	24.5	23.9	24.9	19.1
12.9	7.8	8.3	9.5	6.5	9.2	8.6	11.1	13.1	9.7	9.1	10.3	8.6
4.4	3.1	8.4	7.7	4.1	6.5	7.1	10.9	6.2	6.6	8.3	5.3	9.2
.	2.8	0.7	0.8	.	0.3	1.9	.	0.8	0.8	1.0	0.7	1.0
48.0	42.7	52.4	48.2	64.6	50.0	42.1	54.2	45.7	49.1	46.8	50.9	46.4
32.2	33.9	29.5	29.8	23.8	32.5	28.7	28.1	36.5	30.3	26.8	33.2	30.4
7.9	11.8	9.7	11.7	5.9	10.9	12.7	9.0	10.9	10.2	14.1	7.1	13.7
12.0	8.9	7.7	9.7	5.7	6.6	14.6	8.6	6.0	9.7	11.6	8.2	8.7
.	2.8	0.7	0.6	.	.	1.9	.	0.8	0.7	0.7	0.7	1.0

SOCIAL SCIENCES
& HUMANITIES

	TOTAL	AGE 15-17	AGE 18-24	AGE 25-34	AGE 35-44	AGE 45 & OVER	SEX MALE	SEX FEMALE	MOTHER TONGUE ENGLISH	MOTHER TONGUE FRENCH	MOTHER TONGUE OTHER	EDUCATION SOME HIGH SCHOOL OR LESS	EDUCATION GRAD-HIGH SCHOOL	EDUCATION POST SEC-ONDARY
TOTAL NEWSPAPER READERS VERY/QUITE INTERESTED IN THAT SCIENCE														
MOST NEWSPAPER ARTICLES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED														
Agree	41.7	49.9	41.9	42.5	42.2	39.1	43.4	40.3	40.3	44.5	41.4	41.7	41.9	41.3
Disagree	26.5	28.2	33.4	29.1	17.3	26.0	29.9	23.8	29.0	21.4	27.7	25.8	26.4	27.7
It varies	22.3	10.3	16.5	23.8	29.5	22.9	19.2	24.7	19.9	27.5	20.7	21.0	23.9	23.5
No opinion	9.2	11.7	7.8	4.3	10.4	11.8	7.1	10.9	10.7	5.9	10.3	10.9	7.7	7.2
Not stated	0.3	.	0.4	0.3	0.7	0.2	0.5	0.2	0.2	0.7	.	0.5	.	0.2
MOST NEWSPAPER ARTICLES DEALING WITH THAT SCIENCE ARE INTERESTING TO READ														
Agree	68.9	61.9	60.5	70.4	76.2	69.7	66.8	70.5	68.0	71.0	68.0	66.8	70.8	71.3
Disagree	9.6	16.5	13.2	7.8	7.5	8.7	12.0	7.8	11.1	6.2	11.5	9.3	9.6	10.3
It varies	19.3	18.7	25.2	19.4	14.0	19.4	19.4	19.3	19.3	19.7	18.7	20.4	18.8	17.8
No opinion	1.8	2.9	0.6	2.1	1.9	2.0	1.3	2.3	1.6	2.4	1.8	3.0	0.8	0.4
Not stated	0.3	.	0.4	0.3	0.4	0.2	0.5	0.1	0.1	0.7	.	0.4	.	0.2
ENJOY READING ARTICLES IN NEWSPAPER ON THAT SCIENCE														
Agree	68.7	60.3	60.0	72.5	73.0	70.3	65.8	71.1	69.3	68.3	67.1	65.7	70.8	72.9
Disagree	6.7	6.2	9.8	7.2	3.4	6.9	8.3	5.5	6.9	6.1	7.6	7.1	6.1	6.6
It varies	22.4	31.6	28.9	17.6	21.1	21.0	24.6	20.7	22.6	22.8	21.2	23.7	23.2	19.6
No opinion	1.8	2.0	0.6	2.5	2.1	1.7	0.7	2.6	1.0	2.2	4.1	3.0	.	0.6
Not stated	0.3	.	0.7	0.3	0.4	0.2	0.6	0.1	0.2	0.7	.	0.5	.	0.2
ARTICLES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND														
Agree	57.8	44.7	61.0	60.9	64.8	53.2	61.5	54.9	61.0	52.4	56.6	44.0	62.6	79.2
Disagree	15.7	15.4	19.7	15.0	15.3	14.3	14.0	17.0	12.9	21.5	14.2	21.5	12.4	7.5
It varies	25.0	39.4	17.7	21.9	19.0	30.8	23.3	26.3	24.9	24.0	27.4	32.0	24.5	12.9
No opinion	1.2	0.4	1.1	1.6	0.5	1.5	0.7	1.6	0.9	1.4	1.7	2.0	0.5	0.2
Not stated	0.4	.	0.4	0.6	0.4	0.2	0.5	0.3	0.2	0.7	.	0.6	.	0.2
NOT ENOUGH ARTICLES ON THAT SCIENCE IN NEWSPAPER														
Agree	50.5	61.2	54.1	48.1	50.5	48.0	49.8	51.1	46.2	59.2	49.5	49.0	55.9	50.1
Disagree	30.8	27.5	27.4	33.3	26.8	34.0	32.4	29.6	33.6	26.9	28.1	30.5	28.5	33.0
It varies	12.0	7.4	11.9	10.4	14.5	12.6	11.9	12.0	13.3	9.3	12.7	12.1	11.2	12.4
No opinion	6.3	3.9	6.1	7.4	7.8	5.3	5.2	7.1	6.7	3.9	9.7	8.1	4.4	4.0
Not stated	0.4	.	0.4	0.8	0.4	0.2	0.7	0.1	0.3	0.7	.	0.4	.	0.6
DIFFICULTY TO FIND SPECIFIC ARTICLES ON THAT SCIENCE														
Agree	40.8	48.3	47.9	38.4	38.2	38.6	42.5	39.5	40.4	43.9	35.9	39.8	40.3	43.1
Disagree	34.8	29.3	33.1	37.5	34.0	35.7	33.8	35.6	34.4	36.2	33.4	33.1	34.6	38.3
It varies	13.8	12.8	9.1	14.6	17.6	13.9	13.5	14.1	14.3	12.1	15.9	13.1	16.0	13.7
No opinion	10.0	9.6	9.4	9.2	9.8	11.1	9.2	10.6	10.7	7.1	13.7	13.4	8.8	4.7
Not stated	0.5	.	0.4	0.3	0.4	0.8	0.9	0.1	0.2	0.7	1.0	0.7	0.3	0.2

OCCUPATION				REGION					COMMUNITY SIZE			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
42.6	35.8	50.7	40.2	55.9	42.5	44.4	28.0	37.9	40.8	40.1	41.5	45.7
29.2	32.2	22.8	26.3	21.3	24.2	25.1	35.6	29.6	28.3	28.5	28.1	18.3
23.5	24.7	16.5	23.1	14.3	28.7	19.7	20.4	20.9	23.0	23.8	22.3	18.8
4.7	7.4	9.0	10.1	8.5	4.2	10.3	16.0	11.6	7.7	7.5	8.0	16.1
.	.	1.0	0.3	.	0.5	0.5	.	.	0.2	0.2	0.1	1.2
72.0	71.0	60.8	70.1	77.3	70.4	66.6	65.5	70.2	68.9	68.1	69.6	68.9
14.3	9.7	11.9	8.5	7.1	6.6	12.4	13.4	6.4	9.9	9.2	10.5	8.4
12.5	19.3	25.3	18.9	13.7	21.0	18.4	18.7	22.9	19.7	21.3	18.2	17.8
1.2	.	1.1	2.3	1.9	1.5	2.3	2.4	0.5	1.4	1.2	1.7	3.7
.	.	1.0	0.2	.	0.5	0.4	.	.	0.1	0.2	.	1.2
68.6	69.8	58.1	71.1	76.1	67.8	68.4	67.4	68.5	69.4	72.2	66.9	65.6
11.6	4.5	7.5	6.2	1.4	8.1	7.0	7.0	5.8	6.9	6.8	6.9	6.2
18.6	25.7	32.9	20.2	20.5	21.8	23.1	21.9	24.5	22.3	19.9	24.5	23.1
1.2	.	0.2	2.4	1.9	1.8	1.2	3.4	1.1	1.3	1.0	1.6	3.9
.	.	1.3	0.2	.	0.5	0.4	0.4	.	0.2	0.2	0.1	1.2
79.0	71.3	46.6	55.8	57.5	55.6	59.9	47.8	71.2	59.5	63.4	55.9	50.2
9.5	8.8	22.2	15.8	17.6	19.1	14.6	16.0	7.6	15.0	11.9	17.6	18.9
10.9	18.6	29.3	26.7	22.2	23.8	24.1	34.6	20.3	24.5	23.7	25.1	27.3
0.6	1.2	0.9	1.3	2.7	1.1	0.9	1.6	0.9	0.9	0.5	1.3	2.4
.	.	1.0	0.3	.	0.5	0.6	.	.	0.2	0.4	.	1.2
46.0	52.2	46.8	51.8	44.0	59.2	46.1	50.4	45.4	51.7	54.0	49.6	45.4
37.2	28.1	32.6	29.9	31.8	26.9	31.8	31.8	36.8	31.3	28.8	33.4	28.8
11.2	14.2	14.4	11.3	16.5	9.3	14.2	9.4	12.4	11.5	13.4	9.9	14.1
5.6	4.3	5.2	6.8	7.8	3.7	7.5	8.4	5.4	5.3	3.4	7.0	10.5
.	1.3	1.0	0.2	.	0.8	0.4	.	.	0.2	0.5	.	1.2
45.7	48.2	41.9	39.0	45.7	45.7	35.0	46.6	34.2	41.4	41.3	41.4	38.4
31.6	30.3	33.3	36.2	21.9	36.1	36.6	25.5	48.2	36.0	40.0	32.4	29.4
11.9	14.7	14.3	13.9	23.6	11.2	12.4	17.8	13.1	13.1	11.3	14.8	17.1
10.2	6.7	8.7	10.7	8.8	6.4	15.1	10.2	4.5	9.2	7.0	11.1	14.0
0.6	.	1.9	0.2	.	0.5	0.9	.	.	0.3	0.3	0.3	1.2

LIFE SCIENCES

	TOTAL	AGE 15-17	AGE 18-24	AGE 25-34	AGE 35-44	AGE 45 & OVER	SEX MALE	SEX FEMALE	MOTHER TONGUE ENGLISH	MOTHER TONGUE FRENCH	MOTHER TONGUE OTHER	EDUCATION SOME HIGH SCHOOL OR LESS	EDUCATION GRAD-HIGH SCHOOL	EDUCATION POST SECONDARY
TOTAL NEWSPAPER READERS VERY/QUITE INTERESTED IN THAT SCIENCE														
MOST NEWSPAPER ARTICLES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED														
Agree	49.0	54.1	48.9	46.9	50.4	48.4	50.8	47.6	48.0	52.4	46.0	50.3	42.7	50.4
Disagree	20.9	20.9	24.1	22.0	21.4	18.8	24.6	17.9	21.4	18.9	23.5	21.3	20.4	20.6
It varies	21.2	19.3	19.9	23.1	21.5	21.1	17.5	24.2	20.6	23.7	18.5	20.2	25.3	20.8
No opinion	8.4	5.7	7.1	7.6	6.5	10.9	6.6	9.9	9.5	4.7	11.6	8.0	11.6	7.1
Not stated	0.4	.	.	0.2	0.2	0.9	0.5	0.4	0.5	0.4	0.3	0.3	.	1.1
MOST NEWSPAPER ARTICLES DEALING WITH THAT SCIENCE ARE INTERESTING TO READ														
Agree	73.0	73.4	68.3	71.0	75.6	74.7	72.6	73.3	72.1	75.7	70.9	73.4	74.4	70.9
Disagree	7.4	7.0	9.6	8.7	7.0	6.1	8.9	6.2	7.8	7.3	6.5	6.9	8.0	8.2
It varies	16.4	19.6	17.4	17.3	16.9	14.5	16.5	16.3	16.3	15.1	19.3	16.4	14.0	18.2
No opinion	2.8	.	4.8	2.7	0.5	3.7	1.5	3.9	3.4	1.6	2.9	3.1	3.6	1.5
Not stated	0.4	.	.	0.2	.	0.9	0.5	0.3	0.4	0.4	0.3	0.2	.	1.1
ENJOY READING ARTICLES IN NEWSPAPER ON THAT SCIENCE														
Agree	75.6	75.3	70.0	78.1	76.3	76.3	72.7	77.9	75.9	74.9	75.6	72.9	80.5	78.0
Disagree	5.8	6.1	6.8	6.0	5.4	5.4	5.4	6.2	6.2	5.8	4.3	5.8	5.6	6.0
It varies	16.0	17.8	18.8	13.1	16.1	15.9	20.0	12.8	14.8	17.7	17.3	18.9	10.3	13.4
No opinion	2.1	0.8	4.2	2.3	2.1	1.4	1.4	2.7	2.5	1.2	2.5	2.2	3.2	1.3
Not stated	0.5	.	0.2	0.5	.	0.9	0.6	0.4	0.5	0.5	0.3	0.2	0.4	1.3
ARTICLES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND														
Agree	55.2	46.6	57.6	58.9	59.2	52.1	55.1	55.3	58.4	51.2	50.9	44.1	64.4	74.2
Disagree	15.0	16.0	14.3	14.1	15.0	15.4	14.0	15.7	13.3	19.2	12.7	19.4	11.0	7.6
It varies	27.3	36.3	22.9	25.0	25.1	29.6	29.0	25.9	26.2	26.8	32.6	33.7	23.2	15.6
No opinion	1.8	.	4.4	1.7	0.6	1.5	1.1	2.3	1.5	1.9	2.7	2.3	0.7	1.3
Not stated	0.8	1.1	0.7	0.2	.	1.4	0.7	0.8	0.6	1.0	1.1	0.5	0.6	1.4
NOT ENOUGH ARTICLES ON THAT SCIENCE IN NEWSPAPER														
Agree	53.7	55.3	56.7	58.8	50.6	50.8	54.9	52.7	54.0	54.9	49.9	54.4	53.6	52.3
Disagree	24.6	20.0	22.4	21.1	28.3	26.5	25.7	23.7	24.0	25.5	24.8	22.5	27.6	27.3
It varies	12.2	14.7	10.9	12.3	12.6	11.9	10.0	13.9	12.6	11.4	11.8	11.5	11.7	13.8
No opinion	9.1	9.9	9.1	7.6	8.5	9.9	8.6	9.4	8.9	7.3	13.2	11.4	7.1	5.1
Not stated	0.5	.	0.8	0.2	.	0.9	0.8	0.3	0.4	0.8	0.3	0.2	.	1.7
DIFFICULTY TO FIND SPECIFIC ARTICLES ON THAT SCIENCE														
Agree	41.9	49.2	43.3	46.7	41.8	37.2	42.5	41.5	43.0	43.7	33.5	42.8	39.8	41.5
Disagree	32.7	24.1	33.9	30.1	33.3	35.1	33.4	32.1	29.3	37.1	37.1	30.3	36.3	35.8
It varies	14.8	18.5	8.5	14.7	16.4	16.0	13.5	15.8	16.2	11.3	16.2	14.7	15.7	14.2
No opinion	10.1	8.3	14.4	8.3	8.5	10.3	10.2	10.0	10.7	7.5	12.8	12.1	7.1	7.4
Not stated	0.6	.	.	0.2	.	1.4	0.5	0.7	0.8	0.4	0.3	0.2	1.1	1.1

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
45.7	53.4	50.9	48.5	63.8	50.3	50.2	42.0	41.5	46.7	45.8	47.3	58.9
31.4	27.4	22.1	18.7	20.9	20.2	20.0	22.8	23.1	22.5	22.3	22.6	14.3
13.7	12.5	21.1	23.1	8.5	25.3	19.5	19.5	27.4	22.3	22.0	22.5	16.7
8.7	6.8	5.6	9.3	6.9	3.6	9.6	15.8	8.0	8.0	9.3	7.0	10.0
0.6	.	0.4	0.5	.	0.6	0.7	.	.	0.5	0.5	0.6	.
66.3	76.1	71.7	73.8	74.2	73.6	72.0	73.7	72.5	72.3	71.4	73.1	75.8
12.3	11.4	7.5	6.4	8.6	9.0	7.2	5.9	5.7	8.4	7.9	8.9	3.1
17.8	10.8	18.7	16.2	14.6	15.2	17.6	14.4	19.8	15.7	16.4	15.2	19.1
3.1	1.8	1.7	3.1	2.6	1.6	2.6	6.0	2.0	3.0	3.9	2.3	1.9
0.6	.	0.4	0.4	.	0.6	0.6	.	.	0.5	0.5	0.5	.
73.9	77.5	71.7	76.6	80.4	74.6	74.9	74.8	77.4	76.0	77.3	75.1	73.5
8.9	4.0	5.0	5.8	2.3	7.5	4.9	6.6	5.7	6.4	7.5	5.5	3.4
14.3	14.0	21.9	14.9	11.5	16.0	17.7	14.8	15.6	14.7	12.4	16.5	21.6
2.3	4.1	1.0	2.2	5.9	1.2	1.6	3.7	1.3	2.3	2.2	2.4	1.4
0.6	0.5	0.4	0.5	.	0.7	0.8	.	.	0.6	0.7	0.5	0.2
69.9	61.5	41.4	56.4	55.6	53.2	56.6	52.9	59.3	56.9	59.9	54.5	48.1
10.4	11.8	19.0	14.8	14.0	17.6	13.5	15.7	12.2	15.5	13.4	17.1	12.8
16.8	24.1	37.7	26.2	28.3	26.3	28.3	26.3	27.2	25.1	24.6	25.5	36.6
2.3	2.6	1.0	1.8	2.0	1.9	0.8	3.8	1.3	1.7	1.5	1.8	2.1
0.6	.	1.0	0.8	.	1.0	0.8	1.2	.	0.8	0.6	1.0	0.5
48.2	49.5	59.2	53.4	61.3	56.3	49.1	55.8	52.8	54.8	57.2	52.8	49.1
31.5	22.3	23.5	24.2	17.8	26.6	27.9	18.0	23.1	24.7	23.9	25.4	24.0
12.6	17.2	9.0	12.4	14.4	9.8	12.2	12.5	15.9	11.8	10.2	13.1	13.7
7.1	11.1	7.8	9.4	6.5	6.2	10.1	13.7	8.3	8.1	8.2	8.0	13.2
0.6	.	0.4	0.6	.	1.0	0.6	.	.	0.6	0.5	0.8	.
47.0	43.6	44.1	40.5	51.3	45.1	38.2	40.3	40.7	42.7	41.1	44.0	38.5
34.0	29.5	32.7	32.9	20.8	37.3	31.4	27.4	40.4	34.2	38.3	30.9	26.4
8.2	18.5	13.6	15.5	23.0	9.0	17.6	17.4	11.4	13.5	11.2	15.3	20.2
10.2	8.5	9.3	10.4	4.9	8.0	12.1	13.6	7.4	8.9	8.4	9.3	14.9
0.6	.	0.4	0.7	.	0.6	0.6	1.2	.	0.7	1.0	0.5	.

	TOTAL	AGE: 15-17	AGE: 18-24	AGE: 25-34	AGE: 35-44	AGE: 45 & OVER	SEX: MALE	SEX: FEMALE	MOTHER TONGUE: ENGLISH	MOTHER TONGUE: FRENCH	MOTHER TONGUE: OTHER	EDUCATION: SOME HIGH SCHOOL OR LESS	EDUCATION: HIGH SCHOOL	EDUCATION: POST SECONDARY
TOTAL NEWSPAPER READERS VERY/QUITE INTERESTED IN THAT SCIENCE														
MOST NEWSPAPER ARTICLES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED														
Agree	44.5	48.7	44.4	52.0	40.8	41.2	48.2	37.4	43.2	47.3	45.0	46.8	39.8	43.0
Disagree	22.9	28.1	26.4	21.1	25.0	20.0	23.1	22.6	23.9	23.6	17.0	25.5	20.8	19.5
It varies	19.8	19.5	18.1	17.2	24.5	19.9	19.9	19.7	19.2	20.0	22.6	17.8	22.1	22.4
No opinion	12.0	1.0	11.1	8.4	9.6	18.1	8.2	19.5	13.1	8.2	14.5	9.3	15.8	14.9
Not stated	0.7	2.7	.	1.3	.	0.7	0.7	0.8	0.6	0.9	0.8	0.7	1.4	0.3
MOST NEWSPAPER ARTICLES DEALING WITH THAT SCIENCE ARE INTERESTING TO READ														
Agree	67.2	63.9	67.8	71.2	66.5	65.5	69.7	62.3	66.0	68.6	69.9	68.2	68.0	64.9
Disagree	8.8	8.2	10.2	5.1	9.1	10.3	9.5	7.5	9.8	7.6	6.9	8.3	5.2	12.1
It varies	21.2	25.2	18.9	22.4	23.8	19.5	19.1	25.1	21.7	20.7	19.8	21.0	22.5	20.7
No opinion	2.1	.	3.1	.	0.6	4.0	0.9	4.3	1.9	2.2	2.6	1.9	2.9	1.9
Not stated	0.7	2.7	.	1.3	.	0.7	0.7	0.8	0.6	0.9	0.8	0.7	1.4	0.3
ENJOY READING ARTICLES IN NEWSPAPER ON THAT SCIENCE														
Agree	71.2	70.5	61.1	77.5	77.9	69.5	74.0	65.8	73.2	70.0	64.3	71.0	71.5	71.3
Disagree	5.7	4.3	8.5	4.7	3.2	6.5	5.0	7.1	5.6	7.5	2.7	6.7	3.1	5.5
It varies	20.5	21.2	27.6	16.0	18.0	20.4	19.5	22.4	18.4	20.3	30.5	20.0	19.9	21.8
No opinion	1.7	1.4	2.8	0.5	.	2.9	0.7	3.8	2.2	1.3	0.5	1.4	4.0	1.0
Not stated	0.9	2.7	.	1.3	0.9	0.7	0.9	0.8	0.6	0.9	2.1	1.0	1.4	0.3
ARTICLES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND														
Agree	49.1	43.5	53.0	56.2	52.7	41.9	51.9	43.5	50.6	47.6	44.8	38.2	57.4	64.1
Disagree	19.1	25.1	18.0	16.1	15.9	22.0	16.7	23.9	16.4	24.1	21.7	24.7	14.5	11.6
It varies	28.5	26.8	26.2	24.8	29.9	31.7	29.5	26.7	29.7	25.4	29.8	33.1	25.4	22.0
No opinion	1.9	1.4	2.6	0.8	1.5	2.5	0.8	3.9	1.9	1.9	1.6	2.7	0.6	1.2
Not stated	1.4	3.2	0.2	2.2	.	1.9	1.1	2.0	1.4	1.0	2.1	1.3	2.1	1.1
NOT ENOUGH ARTICLES ON THAT SCIENCE IN NEWSPAPER														
Agree	51.1	56.6	50.0	53.5	50.8	49.3	52.8	47.8	49.8	56.3	46.7	52.3	47.3	51.3
Disagree	29.2	27.1	31.7	29.0	27.4	29.4	29.2	29.3	30.4	28.4	25.2	28.5	32.4	28.8
It varies	9.6	8.5	11.8	8.6	10.8	8.7	9.6	9.7	9.9	7.8	12.4	8.9	5.1	13.8
No opinion	8.9	3.9	6.5	7.5	9.8	11.6	7.3	12.1	8.7	6.6	14.9	8.9	13.9	5.8
Not stated	1.1	3.9	.	1.3	1.2	1.0	1.1	1.1	1.2	0.9	0.8	1.4	1.4	0.3
DIFFICULTY TO FIND SPECIFIC ARTICLES ON THAT SCIENCE														
Agree	44.5	48.2	43.8	51.1	45.5	39.8	46.7	40.3	45.5	46.5	36.2	45.2	44.8	43.2
Disagree	31.7	31.6	34.8	30.7	31.9	30.7	31.0	33.3	28.8	35.6	37.8	29.3	31.3	36.7
It varies	12.5	9.5	11.2	8.5	15.1	14.7	11.8	13.8	12.4	11.1	15.4	12.9	12.8	11.5
No opinion	10.5	8.1	10.2	8.4	7.6	13.9	9.8	11.8	12.6	5.9	9.7	11.8	9.8	8.2
Not stated	0.8	2.7	.	1.3	.	1.0	0.8	0.8	0.7	0.9	0.8	0.9	1.4	0.3

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
43.5	51.8	50.7	40.0	57.7	46.1	48.0	36.0	31.3	42.2	40.6	43.5	55.7
29.6	24.9	21.2	22.0	27.7	22.3	17.0	27.1	34.3	24.2	23.6	24.8	16.5
23.4	16.2	18.7	20.3	6.9	23.0	22.5	17.6	16.5	21.1	25.7	17.4	13.8
3.5	7.2	8.7	16.8	7.7	7.5	12.2	18.0	17.2	11.7	9.0	13.8	13.7
.	.	0.6	1.0	.	1.2	0.3	1.3	0.7	0.8	1.1	0.6	0.2
71.7	60.1	75.6	62.8	74.4	68.3	65.4	65.3	67.8	66.8	64.3	68.8	69.1
12.1	19.0	6.7	7.4	7.5	8.4	10.0	8.0	8.1	9.4	8.5	10.1	6.1
16.2	19.0	16.7	25.2	16.1	19.7	21.8	23.8	22.8	20.5	24.5	17.3	24.6
.	1.9	0.4	3.5	2.1	2.3	2.5	1.7	0.7	2.5	1.7	3.2	.
.	.	0.6	1.0	.	1.2	0.3	1.3	0.7	0.8	1.1	0.6	0.2
73.2	71.4	79.9	65.8	86.1	70.2	70.1	68.7	69.3	71.1	71.7	70.7	71.5
7.3	5.2	4.3	6.2	2.9	8.0	5.7	3.8	5.2	6.1	4.9	7.1	3.8
17.4	22.6	15.1	23.8	10.0	19.4	21.5	23.8	22.9	19.9	21.2	18.8	23.5
0.8	0.8	.	3.1	1.1	1.2	2.4	2.4	0.7	2.1	1.1	2.9	.
1.3	.	0.6	1.0	.	1.2	0.3	1.3	2.0	0.8	1.1	0.6	1.2
68.7	55.3	48.5	43.5	51.0	49.0	46.6	52.3	51.6	50.2	52.8	48.1	43.7
8.2	15.7	19.1	22.4	17.4	24.1	18.9	15.7	14.1	19.5	16.7	21.6	17.4
22.5	26.9	31.2	28.8	30.4	23.5	32.0	26.8	29.8	26.7	27.3	26.2	37.8
.	0.8	0.5	3.3	1.1	1.4	1.7	2.8	2.9	2.1	1.2	2.8	0.9
0.5	1.4	0.6	2.0	.	2.0	0.8	2.4	1.6	1.6	2.0	1.3	0.2
51.0	48.9	56.8	48.4	42.4	57.2	47.8	42.2	64.8	52.2	54.8	50.2	45.9
33.8	38.0	26.5	28.0	31.6	27.3	30.5	34.0	21.9	29.9	28.5	31.0	25.9
8.8	6.1	9.9	10.4	23.2	9.1	8.3	10.4	4.5	8.3	9.6	7.2	16.4
6.4	6.9	5.4	11.8	2.8	5.1	12.0	12.2	8.0	8.4	6.0	10.4	11.1
.	.	1.4	1.4	.	1.2	1.3	1.3	0.7	1.2	1.1	1.2	0.7
50.1	39.2	50.1	41.1	49.7	45.0	43.3	41.9	47.1	45.5	47.8	43.8	39.6
30.3	36.1	29.3	32.7	16.2	36.6	29.3	34.1	36.8	32.0	30.6	33.1	30.5
8.8	18.8	10.9	13.0	24.7	11.6	12.5	9.7	8.9	11.6	12.6	10.7	16.9
10.7	5.9	9.1	12.0	9.3	5.6	14.4	13.0	6.6	10.0	7.8	11.7	12.8
.	.	0.6	1.2	.	1.2	0.5	1.3	0.7	0.9	1.1	0.8	0.2

MAIN TABLE 18. PUBLIC AWARENESS OF AND INTEREST IN SPECIAL SCIENCE COLUMNS OR PAGES--BY SOCIAL CHARACTERISTICS.

		AGE					SEX		MOTHER TONGUE			EDUCATION		
NATURAL SCIENCES	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL NEWSPAPER READERS VERY/QUITE INTERESTED IN THAT SCIENCE	*728*	*75*	*153*	*149*	*125*	*227*	*385*	*343*	*427*	*202*	*98*	*375*	*123*	*229*
AWARE OF SPECIAL COLUMNS/PAGES	33.6	32.4	29.5	35.7	38.4	32.6	32.8	34.4	24.6	54.3	30.1	32.7	33.0	35.3
INCLINATION TO READ SUCH ARTICLES [1]														
More inclined	69.9	*	61.2	80.7	66.2	65.8	74.1	65.3	66.6	72.9	70.2	74.0	60.7	68.3
Less inclined	9.7	*	16.6	3.3	10.4	10.6	4.8	15.0	15.2	5.6	5.7	11.1	6.9	9.1
Doesn't make any difference	20.4	*	22.2	15.9	23.4	23.7	21.1	19.7	18.2	21.5	24.1	15.0	32.4	22.6
FREQUENCY OF READING SUCH COLUMNS														
Regularly	46.6	*	31.9	52.5	49.5	51.8	48.0	45.0	57.7	37.9	39.5	46.3	52.1	44.2
From time to time	52.4	*	67.5	47.5	48.8	46.2	50.6	54.3	40.9	61.4	59.6	52.8	47.9	54.0
Not at all	1.1	*	0.6	.	1.7	2.0	1.4	0.7	1.4	0.7	1.0	0.9	.	1.8
NOT AWARE OF SPECIAL COLUMNS PAGES	66.4	67.6	70.5	64.3	61.6	67.4	67.2	65.6	75.4	45.7	69.9	67.3	67.0	64.7
INCLINATION TO READ SUCH ARTICLES [2]														
More inclined	78.0	87.4	76.5	82.9	75.7	73.9	77.2	78.8	80.1	78.2	67.7	75.0	84.5	79.2
Less inclined	1.3	1.8	1.0	0.6	2.2	1.5	1.8	0.9	1.0	1.9	2.3	2.0	.	0.9
Doesn't make any difference	20.4	10.8	22.4	15.7	22.1	24.2	20.7	20.0	18.5	20.0	29.9	22.3	15.5	19.9
Not stated	0.3	.	.	0.9	.	0.5	0.3	0.4	0.5	.	.	0.6	.	.
FREQUENCY WOULD BE LIKELY TO READ SUCH COLUMNS														
Regularly	52.2	45.3	45.5	54.7	47.6	60.0	50.1	54.7	55.3	51.4	39.0	46.6	51.6	62.0
From time to time	46.0	50.7	52.7	44.4	51.8	37.7	48.0	43.7	44.0	46.8	53.8	51.4	47.4	36.1
Not at all	0.9	3.5	0.4	0.8	.	0.9	0.4	1.4	0.4	0.4	3.7	1.3	1.0	0.3
Not stated	0.9	0.5	1.4	.	0.6	1.3	1.5	0.2	0.2	1.3	3.4	0.8	.	1.6
SOCIAL SCIENCES AND HUMANITIES														
TOTAL NEWSPAPER READERS VERY/QUITE INTERESTED IN THAT SCIENCE	*1068*	*77*	*189*	*228*	*203*	*366*	*472*	*591*	*600*	*322*	*140*	*554*	*196*	*312*
AWARE OF SPECIAL COLUMNS/PAGES	45.7	42.4	43.3	51.9	48.7	42.1	46.9	44.7	37.3	60.7	47.1	40.6	45.2	55.2
INCLINATION TO READ SUCH ARTICLES [1]														
More inclined	76.4	80.8	66.4	75.9	79.8	79.0	77.4	75.6	75.2	75.6	83.1	78.3	74.6	74.9
Less inclined	3.2	4.3	4.9	0.3	3.0	4.4	2.6	3.7	4.9	1.2	3.5	3.7	1.6	3.4
Doesn't make any difference	20.4	14.9	28.7	23.7	17.2	16.6	20.0	20.7	20.0	23.2	13.4	18.0	23.8	21.7
FREQUENCY OF READING SUCH COLUMNS														
Regularly	51.2	23.2	43.9	50.8	62.8	53.7	52.6	49.9	54.1	51.4	40.7	48.5	43.9	58.3
From time to time	48.2	75.7	54.2	48.7	37.2	45.8	46.3	49.8	45.4	47.6	59.3	50.6	56.1	40.9
Not at all	0.7	1.0	1.9	0.5	.	0.5	1.1	0.3	0.6	1.0	.	0.9	.	0.7
NOT AWARE OF SPECIAL COLUMNS/PAGES	54.3	57.6	56.7	48.1	51.3	57.9	53.1	55.3	62.7	39.3	52.9	59.4	54.8	44.8
INCLINATION TO READ SUCH ARTICLES [2]														
More inclined	73.7	75.2	70.9	73.5	76.6	73.6	69.7	76.8	73.1	75.2	74.8	71.0	83.5	73.2
Less inclined	2.3	2.5	2.0	3.0	2.2	2.1	4.0	1.0	1.8	3.0	3.7	2.5	1.2	2.7
Doesn't make any difference	23.7	22.3	25.9	23.5	21.2	24.3	26.3	21.8	25.2	21.3	20.6	26.2	15.3	24.2
Not stated	0.2	.	1.2	.	.	.	.	0.4	.	0.5	0.9	0.4	.	.
FREQUENCY WOULD BE LIKELY TO READ SUCH COLUMNS														
Regularly	47.6	47.3	39.0	44.2	48.4	53.4	38.6	54.5	49.2	45.1	43.7	42.1	53.8	56.0
From time to time	50.3	52.7	58.6	51.8	51.2	44.4	58.8	43.8	48.9	51.6	55.2	55.3	44.6	42.7
Not at all	1.7	.	1.8	4.0	0.4	1.6	2.3	1.3	1.7	2.2	1.1	2.2	1.7	0.7
Not stated	0.4	.	0.6	.	.	0.7	0.3	0.4	0.2	1.1	.	0.4	.	0.5

* Base less than 30 individuals

1,2 Percentages for "INCLINATION" and "FREQUENCY" of reading of science columns/pages derived using aware newspaper readers (1) and unaware readers (2) as bases.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
84	*56*	*147*	*442*	*56*	*227*	*250*	*109*	*84*	*596*	*268*	*326*	*133*
38.3	39.9	29.7	33.1	25.8	51.2	29.8	23.4	15.8	34.8	35.0	34.7	27.9
78.2	*	72.0	68.2	*	74.1	58.3	*	*	72.2	68.8	74.9	57.2
2.0	*	9.5	11.3	*	4.0	19.8	*	*	11.0	15.6	7.2	2.5
19.7	*	18.5	20.5	*	21.9	22.0	*	*	16.8	15.6	17.9	40.3
57.1	*	58.5	40.0	*	39.8	55.5	*	*	46.2	52.6	40.9	48.7
38.4	*	40.8	59.4	*	59.5	42.5	*	*	52.6	46.2	57.8	51.3
4.5	*	0.7	0.6	*	0.7	2.0	*	*	1.2	1.2	1.3	.
61.7	60.1	70.3	65.9	74.2	48.8	70.2	76.6	84.2	65.2	65.0	65.3	72.1
80.6	87.4	70.0	79.2	89.2	78.0	72.4	82.3	79.9	79.4	78.1	80.4	72.2
.	.	3.1	1.1	.	1.9	1.6	1.4	0.6	1.4	1.6	1.1	1.3
19.4	12.6	26.2	19.4	10.8	20.1	26.1	16.3	17.2	18.8	19.7	18.1	26.6
.	.	0.7	0.3	.	.	.	.	2.2	0.4	0.5	0.3	.
63.0	53.6	45.2	52.6	71.2	49.8	49.7	44.7	59.7	54.4	56.7	52.5	43.5
37.0	46.4	52.3	45.3	28.8	48.8	48.3	51.9	39.3	43.6	41.9	44.9	55.8
.	.	0.7	1.2	.	0.4	0.8	3.1	.	1.0	.	1.7	0.7
.	.	1.8	0.8	.	1.1	1.2	0.3	1.0	1.1	1.4	0.9	.
99	*84*	*164*	*715*	*88*	*330*	*376*	*154*	*115*	*873*	*411*	*462*	*190*
57.3	55.1	44.9	43.1	23.5	63.5	42.4	31.0	42.1	48.6	56.7	41.5	32.1
70.6	87.0	76.8	75.8	*	75.7	73.4	86.4	78.1	77.3	77.2	77.3	70.5
2.5	.	2.0	4.1	*	1.6	4.7	2.2	5.9	3.1	4.3	1.8	3.7
26.9	13.0	21.2	20.1	*	22.8	21.9	11.4	16.0	19.6	18.5	20.9	25.8
63.3	48.9	44.8	50.8	*	53.0	52.1	42.3	52.0	52.9	57.9	46.9	38.9
35.8	51.1	55.2	48.4	*	46.1	47.5	57.7	48.0	46.3	41.6	52.0	61.1
0.9	.	.	0.9	*	0.9	0.3	.	.	0.8	0.5	1.1	.
42.7	44.9	55.1	56.9	76.5	36.5	57.6	69.0	57.9	51.4	43.3	58.5	67.9
66.8	83.1	67.9	74.9	74.0	75.1	69.7	73.8	84.1	74.6	74.0	75.0	70.7
5.7	.	5.2	1.5	2.4	2.3	2.6	1.2	2.6	2.5	2.1	2.8	1.4
27.5	16.9	26.9	23.3	23.6	22.1	27.3	24.9	13.3	22.6	23.1	22.2	27.9
.	.	.	0.3	.	0.5	0.3	.	.	0.3	0.7	.	.
50.4	42.3	36.4	50.3	48.3	48.4	45.8	37.2	67.9	48.4	55.7	43.6	44.7
48.1	55.0	60.3	47.9	50.1	48.4	52.4	60.7	30.6	49.6	42.3	54.3	52.9
1.5	2.6	2.5	1.5	1.7	2.0	1.8	1.4	1.5	1.5	1.6	1.5	2.4
.	.	0.8	0.3	.	1.2	.	0.6	.	0.5	0.4	0.5	.

* Base less than 30 individuals

LIFE SCIENCES

	TOTAL	AGE 15-17	AGE 18-24	AGE 25-34	AGE 35-44	AGE 45 & OVER	SEX MALE	SEX FEMALE	MOTHER TONGUE ENGLISH	MOTHER TONGUE FRENCH	MOTHER TONGUE OTHER	EDUCATION SOME HIGH SCHOOL OR LESS	EDUCATION GRAD-HIGH SCHOOL	EDUCATION POST SECONDARY
TOTAL NEWSPAPER READERS VERY/QUITE INTERESTED IN THAT SCIENCE	*1254*	*99*	*204*	*252*	*228*	*471*	*562*	*692*	*712*	*366*	*176*	*719*	*224*	*310*
AWARE OF SPECIAL COLUMNS/PAGES	43.5	31.2	40.3	45.2	46.9	45.0	42.D	44.B	36.6	56.B	44.0	42.D	4D.B	49.2
INCLINATION TO READ SUCH ARTICLES [1]														
More inclined	79.7	B4.0	71.3	75.1	BB.1	B0.5	78.7	B0.5	B2.9	73.B	B4.7	B1.5	B2.B	74.3
Less inclined	3.2	5.D	3.7	1.6	D.B	4.8	3.7	2.B	4.3	2.0	2.9	4.5	1.1	1.9
Doesn't make any difference	16.B	11.1	25.1	21.B	11.1	14.6	17.4	16.4	12.6	23.8	12.4	13.7	16.1	23.3
Not stated	0.3	.	.	1.4	.	.	0.3	0.3	0.3	D.4	.	D.3	.	D.5
FREQUENCY OF READING SUCH COLUMNS														
Regularly	57.2	41.9	41.7	46.7	7D.5	64.5	53.3	6D.2	63.D	51.5	53.3	57.4	5B.6	56.1
From time to time	42.0	58.1	55.5	51.9	29.5	35.5	45.9	39.1	35.7	4B.2	46.7	42.2	41.4	42.2
Not at all	D.5	.	2.3	0.B	.	.	0.4	0.6	0.9	0.2	.	0.3	.	1.2
Not stated	0.2	.	0.5	0.6	.	.	0.5	.	0.4	.	.	0.1	.	0.5
NOT AWARE OF SPECIAL COLUMNS/PAGES	56.5	68.8	59.7	54.8	53.1	55.0	5B.0	55.2	63.4	43.2	56.0	5B.0	59.2	50.B
INCLINATION TO READ SUCH ARTICLES [2]														
More inclined	71.7	72.2	64.7	7B.5	73.1	70.5	67.9	74.B	71.6	69.5	75.2	70.4	75.8	71.4
Less inclined	1.9	3.5	1.5	0.5	2.6	2.1	2.6	1.3	1.6	3.2	1.2	1.9	0.9	2.6
Doesn't make any difference	26.2	24.3	33.1	20.2	24.3	27.4	29.2	23.5	26.5	26.7	23.6	27.2	23.3	26.0
Not stated	0.3	.	0.7	0.8	.	.	0.3	0.3	0.3	0.5	.	0.5	.	.
FREQUENCY WOULD BE LIKELY TO READ SUCH COLUMNS														
Regularly	50.9	49.6	3B.7	52.7	46.4	5B.0	49.1	52.4	51.5	51.1	47.4	48.3	50.4	57.9
From time to time	45.8	47.7	56.1	44.6	52.3	3B.2	47.3	44.6	45.1	44.3	51.8	49.0	45.B	37.5
Not at all	2.5	2.7	4.3	2.7	1.3	2.1	2.5	2.5	2.8	2.6	0.B	2.1	3.5	2.B
Not stated	0.B	.	1.0	.	.	1.7	1.1	0.6	0.5	2.0	.	0.6	0.3	1.B

ENGINEERING SCIENCES

	TOTAL	AGE 15-17	AGE 18-24	AGE 25-34	AGE 35-44	AGE 45 & OVER	SEX MALE	SEX FEMALE	MOTHER TONGUE ENGLISH	MOTHER TONGUE FRENCH	MOTHER TONGUE OTHER	EDUCATION SOME HIGH SCHOOL OR LESS	EDUCATION GRAD-HIGH SCHOOL	EDUCATION POST SECONDARY
TOTAL NEWSPAPER READERS VERY/QUITE INTERESTED IN THAT SCIENCE	*845*	*59*	*160*	*177*	*156*	*295*	*559*	*287*	*510*	*225*	*110*	*455*	*145*	*245*
AWARE OF SPECIAL COLUMNS/PAGES	36.4	2B.6	4D.B	4D.0	33.2	35.0	34.5	39.9	26.6	57.9	37.8	35.2	34.6	39.6
INCLINATION TO READ SUCH ARTICLES [1]														
More inclined	76.3	*	71.3	74.3	91.5	73.8	75.3	7B.0	7B.0	74.9	75.2	77.4	B5.0	70.1
Less inclined	6.D	*	6.6	3.0	.	9.4	5.6	6.6	7.B	4.2	5.6	7.9	2.D	4.8
Doesn't make any difference	17.5	*	21.1	22.7	8.5	16.B	1B.8	15.3	14.2	20.4	19.2	14.7	13.0	24.4
Not stated	0.2	*	1.0	.	.	.	D.4	.	.	0.5	.	.	.	0.7
FREQUENCY OF READING SUCH COLUMNS														
Regularly	52.7	*	46.6	47.4	77.2	51.1	55.1	4B.7	61.3	47.1	42.0	51.6	46.1	58.D
From time to time	46.D	*	47.1	52.6	22.B	48.9	43.1	50.9	36.9	52.5	55.3	48.4	53.9	37.B
Not at all	1.3	*	6.3	.	.	.	1.9	0.4	1.8	0.4	2.7	.	.	4.2
NOT AWARE OF SPECIAL COLUMNS/PAGES	63.6	71.4	59.2	6D.D	66.B	65.0	65.5	60.1	73.4	42.1	62.2	64.8	65.4	60.4
INCLINATION TO READ SUCH ARTICLES [2]														
More inclined	70.2	B1.7	65.8	B0.5	71.1	63.6	71.6	67.3	70.8	68.2	69.9	73.4	67.6	65.9
Less inclined	3.6	4.8	5.4	1.7	4.4	3.3	2.7	5.6	3.1	5.5	4.1	2.6	4.2	5.5
Doesn't make any difference	26.0	13.5	28.B	17.8	24.5	32.7	25.5	27.1	26.0	26.3	26.D	23.8	2B.3	2B.7
Not stated	D.1	.	.	.	.	0.4	0.2	.	0.2	.	.	0.2	.	.
FREQUENCY WOULD BE LIKELY TO READ SUCH COLUMNS														
Regularly	49.4	58.B	37.6	55.0	52.B	4B.2	51.B	44.3	48.9	49.4	52.3	47.6	51.9	51.5
From time to time	46.5	41.2	57.B	41.5	43.6	46.5	45.3	49.D	47.3	45.2	44.1	48.8	46.4	41.9
Not at all	3.2	.	4.7	1.5	3.2	4.2	1.7	6.5	3.1	4.1	2.B	3.0	1.7	4.7
Not stated	0.9	.	.	2.0	0.4	1.1	1.1	0.3	0.B	1.3	0.9	0.6	.	1.9

* Base less than 30 individuals

[1,2] Percentages for "INCLINATION" and "FREQUENCY" of reading of science columns/pages derived using aware newspaper readers (1) and unaware readers (2) as bases.

OCCUPATION: MANAGER /PROF.	OCCUPATION: WHITE COLLAR	OCCUPATION: BLUE COLLAR	OCCUPATION: OTHER	REGION: ATLANTIC PROV.	REGION: QUEBEC	REGION: ONTARIO	REGION: PRAIR-IES	REGION: BRITISH COLUM-BIA	COMMUNITY SIZE: URBAN TOTAL	COMMUNITY SIZE: URBAN OVER 500M	COMMUNITY SIZE: URBAN 1M-500M	COMMUNITY SIZE: RURAL TOTAL
103	87	220	843	101	368	440	202	144	1015	452	563	239
39.5	44.8	43.3	44.0	33.0	57.4	39.4	37.5	36.7	45.3	46.9	44.0	36.0
75.3	76.0	80.2	80.5	91.1	73.2	79.6	89.8	84.6	79.1	75.8	82.0	82.8
1.6	.	4.8	3.3	4.9	1.3	6.3	0.9	2.7	3.6	5.3	2.3	0.8
23.1	24.0	15.0	15.8	4.0	25.5	13.2	9.3	12.7	17.0	18.9	15.4	15.6
.	.	.	0.4	.	.	0.9	.	.	0.2	.	0.4	0.8
60.3	41.5	48.3	60.9	63.5	51.6	60.3	60.5	60.8	56.6	56.4	56.7	60.9
39.7	56.2	51.3	38.4	36.5	48.4	37.9	39.5	37.6	42.8	43.0	42.5	38.3
.	2.3	.	0.5	.	.	1.1	.	1.7	0.6	0.4	0.8	.
.	.	0.4	0.2	.	.	0.6	.	.	0.1	0.2	.	0.8
60.5	55.2	56.7	56.0	67.0	42.6	60.6	62.5	63.3	54.7	53.1	56.0	64.0
62.8	73.6	72.6	72.4	77.8	69.5	70.7	70.8	74.7	73.9	75.1	72.9	63.6
5.1	0.9	.	2.1	3.4	3.5	1.6	0.6	0.7	1.8	1.8	1.9	2.1
32.1	25.5	26.8	25.3	17.1	26.4	27.7	28.6	24.7	24.3	23.1	25.2	32.9
.	.	0.7	0.2	1.7	0.5	.	.	.	.	.	.	1.3
64.3	52.5	44.9	50.5	59.5	56.3	44.3	46.3	60.6	53.3	58.0	49.7	42.1
33.4	40.6	53.5	46.0	35.3	38.9	53.4	50.2	37.2	43.7	40.3	46.3	53.3
2.3	3.6	.	3.1	5.2	2.6	1.4	3.4	2.1	2.1	0.9	3.0	4.0
.	3.3	1.5	0.4	.	2.2	0.8	.	.	0.9	0.8	0.9	0.5
103	78	237	427	73	227	318	124	103	703	309	393	143
30.8	43.9	36.3	36.3	30.9	55.8	32.2	26.1	22.5	37.2	43.0	32.5	32.4
67.9	81.2	84.8	72.2	*	73.1	77.2	78.2	*	79.2	80.9	77.5	59.8
.	8.8	2.8	8.3	*	4.8	6.8	4.5	*	5.8	5.0	6.6	7.2
32.1	10.0	12.4	19.0	*	21.5	16.0	17.3	*	14.8	13.6	15.9	33.0
.	.	.	0.4	*	0.5	.	.	*	0.3	0.5	.	.
65.6	46.2	58.3	48.4	*	47.3	60.4	45.0	*	52.9	58.4	47.1	51.7
34.4	53.8	41.7	49.0	*	52.7	35.6	55.0	*	45.6	40.2	51.2	48.3
.	.	.	2.6	*	.	4.0	.	*	1.6	1.4	1.7	.
69.2	56.1	63.7	63.7	69.1	44.2	67.8	73.9	77.5	62.8	57.0	67.5	67.6
60.7	70.6	79.9	67.2	79.7	70.3	65.6	70.3	76.4	70.3	69.1	71.1	69.8
5.8	3.7	1.9	4.1	3.3	3.2	1.9	8.6	3.6	4.3	4.5	4.1	0.9
33.5	25.7	17.8	28.7	17.1	26.5	32.5	21.1	19.2	25.3	26.5	24.5	29.3
.	.	0.5	.	.	.	.	.	0.9	0.2	.	0.3	.
55.7	47.0	59.1	42.7	60.2	52.4	45.8	45.1	53.4	49.7	54.3	46.7	47.9
39.3	51.5	39.5	51.5	38.3	40.4	50.0	52.4	43.2	45.9	40.1	49.8	49.3
2.1	1.5	0.5	5.4	1.5	3.9	3.9	2.5	2.5	3.4	4.0	3.0	2.4
3.0	.	1.0	0.4	.	3.3	0.3	.	0.9	0.9	1.5	0.6	0.5

MAIN TABLE 19. ITEMS NEWSPAPER READERS ARE WILLING TO GIVE UP FOR MORE SCIENCE--BY SOCIAL CHARACTERISTICS.

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL NEWSPAPER READERS	*1665*	*138*	*279*	*322*	*287*	*639*	*815*	*850*	*1000*	*440*	*226*	*976*	*284*	*404*
ARTICLES READERS WOULD BE WILLING TO CUT FOR MORE SCIENCE [1]														
Sports Section	25.0	12.1	21.1	31.3	30.4	23.9	20.4	29.4	25.2	25.2	23.8	21.1	28.1	32.2
Comics	16.6	15.8	14.0	19.0	13.7	18.1	13.5	19.7	21.6	5.4	16.8	15.0	24.0	15.3
Want ads/classified section	6.9	10.4	7.2	7.7	6.6	5.6	6.7	7.0	7.3	6.5	5.4	6.0	8.8	7.5
Women's page/society news/family section	25.1	21.6	31.0	28.2	28.2	20.3	32.3	18.2	27.1	22.7	20.8	22.6	21.1	33.7
Dear Abby/Ann Landers	6.6	3.7	14.1	6.5	5.5	4.5	7.9	5.4	8.3	2.0	8.1	5.4	5.5	10.2
Tragedies/accidents/violence	10.0	5.2	8.5	9.4	10.2	11.8	10.3	9.7	7.6	16.7	7.3	9.8	7.5	12.0
Stock market reports/business/financial	9.3	8.0	12.3	10.3	9.4	7.6	7.8	10.7	9.3	7.7	12.0	8.3	11.4	10.0
Politics	5.6	7.7	6.6	6.7	6.8	3.5	5.6	5.5	5.5	7.8	1.8	6.4	5.8	3.5
Editorial/specific comments	3.5	11.3	5.0	3.3	2.8	1.4	4.3	2.7	4.2	1.8	3.6	3.5	3.1	3.6
Entertainment	7.1	10.2	7.6	6.7	7.5	6.2	8.0	6.2	6.0	10.4	5.7	6.3	6.5	9.4
Advertising/Ads	23.4	24.1	23.2	25.7	24.4	21.8	25.0	21.9	23.6	21.6	26.2	22.9	20.0	26.9
Horoscope/astrology	5.1	9.4	7.6	4.1	4.4	3.8	5.3	4.8	3.3	10.2	2.9	5.3	4.2	5.2
Announcement of Birth/obituary/marriages	2.5	3.1	3.8	6.0	1.6	0.6	3.6	1.6	2.8	2.1	2.2	1.6	2.7	4.7
Gossip columns	1.6	0.8	3.0	1.0	2.5	1.1	2.3	1.0	1.1	2.8	1.6	1.3	1.5	2.4
International world/foreign report	2.3	1.2	2.2	3.2	1.9	2.3	2.0	2.5	2.6	1.9	1.4	2.0	3.7	1.9
Crossword puzzles, Bridge	2.3	0.7	3.3	1.4	3.0	2.3	3.1	1.5	3.0	1.2	1.3	2.2	2.0	2.8
Health Advice	0.9	3.0	1.6	1.3	0.4	0.1	0.4	1.4	0.8	1.3	0.2	1.1	0.2	0.7
Travel	1.1	0.5	1.4	2.2	0.9	0.6	1.0	1.2	1.4	0.5	0.9	0.7	0.7	2.2
Local news/metro news	0.8	.	2.9	1.0	0.5	0.1	0.8	0.8	1.0	0.3	1.1	0.3	2.6	0.7
Real estate	1.0	0.5	1.7	0.9	0.4	1.0	0.7	1.2	1.4	.	1.0	1.0	1.9	0.2
Religious column	0.6	0.6	1.5	0.5	0.6	0.3	0.7	0.5	0.9	.	0.8	0.2	1.4	1.1
Miscellaneous	7.0	9.9	10.3	5.3	8.1	5.3	8.0	6.1	8.2	4.9	5.9	6.0	5.5	10.7
Don't know/not stated	12.1	16.1	11.5	13.3	10.4	11.7	10.1	14.1	9.4	16.9	14.8	14.1	11.0	8.0
NONE	16.0	13.5	7.3	10.2	17.3	22.6	17.1	14.9	15.0	17.1	18.3	19.0	16.7	8.3

[1] Column percentages total to more than 100% because multiple responses are possible.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
142	*113*	*328*	*1062*	*151*	*441*	*629*	*261*	*184*	*1340*	*593*	*747*	*325*
36.3	21.2	20.3	25.3	11.7	27.0	24.8	26.6	29.7	25.1	27.7	23.0	24.5
12.7	16.1	16.1	17.4	20.5	5.4	22.2	10.4	30.2	17.5	13.9	20.4	12.9
B.7	12.7	5.2	6.5	1.9	7.1	7.7	9.5	3.7	7.6	8.1	7.1	3.9
37.5	3B.2	34.1	19.4	25.2	25.6	22.4	20.2	40.0	25.7	29.9	22.3	22.8
6.B	11.0	10.3	5.0	11.1	2.5	7.9	5.6	9.5	7.0	6.3	7.6	4.9
10.7	11.5	10.9	9.4	2.6	18.4	6.B	6.7	11.0	10.5	13.1	B.5	7.7
B.1	14.6	5.8	9.9	11.6	8.7	8.0	12.2	9.0	9.5	9.6	9.4	8.3
1.5	5.3	8.3	5.3	9.4	6.B	5.0	5.1	2.2	6.1	5.5	6.6	3.4
3.5	4.7	4.1	3.1	2.8	2.3	3.8	3.6	5.5	3.9	2.6	5.0	1.6
9.6	6.3	7.5	6.7	B.4	10.4	5.7	5.0	5.7	7.2	6.4	7.B	6.7
23.5	21.9	25.4	23.0	19.9	22.2	25.6	20.9	25.4	23.6	21.B	25.0	22.7
1.2	5.0	5.5	5.4	3.B	10.7	2.7	4.3	1.4	5.9	6.2	5.7	1.6
3.2	7.8	2.7	1.9	2.4	2.5	2.6	2.4	2.8	2.9	2.7	3.1	1.0
2.2	2.7	2.1	1.3	0.5	3.1	0.8	1.6	1.5	1.5	1.7	1.3	2.2
.	2.4	2.7	2.4	1.2	2.9	2.6	1.4	1.B	2.5	3.0	2.1	1.4
1.3	3.1	4.4	1.7	10.3	1.5	1.9	1.0	0.B	2.0	2.3	1.8	3.3
0.8	.	1.2	0.9	2.5	1.3	0.8	.	.	0.B	0.5	1.1	1.0
3.B	0.6	0.3	1.0	.	0.9	1.7	1.0	0.5	1.4	2.3	0.6	.
0.B	3.0	0.B	0.6	.	0.3	1.5	0.7	0.4	0.5	0.2	0.8	1.9
.	.	1.7	0.9	.	.	2.5	.	0.2	0.9	1.3	0.6	1.1
1.3	.	0.B	0.6	.	0.2	0.4	1.4	1.9	0.6	0.6	0.6	0.8
7.0	3.8	10.4	6.3	12.3	5.8	6.8	8.9	3.7	7.4	6.0	8.5	5.5
7.3	7.2	10.4	13.B	16.0	16.3	10.6	13.3	2.3	10.B	9.0	12.3	17.5
12.3	15.6	15.1	16.B	18.1	14.4	16.2	15.5	17.9	15.6	15.4	15.8	17.4

MAIN TABLE 20. ITEMS NEWSPAPER READERS ARE WILLING TO GIVE UP FOR MORE SCIENCE--BY DEGREE OF INTEREST IN THE SCIENCES.

	TOTAL VERY/QUITE INTERESTED IN			INTEREST IN: NATURAL SCIENCES		SOCIAL SCIENCES /HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
ARTICLES READERS WOULD BE WILLING TO CUT FOR MORE SCIENCE [1]											
Sports sections	6.8	20.7	28.1	28.4	22.7	28.5	20.0	27.7	17.4	26.3	23.2
Comics	6.2	15.1	18.3	19.0	16.3	18.2	13.2	18.8	10.8	17.9	17.2
Want ads/classified section	0.7	5.3	8.0	7.3	5.9	8.5	3.4	7.3	4.4	7.4	6.4
Women's page/social society news/family section	6.8	19.3	28.6	31.4	19.1	27.1	18.1	25.5	19.4	33.7	14.8
Dear Abby/Ann Landers	2.1	7.4	7.0	7.4	4.1	7.5	4.1	6.6	5.9	7.7	5.2
Tragedies/accidents/ violence	1.4	8.8	11.3	10.5	9.2	11.8	5.8	11.1	4.2	10.8	10.0
Stock market reports/ business/financial	4.1	6.7	10.5	9.5	10.2	11.2	7.3	10.6	5.1	8.8	9.5
Politics	1.4	4.9	6.2	5.7	6.2	6.3	5.2	6.0	4.4	5.6	6.2
Editorial/specific comments	1.4	3.9	3.6	4.2	2.5	3.3	3.0	3.4	3.4	4.7	2.3
Entertainment	4.1	4.9	7.9	9.2	5.5	8.0	5.1	7.2	7.3	8.6	5.9
Advertising/ads	13.7	16.8	26.1	26.4	20.9	25.3	18.0	25.3	13.9	27.8	18.8
Horoscope/astrology	0.7	2.5	5.7	6.2	4.1	5.6	5.1	5.7	1.2	5.7	4.2
Announcement of birth/ obituary/marriages	.	1.8	3.0	2.7	2.9	2.6	1.7	2.7	0.7	3.4	1.5
Gossip columns	.	1.1	2.0	2.0	1.4	1.7	1.0	1.9	1.5	2.2	0.5
International world/ foreign report	1.4	2.1	2.4	2.4	2.0	2.3	2.3	2.4	1.9	2.2	2.6
Crossword puzzles, bridge	0.7	0.7	2.8	2.8	1.1	2.9	1.6	2.4	2.2	3.4	1.0
Advice on health articles	.	2.5	0.6	0.8	0.9	0.7	1.1	0.7	2.3	0.6	1.1
Travel	.	1.8	1.1	1.6	0.7	1.2	0.7	0.9	0.9	1.1	1.0
Local news/metro news	.	1.1	0.8	0.9	1.2	0.5	1.3	0.7	1.9	1.1	0.2
Real estate	.	2.1	0.8	0.8	1.3	0.7	1.8	0.9	2.0	1.1	0.7
Religious column	.	0.4	0.7	1.0	0.3	0.6	0.4	0.5	0.3	1.1	0.3
Miscellaneous	2.1	7.7	7.4	8.5	5.1	7.4	6.5	6.6	10.7	9.1	5.1
Don't Know/not stated	33.6	17.9	8.3	8.0	13.5	9.0	16.7	9.6	17.6	5.6	17.8
NONE	39.0	19.4	12.9	11.2	21.5	12.6	25.9	13.9	28.1	13.6	19.0

[1] Column percentages total to more than 100% because multiple responses are possible.

MAIN TABLE 21. TYPES OF SCIENCE-FEATURING MAGAZINES READ BY CANADIANS AND FREQUENCY OF READING THESE MAGAZINES.*

	AGE						SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL MAGAZINE READERS*	*1296*	*127*	*251*	*262*	*219*	*437*	*605*	*691*	*806*	*317*	*173*	*708*	*224*	*361*
TOTAL WHO READ														
MEDICAL/SOCIAL SCIENCE MAGAZINES-CANADIAN NURSE, ETC.														
Regularly	2.9	2.4	3.9	4.1	4.0	1.3	2.5	3.4	2.7	3.9	2.5	1.4	2.9	6.1
From time to time	2.7	2.9	4.6	3.4	2.1	1.3	2.6	2.7	2.5	3.1	2.5	2.6	1.1	3.7
AGRICULTURAL/FARMING LIVESTOCK MAG.-FARM GUIDE, ETC.														
Regularly	4.6	2.7	5.2	1.0	4.0	7.4	5.8	3.7	3.5	5.2	9.1	6.6	3.6	1.4
From time to time	1.3	1.2	2.5	1.0	0.4	1.4	0.9	1.8	0.4	2.6	3.3	1.4	2.9	0.2
OUTDOOR COUNTRY, WILDLIFE MAG.-NATURE CANADA, ETC.														
Regularly	5.5	6.2	3.4	4.8	7.4	6.0	6.8	4.4	5.6	6.4	3.4	5.7	5.4	5.3
From time to time	2.8	3.4	2.8	5.5	1.2	1.9	4.4	1.5	3.3	2.1	1.8	3.1	3.6	1.9
EDUCATIONAL/EDUCATION MAG. -PARENTS, ETC.														
Regularly	1.5	1.5	3.0	2.9	0.6	0.2	0.8	2.1	0.5	3.7	2.0	0.7	2.3	2.5
From time to time	0.5	.	0.3	1.3	0.3	0.4	0.8	0.3	0.5	0.8	.	0.2	0.2	1.3
ENGINEERING/MECHANICS MAG. -POPULAR MECHANICS, ETC.														
Regularly	5.7	4.9	4.4	8.5	5.0	5.3	11.5	0.5	6.3	2.9	7.5	4.8	5.7	7.4
From time to time	1.9	1.3	2.0	1.7	2.7	1.6	2.3	1.4	1.9	1.9	1.5	2.0	2.4	1.2
BUSINESS AND FINANCE MAG. FINANCIAL POST, ETC.														
Regularly	2.8	1.3	1.0	6.5	5.0	1.0	4.0	1.7	2.2	5.6	0.4	1.5	1.8	5.9
From time to time	0.5	.	0.5	.	0.3	0.9	0.9	0.1	0.6	0.2	.	0.4	0.2	0.6
ENVIRONMENTAL, NATURAL RESOURCE MAG.-WORLD OIL, ETC.														
Regularly	1.2	0.3	1.6	1.0	1.8	1.0	2.6	.	1.3	0.7	1.6	0.7	0.3	2.7
From time to time	0.4	1.1	.	0.8	0.8	.	0.8	.	0.6	.	.	0.6	.	0.3
GEOGRAPHICAL/ARCHEOLOGICAL MAG.-ARCHEOLOGY, ETC.														
Regularly	11.2	6.5	9.6	11.9	15.1	11.1	12.9	9.7	12.6	4.5	16.7	7.9	12.7	16.8
From time to time	4.8	5.4	9.0	4.0	3.1	3.6	4.3	5.3	6.1	2.1	3.8	3.9	6.5	5.4
GENERAL AND NATURAL SCIENCE MAG.-SCIENCE DIGEST, ETC.														
Regularly	5.7	13.1	6.2	7.3	3.5	3.4	9.8	2.1	6.5	5.2	3.2	4.4	4.1	9.3
From time to time	6.0	10.9	11.2	4.3	3.7	3.7	8.0	4.3	7.3	3.3	4.9	4.1	6.9	9.2
GENERAL MAG. WITH SCIENCE ARTICLES-READER'S DIGEST, WEEKEND, TIME, ETC.														
Regularly	38.9	29.2	31.3	40.6	41.7	43.8	38.5	39.3	35.4	46.7	41.1	35.3	40.8	44.6
From time to time	25.8	31.7	31.3	27.7	21.2	22.1	25.9	25.8	25.5	26.0	26.8	26.9	26.4	23.3
WOMEN'S MAG. WITH SCIENCE ARTICLES-CHATELAINE, ETC.														
Regularly	15.6	12.1	9.1	15.5	15.9	20.4	2.1	27.5	14.0	23.2	9.6	16.5	19.2	11.7
From time to time	7.4	7.6	6.0	7.1	6.4	8.8	1.9	12.1	6.7	10.0	5.8	7.9	11.3	3.9
SPORTS/SPORTING MAG. WITH SCIENCE ARTICLES-SPORTS ILLUSTRATED, ETC.														
Regularly	2.8	5.9	4.1	4.0	0.7	1.4	5.1	0.7	3.1	2.3	2.3	2.9	2.8	2.6
From time to time	1.4	4.3	1.4	0.9	1.1	1.0	2.4	0.5	1.3	1.3	2.0	2.2	.	0.8
AVIATION/SPACE MAG.-AVIATION TECHNOLOGY, ETC.														
Regularly	0.3	0.7	0.4	.	0.4	0.4	0.7	.	0.3	0.3	0.5	0.2	.	0.7
From time to time	0.3	.	0.6	0.8	.	0.2	0.5	0.2	0.4	0.1	0.7	0.3	0.4	0.3
DESIGN/PHOTOGRAPHY/FILM MAG.-POPULAR PHOTOGRAPHY, ETC.														
Regularly	1.5	0.9	1.1	2.3	0.7	1.9	2.2	0.9	1.3	1.7	2.0	1.1	0.3	3.1
From time to time	0.6	.	0.4	0.4	0.8	0.8	0.4	0.7	0.5	0.9	0.3	0.6	0.7	0.4
OTHER MAG. NOT RELATED TO SCIENCE/SEX MAG.-PLAYBOY														
Regularly	1.0	0.3	1.3	1.4	1.8	0.6	2.1	0.1	1.3	.	1.6	1.1	1.6	0.6
From time to time	1.4	0.6	2.4	2.0	1.2	0.6	1.8	1.0	1.3	1.2	1.8	1.8	0.8	0.8
MISCELLANEOUS														
Regularly	7.4	7.2	4.9	7.2	7.1	9.3	8.4	6.6	6.0	8.5	12.1	8.6	6.2	6.0
From time to time	3.7	2.5	4.8	2.3	3.6	4.4	3.4	4.0	3.1	4.1	6.1	3.6	2.6	4.6
DON'T KNOW/NOT STATED	4.5	6.8	4.5	3.5	4.4	4.6	4.4	4.6	6.0	1.9	2.5	4.9	4.6	3.8
DO NOT READ MAGAZINES FEATURING SCIENCE	8.5	10.8	10.7	4.3	8.7	8.8	5.5	11.0	10.0	4.0	9.4	9.0	8.8	7.3

* See Table 9.1 for ranking by readership.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
125	*93*	*226*	*854*	*116*	*326*	*486*	*221*	*146*	*1013*	*453*	*560*	*283*
4.6	3.6	1.7	3.0	1.9	4.7	1.9	3.4	2.7	3.3	4.3	2.4	1.7
2.5	0.9	3.0	2.8	0.6	3.2	2.1	2.7	4.9	3.1	3.7	2.6	1.2
2.6	5.6	3.4	5.2	1.2	4.8	5.2	7.1	1.6	1.3	0.7	1.8	16.6
.	2.3	0.6	1.6	1.2	2.5	0.3	2.8	.	0.7	0.2	1.1	3.7
9.0	6.3	2.8	5.6	2.3	5.6	5.2	10.0	1.8	3.6	3.0	4.2	12.2
2.3	.	5.2	2.6	0.5	2.2	3.3	2.5	4.9	2.8	3.1	2.6	2.9
1.4	.	0.3	1.9	1.7	3.1	1.0	0.8	0.5	1.6	1.5	1.7	1.1
2.2	1.5	0.2	0.2	0.7	1.0	0.5	.	.	0.5	0.3	0.6	0.7
14.7	4.0	16.2	1.8	8.0	4.1	6.1	6.9	4.1	5.0	5.5	4.7	7.9
1.0	3.5	2.4	1.7	0.5	1.1	1.9	2.9	2.9	1.9	2.5	1.3	1.9
12.2	6.1	0.2	1.8	1.4	5.0	2.7	1.6	1.3	2.8	4.0	1.8	2.9
3.1	.	.	0.2	0.7	0.2	0.7	0.4	.	0.6	0.8	0.4	.
5.3	0.7	3.0	0.2	1.2	0.9	0.6	2.3	2.4	1.4	1.1	1.7	0.5
0.8	.	0.4	0.4	.	.	0.3	0.8	1.4	0.2	.	0.4	1.1
12.9	13.4	10.8	10.8	16.0	5.5	11.1	16.8	12.0	12.0	10.8	12.9	8.4
3.3	7.0	3.8	5.0	6.5	2.3	5.2	5.6	6.7	4.8	4.4	5.1	4.8
13.8	6.7	7.7	3.9	7.6	4.8	5.4	4.9	8.5	6.3	7.1	5.7	3.5
8.6	1.6	4.1	6.6	6.2	4.5	5.1	6.2	11.8	6.3	7.3	5.4	5.0
42.6	46.2	31.4	39.6	46.1	47.0	35.0	35.6	33.4	40.3	39.3	41.1	34.0
22.4	28.4	26.9	25.8	23.9	24.9	27.0	21.7	31.6	27.0	24.8	28.8	21.6
1.8	7.0	1.3	22.4	18.7	21.5	14.1	12.2	10.3	15.2	13.0	17.1	17.1
3.8	1.1	3.7	9.5	6.3	9.0	8.2	5.1	5.3	7.6	5.8	9.1	6.5
3.8	2.7	5.1	2.0	1.6	2.4	2.7	4.0	3.1	2.7	2.3	3.1	2.9
.	0.5	3.2	1.2	.	0.8	1.8	1.9	1.9	1.6	0.9	2.1	0.8
1.2	0.8	0.3	0.1	.	0.6	0.3	0.4	.	0.4	0.6	0.3	.
.	0.6	0.5	0.3	.	0.1	0.6	0.6	.	0.4	0.7	0.2	.
6.8	3.6	0.7	0.7	.	4.3	0.9	0.4	.	1.6	3.1	0.4	1.1
0.7	1.8	.	0.5	1.6	1.1	0.3	0.2	.	0.7	0.5	0.8	1
0.9	.	2.9	0.7	.	0.3	1.9	0.6	1.3	1.0	0.8	1.2	1.2
.	0.7	4.0	0.9	.	1.0	2.2	0.8	1.3	1.5	2.5	0.6	0.9
7.0	5.1	6.8	7.9	4.6	8.7	6.7	8.0	8.4	7.1	7.7	6.6	8.6
3.0	6.3	5.4	3.1	5.2	4.9	3.5	2.8	2.1	3.7	3.2	4.1	3.8
1.1	7.5	5.6	4.4	11.5	1.9	5.6	4.1	2.0	4.1	4.8	3.5	6.1
6.0	6.3	7.1	9.4	11.3	3.3	8.8	13.6	8.8	9.1	9.6	8.6	6.3

MAIN TABLE 22. OVERALL PUBLIC ASSESSMENT OF MAGAZINE PRESENTATION OF THE SCIENCES--BY SOCIAL CHARACTERISTICS.

NATURAL SCIENCES CATEGORY		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL MAGAZINE READERS VERY/QUITE INTERESTED IN THAT SCIENCE														
MOST MAG. ARTICLES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED														
Agree	63.5	61.7	64.1	69.3	56.9	63.1	65.9	61.0	60.4	72.1	59.8	61.6	57.3	69.2
Disagree	10.7	16.9	11.9	9.6	6.7	10.2	10.4	10.9	12.8	6.0	10.2	10.7	12.9	9.5
It varies	16.7	14.4	16.1	15.2	27.7	13.2	16.0	17.5	15.8	16.8	21.0	18.0	17.3	14.8
No opinion	8.1	3.6	7.9	5.2	8.8	11.8	7.5	8.8	10.2	4.7	5.6	8.3	11.6	6.1
Not stated	1.0	3.4	.	0.6	.	1.7	0.3	1.8	0.8	0.3	3.4	1.5	0.9	0.4
MOST MAG. ARTICLES DEALING WITH THAT SCIENCE ARE INTERESTING TO READ														
Agree	79.9	84.5	73.7	81.8	79.4	82.1	80.2	79.6	79.0	84.7	74.2	79.0	82.9	79.3
Disagree	3.1	2.3	2.9	4.6	1.9	3.4	3.2	3.1	3.3	2.4	4.1	2.0	2.2	5.4
It varies	11.7	7.0	17.0	10.9	15.3	7.7	12.5	10.8	11.7	10.4	14.0	11.9	10.5	12.0
No opinion	4.3	2.8	6.4	2.1	3.4	5.2	3.8	4.8	5.2	2.2	4.3	5.6	3.5	2.8
Not stated	1.0	3.4	.	0.6	.	1.7	0.3	1.8	0.8	0.3	3.4	1.5	0.9	0.4
ENJOY READING MAG. ARTICLES ON THAT SCIENCE														
Agree	79.8	78.7	74.9	81.6	77.1	84.4	79.5	80.1	78.6	81.3	82.1	78.9	80.9	80.3
Disagree	5.4	5.0	6.1	3.9	6.8	5.5	6.2	4.7	4.7	7.0	5.8	4.9	5.7	6.2
It varies	10.4	10.2	13.1	11.8	13.2	5.7	11.0	9.8	12.1	9.5	4.3	10.9	9.0	10.5
No opinion	3.4	2.8	5.8	2.1	2.9	2.7	3.1	3.6	3.8	1.9	4.3	3.9	3.5	2.5
Not stated	1.0	3.4	.	0.6	.	1.7	0.3	1.8	0.8	0.3	3.4	1.5	0.9	0.4
MAG. ARTICLES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND														
Agree	63.6	61.0	60.3	69.9	64.7	62.4	64.1	63.2	66.1	63.9	52.2	57.8	65.0	71.2
Disagree	13.3	15.9	13.3	8.8	10.2	17.0	11.2	15.4	11.5	14.0	19.6	14.9	16.7	9.2
It varies	18.5	16.9	20.6	19.0	20.4	16.1	21.1	16.0	17.6	19.7	20.4	22.0	13.9	16.1
No opinion	3.5	2.8	5.4	1.7	4.8	2.7	3.4	3.5	4.0	2.2	3.5	3.8	2.9	3.2
Not stated	1.1	3.4	0.5	0.6	.	1.7	0.3	2.0	0.8	0.3	4.2	1.5	1.5	0.4
NOT ENOUGH MAG. ARTICLES ON THAT SCIENCE														
Agree	44.0	44.4	48.3	43.2	36.7	44.9	44.7	43.2	43.6	49.9	33.6	41.9	44.2	46.2
Disagree	36.6	35.1	34.2	37.4	35.6	39.1	34.3	38.9	37.5	30.1	45.8	35.6	41.2	36.0
It varies	9.5	11.1	6.4	12.9	12.8	7.0	11.4	7.6	7.4	13.9	9.7	10.9	7.2	8.6
No opinion	8.8	6.0	11.1	5.8	14.0	7.2	9.1	8.5	10.5	5.7	7.5	10.1	5.7	8.7
Not stated	1.2	3.4	.	0.6	0.9	1.7	0.5	1.8	1.0	0.3	3.4	1.5	1.7	0.4
DIFFICULTY TO FIND SPECIFIC MAG. ARTICLES ON THAT SCIENCE														
Agree	29.6	29.9	25.7	28.3	32.1	32.0	30.4	28.7	29.0	33.2	24.9	27.7	31.1	31.0
Disagree	46.4	49.1	48.9	49.6	37.7	45.8	47.2	45.5	46.9	43.6	49.7	43.2	49.3	49.8
It varies	12.1	13.4	13.8	13.1	12.5	9.4	11.6	12.6	11.0	13.7	14.0	13.2	12.3	10.5
No opinion	10.8	4.3	11.6	8.3	17.1	11.0	10.4	11.2	12.2	9.2	8.0	14.2	6.5	8.3
Not stated	1.1	3.4	.	0.6	0.6	1.7	0.3	1.9	0.9	0.3	3.4	1.7	0.9	0.4

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
77.0	68.0	62.1	60.5	55.9	70.8	67.8	41.4	67.7	62.7	65.3	60.5	66.4
8.6	8.2	11.6	11.1	18.9	7.7	8.1	19.6	7.8	11.0	10.8	11.2	9.2
8.2	15.8	18.9	18.0	17.4	15.4	13.7	23.5	19.5	17.5	12.8	21.5	13.8
6.2	8.0	6.6	8.9	7.8	4.7	10.0	13.7	3.7	7.6	9.3	6.1	10.2
.	.	0.8	1.4	.	1.4	0.4	1.8	1.4	1.2	1.7	0.7	0.4
78.5	78.4	80.8	80.1	82.9	81.9	83.0	65.3	83.8	79.2	79.5	79.0	82.5
7.7	1.4	0.7	3.1	4.2	3.1	2.7	6.0	.	3.9	4.1	3.8	.
9.2	18.9	15.0	10.3	11.6	10.1	8.3	19.8	14.5	10.9	7.6	13.8	14.5
4.6	1.3	2.8	5.0	1.4	3.6	5.5	7.2	0.3	4.7	7.1	2.7	2.6
.	.	0.8	1.4	.	1.4	0.4	1.8	1.4	1.2	1.7	0.7	0.4
81.4	79.5	80.9	79.2	85.0	78.6	82.9	74.1	77.7	79.5	78.4	80.5	81.0
10.8	1.4	4.8	5.1	1.4	7.8	3.3	9.6	2.8	6.2	7.8	4.7	2.7
4.0	17.8	10.8	10.6	12.2	8.8	10.4	7.3	17.8	9.5	6.7	11.9	14.0
3.8	1.3	2.8	3.7	1.4	3.3	3.1	7.2	0.3	3.7	5.4	2.3	1.9
.	.	0.8	1.4	.	1.4	0.4	1.8	1.4	1.2	1.7	0.7	0.4
70.2	59.7	64.7	62.5	70.7	62.9	64.8	52.8	72.4	61.3	61.3	61.3	72.9
10.9	18.4	12.3	13.3	11.5	12.4	13.7	17.1	9.9	13.5	11.1	15.5	12.5
13.4	20.6	20.0	18.9	16.5	19.7	18.2	19.7	16.0	20.2	20.5	20.0	11.9
5.5	.	2.2	3.8	1.4	3.6	2.5	8.6	0.3	3.8	5.1	2.6	2.3
.	1.3	0.8	1.4	.	1.4	0.7	1.8	1.4	1.3	2.0	0.7	0.4
37.0	58.9	43.7	43.5	57.3	47.4	39.3	47.0	35.2	42.5	38.0	46.4	49.6
41.6	25.4	37.1	36.9	36.8	30.2	42.2	27.9	48.5	38.7	38.3	39.1	28.2
11.3	6.8	10.6	9.1	3.3	14.4	7.7	10.3	4.7	9.3	11.8	7.3	10.0
9.0	8.9	7.8	9.0	2.6	6.5	10.3	13.0	8.9	8.0	10.3	6.1	11.8
1.1	.	0.8	1.4	.	1.4	0.4	1.8	2.7	1.3	1.7	1.0	0.4
38.8	27.7	26.7	28.7	39.5	33.3	22.7	35.5	25.0	27.8	23.2	31.7	36.4
47.2	35.0	53.8	45.7	43.8	42.2	51.1	36.8	58.8	47.5	50.1	45.2	42.2
6.5	30.7	8.6	11.8	13.0	13.4	13.1	11.0	6.4	13.5	10.4	16.2	6.6
7.5	6.6	10.1	12.3	2.6	9.7	12.6	14.9	8.3	9.9	14.6	5.9	14.4
.	.	0.8	1.6	1.2	1.4	0.4	1.8	1.4	1.3	1.7	0.9	0.4

SOCIAL SCIENCES AND HUMANITIES CATEGORY		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD- HIGH SCHOOL	POST SEC- ONDARY
TOTAL MAGAZINE READERS VERY/QUITE INTERESTED IN THAT SCIENCE MOST MAG. ARTICLES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED														
Agree	55.9	59.9	54.2	60.9	59.2	50.7	56.1	55.7	54.6	63.2	46.2	52.9	56.7	60.0
Disagree	15.1	14.4	18.7	14.2	11.6	15.8	16.5	14.1	16.4	13.2	14.0	16.2	15.2	13.1
It varies	16.8	15.7	18.7	16.8	17.5	15.5	15.2	18.0	15.4	18.3	19.7	15.9	17.7	17.9
No opinion	10.9	7.3	6.5	7.8	11.7	16.1	11.5	10.4	12.0	5.3	17.7	13.6	9.8	7.5
Not stated	1.3	2.7	1.9	0.4	.	1.8	0.7	1.7	1.6	.	2.3	1.4	0.6	1.5
MOST MAG. ARTICLES DEALING WITH THAT SCIENCE ARE INTERESTING TO READ														
Agree	77.1	76.7	73.5	80.8	79.0	75.8	74.9	78.7	75.5	82.7	72.1	75.0	83.7	76.3
Disagree	5.8	4.5	10.2	4.1	4.4	5.5	7.3	4.8	6.7	4.0	6.0	5.8	4.6	6.7
It varies	10.8	13.8	11.9	10.5	10.8	9.6	11.9	10.0	11.4	9.7	10.7	11.3	6.9	12.4
No opinion	5.4	2.3	4.4	4.2	5.8	7.3	5.2	5.5	5.5	3.6	8.9	6.6	4.1	4.3
Not stated	0.9	2.7	.	0.4	.	1.8	0.7	1.0	1.0	.	2.3	1.4	0.6	0.3
ENJOY READING MAG. ARTICLES ON THAT SCIENCE														
Agree	76.6	66.6	72.1	83.1	81.0	74.9	75.9	77.2	74.1	82.3	75.7	71.1	81.9	81.7
Disagree	5.7	6.2	8.6	2.5	3.1	7.4	4.4	6.6	6.9	3.8	4.4	5.2	5.9	6.2
It varies	12.4	22.1	15.2	10.6	11.1	10.2	14.2	11.1	14.2	10.5	8.6	16.9	7.9	8.4
No opinion	4.2	2.3	4.1	3.3	3.5	5.6	4.9	3.7	3.5	3.4	8.9	5.4	2.4	3.4
Not stated	1.1	2.7	.	0.4	1.4	1.8	0.7	1.4	1.4	.	2.3	1.4	2.0	0.3
MAG. ARTICLES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND														
Agree	64.7	48.3	67.7	67.1	67.9	63.1	67.2	62.9	66.4	63.6	59.5	56.5	66.6	75.4
Disagree	8.9	18.5	6.2	8.8	9.9	8.0	9.8	8.3	8.1	10.7	8.7	10.9	9.6	5.7
It varies	20.7	28.2	21.8	20.2	17.7	20.4	17.5	23.0	20.2	21.9	20.6	25.2	19.5	15.0
No opinion	4.7	2.3	4.1	3.1	4.5	6.7	4.8	4.5	4.1	3.8	8.8	5.9	3.8	3.4
Not stated	1.0	2.7	0.3	0.9	.	1.8	0.7	1.3	1.2	.	2.3	1.6	0.6	0.5
NOT ENOUGH MAG. ARTICLES ON THAT SCIENCE														
Agree	37.9	43.9	35.3	41.3	36.3	36.7	38.8	37.2	37.0	43.7	29.5	36.3	39.2	39.6
Disagree	40.1	39.9	44.7	36.8	38.2	40.7	37.0	42.5	41.3	36.9	41.9	38.2	43.3	41.0
It varies	10.6	9.0	12.2	11.8	12.3	8.2	13.0	8.9	9.3	13.4	10.5	11.2	9.2	10.6
No opinion	10.4	4.5	7.3	9.7	13.1	12.6	10.4	10.4	11.2	6.0	15.8	13.0	7.7	8.1
Not stated	1.0	2.7	0.5	0.4	.	1.8	0.8	1.1	1.1	.	2.3	1.4	0.6	0.6
DIFFICULTY TO FIND SPECIFIC MAG. ARTICLES ON THAT SCIENCE														
Agree	28.0	31.8	28.3	29.9	26.7	26.2	29.3	27.0	26.7	33.8	20.9	26.5	32.9	27.3
Disagree	46.7	44.7	52.9	47.5	45.3	43.4	46.7	46.6	45.6	48.2	47.9	43.2	47.4	51.1
It varies	11.3	10.9	11.2	12.2	13.5	9.6	10.6	11.8	11.4	11.0	11.7	11.7	8.5	12.4
No opinion	12.9	9.8	7.3	10.0	13.1	19.1	12.8	13.0	14.8	7.0	17.1	17.2	9.2	8.7
Not stated	1.2	2.7	0.3	0.4	1.4	1.8	0.7	1.5	1.5	.	2.3	1.4	2.0	0.5

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR- IES	BRITISH COLUM- BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
63.0	47.0	51.1	56.9	63.4	61.3	59.8	31.5	55.7	55.6	56.8	54.4	57.3
11.3	21.9	18.2	14.3	13.6	13.8	13.1	23.4	15.5	15.7	17.1	14.5	12.6
14.0	17.0	17.5	17.1	16.6	19.1	11.7	23.6	18.0	17.7	14.8	20.3	13.0
11.8	14.0	10.9	10.3	6.4	5.5	14.6	16.4	9.7	9.9	10.0	9.9	14.9
.	.	2.3	1.4	.	0.3	0.9	5.1	1.0	1.1	1.3	0.9	2.1
80.0	74.8	73.3	77.7	84.2	79.9	76.6	67.1	79.0	76.5	73.6	79.3	79.4
4.0	6.8	8.1	5.6	6.0	4.9	5.1	9.4	6.0	5.9	6.3	5.5	5.7
9.0	12.2	11.5	10.8	7.5	10.2	11.0	13.2	11.5	10.7	10.7	10.6	11.5
7.0	6.2	4.9	5.1	2.3	4.8	6.5	7.8	2.5	5.9	8.2	3.7	3.3
.	.	2.3	0.8	.	0.3	0.9	2.4	1.0	1.1	1.3	0.9	.
82.0	77.8	76.2	75.7	90.6	79.0	75.4	67.7	74.8	76.2	74.1	78.1	78.5
4.7	3.7	3.9	6.4	4.0	5.9	6.1	7.0	3.3	5.6	7.7	3.7	5.8
6.9	12.3	13.2	13.1	1.5	10.1	12.9	17.4	19.2	12.1	10.4	13.7	13.4
6.4	6.2	4.3	3.6	3.9	4.6	4.0	5.5	1.8	4.6	5.8	3.5	2.2
.	.	2.3	1.2	.	0.3	1.6	2.4	1.0	1.4	1.9	0.9	.
78.9	64.9	58.6	63.6	75.3	63.5	63.5	54.7	76.8	65.8	66.6	65.0	59.9
4.6	5.3	16.2	8.6	12.7	10.2	8.3	8.6	4.9	7.7	5.0	10.1	14.4
10.1	23.6	18.1	22.5	8.1	21.0	22.0	28.5	15.6	20.3	20.2	20.3	22.8
6.4	6.2	4.8	4.2	3.9	5.0	4.9	5.8	1.8	5.0	6.9	3.4	2.9
.	.	2.3	1.1	.	0.3	1.3	2.4	1.0	1.3	1.3	1.2	.
41.1	30.2	37.2	38.5	47.1	43.1	32.2	40.4	30.9	37.0	35.7	38.2	41.6
39.2	39.9	35.6	41.2	37.6	36.5	44.0	33.6	48.7	41.0	42.5	39.6	36.4
8.7	12.5	17.8	9.3	11.0	13.4	8.3	10.3	10.7	10.4	9.0	11.8	11.5
10.5	17.4	7.1	10.1	4.3	6.6	14.4	13.3	8.6	10.3	11.5	9.3	10.5
0.5	.	2.3	0.9	.	0.3	1.2	2.4	1.0	1.2	1.3	1.1	.
30.2	26.7	30.9	27.2	42.5	33.2	18.7	32.6	24.8	26.7	23.0	30.0	33.6
49.5	40.5	45.7	47.2	30.1	48.4	52.6	34.5	53.0	48.9	51.8	46.3	36.9
6.4	12.1	10.2	12.2	17.5	9.8	10.9	13.5	8.7	10.5	9.3	11.7	14.7
13.8	20.7	10.9	12.1	10.0	8.3	16.0	16.9	12.4	12.5	14.0	11.1	14.8
.	.	2.3	1.3	.	0.3	1.7	2.4	1.0	1.4'	1.9	1.0	.

LIFE SCIENCES CATEGORY

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	DTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL MAGAZINE READERS VERY/QUITE INTERESTED IN THAT SCIENCE MOST MAG. ARTICLES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED														
Agree	62.3	64.9	63.2	63.4	65.0	59.2	63.2	61.6	60.7	7D.1	54.D	61.5	61.6	64.7
Disagree	11.0	13.5	12.8	11.0	8.D	11.0	11.9	1D.3	11.6	1D.1	10.2	11.2	11.2	1D.0
It varies	15.0	11.1	15.2	17.1	19.4	12.2	14.8	15.1	13.3	14.5	22.9	14.8	14.4	15.6
No opinion	10.6	8.5	8.9	7.5	7.6	15.6	8.9	11.9	13.2	4.9	10.5	10.8	12.3	9.1
Not stated	1.1	2.0	.	1.1	.	2.1	1.2	1.0	1.2	0.3	2.4	1.7	0.5	0.5
MOST MAG. ARTICLES DEALING WITH THAT SCIENCE ARE INTERESTING TO READ														
Agree	80.6	83.8	75.7	81.2	80.9	81.9	81.1	80.2	80.2	81.8	79.9	78.5	84.6	81.7
Disagree	2.8	4.7	3.8	2.3	3.2	1.9	3.3	2.4	2.9	2.8	2.2	2.6	2.1	3.6
It varies	11.0	7.5	14.6	12.8	13.0	7.7	11.4	10.7	11.0	11.9	9.2	13.0	7.4	9.7
No opinion	4.7	2.1	5.9	2.5	3.0	7.0	3.5	5.6	5.1	3.1	6.2	4.6	5.4	4.6
Not stated	0.9	2.0	.	1.1	.	1.5	0.7	1.0	0.8	0.3	2.4	1.3	0.5	0.5
ENJOY READING MAG. ARTICLES ON THAT SCIENCE														
Agree	82.0	83.7	73.4	84.3	5.5	83.0	81.1	82.7	80.2	86.3	81.5	78.8	85.3	85.5
Disagree	1.7	3.3	2.8	1.0	2.0	1.0	1.5	1.8	1.7	1.3	2.5	1.2	2.4	2.0
It varies	10.8	8.9	16.6	10.5	9.5	8.8	12.9	9.1	12.6	8.2	7.9	14.3	5.3	7.9
No opinion	4.2	2.1	6.1	3.2	1.8	5.7	3.8	4.6	4.3	3.4	5.7	4.3	4.2	4.1
Not stated	1.3	2.0	1.0	1.1	1.2	1.5	0.7	1.8	1.3	0.8	2.4	1.3	2.7	0.5
MAG. ARTICLES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTANO														
Agree	60.6	52.0	60.9	62.9	62.4	60.4	61.9	59.6	63.5	57.8	53.5	53.3	64.3	71.3
Disagree	11.2	15.7	13.4	8.4	12.1	10.2	10.7	11.7	9.6	15.2	10.6	13.1	10.2	8.6
It varies	22.6	26.8	20.6	23.9	21.7	22.4	22.6	22.6	21.3	23.0	27.8	27.3	20.5	15.5
No opinion	4.6	3.5	5.0	3.7	3.8	5.6	4.1	5.1	4.8	3.6	5.7	5.D	4.5	4.1
Not stated	0.9	2.0	.	1.1	.	1.5	D.7	1.0	0.8	0.3	2.4	1.3	0.5	0.5
NOT ENOUGH MAG. ARTICLES ON THAT SCIENCE														
Agree	41.3	48.7	43.2	45.5	39.4	36.8	39.4	42.8	38.9	47.8	39.1	39.7	42.6	43.5
Disagree	37.6	39.1	39.1	33.8	35.3	39.9	39.2	36.4	37.9	37.6	36.4	36.6	41.5	36.6
It varies	8.8	5.4	8.5	9.0	12.9	7.6	9.2	8.5	10.0	8.1	5.1	8.9	6.9	10.1
No opinion	11.2	4.7	9.2	10.6	11.3	14.3	11.5	11.0	12.3	6.2	16.3	13.3	8.1	9.4
Not stated	1.1	2.0	.	1.1	1.1	1.5	0.7	1.4	1.0	0.3	3.1	1.5	1.0	0.5
DIFFICULTY TO FIND SPECIFIC MAG. ARTICLES ON THAT SCIENCE														
Agree	27.6	29.7	27.7	30.6	26.4	25.6	28.3	27.0	26.8	32.3	21.5	27.1	25.8	29.5
Disagree	46.6	42.3	47.8	48.9	46.1	45.8	48.6	44.9	43.1	51.3	52.3	43.1	53.5	48.2
It varies	13.1	16.6	14.2	1D.7	15.6	11.7	10.7	15.0	14.7	10.2	11.7	14.3	10.2	12.8
No opinion	11.6	9.4	1D.0	8.8	10.7	15.4	11.8	11.6	14.3	5.9	11.6	14.2	8.6	9.0
Not stated	1.2	2.0	0.3	1.1	1.2	1.5	0.7	1.5	1.2	D.3	2.9	1.3	2.0	0.5

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
60.8	66.0	59.6	62.8	66.5	69.8	62.6	51.4	57.7	61.2	59.3	62.8	66.7
10.4	9.1	14.4	10.5	14.3	9.8	8.5	14.2	14.7	11.1	10.1	12.0	10.5
18.1	13.3	15.1	14.7	14.1	14.7	13.0	16.4	19.8	15.8	17.2	14.8	11.5
10.1	11.6	9.3	10.9	5.0	5.5	14.9	14.7	7.0	10.7	12.3	9.4	10.3
0.6	.	1.6	1.2	.	0.3	1.0	3.3	0.8	1.1	1.2	1.0	1.0
79.8	83.3	80.0	80.6	82.8	79.9	81.3	77.5	83.3	78.6	78.0	79.0	88.6
2.2	3.8	2.9	2.7	5.0	2.8	2.8	2.7	1.6	2.9	2.4	3.3	2.3
11.4	4.6	13.4	11.1	10.3	12.2	9.8	11.6	11.3	11.5	9.6	13.1	8.9
6.0	8.3	2.1	4.7	1.9	4.8	5.1	6.1	3.0	5.9	8.7	3.6	0.2
0.6	.	1.6	0.9	.	0.3	1.0	2.1	0.8	1.1	1.2	1.0	.
82.1	82.6	79.3	82.6	90.4	83.9	81.6	78.3	78.8	81.0	81.2	80.8	86.0
1.3	2.4	1.9	1.6	2.8	1.4	2.1	0.7	2.0	1.8	1.5	2.1	1.3
11.5	5.7	14.9	10.3	4.9	9.2	10.9	12.5	15.4	10.5	8.0	12.5	11.9
4.6	9.3	2.3	4.1	1.9	4.8	3.6	6.4	3.0	5.1	7.0	3.6	0.8
0.6	.	1.6	1.5	.	0.8	1.8	2.1	0.8	1.6	2.4	1.0	.
69.0	55.3	53.2	61.8	68.2	57.9	62.6	57.1	61.4	60.2	62.1	58.7	62.2
6.8	12.3	14.2	11.1	11.6	14.0	9.6	10.5	10.6	10.0	6.5	12.8	16.1
19.0	24.2	27.3	21.9	18.2	22.8	22.1	25.5	22.1	23.1	22.7	23.4	20.8
4.6	8.3	3.7	4.4	1.9	5.0	4.7	4.8	5.2	5.6	7.5	4.0	0.9
0.6	.	1.6	0.9	.	0.3	1.0	2.1	0.8	1.1	1.2	1.0	.
30.4	49.4	41.1	42.0	53.4	45.5	35.0	43.7	39.0	40.2	36.8	43.0	45.6
47.4	29.0	39.6	36.7	27.1	38.4	41.0	30.8	42.6	39.0	40.8	37.5	32.2
8.1	8.9	7.8	9.2	14.2	9.1	9.5	7.9	3.9	8.6	7.2	9.6	9.8
13.4	12.7	9.9	11.0	5.2	6.7	13.5	14.4	13.7	11.0	14.0	8.6	11.9
0.6	.	1.6	1.1	.	0.3	1.0	3.2	0.8	1.2	1.2	1.2	0.5
23.3	30.9	30.4	27.1	37.6	31.3	22.3	30.9	22.9	25.5	22.1	28.3	35.5
61.4	34.1	48.5	45.4	27.0	52.0	46.4	39.0	58.5	49.4	55.5	44.4	35.5
6.6	19.1	10.2	14.0	31.9	8.9	14.5	10.9	9.6	12.7	8.8	15.8	14.5
8.1	15.8	9.3	12.2	3.5	7.6	15.0	17.1	8.1	10.9	11.5	10.4	14.4
0.6	.	1.6	1.3	.	0.3	1.8	2.1	0.8	1.5	2.0	1.0	.

ENGINEERING SCIENCES CATEGORY

	AGE: TOTAL	AGE: 15-17	AGE: 18-24	AGE: 25-34	AGE: 35-44	AGE: 45 & OVER	SEX: MALE	SEX: FEMALE	MOTHER TONGUE: ENGLISH	MOTHER TONGUE: FRENCH	MOTHER TONGUE: OTHER	EDUCATION: SOME HIGH SCHOOL OR LESS	EDUCATION: GRAD-HIGH SCHOOL	EDUCATION: POST SEC-ONDARY
TOTAL MAGAZINE READERS VERY/QUITE INTERESTED IN THAT SCIENCE														
MOST MAG. ARTICLES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED														
Agree	59.8	59.7	63.0	61.5	56.9	58.1	63.0	54.1	59.2	63.8	54.7	58.1	59.4	62.4
Disagree	11.5	23.2	11.0	7.2	10.1	12.8	12.3	10.2	12.0	9.8	12.6	16.2	7.3	6.5
It varies	16.2	10.2	13.5	20.9	22.9	12.3	15.1	18.2	15.6	18.7	14.5	13.7	17.1	19.8
No opinion	12.0	6.9	12.5	10.5	10.2	15.2	9.5	16.5	12.7	7.7	17.1	11.6	15.3	10.9
Not stated	0.5	.	.	.	.	1.5	0.2	1.0	0.5	.	1.1	0.4	0.8	0.4
MOST MAG. ARTICLES DEALING WITH THAT SCIENCE ARE INTERESTING TO READ														
Agree	76.4	86.1	66.6	76.0	81.4	77.7	81.4	67.5	75.7	81.1	70.3	80.8	73.3	71.2
Disagree	3.1	2.3	3.2	2.5	3.2	3.6	1.1	6.6	2.7	3.5	4.1	2.2	5.9	3.0
It varies	15.6	10.1	23.9	16.3	10.6	14.0	13.1	20.1	16.6	12.0	17.9	13.8	16.1	18.2
No opinion	4.4	1.5	6.3	5.3	4.8	3.2	4.2	4.8	4.4	3.4	6.7	2.8	4.0	7.3
Not stated	0.5	.	.	.	.	1.5	0.2	1.0	0.5	.	1.1	0.4	0.8	0.4
ENJOY READING MAG. ARTICLES ON THAT SCIENCE														
Agree	75.9	79.3	70.4	76.4	79.6	76.1	83.3	62.9	75.8	77.1	74.0	82.2	71.0	68.8
Disagree	3.3	0.8	3.6	1.9	1.4	5.8	1.1	7.1	2.5	3.3	7.1	2.6	7.4	2.1
It varies	16.3	18.4	20.8	16.4	14.4	13.9	11.6	24.6	17.4	16.4	11.2	12.1	16.8	22.5
No opinion	3.9	1.5	5.2	5.3	3.6	2.7	3.8	4.0	3.6	3.2	6.7	2.7	4.0	5.7
Not stated	0.6	.	.	.	0.9	1.5	0.2	1.4	0.8	.	1.1	0.4	0.8	0.9
MAG. ARTICLES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND														
Agree	55.9	58.1	53.6	60.9	58.3	51.6	60.2	48.1	58.2	54.0	48.8	48.7	61.1	64.0
Disagree	13.8	11.9	14.2	10.9	11.5	17.5	10.2	20.2	12.6	17.8	11.7	17.3	15.2	7.8
It varies	25.1	28.5	26.7	22.5	24.7	25.3	24.7	25.9	24.1	24.5	31.0	29.4	18.4	22.1
No opinion	4.6	1.5	5.5	5.6	5.5	3.6	4.5	4.8	4.4	3.7	7.5	3.9	4.4	5.8
Not stated	0.6	.	.	.	.	1.9	0.4	1.0	0.7	.	1.1	0.7	0.8	0.4
NOT ENOUGH MAG. ARTICLES ON THAT SCIENCE														
Agree	43.2	55.1	45.2	42.7	35.8	43.3	46.3	37.6	44.2	46.9	30.9	42.8	46.8	41.8
Disagree	37.9	24.1	40.4	38.7	42.8	36.6	35.8	41.6	36.0	37.4	48.1	36.7	38.6	39.6
It varies	9.1	14.1	7.1	10.7	12.3	6.2	9.0	9.5	8.6	10.3	9.5	9.3	8.0	9.2
No opinion	9.2	6.8	7.3	7.4	9.2	12.4	8.7	9.9	10.5	5.4	10.4	10.5	5.8	9.0
Not stated	0.6	.	.	0.6	.	1.5	0.2	1.3	0.7	.	1.1	0.7	0.8	0.4
DIFFICULTY TO FIND SPECIFIC MAG. ARTICLES ON THAT SCIENCE														
Agree	31.9	47.5	27.2	30.4	32.3	31.8	32.0	31.8	29.9	42.8	20.1	31.9	35.8	29.9
Disagree	45.0	40.5	52.7	48.1	39.4	42.0	44.6	45.6	42.9	45.0	54.6	43.3	49.8	45.2
It varies	10.5	7.4	11.6	8.3	16.4	9.0	10.7	10.3	12.2	6.4	11.0	11.7	6.1	10.8
No opinion	12.1	4.6	8.5	13.3	11.9	15.7	12.5	11.4	14.6	5.7	13.3	12.6	7.5	13.8
Not stated	0.5	.	.	.	.	1.5	0.2	1.0	0.5	.	1.1	0.4	0.8	0.4

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
64.6	62.5	61.8	57.0	66.5	61.6	66.9	48.0	46.6	60.0	61.5	58.8	58.7
9.0	7.8	15.6	10.8	16.9	9.8	7.3	14.7	19.0	10.9	7.6	13.6	14.1
16.6	13.4	14.3	17.6	6.0	19.7	13.4	20.3	18.8	16.0	18.8	13.7	17.3
9.8	16.2	7.9	13.9	10.6	8.5	12.4	15.6	14.5	12.5	11.4	13.4	9.8
.	.	0.5	0.7	.	0.4	.	1.3	1.1	0.6	0.7	0.5	.
79.0	73.8	82.4	73.2	84.6	78.3	78.2	71.3	68.2	75.1	72.7	77.1	82.1
1.3	3.0	1.1	4.6	8.1	3.2	3.6	.	1.7	3.2	2.7	3.5	2.7
11.6	13.5	13.8	17.9	3.2	13.1	13.8	25.2	22.1	15.9	16.5	15.5	14.1
8.2	9.7	2.2	3.7	4.1	4.9	4.3	2.2	6.9	5.2	7.4	3.4	1.1
.	.	0.5	0.7	.	0.4	.	1.3	1.1	0.6	0.7	0.5	.
79.8	76.8	90.3	67.6	78.6	73.9	77.5	78.4	70.7	75.1	70.3	79.0	79.6
1.3	3.0	1.0	5.0	2.4	4.3	3.0	.	6.6	3.5	4.7	2.6	2.1
11.4	10.5	6.0	23.7	15.0	16.7	15.3	19.5	15.2	15.9	16.7	15.3	18.0
7.5	9.7	2.2	2.7	4.1	4.6	3.8	0.8	6.4	4.7	7.1	2.7	0.3
.	.	0.5	1.0	.	0.4	0.5	1.3	1.1	0.8	1.2	0.5	.
64.8	58.0	60.4	50.9	63.4	54.9	54.3	59.9	52.0	54.9	57.8	52.7	60.1
7.7	13.1	12.6	16.1	11.8	16.6	15.0	10.9	9.8	14.4	12.2	16.1	11.3
20.0	18.1	23.5	28.4	20.7	22.9	26.5	26.0	27.6	24.8	21.9	27.1	26.5
7.5	10.7	3.0	3.6	4.1	5.1	4.2	1.9	8.5	5.2	7.1	3.6	2.2
.	.	0.5	0.9	.	0.4	.	1.3	2.1	0.7	1.1	0.5	.
44.2	42.4	44.1	42.5	39.2	45.8	42.8	43.1	41.4	44.0	44.5	43.7	39.2
41.8	29.5	36.8	39.0	34.3	36.4	37.0	41.2	42.2	37.4	37.6	37.2	40.3
5.6	12.5	12.7	7.7	19.2	10.8	7.8	6.0	6.5	8.9	9.4	8.4	10.4
8.3	15.6	5.9	9.9	7.3	6.5	12.0	8.4	8.8	9.0	7.8	9.9	10.0
.	.	0.5	0.9	.	0.4	0.4	1.3	1.1	0.7	0.7	0.7	.
27.8	31.5	30.9	33.5	36.3	39.9	25.1	30.6	33.1	31.1	30.3	31.7	35.5
48.6	38.0	46.7	44.4	21.8	45.4	51.1	42.0	46.2	46.2	51.1	42.3	39.5
12.7	14.4	9.6	9.7	24.9	6.8	9.5	13.3	8.1	10.0	5.8	13.3	13.2
10.9	16.1	12.4	11.6	17.0	7.4	14.3	12.7	11.6	12.2	12.0	12.3	11.8
.	.	0.5	0.7	.	0.4	.	1.3	1.1	0.6	0.7	0.5	.

MAIN TABLE 23. AUDIENCE TO A SELECTION OF SCIENCE-FEATURING TELEVISION PROGRAMMES--BY SOCIAL CHARACTERISTICS.

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL TV VIEWERS	*1918*	*162*	*344*	*361*	*317*	*734*	*951*	*967*	*1091*	*561*	*265*	*1197*	*302*	*417*
NATIONAL NEWS														
FREQUENCY OF WATCHING														
Regularly	52.6	21.9	35.2	56.5	59.0	62.9	52.3	52.9	50.7	56.1	53.0	48.7	64.0	55.4
From time to time	40.0	66.3	57.7	35.9	34.9	30.2	41.6	38.5	41.5	38.6	37.2	44.0	28.2	37.4
Not at all	6.8	11.3	6.8	7.2	5.9	6.0	5.6	8.0	7.3	4.6	9.2	6.8	7.8	6.2
Not stated	0.5	0.4	0.2	0.4	0.3	0.9	0.5	0.6	0.4	0.7	0.7	0.5	.	0.9
TELEVISION PROGRAMMES DEALING WITH SCIENCE--[1]														
NATURE OF THINGS														
Not aware	30.7	35.4	30.2	28.7	27.4	32.4	29.5	31.9	10.2	76.8	17.8	34.7	23.0	25.1
Aware of	69.3	64.6	69.8	71.3	72.6	67.6	70.5	68.1	89.8	23.2	82.2	65.3	77.0	74.9
FREQUENCY OF WATCHING														
Regularly	24.2	14.0	11.4	25.6	19.8	33.8	24.0	24.4	23.8	24.2	25.9	23.2	25.9	25.7
From time to time	60.5	63.4	65.6	56.1	68.9	55.9	60.7	60.4	61.7	54.0	59.3	61.9	60.2	57.0
Not at all	14.5	22.6	22.0	18.3	9.3	9.7	14.4	14.6	13.9	19.6	14.4	14.4	11.2	17.3
Not stated	0.7	.	1.0	.	2.0	0.6	0.9	0.6	0.6	2.2	0.4	0.5	2.7	.
HERE COME THE SEVENTIES														
Not aware	47.0	39.4	36.6	40.8	46.7	56.7	45.2	48.7	30.3	83.6	38.1	52.8	35.6	38.7
Aware of	53.0	60.6	63.4	59.2	53.3	43.3	54.8	51.3	69.7	16.4	61.9	47.2	64.4	61.3
FREQUENCY OF WATCHING														
Regularly	15.6	18.6	15.8	13.8	13.9	16.5	19.0	11.9	15.3	18.1	15.5	14.1	17.1	17.6
From time to time	55.6	50.0	55.8	58.6	54.7	55.6	54.1	57.2	56.0	46.3	59.1	55.9	53.6	56.0
Not at all	27.9	27.3	28.0	27.5	29.7	27.4	26.2	29.8	27.8	33.3	25.5	29.0	27.1	26.4
Not stated	0.9	4.1	0.4	.	1.7	0.5	0.7	1.1	1.0	2.2	.	0.9	2.2	.
TARGET THE IMPOSSIBLE														
Not aware	54.5	49.7	48.7	51.4	52.3	60.7	51.2	57.8	44.0	78.3	47.5	57.6	51.0	48.2
Aware of	45.5	50.3	51.3	48.6	47.7	39.3	48.8	42.2	56.0	21.7	52.5	42.4	49.0	51.8
FREQUENCY OF WATCHING														
Regularly	14.8	21.0	16.5	14.8	9.0	14.9	16.5	12.7	13.0	20.9	17.3	14.6	13.3	16.1
From time to time	51.8	49.9	53.2	51.8	53.8	50.4	52.6	50.9	49.9	57.8	55.0	57.3	40.7	46.4
Not at all	32.5	24.3	29.9	33.4	36.6	33.7	30.2	35.2	36.0	20.7	27.7	26.9	44.8	37.5
Not stated	0.9	4.8	0.4	.	0.6	0.9	0.6	1.3	1.2	0.6	.	1.2	1.2	.
JACQUES COUSTEAU SPECIALS														
Not aware	28.6	23.0	18.3	24.1	28.4	37.1	25.1	32.1	22.8	36.9	35.0	33.8	24.6	16.9
Aware of	71.4	77.0	81.7	75.9	71.6	62.9	74.9	67.9	77.2	63.1	65.0	66.2	75.4	83.1
FREQUENCY OF WATCHING														
Regularly	49.1	53.7	44.6	48.0	50.2	50.7	49.2	48.9	50.5	43.9	52.8	47.1	50.9	52.7
From time to time	38.8	33.5	44.0	43.8	39.1	33.9	39.7	37.7	36.5	43.2	40.7	38.6	40.2	37.9
Not at all	11.2	12.8	10.7	8.0	8.1	14.5	9.8	12.7	12.3	11.1	6.0	13.4	7.2	8.9
Not stated	0.9	.	0.7	0.3	2.5	0.9	1.2	0.7	0.7	1.7	0.5	0.9	1.7	0.5
W-5														
Not aware	40.9	43.8	37.1	39.1	34.8	45.6	37.4	44.4	23.0	80.6	30.8	45.9	32.3	33.2
Aware of	59.1	56.2	62.9	60.9	65.2	54.4	62.6	55.6	77.0	19.4	69.2	54.1	67.7	66.8
FREQUENCY OF WATCHING														
Regularly	23.2	11.6	14.8	26.7	23.2	28.6	22.2	24.4	22.2	33.8	21.9	22.8	25.5	22.5
From time to time	54.6	61.6	57.0	54.1	54.2	52.1	56.0	53.0	54.6	49.8	57.1	57.8	51.1	49.5
Not at all	21.5	26.8	28.0	18.4	21.8	18.4	20.8	22.4	22.5	14.9	21.0	18.5	23.0	27.7
Not stated	0.6	.	0.2	0.7	0.8	0.9	1.1	0.2	0.7	1.4	.	0.9	0.4	0.3
WEEKEND														
Not aware	45.2	50.8	45.8	39.9	47.8	45.1	44.7	45.6	30.7	75.4	40.9	49.8	38.2	36.8
Aware of	54.8	49.2	54.2	60.1	52.2	54.9	55.3	54.4	69.3	24.6	59.1	50.2	61.8	63.2
FREQUENCY OF WATCHING														
Regularly	16.5	9.7	6.9	17.7	11.8	23.4	15.0	17.9	16.0	15.1	20.0	16.6	17.9	15.2
From time to time	51.3	45.4	49.5	47.0	57.3	53.0	52.3	50.2	51.1	53.3	50.0	53.7	45.0	50.2
Not at all	31.4	44.0	42.9	34.9	29.3	22.4	31.8	30.9	31.9	30.1	30.0	28.7	36.5	33.6
Not stated	0.9	0.8	0.6	0.3	1.6	1.2	0.8	1.0	1.0	1.5	.	1.0	0.6	1.0
LA FLECHE DU TEMPS														
Not aware	78.0	73.3	74.8	75.3	77.8	81.9	78.0	78.0	95.3	37.8	91.6	77.6	79.8	77.6
Aware of	22.0	26.7	25.2	24.7	22.2	18.1	22.0	22.0	4.7	62.2	8.4	22.4	20.2	22.4
FREQUENCY OF WATCHING														
Regularly	23.8	21.8	16.3	25.2	26.6	26.9	24.6	23.0	2.6	26.4	*	23.4	18.3	28.7
From time to time	43.2	45.3	53.5	43.5	28.8	43.3	40.9	45.4	25.3	46.3	*	44.4	42.3	40.3
Not at all	32.2	32.9	30.2	29.1	44.7	28.7	33.7	30.6	70.7	26.5	*	30.9	39.5	31.0
Not stated	0.8	.	.	2.2	.	1.1	0.7	0.9	1.4	0.8	*	1.3	.	.

* Base less than 30 individuals

[1] Percentages for "FREQUENCY OF WATCHING" of Television programmes derived using aware viewers as base.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR- IES	BRITISH COLUM- BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
147	*122*	*397*	*1252*	*179*	*547*	*681*	*311*	*200*	*1466*	*645*	*842*	*432*
51.9	59.4	51.8	52.3	47.7	58.3	50.7	50.9	50.8	54.4	59.3	50.7	46.6
41.2	36.4	41.5	39.8	45.3	36.4	41.4	41.2	39.2	38.2	33.9	41.5	46.5
6.8	4.2	6.4	7.1	5.9	4.3	7.6	7.9	9.8	6.9	5.7	7.8	6.5
.	.	0.3	0.7	1.2	1.0	0.3	0.1	0.2	0.6	1.2	0.1	0.5
26.3	33.0	32.6	30.4	8.9	79.3	16.3	3.1	9.5	30.3	31.1	29.6	32.4
73.7	67.0	67.4	69.6	91.1	20.7	83.7	96.9	90.5	69.7	68.9	70.4	67.6
23.2	19.7	26.7	24.0	26.9	26.6	20.1	28.3	26.2	24.5	22.2	26.2	23.2
53.6	73.9	57.3	61.1	67.5	58.4	59.1	62.1	57.4	59.7	61.5	58.4	63.4
23.2	6.4	14.0	14.4	5.6	14.3	19.8	8.9	15.3	15.2	15.6	14.8	12.2
.	.	2.0	0.5	.	0.7	1.0	0.6	1.0	0.6	0.6	0.6	1.2
34.7	49.1	45.5	48.7	35.5	84.2	31.8	23.2	44.1	45.6	44.5	46.4	51.9
65.3	50.9	54.5	51.3	64.5	15.8	68.2	76.8	55.9	54.4	55.5	53.6	48.1
23.1	14.0	18.5	13.6	16.6	24.5	11.6	18.3	18.3	16.0	14.9	16.9	13.7
53.6	63.8	48.8	57.4	68.8	50.5	53.5	57.9	49.8	54.5	52.7	55.9	60.0
23.3	22.2	31.4	28.0	14.6	25.0	33.1	23.5	31.9	28.4	31.4	26.1	25.9
.	.	1.3	1.0	.	.	1.8	0.4	.	1.0	1.0	1.1	0.4
47.2	51.4	51.4	56.6	32.2	79.6	45.6	34.1	67.7	53.5	56.8	51.0	57.9
52.8	48.6	48.6	43.4	67.8	20.4	54.4	65.9	32.3	46.5	43.2	49.0	42.1
11.8	23.2	16.1	13.8	14.0	22.5	12.4	15.7	13.3	15.3	16.5	14.5	12.7
44.6	60.9	57.8	49.7	74.0	57.0	47.2	45.5	47.6	50.9	52.2	50.0	55.3
43.6	14.0	26.1	35.3	12.0	19.2	39.1	38.0	39.1	32.8	31.0	33.9	31.6
.	1.9	.	1.3	.	1.3	1.3	0.8	.	1.1	0.2	1.6	0.4
21.4	19.6	25.0	31.5	45.0	36.2	23.5	21.2	22.4	25.4	22.4	27.7	39.7
78.6	80.4	75.0	68.5	55.0	63.8	76.5	78.8	77.6	74.6	77.6	72.3	60.3
52.1	59.3	49.7	47.3	39.1	45.6	51.8	51.2	50.9	50.6	52.1	49.4	42.6
45.2	32.2	37.0	39.3	45.3	42.9	38.5	35.9	31.0	38.0	35.8	39.9	41.9
2.8	8.2	11.9	12.4	15.6	10.5	8.9	12.2	16.2	10.3	11.2	9.5	15.1
.	0.3	1.3	1.0	.	1.0	0.9	0.7	1.9	1.1	0.9	1.3	0.3
20.9	37.7	41.1	43.5	33.5	78.6	27.7	18.4	24.4	38.6	35.9	40.6	48.9
79.1	62.3	58.9	56.5	66.5	21.4	72.3	81.6	75.6	61.4	64.1	59.4	51.1
17.2	18.4	27.8	23.2	28.7	32.3	18.2	27.8	20.7	24.2	23.1	25.0	19.4
56.6	58.7	52.6	54.5	56.8	49.4	56.4	54.5	51.2	54.1	53.5	54.6	56.7
24.4	22.5	18.7	21.9	14.4	16.0	24.9	17.1	28.2	21.0	22.6	19.6	23.9
1.9	0.4	0.9	0.3	.	2.3	0.6	0.7	.	0.8	0.8	0.8	.
41.6	37.4	46.1	46.1	36.1	75.9	32.8	25.2	42.5	43.1	43.0	43.2	52.3
58.4	62.6	53.9	53.9	63.9	24.1	67.2	74.8	57.5	56.9	57.0	56.8	47.7
12.1	19.6	14.9	17.1	26.1	18.7	13.6	14.0	20.6	17.5	16.3	18.5	12.1
56.6	50.9	54.8	49.5	61.8	49.8	54.0	48.9	36.5	50.3	49.1	51.1	55.3
31.4	29.1	29.4	32.2	11.0	30.6	31.4	36.8	41.4	31.6	34.0	29.8	30.3
.	0.4	0.9	1.1	1.1	0.8	1.1	0.4	1.6	0.6	0.6	0.6	2.2
86.4	70.7	74.3	78.8	96.7	35.2	92.0	98.3	99.1	76.1	71.7	79.4	84.6
13.6	29.3	25.7	21.2	3.3	64.8	8.0	1.7	0.9	23.9	28.3	20.6	15.4
*	20.4	20.7	25.0	*	27.7	1.2	*	*	24.5	27.4	21.4	20.3
*	42.1	45.3	43.3	*	46.4	24.3	*	*	41.8	43.7	39.9	50.5
*	37.5	34.0	30.4	*	25.0	73.1	*	*	32.7	27.8	37.9	29.2
*	.	.	1.3	*	0.8	1.3	*	*	1.0	1.1	0.9	.

* Base less than 30 individuals

	TOTAL	AGE 15-17	18-24	25-34	35-44	45 & OVER	SEX MALE	FEMALE	MOTHER TONGUE ENGLISH	FRENCH	OTHER	EDUCATION SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
ATOME ET GALAXIES														
Not aware	78.1	76.7	75.7	75.9	76.3	81.4	79.1	77.2	95.7	38.7	89.0	77.6	82.7	76.1
Aware of	21.9	23.3	24.3	24.1	23.7	18.6	20.9	22.8	4.3	61.3	11.0	22.4	17.3	23.9
FREQUENCY OF WATCHING														
Regularly	20.4	28.0	9.4	18.9	24.0	23.8	20.3	20.4	5.8	22.7	*	20.6	12.8	23.6
From time to time	45.1	38.6	59.2	49.6	35.0	41.1	46.1	44.3	27.4	46.8	*	45.6	46.2	43.4
Not at all	33.8	33.4	31.4	30.5	40.9	33.5	33.3	34.2	66.8	29.6	*	32.6	41.1	33.0
Not stated	0.7	.	.	0.9	.	1.7	0.4	1.1	.	0.9	*	1.1	.	.
MAN ALIVE														
Not aware	38.6	38.1	33.4	37.5	38.0	42.0	37.7	39.5	19.0	80.9	29.9	43.2	27.7	33.8
Aware of	61.4	61.9	66.6	62.5	62.0	58.0	62.3	60.5	81.0	19.1	70.1	56.8	72.3	66.2
FREQUENCY OF WATCHING														
Regularly	12.8	5.9	7.7	11.6	6.0	20.8	11.5	14.0	12.0	16.9	14.2	11.4	12.9	16.1
From time to time	60.4	60.5	58.6	65.0	65.2	56.7	64.7	56.1	59.9	57.3	64.7	64.6	51.3	57.0
Not at all	26.0	33.6	33.5	23.4	26.0	21.6	22.8	29.3	27.5	23.9	20.1	22.9	34.8	26.9
Not stated	0.8	.	0.1	.	2.8	0.8	1.0	0.6	0.6	1.9	1.0	1.0	0.9	.
HUMAN JOURNEY														
Not aware	68.9	64.9	63.1	65.3	63.2	76.8	68.4	69.5	58.8	91.3	63.3	73.4	61.1	61.7
Aware of	31.1	35.1	36.9	34.7	36.8	23.2	31.6	30.5	41.2	8.7	36.7	26.6	38.9	38.3
FREQUENCY OF WATCHING														
Regularly	12.7	17.5	10.7	15.8	8.0	13.4	10.5	14.8	12.3	12.9	14.3	11.0	12.1	16.1
From time to time	50.5	61.2	48.9	48.2	56.9	45.5	54.4	46.5	48.4	56.8	57.2	55.9	51.7	39.1
Not at all	36.1	21.4	40.4	35.5	32.6	40.6	33.9	38.3	38.8	26.2	28.5	32.6	34.5	44.4
Not stated	0.7	.	.	0.6	2.5	0.5	1.2	0.3	0.5	4.2	.	0.5	1.7	0.5
LES JEUNES SCIENTIFIQUES														
Not aware	88.4	81.9	89.7	86.0	85.7	91.6	89.7	87.1	97.6	67.2	95.6	88.9	87.7	87.5
Aware of	11.6	18.1	10.3	14.0	14.3	8.4	10.3	12.9	2.4	32.8	4.4	11.1	12.3	12.5
FREQUENCY OF WATCHING														
Regularly	13.9	*	6.5	10.2	17.8	13.9	10.7	16.4	*	15.2	*	18.0	11.5	5.2
From time to time	47.8	*	46.0	46.9	45.0	45.5	50.4	45.7	*	52.6	*	49.2	40.4	49.5
Not at all	36.3	*	47.5	42.9	35.4	34.5	37.3	35.5	*	30.6	*	30.6	48.2	42.5
Not stated	2.0	*	.	.	1.7	6.1	1.6	2.4	*	1.7	*	2.3	.	2.9
BRONOWSKI SERIES--ASCENT OF MAN														
Not aware	78.9	81.6	72.7	75.8	78.0	83.2	76.8	81.0	70.6	94.8	79.5	83.6	73.8	69.0
Aware of	21.1	18.4	27.3	24.2	22.0	16.8	23.2	19.0	29.4	5.2	20.5	16.4	26.2	31.0
FREQUENCY OF WATCHING														
Regularly	17.0	4.7	17.2	14.4	19.9	20.1	18.8	15.0	16.2	*	16.1	12.0	14.1	26.0
From time to time	41.5	46.8	38.1	38.1	45.3	43.1	39.2	44.4	42.8	*	39.5	46.6	32.2	39.8
Not at all	39.6	44.0	44.7	46.2	30.6	35.0	39.7	39.4	39.5	*	44.3	39.1	51.1	33.5
Not stated	1.8	4.5	.	1.2	4.2	1.7	2.4	1.2	1.5	*	.	2.2	2.6	0.8
LE 60														
Not aware	73.6	69.7	70.8	70.1	73.9	77.3	75.4	71.7	96.7	20.5	90.6	71.3	80.8	74.8
Aware of	26.4	30.3	29.2	29.9	26.1	22.7	24.6	28.3	3.3	79.5	9.4	28.7	19.2	25.2
FREQUENCY OF WATCHING														
Regularly	50.6	37.7	43.4	54.9	57.8	52.3	48.3	52.5	7.0	54.8	*	47.3	56.5	58.1
From time to time	37.7	49.0	43.0	30.8	32.9	38.0	41.6	34.3	51.1	36.9	*	40.1	29.0	34.7
Not at all	10.8	13.4	13.3	12.0	7.8	9.2	9.2	12.1	41.0	7.3	*	11.5	13.1	7.2
Not stated	1.0	.	0.3	2.3	1.5	0.5	0.8	1.1	0.9	1.0	*	1.2	1.4	.
LA VIE QUI BAT														
Not aware	79.7	79.5	75.3	78.5	77.1	83.6	81.1	78.4	98.7	35.6	95.0	78.8	83.7	79.4
Aware of	20.3	20.5	24.7	21.5	22.9	16.4	18.9	21.6	1.3	64.4	5.0	21.2	16.3	20.6
FREQUENCY OF WATCHING														
Regularly	20.1	22.9	15.9	16.6	22.5	23.0	18.7	21.3	*	20.6	*	22.6	16.0	14.8
From time to time	45.0	42.2	42.5	50.6	45.4	43.7	44.1	45.8	*	45.2	*	46.0	46.3	41.4
Not at all	34.2	34.9	41.6	32.8	29.2	32.6	35.7	32.9	*	33.4	*	31.1	33.5	43.8
Not stated	0.7	.	.	.	2.8	0.6	1.6	.	*	0.8	*	0.3	4.1	.
PATROUILLE OU COSMOS														
Not aware	77.8	73.9	75.1	78.2	75.4	80.7	78.2	77.4	98.4	30.9	92.3	75.1	84.7	80.2
Aware of	22.2	26.1	24.9	21.8	24.6	19.3	21.8	22.6	1.6	69.1	7.7	24.9	15.3	19.8
FREQUENCY OF WATCHING														
Regularly	31.3	40.9	37.5	29.6	30.2	26.2	34.8	28.0	*	33.0	*	35.2	17.4	24.9
From time to time	45.0	47.7	45.7	54.2	35.0	44.0	41.5	48.2	*	44.7	*	41.3	64.6	47.2
Not at all	23.1	11.4	16.8	16.1	33.8	28.3	23.0	23.2	*	21.6	*	22.8	16.3	27.9
Not stated	0.7	.	.	.	1.0	1.4	0.7	0.6	*	0.7	*	0.7	1.7	.
MISCELLANEOUS														
Not aware	93.9	93.1	92.8	94.4	92.9	94.7	93.7	94.1	93.8	93.0	96.3	94.1	94.9	92.6
Aware of	6.1	6.9	7.2	5.6	7.1	5.3	6.3	5.9	6.2	7.0	3.7	5.9	5.1	7.4
FREQUENCY OF WATCHING														
Regularly	67.9	*	*	*	*	57.8	68.3	67.6	61.7	82.8	*	71.7	*	64.2
From time to time	26.8	*	*	*	*	28.4	22.7	31.1	30.3	15.3	*	29.6	*	23.1
Not at all	.	*	*	*	*	.	.	.	.	.	*	.	*	.
Not stated	9.2	*	*	*	*	15.9	13.2	5.1	11.8	7.1	*	4.7	*	14.1
NONE OF THESE	2.0	0.4	0.7	0.9	0.3	4.1	2.5	1.4	1.4	2.2	3.6	2.0	1.0	2.5

* Base less than 30 individuals

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
84.2	73.7	73.2	79.4	94.0	36.9	92.5	97.7	97.3	75.8	69.4	80.6	86.1
15.8	26.3	26.8	20.6	6.0	63.1	7.5	2.3	2.7	24.2	30.6	19.4	13.9
*	16.4	19.7	21.4	*	23.7	2.6	*	*	21.8	25.9	16.9	11.5
*	54.5	44.8	43.3	*	46.5	28.7	*	*	45.7	45.0	46.7	41.5
*	29.1	35.5	34.1	*	29.4	65.7	*	*	31.8	28.4	36.0	45.7
*	.	.	1.2	*	0.5	2.9	*	*	0.6	0.8	0.5	1.4
33.5	35.6	40.1	39.1	17.9	83.5	24.5	12.3	23.5	39.0	43.4	35.6	37.4
66.5	64.4	59.9	60.9	82.1	16.5	75.5	87.7	76.5	61.0	56.6	64.4	62.6
13.3	3.7	10.8	14.3	19.1	16.9	9.1	14.6	13.6	12.9	12.7	13.0	12.4
65.4	68.3	64.6	57.7	71.3	56.2	57.0	66.4	53.3	58.0	54.9	60.2	68.4
21.3	27.6	22.8	27.5	9.1	26.5	33.0	18.4	32.0	28.5	31.7	26.4	17.6
.	0.4	1.9	0.6	0.5	0.4	0.9	0.6	1.2	0.5	0.7	0.5	1.6
66.3	63.8	68.9	69.7	56.3	91.1	61.4	54.2	68.1	67.7	68.6	66.9	73.3
33.7	36.2	31.1	30.3	43.7	8.9	38.6	45.8	31.9	32.3	31.4	33.1	26.7
9.0	6.0	9.3	15.0	18.8	18.5	9.6	13.3	11.8	12.3	10.7	13.4	14.3
54.9	58.5	53.0	48.2	54.1	64.7	47.4	53.3	41.8	52.3	53.2	51.7	42.9
33.1	35.5	36.1	36.6	26.0	16.7	42.0	32.7	46.4	34.6	35.2	34.2	42.3
3.0	.	1.7	0.2	1.1	.	1.0	0.6	.	0.8	1.0	0.6	0.6
90.6	87.3	87.6	88.5	97.7	66.5	96.2	97.0	99.9	87.0	84.5	89.0	93.1
9.4	12.7	12.4	11.5	2.3	33.5	3.8	3.0	0.1	13.0	15.5	11.0	6.9
*	*	10.4	15.7	*	15.7	*	*	*	12.6	13.2	12.0	22.0
*	*	48.7	47.8	*	54.4	*	*	*	49.0	51.9	45.8	40.1
*	*	39.3	33.8	*	29.1	*	*	*	36.0	31.1	41.4	37.9
*	*	1.6	2.6	*	0.8	*	*	*	2.4	3.8	0.8	.
68.0	71.2	79.4	80.8	80.6	93.5	75.0	67.0	69.3	78.1	77.6	78.5	81.6
32.0	28.8	20.6	19.2	19.4	6.5	25.0	33.0	30.7	21.9	22.4	21.5	18.4
33.8	21.6	15.9	13.5	23.3	27.9	15.2	12.0	21.0	16.7	14.7	18.3	18.4
32.8	32.0	38.5	45.6	53.7	38.1	36.7	51.9	32.8	40.8	43.0	39.0	44.7
31.2	46.4	43.0	39.1	23.0	28.9	45.4	35.3	46.2	41.1	40.1	41.8	33.5
2.3	.	2.5	1.8	.	5.1	2.8	0.9	.	1.5	2.1	0.9	3.4
85.3	66.2	71.1	73.7	92.9	17.5	95.9	98.0	95.7	73.1	70.5	75.1	75.2
14.7	33.8	28.9	26.3	7.1	82.5	4.1	2.0	4.3	26.9	29.5	24.9	24.8
*	50.2	35.1	54.7	*	55.8	*	*	*	51.9	53.3	50.6	45.5
*	31.5	47.9	35.6	*	35.8	*	*	*	35.4	34.9	35.8	46.3
*	17.5	14.1	9.3	*	7.3	*	*	*	11.5	11.2	11.8	8.1
*	0.8	2.9	0.4	*	1.1	*	*	*	1.2	0.6	1.8	.
88.9	74.6	76.2	80.3	93.8	35.1	97.4	98.9	99.3	78.3	76.1	80.0	84.7
11.1	25.4	23.8	19.7	6.2	64.9	2.6	1.1	0.7	21.7	23.9	20.0	15.3
*	24.1	9.4	23.3	*	21.1	*	*	*	20.9	23.7	18.3	16.2
*	42.0	49.2	43.1	*	45.2	*	*	*	44.7	46.9	42.7	46.7
*	33.9	39.2	33.3	*	33.5	*	*	*	33.6	28.1	38.6	37.1
*	.	2.2	0.3	*	0.2	*	*	*	0.9	1.3	0.5	.
86.7	70.0	74.3	78.6	96.4	26.6	98.0	98.9	99.4	76.4	72.4	79.5	82.5
13.3	30.0	25.7	21.4	3.6	73.4	2.0	1.1	0.6	23.6	27.6	20.5	17.5
*	19.3	38.1	30.5	*	32.7	*	*	*	32.1	33.2	30.9	27.8
*	63.1	38.2	43.9	*	45.5	*	*	*	43.5	44.2	42.8	51.8
*	17.5	22.9	24.8	*	21.1	*	*	*	23.7	21.5	25.9	20.4
*	.	0.8	0.7	*	0.7	*	*	*	0.8	1.1	0.4	.
91.4	94.0	94.7	93.9	99.6	91.8	94.4	94.8	91.4	93.6	93.2	93.9	94.8
8.6	6.0	5.3	6.1	0.4	8.2	5.6	5.2	8.6	6.4	6.8	6.1	5.2
*	*	*	66.1	*	76.9	63.8	*	*	69.3	77.8	62.0	*
*	*	*	31.7	*	15.2	37.5	*	*	26.7	18.3	33.8	*
*	*	*	.	*	.	.	*	*	.	.	.	*
*	*	*	7.3	*	12.5	5.5	*	*	9.0	10.7	7.5	*
1.6	2.5	2.6	1.7	1.6	2.3	1.9	1.1	2.8	1.9	1.9	1.9	2.1

* Base less than 30 individuals

MAIN TABLE 24. AUDIENCE TO A SELECTION OF SCIENCE-FEATURING TELEVISION PROGRAMMES--BY DEGREE OF INTEREST IN THE SCIENCES.

	TOTAL VERY/QUITE INTERESTED IN: NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	INTEREST IN: NATURAL SCIENCES VERY/QUITE	NATURAL SCIENCES NOT VERY/NOT AT ALL	SOCIAL SCIENCES /HUMANITIES VERY/QUITE	SOCIAL SCIENCES /HUMANITIES NOT VERY/NOT AT ALL	LIFE SCIENCES VERY/QUITE	LIFE SCIENCES NOT VERY/NOT AT ALL	ENGINEERING SCIENCES VERY/QUITE	ENGINEERING SCIENCES NOT VERY/NOT AT ALL
NATIONAL NEWS											
FREQUENCY OF WATCHING											
Regularly	35.4	44.8	57.1	57.3	50.6	58.1	42.8	56.3	45.2	57.6	49.4
From time to time	52.6	44.5	37.0	36.9	39.6	36.5	45.2	37.0	43.5	37.9	40.7
Not at all	11.5	9.5	5.4	5.4	9.1	5.0	11.2	6.3	10.8	4.0	9.3
Not stated	.	0.9	0.5	0.4	0.6	0.4	0.8	0.5	0.4	0.6	0.6
TELEVISION PROGRAMMES DEALING WITH SCIENCE- [1]											
NATURE OF THINGS											
Not aware	37.3	28.5	30.3	29.4	31.7	31.1	29.7	30.8	27.8	29.6	32.1
Aware of	62.7	71.5	69.7	70.6	68.3	68.9	70.3	69.2	72.2	70.4	67.9
FREQUENCY OF WATCHING											
Regularly	22.1	17.8	26.1	26.7	25.2	24.5	27.4	25.9	25.4	27.0	25.7
From time to time	54.2	61.8	61.0	61.5	55.5	62.4	53.8	61.4	49.8	58.5	56.5
Not at all	22.1	18.3	12.5	11.4	18.0	12.6	17.2	12.2	22.5	13.6	17.0
Not stated	1.5	2.1	0.4	0.3	1.4	0.4	1.5	0.5	2.4	0.8	0.8
HERE COME THE SEVENTIES											
Not aware	57.0	49.0	44.9	41.1	49.9	46.8	47.6	46.1	51.1	43.0	49.2
Aware of	42.6	51.0	55.1	58.9	50.1	53.2	52.4	53.9	48.9	57.0	50.8
FREQUENCY OF WATCHING											
Regularly	4.5	11.6	17.8	18.6	11.4	16.2	13.1	17.2	7.5	18.3	11.8
From time to time	61.8	60.5	53.7	53.4	57.1	56.6	55.7	54.9	62.9	54.9	55.6
Not at all	10.1	23.8	28.3	27.5	29.7	26.8	28.3	27.6	24.5	25.3	32.3
Not stated	1.1	3.5	0.3	0.5	1.8	0.4	2.9	0.3	5.2	1.6	0.3
TARGET THE IMPOSSIBLE											
Not aware	67.5	53.7	52.7	48.9	58.6	54.6	55.2	54.4	58.6	50.1	58.5
Aware of	32.1	46.6	47.3	51.1	41.4	45.4	44.8	45.6	41.4	49.9	41.5
FREQUENCY OF WATCHING											
Regularly	11.9	9.6	16.3	16.7	11.6	14.5	14.3	16.0	10.3	16.1	14.0
From time to time	58.2	56.7	49.9	50.8	50.3	51.4	48.0	51.8	48.7	48.1	53.3
Not at all	28.4	30.0	33.6	31.8	36.5	34.0	34.1	32.0	34.9	34.9	31.4
Not stated	3.0	2.5	0.3	0.6	1.7	0.1	3.6	0.2	6.1	0.9	1.4
JACQUES COUSTEAU SPECIALS											
Not aware	59.8	31.5	23.2	18.4	36.6	23.8	40.1	25.3	42.2	20.5	38.1
Aware of	40.2	68.2	76.8	81.6	63.4	76.2	59.9	74.7	57.8	79.5	61.9
FREQUENCY OF WATCHING											
Regularly	27.4	44.8	51.8	54.9	41.5	48.9	52.8	51.0	38.0	51.7	44.4
From time to time	41.7	35.2	39.3	37.7	38.7	40.8	31.6	39.1	36.4	39.5	37.7
Not at all	28.6	18.7	8.2	6.6	18.6	9.5	13.8	9.1	22.7	7.6	17.4
Not stated	2.4	1.3	0.8	0.8	1.3	0.8	1.9	0.8	3.0	1.2	0.5
W-5											
Not aware	53.1	41.2	39.0	37.0	42.9	39.9	44.3	40.3	43.0	36.0	46.4
Aware of	46.9	94.3	61.0	63.0	57.1	60.1	55.7	59.7	57.0	64.0	53.6
FREQUENCY OF WATCHING											
Regularly	21.4	24.4	23.2	22.0	26.7	23.4	25.3	23.0	23.9	21.6	28.3
From time to time	62.2	54.8	53.5	53.1	54.4	53.8	57.9	54.1	55.4	55.9	52.3
Not at all	13.3	21.3	22.6	24.1	18.5	22.1	16.0	22.2	19.6	21.7	19.1
Not stated	1.0	*	0.7	0.8	0.4	0.7	0.8	0.7	1.0	0.8	0.2
WEEKEND											
Not aware	59.3	47.8	42.4	39.3	48.0	43.3	50.3	44.1	49.8	40.7	48.8
Aware of	40.2	52.5	57.6	60.7	52.0	56.7	49.7	55.9	50.2	59.3	51.2
FREQUENCY OF WATCHING											
Regularly	13.1	12.4	17.7	19.0	17.5	18.1	16.7	17.7	15.0	16.1	19.8
From time to time	48.8	55.4	50.7	49.9	46.9	51.8	47.7	51.6	46.5	50.2	51.3
Not at all	2.4	30.5	30.8	30.3	34.5	29.6	33.2	30.2	34.7	33.0	27.3
Not stated	2.4	1.1	0.8	0.9	1.1	0.6	2.4	0.6	3.7	0.8	1.5
LA FLECHE DU TEMPS											
Not aware	89.5	86.4	74.1	73.4	84.8	72.9	90.0	75.4	90.0	74.4	83.0
Aware of	10.5	13.4	25.9	26.6	15.2	27.1	10.0	24.6	10.0	25.6	17.0
FREQUENCY OF WATCHING											
Regularly	*	11.1	25.8	27.9	18.1	26.1	17.6	25.1	*	24.5	25.0
From time to time	*	60.0	43.2	41.5	46.1	44.0	43.7	45.3	*	42.3	43.3
Not at all	*	31.1	30.1	29.8	34.1	29.1	37.0	28.9	*	31.8	31.7
Not stated	*	*	1.0	0.7	1.7	0.9	1.7	0.8	*	1.4	.

* Base less than 30 individuals

[1] Percentages for "FREQUENCY OF WATCHING" of Television programmes derived using aware viewers as base.

	---- TOTAL VERY/QUITE --- INTERESTED IN			---------- I N T E R E S T I N ----------							
				NATURAL SCIENCES		SOCIAL SCIENCES /HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
ATOME ET GALAXIES											
Not aware	90.0	82.8	75.1	73.4	86.3	74.2	88.6	75.6	90.4	75.3	82.8
Aware of	9.6	17.5	24.9	26.6	13.7	25.8	11.4	24.4	9.6	24.7	17.2
FREQUENCY OF WATCHING											
Regularly	*	20.3	21.5	27.7	10.6	20.6	20.2	20.6	*	24.1	18.1
From time to time	*	42.4	46.7	46.5	40.0	46.9	37.0	48.3	*	45.7	41.8
Not at all	*	35.6	31.0	25.4	47.9	32.3	38.5	30.4	*	29.3	40.1
Not stated	*	*	0.9	0.4	1.4	0.3	4.3	0.7	*	1.0	.
MAN ALIVE											
Not aware	50.7	39.8	36.5	36.1	39.3	38.2	38.5	38.5	38.0	34.5	42.3
Aware of	49.3	60.2	63.5	63.9	60.7	61.8	61.5	61.5	62.0	65.5	57.7
FREQUENCY OF WATCHING											
Regularly	3.9	6.9	15.2	14.5	11.7	14.8	10.4	15.2	6.1	12.6	14.5
From time to time	70.9	65.5	58.0	59.5	59.3	59.6	62.7	58.8	64.3	59.9	60.6
Not at all	23.3	25.1	26.5	25.6	27.4	25.2	24.6	25.7	26.0	26.3	24.5
Not stated	0.9	2.5	0.3	0.4	1.5	0.4	2.3	0.4	3.6	1.2	0.4
HUMAN JOURNEY											
Not aware	79.4	70.3	66.9	65.1	72.2	66.9	71.7	68.5	71.3	66.3	70.8
Aware of	20.1	29.7	33.1	34.9	27.8	33.1	28.3	31.5	28.7	33.7	29.2
FREQUENCY OF WATCHING											
Regularly	2.4	12.0	13.6	14.6	8.4	14.4	10.1	14.9	2.1	11.4	15.6
From time to time	54.8	48.0	50.7	50.9	52.1	49.7	55.7	51.7	44.9	52.3	45.2
Not at all	40.5	38.0	35.3	34.0	38.1	35.5	31.9	33.1	49.3	35.4	38.7
Not stated	1.9	1.2	0.3	0.5	1.4	0.4	2.3	0.3	3.7	0.9	0.5
LES JEUNES SCIENTIFIQUES											
Not aware	97.1	91.7	86.2	83.0	94.4	86.4	93.8	87.1	94.6	86.8	91.4
Aware of	2.4	8.3	13.8	17.0	5.6	13.6	6.2	12.9	5.4	13.2	8.6
FREQUENCY OF WATCHING											
Regularly	*	*	14.9	14.5	11.9	15.6	*	13.1	*	14.1	13.8
From time to time	*	*	48.6	50.8	41.7	49.4	*	50.5	*	48.9	42.2
Not at all	*	*	34.5	34.1	40.9	34.1	*	34.8	*	35.2	39.9
Not stated	*	*	2.0	0.6	5.4	0.9	*	1.7	*	1.8	4.0
BRONOWSKI SERIES-- ASCENT OF MAN											
Not aware	90.4	81.9	76.3	72.6	82.8	78.0	81.0	78.1	82.0	74.1	83.6
Aware of	95.7	17.8	23.7	27.4	17.2	22.0	19.0	21.9	18.0	25.9	16.4
FREQUENCY OF WATCHING											
Regularly	*	6.7	19.5	20.3	11.1	18.5	14.9	20.5	1.8	16.8	18.6
From time to time	*	46.7	40.1	39.4	48.0	41.3	47.2	41.9	46.1	38.6	49.8
Not at all	*	41.7	39.4	38.2	38.7	39.8	32.1	36.8	42.0	42.5	29.5
Not stated	*	6.7	1.0	2.1	2.2	0.4	5.8	0.8	10.2	2.1	2.1
LE 60											
Not aware	85.2	80.7	70.1	69.5	80.0	68.8	85.0	70.5	88.4	71.8	77.4
Aware of	14.8	19.3	29.9	30.5	20.0	31.2	15.0	29.5	11.6	28.2	22.6
FREQUENCY OF WATCHING											
Regularly	25.8	44.6	53.3	53.3	47.9	57.3	27.8	52.6	31.0	53.2	51.2
From time to time	48.4	44.6	35.8	35.8	37.8	34.2	49.1	36.3	46.9	36.2	37.1
Not at all	25.8	6.2	10.4	10.2	14.3	8.3	21.5	10.2	18.2	10.1	11.4
Not stated	*	4.6	0.5	0.6	.	0.2	1.6	0.9	3.8	0.4	0.3
LA VIE QUI BAT											
Not aware	89.0	86.9	76.5	76.0	85.6	75.7	90.2	77.2	92.3	77.0	85.4
Aware of	10.5	13.4	23.5	24.0	14.4	24.3	9.8	22.8	7.7	23.0	14.6
FREQUENCY OF WATCHING											
Regularly	*	13.3	22.3	23.6	13.3	22.7	7.0	21.7	*	22.3	21.6
From time to time	*	44.4	45.8	46.6	50.7	45.5	41.3	46.9	*	46.1	45.0
Not at all	*	37.8	31.7	29.4	34.1	31.9	45.4	31.5	*	30.3	33.4
Not stated	*	4.4	0.2	0.4	1.9	.	6.3	.	*	1.3	.
PATROUILLE DU COSMOS											
Not aware	86.1	82.2	75.4	74.2	83.0	74.6	86.5	75.2	89.6	75.9	81.1
Aware of	13.4	17.8	24.6	25.8	17.0	25.4	13.5	24.8	10.4	24.1	18.9
FREQUENCY OF WATCHING											
Regularly	*	36.7	28.5	29.7	35.5	27.6	34.9	29.3	*	29.1	39.7
From time to time	*	31.7	48.2	49.6	36.7	46.6	39.5	46.4	*	49.1	32.3
Not at all	*	31.7	22.5	20.3	27.8	25.1	24.4	23.7	*	21.0	28.0
Not stated	*	*	0.8	0.4	.	0.7	1.2	0.6	*	0.9	.
MISCELLANEOUS											
Not aware	96.2	93.2	93.7	92.9	94.2	93.7	93.8	94.1	95.0	93.9	93.5
Aware of	3.8	6.8	6.3	7.1	5.8	6.3	6.2	5.9	5.0	6.1	6.5
FREQUENCY OF WATCHING											
Regularly	*	*	66.4	63.5	67.6	69.2	*	67.2	*	61.8	74.9
From time to time	*	*	28.1	28.0	30.7	25.5	*	28.6	*	28.8	25.4
Not at all	*	*	.	.	.	.	*	.	*	.	.
Not stated	*	*	11.0	16.8	1.7	10.6	*	8.9	*	13.7	4.7
NONE OF THESE	7.7	1.5	1.2	1.5	2.7	1.3	3.9	1.4	4.3	1.2	2.4

MAIN TABLE 25. OVERALL PUBLIC ASSESSMENT OF TELEVISION PRESENTATION OF THE SCIENCES--BY SOCIAL CHARACTERISTICS.

NATURAL SCIENCES CATEGORY	TOTAL	AGE: 15-17	AGE: 18-24	AGE: 25-34	AGE: 35-44	AGE: 45 & OVER	SEX: MALE	SEX: FEMALE	MOTHER TONGUE: ENGLISH	MOTHER TONGUE: FRENCH	MOTHER TONGUE: OTHER	EDUCATION: SOME HIGH SCHOOL OR LESS	EDUCATION: GRAD- HIGH SCHOOL	EDUCATION: POST SEC- ONDARY
TOTAL TV VIEWERS WHO ARE VERY/QUITE INTER- ESTED IN THAT SCIENCE	*791*	*87*	*163*	*161*	*130*	*249*	*420*	*370*	*448*	*237*	*106*	*432*	*126*	*228*
MOST TV PROGRAMMES DEALING WITH THAT SCIENCE ARE ACCURATELY PRESENTED														
Agree	68.5	70.8	69.1	74.1	69.8	63.0	67.0	70.1	68.9	70.9	61.1	68.1	70.3	67.9
Disagree	8.5	12.9	13.1	4.3	8.2	6.8	7.9	9.2	9.0	7.9	8.0	8.5	7.0	9.4
It varies	13.7	13.2	12.1	13.8	14.8	14.3	13.6	13.9	10.9	16.6	19.4	15.5	13.1	10.8
No opinion	9.0	2.5	5.7	7.4	7.3	15.3	11.2	6.4	11.1	3.9	11.5	7.3	9.6	11.9
Not stated	0.3	0.6	.	0.3	.	0.6	0.3	0.4	0.2	0.8	.	0.6	.	.
MOST TV PROGRAMMES DEALING WITH THAT SCIENCE ARE INTERESTING TO WATCH														
Agree	81.6	79.9	75.8	86.5	84.7	81.3	80.2	83.2	81.4	82.9	79.7	82.0	88.5	76.8
Disagree	5.2	6.3	10.2	2.1	3.7	4.3	4.4	6.1	6.0	3.7	5.2	5.2	4.3	5.7
It varies	9.3	12.4	10.6	8.3	10.7	7.2	9.5	9.0	7.9	11.3	10.2	9.8	3.5	11.5
No opinion	3.6	0.8	3.4	2.8	0.9	6.6	5.5	1.4	4.5	1.3	4.9	2.3	3.6	6.0
Not stated	0.3	0.6	.	0.3	.	0.6	0.3	0.4	0.2	0.8	.	0.6	.	.
ENJOY WATCHING TV PROGRAM- MES ON THAT SCIENCE														
Agree	79.7	77.5	69.4	84.7	85.3	81.0	80.1	79.2	79.5	80.3	79.2	79.0	90.3	74.8
Disagree	4.9	5.4	12.0	1.2	2.2	3.9	3.8	6.1	6.1	3.5	2.9	4.9	2.8	6.0
It varies	11.6	14.9	15.3	11.0	11.7	8.2	10.5	12.8	10.2	12.9	14.4	13.2	3.3	13.2
No opinion	3.4	1.6	2.7	2.8	0.9	6.2	5.2	1.3	3.9	2.4	3.6	2.2	3.6	5.6
Not stated	0.5	0.6	0.6	0.3	.	0.6	0.3	0.7	0.4	0.8	.	0.6	.	0.4
THESE PROGRAMMES ARE EASY FOR ME TO UNDERSTAND														
Agree	70.8	62.2	69.7	74.3	76.4	69.4	71.6	70.0	75.8	66.1	60.5	65.0	71.9	80.9
Disagree	9.1	13.8	9.3	6.8	5.3	10.8	8.6	9.7	7.5	12.9	7.1	11.7	11.0	3.2
It varies	16.4	21.9	18.0	15.7	17.5	13.4	14.8	18.3	12.7	18.0	28.9	20.8	13.4	10.0
No opinion	3.1	1.6	2.7	2.3	0.9	5.7	4.7	1.3	3.6	2.1	3.6	1.7	3.6	5.5
Not stated	0.5	0.6	0.3	0.8	.	0.6	0.3	0.7	0.4	0.8	.	0.7	.	0.3
NOT ENOUGH PROGRAMMES ON THAT SCIENCE														
Agree	55.7	54.3	61.2	55.7	51.8	54.6	57.9	53.2	53.0	59.1	59.4	55.8	53.6	57.3
Disagree	28.3	31.0	27.2	30.1	28.1	27.0	24.8	32.2	31.7	24.7	21.6	29.2	30.4	25.0
It varies	6.7	12.0	2.7	7.4	7.4	6.6	7.4	5.9	6.2	8.0	5.8	8.0	5.3	5.0
No opinion	8.9	2.1	8.9	6.4	12.4	11.2	9.6	8.2	8.9	7.2	13.2	6.5	10.7	12.4
Not stated	0.4	0.6	.	0.3	0.4	0.6	0.3	0.5	0.2	1.0	.	0.6	.	0.2
DIFFICULTY TO FIND TV PROGRAMMES ON THAT SCIENCE														
Agree	41.4	49.6	42.5	42.7	40.7	37.2	42.4	40.2	40.5	43.3	40.8	40.6	40.9	43.1
Disagree	36.3	31.0	36.1	35.0	35.4	39.7	36.1	36.5	36.2	37.0	35.2	38.2	38.2	31.4
It varies	10.8	8.3	12.2	12.0	12.0	9.4	9.7	12.0	10.5	11.7	10.0	11.3	9.8	10.4
No opinion	10.8	7.2	9.2	10.0	11.9	13.2	11.5	10.1	12.0	7.2	14.0	8.5	11.1	15.1
Not stated	0.7	4.0	.	0.3	.	0.6	0.3	1.2	0.8	0.8	.	1.3	.	.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
82	*60*	*164*	*484*	*58*	*260*	*259*	*126*	*88*	*637*	*287*	*350*	*154*
70.9	69.6	65.7	68.9	72.5	68.4	70.7	59.6	72.1	67.9	65.8	69.6	71.0
6.9	7.4	6.5	9.6	12.0	8.2	7.9	11.0	5.2	8.1	9.6	6.8	10.3
7.0	13.4	17.3	13.7	9.3	17.2	11.3	15.8	10.3	14.8	15.3	14.3	9.3
15.2	9.5	10.0	7.5	6.2	5.4	10.1	13.6	11.6	9.1	9.1	9.1	8.5
.	.	0.4	0.4	.	0.7	.	.	0.8	0.2	0.2	0.2	0.9
74.7	79.3	84.3	82.2	81.6	82.1	84.8	78.6	75.2	81.9	85.6	78.8	80.6
3.9	5.8	2.5	6.3	6.5	5.3	3.7	6.2	6.9	5.2	4.7	5.7	5.0
10.9	11.7	8.7	8.9	10.4	9.7	8.9	6.7	12.1	8.6	6.1	10.6	12.2
10.6	3.2	4.1	2.3	1.4	2.2	2.6	8.5	5.0	4.1	3.4	4.7	1.3
.	.	0.4	0.4	.	0.7	.	.	0.8	0.2	0.2	0.2	0.9
75.5	80.9	80.6	80.0	87.4	79.4	82.4	76.0	72.7	80.1	84.1	76.8	78.1
3.5	2.9	2.7	6.1	4.2	4.2	3.3	6.9	9.1	4.1	4.3	4.0	7.9
10.5	13.1	12.4	11.3	7.0	12.4	11.7	11.0	12.4	11.5	8.3	14.1	11.8
10.6	3.2	3.8	2.0	1.4	3.2	2.2	6.1	5.0	3.9	3.2	4.5	1.3
.	.	0.4	0.6	.	0.7	0.4	.	0.8	0.4	0.2	0.5	0.9
83.4	72.4	70.1	68.7	71.3	66.2	75.5	68.1	74.5	71.3	72.3	70.6	68.7
0.8	4.7	10.9	10.5	13.8	11.8	4.7	10.3	9.2	8.8	6.4	10.8	10.2
7.8	19.8	14.7	18.1	13.5	19.1	16.8	15.5	10.5	15.7	17.2	14.5	19.4
8.0	3.2	3.9	2.0	1.4	2.2	2.5	6.1	5.0	3.7	3.6	3.8	0.7
.	.	0.4	0.7	.	0.7	0.5	.	0.8	0.4	0.5	0.3	0.9
41.1	64.4	60.1	55.6	49.8	60.8	54.0	56.8	47.7	56.0	62.3	50.7	54.7
31.8	13.8	27.6	29.7	38.0	23.5	28.3	25.6	39.8	28.1	21.9	33.1	29.1
8.3	8.8	3.4	7.2	6.5	6.8	6.6	8.8	3.6	6.8	5.5	7.9	6.1
18.7	13.1	8.4	7.0	5.6	8.0	11.0	8.7	8.1	8.9	10.0	7.9	9.3
.	.	0.4	0.5	.	0.9	.	.	0.8	0.3	0.2	0.3	0.9
33.4	45.2	41.5	42.2	57.9	47.4	34.0	38.5	38.5	40.2	41.1	39.5	46.1
36.6	33.1	40.0	35.4	25.0	34.1	39.7	35.7	41.2	37.4	37.6	37.2	31.9
5.9	10.7	9.5	12.1	7.5	10.2	13.7	12.0	4.4	11.4	11.1	11.7	8.1
24.1	10.9	8.6	9.3	9.6	7.6	12.6	13.8	11.8	10.3	9.9	10.6	13.0
.	.	0.4	1.0	.	0.7	.	.	4.2	0.7	0.2	1.1	0.9

SOCIAL SCIENCES AND HUMANITIES CATEGORY		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL TV VIEWERS WHO ARE VERY/QUITE INTERESTED IN THAT SCIENCE	1166	82	219	244	221	401	519	647	627	385	154	648	202	314
MOST TV PROGRAMMES DEALING WITH THAT SCIENCE ARE ACCURATELY PRESENTED														
Agree	60.4	71.0	58.1	69.3	54.8	57.1	57.4	62.8	60.5	63.3	52.7	60.7	63.6	58.0
Disagree	12.8	10.4	16.1	8.1	15.8	12.7	13.0	12.7	13.7	12.6	9.6	11.2	12.6	15.8
It varies	14.4	15.2	17.0	14.4	14.2	12.9	15.3	13.6	10.9	17.3	21.4	14.6	13.9	14.3
No opinion	11.9	3.4	8.5	7.9	13.6	17.1	13.4	10.8	14.7	6.7	14.0	12.8	10.0	11.6
Not stated	0.5	.	0.3	0.2	1.6	0.2	0.9	0.1	0.2	0.1	2.3	0.6	.	0.5
MOST TV PROGRAMMES DEALING WITH THAT SCIENCE ARE INTERESTING TO WATCH														
Agree	76.8	82.0	76.1	82.6	76.0	73.1	73.9	79.2	74.0	80.3	79.8	75.3	82.2	76.5
Disagree	5.7	8.2	7.6	3.4	4.8	6.1	6.5	5.1	7.4	4.0	3.5	5.3	5.6	6.7
It varies	11.8	7.9	13.1	10.5	14.1	11.3	13.5	10.4	11.9	13.2	7.6	13.0	9.7	10.7
No opinion	5.2	1.9	2.9	3.2	3.4	9.3	5.2	5.2	6.5	2.4	6.8	5.8	2.6	5.6
Not stated	0.5	.	0.3	0.2	1.6	0.2	0.9	0.1	0.2	0.1	2.3	0.6	.	0.5
ENJOY WATCHING TV PROGRAMMES ON THAT SCIENCE														
Agree	75.1	71.2	70.3	82.4	73.9	74.7	73.4	76.5	73.4	76.4	78.7	73.0	81.4	75.2
Disagree	4.3	8.5	7.6	2.8	1.7	4.1	4.4	4.2	5.4	3.7	1.4	4.2	3.4	5.3
It varies	15.4	18.3	17.9	11.8	20.6	12.7	15.8	15.1	15.6	16.4	12.0	16.9	12.4	14.2
No opinion	4.6	1.4	3.4	2.8	2.2	8.3	5.4	3.9	5.2	3.2	5.6	5.2	2.8	4.5
Not stated	0.6	0.6	0.8	0.2	1.6	0.2	0.9	0.3	0.4	0.3	2.3	0.7	.	0.8
THESE PROGRAMMES ARE EASY FOR ME TO UNDERSTAND														
Agree	65.3	53.5	67.8	68.9	68.7	62.2	64.0	66.3	70.3	57.4	64.3	55.7	74.2	79.1
Disagree	9.5	9.9	7.8	8.5	8.4	11.5	10.0	9.1	6.9	14.3	7.9	12.7	8.2	3.8
It varies	20.2	33.9	21.6	20.6	18.5	17.4	20.1	20.3	17.3	25.4	19.4	25.4	15.1	13.0
No opinion	4.4	2.8	2.3	1.7	2.4	8.5	4.8	4.0	4.9	2.7	6.1	5.5	2.0	3.6
Not stated	0.7	.	0.6	0.2	2.0	0.3	1.1	0.3	0.6	0.1	2.3	0.8	0.4	0.5
NOT ENOUGH PROGRAMMES ON THAT SCIENCE														
Agree	48.9	56.5	50.0	49.7	52.0	44.6	51.1	47.1	45.9	55.1	45.8	46.3	53.6	51.0
Disagree	32.7	31.7	33.2	35.6	31.0	31.8	30.6	34.4	35.9	28.5	30.2	34.0	32.3	30.5
It varies	7.2	5.3	8.1	5.6	6.4	8.6	7.0	7.4	6.6	8.3	7.2	7.9	4.3	7.7
No opinion	10.5	6.4	8.3	8.9	8.2	14.8	10.4	10.7	11.5	7.5	14.5	11.2	9.0	10.4
Not stated	0.6	.	0.3	0.2	2.4	0.2	0.9	0.4	0.2	0.6	2.3	0.6	0.9	0.5
DIFFICULTY TO FIND TV PROGRAMMES ON THAT SCIENCE														
Agree	36.8	43.6	36.6	42.1	35.0	33.3	38.0	35.8	33.5	40.5	40.8	34.9	42.9	36.9
Disagree	36.5	38.7	34.0	36.9	35.7	37.6	36.4	36.6	36.5	38.7	30.8	35.2	36.4	39.0
It varies	12.9	7.7	18.7	11.0	12.9	12.0	12.9	12.9	13.4	12.5	12.0	14.6	11.9	10.2
No opinion	13.3	10.0	10.4	9.8	14.8	16.8	11.8	14.5	16.3	8.1	14.0	14.7	8.8	13.4
Not stated	0.5	.	0.3	0.2	1.6	0.2	0.9	0.1	0.2	0.1	2.3	0.6	.	0.5

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
103	*91*	*188*	*784*	*99*	*388*	*387*	*174*	*118*	*940*	*432*	*509*	*225*
54.7	51.4	62.6	61.7	66.6	61.9	65.0	45.5	57.3	60.1	59.5	60.6	61.8
16.3	14.4	10.3	12.8	12.3	13.0	12.8	14.9	9.6	13.0	14.6	11.6	11.9
13.4	21.4	16.0	13.3	11.1	18.0	8.1	22.3	14.2	15.2	13.3	16.7	11.1
15.6	8.8	10.8	12.1	10.1	6.6	13.2	17.3	19.0	11.2	12.1	10.3	15.2
.	4.0	0.4	0.2	.	0.5	0.9	.	.	0.6	0.5	0.7	.
75.0	79.8	77.4	76.6	78.9	78.7	74.7	78.7	73.3	76.9	76.0	77.7	76.6
6.6	3.4	6.6	5.7	4.2	5.1	6.7	7.2	3.6	6.2	8.0	4.7	3.7
12.9	8.7	11.6	12.0	12.0	12.6	13.4	7.7	9.7	11.6	10.0	12.9	12.6
5.4	4.1	4.0	5.6	4.9	3.0	4.3	6.5	13.4	4.7	5.5	4.0	7.1
.	4.0	0.4	0.2	.	0.5	0.9	.	.	0.6	0.5	0.7	.
73.0	82.7	77.0	74.0	81.2	75.8	73.3	78.6	68.6	75.2	75.4	75.0	74.7
4.7	1.7	3.3	4.8	2.7	4.4	5.5	3.1	3.4	4.5	5.5	3.6	3.7
15.0	8.4	15.3	16.3	11.2	15.9	16.7	12.6	17.2	15.3	13.6	16.7	15.8
7.3	3.2	4.0	4.5	4.9	3.3	3.4	5.7	10.8	4.3	5.0	3.8	5.6
.	4.0	0.4	0.3	.	0.6	1.2	.	.	0.7	0.5	0.9	0.2
78.9	71.0	58.4	64.5	62.9	59.2	71.7	61.9	71.1	67.1	70.1	64.6	57.5
4.2	5.3	14.7	9.4	16.1	13.9	5.3	9.7	2.7	8.3	7.3	9.2	14.4
13.5	17.6	22.3	20.9	14.8	23.6	18.7	21.9	16.2	19.9	17.7	21.7	21.7
3.4	2.1	3.9	4.9	6.2	2.8	2.9	6.0	10.0	3.9	4.1	3.6	6.4
.	4.0	0.7	0.3	.	0.5	1.3	0.5	.	0.8	0.7	0.9	.
48.3	44.7	51.5	48.9	50.0	55.1	45.4	46.5	42.7	50.5	53.4	48.1	42.1
30.8	34.3	32.3	32.8	23.9	29.3	35.1	36.7	37.6	33.1	30.8	35.1	30.9
8.4	7.3	8.8	6.7	18.7	7.3	6.2	5.2	3.5	6.0	5.6	6.2	12.5
12.5	9.7	6.9	11.2	7.3	7.4	12.3	11.5	16.2	9.8	9.8	9.8	13.7
.	4.0	0.4	0.4	.	1.0	0.9	.	.	0.6	0.5	0.7	0.8
36.6	41.3	38.7	35.9	37.4	41.5	33.4	35.6	33.7	37.4	37.2	37.5	34.4
34.5	30.5	38.5	37.0	26.1	38.5	37.1	35.3	38.5	37.3	40.0	35.1	33.0
10.2	17.1	14.6	12.4	22.3	11.8	12.7	13.1	9.2	12.1	10.7	13.3	16.4
18.7	7.1	7.8	14.6	14.2	7.7	15.8	16.0	18.7	12.6	11.6	13.4	16.2
.	4.0	0.4	0.2	.	0.5	0.9	.	.	0.6	0.5	0.7	.

LIFE SCIENCES CATEGORY		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL TV VIEWERS WHO ARE VERY/QUITE INTERESTED IN THAT SCIENCE	*1404*	*110*	*239*	*283*	*240*	*531*	*643*	*761*	*765*	*451*	*188*	*852*	*233*	*316*
MOST TV PROGRAMMES DEALING WITH THAT SCIENCE ARE ACCURATELY PRESENTED														
Agree	67.3	72.1	67.4	74.7	61.4	65.1	65.8	68.7	67.4	68.9	63.1	68.5	64.5	66.0
Disagree	10.2	8.3	14.6	7.3	14.1	8.4	9.3	11.0	9.9	11.7	8.1	9.4	11.7	11.4
It varies	12.1	16.0	12.0	12.0	12.6	11.2	12.6	11.7	11.2	12.7	14.4	11.6	15.7	10.9
No opinion	10.0	3.6	5.7	5.8	11.8	14.6	11.8	8.4	11.2	6.1	14.3	10.0	8.0	11.3
Not stated	0.4	.	0.3	0.3	.	0.7	0.6	0.2	0.3	0.6	.	0.4	.	0.5
MOST TV PROGRAMMES DEALING WITH THAT SCIENCE ARE INTERESTING TO WATCH														
Agree	83.6	85.7	80.5	90.0	80.5	82.6	81.5	85.4	83.6	84.3	82.1	83.2	83.9	84.5
Disagree	2.4	3.6	3.7	1.3	2.9	1.9	2.6	2.3	1.8	3.6	2.0	2.5	1.4	2.8
It varies	9.9	10.0	11.5	7.3	14.0	8.8	10.9	9.1	10.4	9.0	10.3	10.1	13.4	7.0
No opinion	3.7	0.6	3.9	1.4	2.6	5.9	4.5	3.0	3.9	2.5	5.6	3.7	1.4	5.2
Not stated	0.4	.	0.3	.	.	0.9	0.6	0.2	0.3	0.6	.	0.5	.	0.5
ENJOY WATCHING TV PROGRAMMES ON THAT SCIENCE														
Agree	81.6	76.3	80.4	86.6	79.9	81.2	80.4	82.5	81.4	81.3	82.7	80.8	86.2	80.0
Disagree	3.1	9.0	4.4	1.7	2.5	2.3	2.4	3.7	2.2	5.4	1.4	3.3	2.5	3.0
It varies	11.4	10.9	12.1	10.8	14.8	10.0	12.1	10.8	12.2	10.3	10.9	11.5	10.7	11.8
No opinion	3.4	1.3	2.8	0.9	2.6	5.8	4.5	2.4	3.6	2.4	4.9	3.7	0.7	4.5
Not stated	0.5	2.4	0.3	.	0.2	0.7	0.6	0.5	0.6	0.6	.	0.6	.	0.6
THESE PROGRAMMES ARE EASY FOR ME TO UNDERSTAND														
Agree	67.5	60.6	67.1	73.9	67.5	65.9	64.9	69.8	74.1	58.5	62.5	61.2	74.6	79.1
Disagree	9.2	10.8	10.3	6.2	11.4	9.0	11.8	7.0	4.9	16.7	8.6	11.4	6.5	5.4
It varies	19.5	27.4	19.9	18.0	18.6	18.8	18.7	20.1	17.4	21.2	24.0	23.6	17.8	9.9
No opinion	3.2	1.2	2.3	1.6	2.5	5.1	3.8	2.7	3.1	2.6	4.6	3.2	1.0	4.5
Not stated	0.6	.	0.4	0.3	.	1.2	0.8	0.5	0.5	0.9	0.4	0.6	.	1.1
NOT ENOUGH PROGRAMMES ON THAT SCIENCE														
Agree	52.0	47.0	53.1	55.5	57.3	48.2	52.1	51.8	49.2	55.6	54.4	50.6	54.6	53.5
Disagree	31.0	38.6	30.8	31.2	24.9	32.1	30.8	31.1	34.1	26.5	28.8	31.7	31.7	28.7
It varies	7.1	9.5	6.5	6.9	8.2	6.6	7.4	6.9	6.3	9.2	5.7	6.9	7.0	7.9
No opinion	9.6	4.9	9.3	6.5	9.7	12.4	9.2	10.0	10.2	8.1	11.1	10.5	6.7	9.4
Not stated	0.3	.	0.3	.	.	0.7	0.6	0.1	0.2	0.6	.	0.3	.	0.5
DIFFICULTY TO FIND TV PROGRAMMES ON THAT SCIENCE														
Agree	36.0	30.5	39.3	39.3	38.3	33.0	37.0	35.2	34.7	36.7	39.7	34.5	42.0	35.7
Disagree	37.2	39.1	35.4	38.5	35.2	37.7	36.1	38.0	35.7	43.0	29.0	36.8	36.0	38.8
It varies	13.1	20.9	13.7	12.2	12.3	12.1	12.8	13.3	14.3	10.8	13.8	14.4	11.5	10.9
No opinion	13.1	6.7	11.3	10.0	14.0	16.5	13.5	12.8	14.5	8.9	17.5	13.5	10.4	14.1
Not stated	0.6	2.7	0.3	.	0.2	0.8	0.6	0.6	0.7	0.6	.	0.8	.	0.5

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
109	91	256	947	114	440	461	237	153	1103	480	623	301
69.7	67.7	66.3	67.3	76.9	67.3	70.4	56.4	68.0	67.2	68.6	66.2	67.8
9.2	10.8	8.0	10.9	7.0	13.0	7.6	13.6	6.8	10.1	12.0	8.6	10.6
7.3	17.3	14.3	11.6	9.9	13.9	8.6	17.8	10.7	13.0	10.2	15.2	8.9
13.7	4.3	10.3	10.0	4.3	5.4	13.1	12.2	14.5	9.4	9.0	9.7	12.0
.	.	1.1	0.2	1.9	0.3	0.4	.	.	0.3	0.3	0.3	0.7
77.5	84.4	85.8	83.7	83.9	84.3	83.3	85.5	79.4	83.9	85.3	82.8	82.5
0.9	3.4	1.7	2.7	3.2	3.5	1.1	3.0	1.6	2.6	1.7	3.3	1.6
16.6	9.9	8.1	9.7	8.7	9.4	12.1	8.3	8.4	9.6	9.2	9.9	11.2
5.0	2.3	3.2	3.8	2.3	2.6	3.0	3.3	10.6	3.6	3.5	3.7	4.0
.	.	1.1	0.3	1.9	0.3	0.4	.	.	0.3	0.3	0.3	0.7
77.7	83.5	83.1	81.4	78.8	81.9	79.6	87.4	79.7	81.9	82.6	81.3	80.4
0.9	1.9	1.1	4.0	2.0	5.3	2.1	2.3	1.6	3.1	2.6	3.5	3.0
16.4	10.2	11.0	11.1	15.0	10.0	14.0	7.7	10.6	11.0	10.9	11.1	12.8
5.0	4.4	3.7	3.0	2.3	2.5	4.0	1.4	8.0	3.5	3.6	3.4	3.0
.	.	1.1	0.5	1.9	0.3	0.3	1.1	.	0.5	0.3	0.6	0.7
72.3	65.3	63.8	68.2	70.6	58.8	71.8	71.8	71.1	68.1	69.0	67.4	65.6
7.0	5.1	13.0	8.8	5.8	16.5	5.4	8.3	3.6	8.8	8.0	9.5	10.6
15.0	28.4	18.8	19.4	19.4	21.6	18.8	18.3	17.3	19.3	18.5	19.9	20.3
5.0	1.2	3.2	3.1	2.3	2.4	3.3	1.6	8.0	3.2	3.9	2.8	2.9
0.7	.	1.1	0.5	1.9	0.7	0.7	.	.	0.6	0.6	0.5	0.7
48.1	55.3	57.1	50.7	53.0	58.6	44.6	52.8	53.0	52.7	57.4	49.1	49.3
35.0	22.2	28.6	32.0	23.4	25.8	36.2	32.6	33.0	31.2	28.4	33.3	30.2
5.9	8.1	6.1	7.5	15.1	8.1	6.5	5.8	2.6	7.1	5.7	8.2	7.3
11.0	14.3	7.0	9.7	6.7	7.2	12.5	8.8	11.4	8.8	8.2	9.3	12.5
.	.	1.1	0.1	1.9	0.3	0.2	.	.	0.2	0.3	0.1	0.7
31.2	45.5	38.2	35.1	42.7	39.2	32.2	35.2	34.7	35.5	35.4	35.6	37.9
41.7	28.1	36.7	37.6	24.7	42.2	38.0	32.8	35.8	39.1	43.6	35.6	30.2
11.0	16.2	13.9	12.9	18.6	10.8	11.2	16.9	15.5	12.8	9.9	15.0	14.3
16.1	10.3	10.0	13.9	12.1	7.4	18.3	14.8	12.1	12.1	10.9	13.0	16.9
.	.	1.1	0.6	1.9	0.3	0.3	0.3	2.0	0.6	0.3	0.8	0.7

ENGINEERING SCIENCES CATEGORY	AGE						SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAO- HIGH SCHOOL	POST SEC- ONDARY
TOTAL TV VIEWERS WHO ARE VERY/QUITE INTER- ESTEO IN THAT SCIENCE	*949*	*73*	*186*	*136*	*171*	*323*	*640*	*309*	*550*	*279*	*120*	*547*	*152*	*250*
MOST TV PROGRAMMES OEALING WITH THAT SCIENCE ARE ACCURATELY PRESENTEO														
Agree	62.0	62.9	61.1	65.4	61.5	60.6	63.4	59.3	62.4	62.6	59.3	64.0	62.1	57.7
Oisagree	10.8	17.9	10.3	14.7	8.6	8.4	10.1	12.3	11.D	12.3	6.9	10.7	8.1	12.7
It varies	15.1	12.3	18.7	15.6	19.0	11.2	15.3	14.6	13.8	18.8	12.5	13.0	17.6	18.2
No opinion	11.9	6.9	10.D	4.2	10.8	19.3	10.9	13.8	12.6	6.4	21.3	12.2	12.2	11.1
Not stated	D.2	.	.	.	.	0.5	0.2	.	D.3	.	.	0.1	.	0.3
MOST TV PROGRAMMES OEALING WITH THAT SCIENCE ARE INTERESTING TO WATCH														
Agree	77.9	85.0	71.8	79.7	82.6	76.4	81.6	70.4	78.0	78.2	76.8	77.2	83.8	75.9
Disagree	4.9	2.2	6.5	2.9	5.1	5.8	3.4	8.2	4.5	6.1	4.4	4.8	4.3	5.7
It varies	13.3	11.3	17.3	17.3	9.6	1D.8	1D.8	18.2	13.4	13.6	12.0	13.8	11.9	12.9
No opinion	3.7	1.4	4.5	.	2.8	6.5	3.9	3.2	3.9	2.1	6.8	4.1	.	5.2
Not stated	0.2	.	.	.	.	0.5	0.2	.	0.3	.	.	0.1	.	0.3
ENJOY WATCHING TV PROGRAM- MES ON THAT SCIENCE														
Agree	75.2	77.6	70.8	78.0	78.4	73.8	80.1	65.1	76.7	73.0	73.7	75.3	79.1	72.6
Disagree	4.7	9.6	5.8	2.6	2.5	5.6	2.7	9.0	3.3	6.8	6.4	5.3	4.2	3.8
It varies	16.2	11.3	2D.2	18.2	16.9	13.3	12.7	23.3	15.7	18.4	13.2	15.D	15.9	19.1
No opinion	3.7	1.4	3.0	1.2	2.2	6.9	4.2	2.6	4.D	1.7	6.8	4.3	0.8	4.1
Not stated	0.2	.	D.2	.	.	0.5	0.3	.	D.3	.	.	D.1	.	0.5
THESE PROGRAMMES ARE EASY FOR ME TO UNDERSTANO														
Agree	58.6	48.4	54.5	68.5	64.8	54.0	61.4	52.8	64.1	51.6	49.6	49.9	67.0	72.5
Disagree	13.8	18.3	15.7	11.6	10.9	14.6	14.3	13.0	8.8	22.4	17.1	18.8	9.1	5.8
It varies	22.7	31.3	25.2	17.8	21.5	23.1	19.5	29.5	22.3	22.2	25.9	25.7	23.0	16.0
No opinion	4.4	1.4	3.6	2.1	2.8	7.8	4.3	4.6	4.2	3.8	6.8	5.0	0.8	5.4
Not stated	0.4	0.6	1.1	.	.	0.5	0.5	0.2	0.6	.	0.5	0.6	.	0.3
NOT ENOUGH PROGRAMMES ON THAT SCIENCE														
Agree	52.4	56.0	50.4	57.3	56.6	47.6	55.6	45.9	49.2	57.8	54.7	50.6	58.5	53.0
Disagree	27.9	30.6	27.4	26.1	24.7	30.4	26.4	31.1	29.0	27.4	24.3	29.7	33.3	21.0
It varies	8.8	5.0	12.1	10.7	8.7	6.5	8.2	9.9	9.5	8.0	7.1	7.6	4.6	13.9
No opinion	10.6	8.3	9.7	5.9	9.9	15.0	9.5	13.0	11.9	6.7	13.9	12.0	3.7	11.6
Not stated	0.2	.	0.3	.	.	0.5	0.2	0.2	0.4	.	.	0.1	.	0.6
OIFFICULTY TO FIND TV PROGRAMMES ON THAT SCIENCE														
Agree	39.2	39.3	43.1	43.6	39.9	33.8	39.5	38.6	37.2	44.7	35.6	35.3	49.4	41.5
Disagree	33.2	42.6	29.4	35.0	32.6	32.4	32.5	34.7	32.5	35.9	30.D	34.7	31.4	31.2
It varies	13.6	10.6	14.1	12.6	15.9	13.5	14.4	12.1	14.0	12.0	15.8	15.1	8.2	13.9
No opinion	13.8	7.5	13.3	8.8	11.6	19.8	13.4	14.7	16.0	7.4	18.6	14.8	11.0	13.2
Not stated	0.2	.	.	.	.	0.5	0.2	.	0.3	.	.	0.1	.	0.3

	OCCUPATION				REGION					COMMUNITY SIZE			
										URBAN			
	MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
	105	*84*	*276*	*482*	*81*	*274*	*328*	*155*	*111*	*761*	*328*	*433*	*188*
	65.3	58.5	66.9	59.1	73.9	60.0	66.3	56.3	54.0	61.2	60.8	61.5	65.5
	6.0	10.3	10.7	12.0	9.0	14.2	9.1	8.5	12.2	10.5	10.8	10.2	12.3
	19.0	20.4	13.4	14.3	9.9	19.3	11.3	20.1	12.7	16.0	15.9	16.0	11.5
	9.7	10.8	8.4	14.5	7.1	6.3	13.3	15.1	20.5	12.2	12.3	12.1	10.7
	.	.	0.5	.	.	0.3	.	.	0.6	0.2	0.2	0.2	.
	84.1	75.2	85.0	73.0	88.4	78.3	76.7	79.2	71.3	77.7	78.4	77.1	78.9
	1.1	3.8	3.0	7.1	6.6	4.9	4.6	5.0	4.7	4.5	4.5	4.4	6.8
	10.8	18.2	8.5	15.6	2.4	13.8	16.2	12.5	12.3	13.7	12.1	15.0	11.3
	3.9	2.8	3.0	4.2	2.6	2.7	2.5	3.3	11.1	3.9	4.7	3.3	2.9
	.	.	0.5	.	.	0.3	.	.	0.6	0.2	0.2	0.2	.
	80.3	77.3	81.9	69.9	86.1	73.6	71.6	82.6	71.9	74.6	74.3	74.8	77.7
	.	1.7	1.9	7.9	4.0	5.9	5.3	2.2	4.5	5.0	3.7	5.9	3.8
	14.3	14.7	12.2	19.1	7.3	17.7	19.6	13.8	12.0	16.2	16.5	16.0	16.1
	4.9	6.3	3.4	3.1	2.6	2.6	3.4	1.4	11.1	4.0	5.2	3.0	2.4
	0.4	.	0.5	.	.	0.3	0.1	.	0.6	0.3	0.2	0.3	.
	75.3	59.1	60.7	53.7	60.9	54.4	59.9	61.2	60.0	59.3	59.7	58.9	56.0
	7.4	12.4	14.6	15.0	19.9	20.7	9.9	8.8	11.1	12.2	12.6	12.0	20.3
	12.8	24.9	19.1	26.6	13.6	20.2	26.7	27.7	17.3	23.6	21.4	25.2	19.3
	4.4	3.6	4.5	4.5	3.9	4.4	3.2	2.4	10.9	4.6	5.9	3.6	3.7
	.	.	1.0	0.2	1.6	0.3	0.3	.	0.6	0.3	0.4	0.3	0.7
	62.3	48.0	58.2	47.7	44.3	59.5	49.2	49.3	54.5	54.4	57.0	52.3	44.6
	22.7	33.2	24.3	30.3	24.4	26.2	29.1	31.0	27.1	27.3	24.8	29.3	30.3
	6.9	7.2	9.7	8.9	20.2	7.4	8.5	9.0	4.4	7.9	8.6	7.3	12.3
	8.1	11.6	7.3	13.0	11.1	6.3	13.2	10.7	13.3	10.1	9.1	10.9	12.7
	.	.	0.5	0.1	.	0.5	.	.	0.6	0.3	0.4	0.2	.
	42.7	34.3	42.0	37.6	44.5	45.8	34.2	32.1	43.3	39.1	38.1	39.8	39.6
	34.8	35.6	28.3	35.2	21.5	34.5	35.0	35.6	29.8	34.1	37.9	31.3	29.4
	8.5	15.1	18.9	11.4	24.8	11.4	14.6	12.8	9.3	12.5	10.3	14.2	18.2
	14.0	14.9	10.2	15.7	9.2	8.0	16.2	19.4	17.0	14.1	13.5	14.6	12.8
	.	.	0.5	.	.	0.3	.	.	0.6	0.2	0.2	0.2	.

MAIN TABLE 26. AUDIENCE TO A SELECTION OF SCIENCE-FEATURING RADIO PROGRAMMES--BY SOCIAL CHARACTERISTICS.

		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOTAL RADIO LISTENERS	*1796*	*146*	*333*	*344*	*302*	*671*	*865*	*911*	*1049*	*498*	*249*	*1094*	*292*	*409*
CBC NATIONAL NEWS														
FREQUENCY OF LISTENING TO														
Regularly	24.7	14.6	13.0	22.4	26.0	33.1	23.7	25.6	24.9	25.0	22.9	22.2	28.6	28.6
From time to time	36.7	36.5	35.5	35.4	40.1	36.4	40.1	33.4	37.7	33.6	38.7	41.0	30.4	29.6
Not at all	37.8	48.6	50.3	41.3	32.5	29.7	34.8	40.6	36.9	40.1	36.8	36.0	39.8	40.9
Not stated	0.9	0.3	1.3	0.9	1.3	0.7	1.5	0.3	0.5	1.3	1.7	0.8	1.3	0.9
RADIO PROGRAMMES DEALING WITH SCIENCE--[1]														
IDEAS														
Not aware	93.5	95.7	96.4	92.5	90.5	93.5	92.8	94.2	93.0	97.6	87.5	95.4	90.8	90.6
Aware of	6.5	4.3	3.6	7.5	9.5	6.5	7.2	5.8	7.0	2.4	12.5	4.6	9.2	9.4
FREQUENCY OF LISTENING TO														
Regularly	4.0	*	*	*	*	1.6	3.1	5.1	4.1	*	5.3	5.9	*	2.8
From time to time	56.2	*	*	*	*	49.8	64.3	46.4	60.8	*	55.4	49.6	*	65.3
Not at all	39.8	*	*	*	*	48.6	32.6	48.6	35.1	*	39.3	44.4	*	31.9
Not stated	.	*	*	*	*	.	.	.	.	*	.	.	*	.
AS IT HAPPENS														
Not aware	83.0	86.6	82.9	83.2	77.3	84.7	81.4	84.5	79.0	93.3	79.1	85.6	81.9	76.6
Aware of	17.0	13.4	17.1	16.8	22.7	15.3	18.6	15.5	21.0	6.7	20.9	14.4	18.1	23.4
FREQUENCY OF LISTENING TO														
Regularly	10.7	*	6.5	12.6	15.0	10.6	9.3	12.3	12.1	8.4	6.0	5.1	7.8	21.4
From time to time	58.6	*	61.9	50.5	74.0	52.0	58.7	58.6	55.7	68.1	64.9	57.7	62.1	58.2
Not at all	29.6	*	31.1	35.4	11.0	35.3	30.9	28.0	31.2	23.5	26.6	36.1	28.4	19.6
Not stated	1.1	*	0.6	1.5	.	2.1	1.1	1.1	0.9	.	2.5	1.0	1.7	0.9
THIS COUNTRY IN THE MORNING														
Not aware	86.6	88.1	87.4	88.6	84.3	85.8	86.5	86.7	83.5	94.6	83.3	89.5	85.7	79.3
Aware of	13.4	11.9	12.6	11.4	15.7	14.2	13.5	13.3	16.5	5.4	16.7	10.5	14.3	20.7
FREQUENCY OF LISTENING TO														
Regularly	21.6	*	16.5	18.2	27.6	24.7	10.1	32.9	24.6	*	17.0	14.6	29.3	27.2
From time to time	49.7	*	36.4	50.7	59.1	50.8	58.2	41.3	50.2	*	48.8	53.5	42.1	48.2
Not at all	28.5	*	47.1	31.1	12.1	24.5	31.7	25.4	24.9	*	34.1	31.3	28.7	24.0
Not stated	0.2	*	.	.	1.2	.	.	0.5	0.3	*	.	0.5	.	.
RADIO NOON														
Not aware	82.4	80.9	82.8	84.6	81.9	81.6	81.3	83.5	77.5	94.6	78.4	83.0	83.2	80.1
Aware of	17.6	19.1	17.2	15.4	18.1	18.4	18.7	16.5	22.5	5.4	21.6	17.0	16.8	19.9
FREQUENCY OF LISTENING TO														
Regularly	22.0	*	8.8	22.0	32.2	26.3	20.4	23.8	24.0	*	20.0	21.2	22.9	23.4
From time to time	53.4	*	52.3	53.0	54.9	54.5	52.3	54.6	52.2	*	52.4	54.6	53.9	50.1
Not at all	24.3	*	38.9	23.2	12.8	19.2	27.3	21.1	23.4	*	27.5	24.2	21.3	26.5
Not stated	0.3	*	.	1.7	.	.	.	0.6	0.4	*	.	.	1.8	.
LA SCIENCE ET VOUS														
Not aware	95.0	93.7	97.1	94.6	92.4	95.7	94.9	95.1	98.7	86.1	97.2	94.6	95.4	95.8
Aware of	5.0	6.3	2.9	5.4	7.6	4.3	5.1	4.9	1.3	13.9	2.8	5.4	4.6	4.2
FREQUENCY OF LISTENING TO														
Regularly	18.4	*	*	*	*	*	10.1	26.6	*	22.7	*	20.4	*	*
From time to time	55.1	*	*	*	*	*	54.9	55.2	*	59.8	*	65.3	*	*
Not at all	24.6	*	*	*	*	*	30.9	18.2	*	17.5	*	14.2	*	*
Not stated	2.0	*	*	*	*	*	4.0	.	*	.	*	.	*	*
SHORT 2-3 MINUTE ITEMS AS THEY ARE PRESENTED														
Not aware	73.7	67.3	70.2	72.1	70.5	79.0	72.7	74.6	70.3	80.9	73.6	73.7	75.3	76.0
Aware of	26.3	32.7	29.8	27.9	29.5	21.0	27.3	25.4	29.7	19.1	26.4	26.3	24.7	24.0
FREQUENCY OF LISTENING TO														
Regularly	21.0	17.3	16.0	23.6	31.0	17.6	16.2	26.0	22.0	22.5	13.9	21.0	19.9	31.7
From time to time	73.1	80.4	79.6	70.7	66.5	71.8	78.5	67.4	72.5	70.0	80.2	73.1	74.6	64.9
Not at all	4.8	2.3	4.0	4.8	2.5	7.7	5.0	4.6	4.2	6.9	4.7	4.8	4.5	3.5
Not stated	1.1	.	0.5	0.9	.	2.8	0.3	2.0	1.3	0.5	1.2	1.1	0.9	.
ALL OTHERS														
Not aware	96.5	95.9	98.0	97.7	93.4	96.6	96.3	96.6	97.2	95.3	95.7	96.5	96.1	96.6
Aware of	3.5	4.1	2.0	2.3	6.6	3.4	3.7	3.4	2.8	4.7	4.3	3.5	3.9	3.4
FREQUENCY OF LISTENING TO														
Regularly	67.1	*	*	*	*	*	73.7	60.2	*	*	*	67.1	64.9	73.1
From time to time	18.8	*	*	*	*	*	14.4	23.4	*	*	*	18.8	17.1	14.5
Not at all	.	*	*	*	*	*	.	.	*	*	*	.	.	.
Not stated	14.1	*	*	*	*	*	11.9	16.3	*	*	*	14.1	18.0	12.5
NONE OF THESE	52.8	48.2	52.5	55.2	47.2	55.3	49.8	55.8	47.3	66.2	49.3	52.8	53.6	55.4

* Base less than 30 individuals

[1] Percentages for "FREQUENCY OF LISTENING TO" of Radio programmes derived using aware listeners as base.

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
140	*120*	*358*	*1177*	*161*	*492*	*657*	*299*	*188*	*1392*	*616*	*776*	*404*
24.7	18.0	19.0	27.0	21.0	26.6	26.3	1B.2	27.2	Z5.0	30.1	21.0	23.4
41.8	33.5	44.7	33.9	58.7	32.4	35.7	3B.7	29.1	33.1	27.2	37.8	49.1
32.9	47.1	35.4	3B.1	20.3	39.6	37.3	41.5	43.7	41.1	41.7	40.5	26.4
0.5	1.3	0.9	0.9	.	1.4	0.7	1.6	.	0.B	1.0	0.7	1.2
90.1	95.2	91.5	94.4	95.0	95.8	91.5	94.1	92.7	92.8	90.5	94.6	96.1
9.9	4.B	8.5	5.6	5.0	4.2	8.5	5.9	7.3	7.2	9.5	5.4	3.9
*	*	1.8	5.2	*	*	7.0	*	*	4.3	2.5	6.8	*
*	*	62.9	46.9	*	*	56.4	*	*	56.6	59.5	52.6	*
*	*	35.3	47.9	*	*	36.5	*	*	39.1	3B.1	40.6	*
*	*			*	*	.	*	*	.	.	.	*
6B.7	B7.0	B1.1	B4.9	85.5	92.2	77.6	7B.2	B3.2	B2.2	7B.1	B5.4	85.B
31.3	13.0	18.9	15.1	14.5	7.8	22.4	21.B	16.8	17.8	21.9	14.6	14.2
20.7	*	3.3	11.9	*	24.8	7.4	11.9	B.4	10.8	12.4	8.9	10.0
56.1	*	66.7	56.8	*	46.9	57.4	65.3	48.3	58.7	52.4	66.3	58.3
21.4	*	29.1	30.2	*	27.5	33.8	22.8	43.3	29.4	34.5	23.3	30.5
1.9	*	0.9	1.1	*	0.9	1.5	.	.	1.1	0.7	1.5	1.2
78.8	8B.6	B6.9	87.2	72.3	92.4	85.9	B5.4	87.8	87.5	84.4	B9.9	83.5
21.2	11.4	13.1	12.8	27.7	7.6	14.1	14.6	12.2	12.5	15.6	10.1	16.5
24.0	*	4.8	28.0	27.7	17.3	19.5	22.7	*	21.7	20.4	23.3	21.2
62.2	*	65.7	41.4	55.5	42.6	47.3	53.5	*	46.0	42.4	50.4	59.3
13.8	*	29.5	30.2	15.5	40.2	33.2	23.9	*	32.0	37.2	25.5	19.4
.	*	.	0.4	1.3	.	.	.	*	0.3	.	0.7	.
80.7	85.4	82.5	82.2	67.8	93.1	79.7	81.7	77.2	85.2	83.6	86.6	72.5
19.3	14.6	17.5	17.8	32.2	6.9	20.3	18.3	22.8	14.8	16.4	13.4	27.5
14.7	*	17.4	24.9	21.0	17.5	25.1	17.9	22.4	20.6	15.5	25.5	24.7
69.2	*	55.4	51.0	72.2	44.9	51.4	45.3	53.6	48.4	45.2	51.6	62.5
16.2	*	27.2	23.6	6.8	37.6	22.8	36.8	24.0	30.6	39.3	22.1	12.8
.	*	.	0.4	.	.	0.7	.	.	0.4	.	0.9	.
94.9	91.7	93.4	95.9	97.2	85.5	98.3	99.3	100.0	94.9	94.1	95.6	95.4
5.1	8.3	6.6	4.1	2.8	14.5	1.7	0.7	.	5.1	5.9	4.4	4.6
*	*	*	21.9	*	22.9	*	*	*	16.7	11.7	22.1	*
*	*	*	56.B	*	61.1	*	*	*	54.9	59.8	49.7	*
*	*	*	21.3	*	16.0	*	*	*	25.8	28.5	22.9	*
*	*	*	.	*	.	*	*	*	2.6	.	5.2	*
69.1	78.1	73.0	74.0	61.8	81.8	72.2	70.5	72.6	74.6	79.4	70.9	70.4
30.9	21.9	27.0	26.0	38.2	18.2	27.8	29.5	27.4	25.4	20.6	29.1	29.6
21.3	*	16.1	21.3	B.0	22.5	27.1	12.5	26.7	23.5	23.2	23.6	13.7
69.3	*	78.3	72.8	92.0	68.5	65.6	81.7	70.4	69.0	67.9	69.6	85.2
7.5	*	5.6	4.4	.	8.1	6.0	3.4	2.9	6.1	8.3	4.8	1.1
1.8	*	.	1.5	.	0.9	1.3	2.4	.	1.5	0.6	2.0	.
95.3	99.4	97.3	96.1	99.1	95.3	97.5	93.1	99.1	96.6	95.5	97.5	96.0
4.7	0.6	2.7	3.9	0.9	4.7	2.5	6.9	0.9	3.4	4.5	2.5	4.0
*	*	*	64.1	*	*	*	*	*	63.5	*	*	*
*	*	*	22.8	*	*	*	*	*	18.7	*	*	*
*	*	*	.	*	*	*	*	*	.	*	*	*
*	*	*	13.1	*	*	*	*	*	17.8	*	*	*
50.6	60.4	47.8	53.9	41.3	65.5	47.5	48.7	54.7	54.8	54.5	55.0	46.1

* Base less than 30 individuals

MAIN TABLE 27. AUDIENCE TO A SELECTION OF SCIENCE-FEATURING RADIO PROGRAMMES--BY DEGREE OF INTEREST IN THE SCIENCES.

	TOTAL VERY/QUITE INTERESTED IN			INTEREST IN: NATURAL SCIENCES		SOCIAL SCIENCES /HUMANITIES		LIFE SCIENCES		ENGINEERING SCIENCES	
	NO AREAS OF SCIENCE	ONE AREA ONLY	2 AREAS OR MORE	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL	VERY/ QUITE	NOT VERY/NOT AT ALL
TOTAL RADIO LISTENERS											
CBC NATIONAL NEWS											
FREQUENCY OF LISTENING TO											
Regularly	23.6	22.3	25.4	28.3	22.7	27.0	22.5	24.8	28.6	25.6	25.4
From time to time	42.9	38.1	35.5	33.9	37.7	35.1	39.1	35.9	41.6	37.2	34.1
Not at all	32.4	38.7	38.2	37.2	38.2	37.2	37.1	38.4	28.0	36.1	39.7
Not stated	1.1	1.0	0.8	0.5	1.4	0.7	1.3	0.8	1.8	1.0	0.8
RADIO PROGRAMMES DEALING WITH SCIENCE--[1]											
IDEAS											
Not aware	93.4	95.8	93.0	91.6	95.7	92.8	95.7	93.7	94.4	92.9	94.8
Aware of	6.6	4.2	7.0	8.4	4.3	7.2	4.3	6.3	5.6	7.1	5.2
FREQUENCY OF LISTENING TO											
Regularly	*	*	4.0	3.0	*	4.3	*	3.7	*	2.1	5.3
From time to time	*	*	56.2	57.9	*	58.3	*	53.4	*	66.3	41.3
Not at all	*	*	39.8	39.1	*	37.4	*	42.9	*	31.6	53.4
Not stated	*	*	.	.	*	.	*	.	*	.	.
AS IT HAPPENS											
Not aware	89.6	88.1	80.8	78.1	86.2	81.0	85.3	82.4	84.6	79.5	87.5
Aware of	10.4	11.9	19.2	21.9	13.8	19.0	14.7	17.6	15.4	20.5	12.5
FREQUENCY OF LISTENING TO											
Regularly	*	5.4	11.7	15.9	2.6	12.6	3.6	10.9	10.7	10.0	13.3
From time to time	*	54.1	61.2	60.7	60.5	61.7	52.0	59.0	48.9	65.5	47.0
Not at all	*	37.8	26.6	22.9	34.6	25.0	41.3	28.8	39.6	24.5	36.4
Not stated	*	2.7	0.6	0.5	2.3	0.7	3.1	1.3	0.9	.	3.3
THIS COUNTRY IN THE MORNING											
Not aware	86.3	91.0	85.6	84.3	88.2	85.4	89.5	87.0	84.7	86.3	85.0
Aware of	13.7	9.0	14.4	15.7	11.8	14.6	10.5	13.0	15.3	13.7	15.0
FREQUENCY OF LISTENING TO											
Regularly	*	*	19.0	24.7	21.8	25.2	15.5	19.9	35.9	16.9	28.3
From time to time	*	*	51.6	44.7	48.9	48.2	57.1	49.1	41.0	54.3	43.0
Not at all	*	*	29.4	30.6	28.6	26.6	27.3	30.6	23.0	28.8	28.0
Not stated	*	*	.	.	0.7	.	.	0.3	.	.	0.6
RADIO NOON											
Not aware	86.8	82.3	81.7	79.8	84.6	81.6	83.7	82.8	81.3	80.6	84.2
Aware of	13.2	17.7	18.3	20.2	15.4	18.4	16.3	17.2	18.7	19.4	15.8
FREQUENCY OF LISTENING TO											
Regularly	*	27.3	20.8	25.0	26.2	22.2	25.9	21.1	24.1	23.6	24.2
From time to time	*	47.3	54.2	45.6	56.9	54.0	51.6	55.3	48.5	53.6	50.7
Not at all	*	23.6	25.0	29.4	16.0	23.8	21.1	23.2	27.3	22.8	24.1
Not stated	*	1.8	.	.	0.8	.	1.3	0.4	.	.	0.9
LA SCIENCE ET VOUS											
Not aware	99.5	95.2	94.4	93.3	97.4	93.8	97.8	94.8	98.6	95.0	95.7
Aware of	0.5	4.8	5.6	6.7	2.6	6.2	2.2	5.2	1.4	5.0	4.3
FREQUENCY OF LISTENING TO											
Regularly	*	*	18.6	13.3	*	19.4	*	18.9	*	15.0	*
From time to time	*	*	54.7	64.4	*	54.8	*	58.3	*	54.9	*
Not at all	*	*	24.3	22.3	*	23.2	*	22.7	*	26.1	*
Not stated	*	*	2.5	.	*	2.6	*	.	*	4.0	*
SHORT 2-3 MINUTE ITEMS AS THEY ARE PRESENTED											
Not aware	85.7	76.8	71.2	69.4	79.6	71.3	80.5	73.0	82.1	70.8	78.2
Aware of	14.3	23.2	28.8	30.6	20.4	28.7	19.5	27.0	17.9	29.2	21.8
FREQUENCY OF LISTENING TO											
Regularly	*	19.4	21.6	21.8	19.1	21.6	8.1	21.0	15.6	19.6	17.7
From time to time	*	72.2	73.0	73.0	75.7	73.0	84.4	73.0	83.0	74.0	75.4
Not at all	*	5.6	4.4	4.2	3.5	4.2	5.3	4.5	1.4	5.5	4.6
Not stated	*	2.8	1.0	0.9	1.7	1.1	2.2	1.5	.	0.8	2.3
ALL OTHERS											
Not aware	95.6	97.1	96.4	95.6	97.2	96.5	96.6	96.2	97.8	96.7	95.9
Aware of	4.4	2.9	3.6	4.4	2.8	3.5	3.4	3.8	2.2	3.3	4.1
FREQUENCY OF LISTENING TO											
Regularly	*	*	*	63.0	*	63.7	*	71.1	*	71.0	*
From time to time	*	*	*	21.0	*	24.4	*	18.3	*	20.6	*
Not at all	*	*	*	.	*	.	*	.	*	.	*
Not stated	*	*	*	16.0	*	11.9	*	10.5	*	8.3	*
NONE OF THESE	66.5	54.5	50.5	46.9	59.4	51.1	57.9	52.8	58.8	50.6	56.5

* Base less than 30 individuals

[1] Percentages for "FREQUENCY OF LISTENING TO" of Radio programmes derived using aware listeners as base.

MAIN TABLE 28. OVERALL PUBLIC ASSESSMENT OF RADIO PRESENTATION OF THE SCIENCES--BY SOCIAL CHARACTERISTICS.

NATURAL SCIENCES CATEGORY	TOTAL	AGE 15-17	AGE 18-24	AGE 25-34	AGE 35-44	AGE 45 & OVER	SEX MALE	SEX FEMALE	MOTHER TONGUE ENGLISH	MOTHER TONGUE FRENCH	MOTHER TONGUE OTHER	EDUCATION SOME HIGH SCHOOL OR LESS	EDUCATION GRAD-HIGH SCHOOL	EDUCATION POST SECONDARY
TOTAL RADIO LISTENERS VERY/QUITE INTERESTED IN THAT SCIENCE	*759*	*80*	*168*	*153*	*124*	*234*	*405*	*354*	*439*	*219*	*101*	*410*	*122*	*226*
MOST RADIO PROGRAMMES DEALING WITH THAT SCIENCE ARE ACCURATELY PRESENTED														
Agree	32.4	39.5	22.6	38.8	35.6	31.1	29.6	35.6	33.8	34.1	22.1	32.6	32.4	32.1
Disagree	7.6	8.6	8.4	5.1	10.3	7.0	6.7	8.7	8.2	5.6	9.6	8.7	5.6	6.8
It varies	9.2	6.8	10.7	10.3	10.6	7.5	9.2	9.3	7.0	12.2	12.5	9.8	6.6	9.7
No opinion	50.1	44.5	57.1	45.8	41.5	54.4	53.6	46.1	50.7	46.6	55.1	48.4	53.8	51.1
Not stated	0.7	0.6	1.1	.	2.1	.	0.9	0.4	0.3	1.4	0.8	0.6	1.6	0.3
MOST RADIO PROGRAMMES DEALING WITH THAT SCIENCE ARE INTERESTING TO LISTEN TO														
Agree	37.9	41.7	28.5	44.4	42.6	36.7	38.0	37.8	40.5	36.5	30.0	38.6.	39.5	36.1
Disagree	6.1	3.5	8.9	2.9	8.1	5.9	5.3	6.9	7.5	4.5	3.4	5.3	5.2	7.9
It varies	9.8	13.9	8.9	7.7	12.6	9.0	8.5	11.3	7.7	11.7	14.7	9.9	7.4	10.9
No opinion	45.5	40.3	52.6	45.1	34.6	48.3	47.2	43.6	44.1	45.8	51.1	45.6	46.4	44.8
Not stated	0.7	0.6	1.1	.	2.1	.	0.9	0.4	0.3	1.4	0.8	0.6	1.6	0.3
ENJOY LISTENING TO RADIO PROGRAMMES ON THAT SCIENCE														
Agree	35.8	35.8	26.8	41.1	37.1	38.1	35.1	36.5	36.9	35.2	32.3	35.6	38.8	34.7
Disagree	8.5	7.2	10.5	5.4	15.4	6.0	8.8	8.3	10.3	6.4	5.6	9.1	8.2	7.7
It varies	10.9	17.7	11.7	8.6	14.4	7.6	9.2	12.8	9.9	11.5	13.9	10.9	5.7	13.5
No opinion	44.0	38.6	49.9	45.0	30.4	48.4	45.9	42.0	42.5	45.5	47.5	43.6	45.6	43.8
Not stated	0.8	0.6	1.1	.	2.6	.	1.1	0.4	0.4	1.4	0.8	0.7	1.6	0.3
THESE PROGRAMMES ARE EASY FOR ME TO UNDERSTAND														
Agree	34.3	27.3	27.2	37.5	39.0	37.1	33.1	35.6	38.2	32.0	22.1	31.5	36.9	38.0
Disagree	9.0	12.7	10.9	7.1	10.5	6.7	8.7	9.2	8.7	6.9	14.6	10.9	8.4	5.8
It varies	11.8	21.4	10.0	10.4	15.5	8.9	11.4	12.4	10.3	13.9	14.0	13.2	7.2	11.9
No opinion	44.2	37.9	50.4	45.0	33.0	47.2	45.8	42.3	42.5	45.7	47.9	43.8	45.4	44.0
Not stated	0.7	0.6	1.5	.	2.1	.	0.9	0.6	0.3	1.4	1.4	0.6	2.2	0.3
NOT ENOUGH PROGRAMMES ON THAT SCIENCE														
Agree	28.0	35.1	31.2	25.0	27.8	25.3	24.2	32.3	27.5	31.2	23.2	26.9	30.9	28.4
Disagree	16.9	17.5	12.1	16.0	18.7	19.7	18.2	15.4	19.3	13.6	13.4	18.3	15.6	14.9
It varies	3.7	5.6	2.2	6.5	2.9	2.6	4.5	2.7	3.3	4.8	3.0	4.4	2.0	3.4
No opinion	50.8	41.2	53.3	52.5	48.6	52.4	52.2	49.3	49.7	49.0	59.8	49.9	49.8	53.0
Not stated	0.7	0.6	1.1	.	2.1	.	0.9	0.4	0.3	1.4	0.8	0.6	1.6	0.3
DIFFICULTY TO FIND PROGRAMMES ON THAT SCIENCE														
Agree	28.1	32.8	31.7	24.6	28.6	25.9	25.4	31.1	29.0	25.4	30.1	29.0	25.0	28.3
Disagree	14.1	14.8	9.4	15.0	14.1	16.6	16.2	11.6	14.7	15.1	9.2	13.9	14.5	14.2
It varies	5.9	11.4	5.2	4.0	6.7	5.4	5.7	6.1	4.1	9.1	6.9	6.4	5.6	5.2
No opinion	51.3	40.3	52.6	56.4	48.5	52.2	51.7	50.8	52.0	49.0	53.1	50.2	53.2	52.0
Not stated	0.7	0.6	1.1	.	2.1	.	0.9	0.4	0.3	1.4	0.8	0.6	1.6	0.3

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR- IES	BRITISH COLUM- BIA	TOTAL	OVER 500M	1M-500M	TOTAL RURAL
81	*59*	*155*	*465*	*54*	*243*	*259*	*117*	*86*	*613*	*277*	*336*	*14[illegible]*
27.4	31.9	26.4	35.3	50.8	32.2	33.2	23.4	31.1	30.0	30.6	29.5	42.4
8.3	5.6	8.5	7.5	6.1	7.3	8.4	6.8	8.5	7.5	11.2	4.4	8.3
4.2	7.3	10.5	9.9	14.5	11.7	5.8	8.5	10.2	8.9	9.4	8.5	10.5
58.7	55.3	53.5	46.8	28.6	47.5	52.4	60.4	50.1	52.9	47.9	57.0	38.5
1.4	.	1.2	0.4	.	1.3	0.3	1.0	.	0.7	1.0	0.5	0.3
29.1	40.5	39.9	38.5	59.5	37.3	36.9	30.0	40.0	35.9	34.7	36.8	46.6
5.4	1.1	5.8	6.9	10.4	5.2	6.3	6.2	4.8	5.8	7.2	4.7	7.0
9.1	7.3	7.5	11.0	8.4	9.6	11.8	7.1	9.0	9.4	11.6	7.6	11.4
55.0	51.0	45.7	43.1	21.7	46.7	44.7	55.6	46.2	48.1	45.5	50.3	34.6
1.4	.	1.2	0.4	.	1.3	0.3	1.0	.	0.7	1.0	0.5	0.3
28.5	39.2	33.4	37.4	65.9	36.1	32.8	27.9	35.8	34.1	32.8	35.1	43.0
6.0	5.2	13.7	7.7	3.9	7.7	8.9	12.7	7.2	8.1	9.2	7.2	10.5
12.1	7.7	9.2	11.6	10.0	8.5	15.2	6.3	11.1	9.9	11.7	8.4	14.9
51.9	47.9	42.6	42.7	20.2	46.4	42.6	52.1	45.9	47.1	45.1	48.8	31.1
1.4	.	1.2	0.6	.	1.3	0.6	1.0	.	0.8	1.2	0.5	0.3
38.5	33.9	35.6	33.1	47.2	32.7	37.3	23.7	36.0	33.2	35.6	31.2	38.9
3.6	5.3	10.4	9.9	12.7	7.5	7.2	15.7	6.6	7.7	8.2	7.2	14.4
5.4	10.6	10.9	13.4	19.9	11.9	11.8	7.0	13.5	11.2	10.9	11.5	14.4
51.1	49.1	41.9	43.1	20.2	46.6	43.2	52.6	43.8	47.1	44.1	49.6	31.9
1.4	1.1	1.2	0.4	.	1.3	0.5	1.0	.	0.8	1.2	0.5	0.3
17.4	16.6	27.7	31.3	39.0	30.6	28.8	24.8	15.3	26.9	31.9	22.7	32.6
17.1	20.8	19.2	15.5	30.0	13.3	14.0	16.1	28.4	16.0	11.1	20.0	20.6
2.9	6.2	2.4	3.9	2.5	4.5	3.8	2.7	3.1	3.8	5.2	2.7	3.0
61.2	56.5	49.5	48.8	28.5	50.3	53.1	55.4	53.2	52.6	50.8	54.0	43.5
1.4	.	1.2	0.4	.	1.3	0.3	1.0	.	0.7	1.0	0.5	0.3
23.1	15.4	25.4	31.5	33.5	24.9	31.2	28.0	24.6	26.2	29.3	23.6	36.2
14.3	15.2	19.6	12.1	29.0	15.3	10.6	8.6	19.3	13.5	12.0	14.6	16.7
3.6	5.5	4.0	7.0	8.2	7.7	6.3	1.5	4.0	6.4	8.4	4.7	3.9
57.5	63.9	49.9	49.0	29.3	50.8	51.6	60.9	52.2	53.2	49.3	56.5	42.9
1.4	.	1.2	0.4	.	1.3	0.3	1.0	.	0.7	1.0	0.5	0.3

SOCIAL SCIENCES AND HUMANITIES CATEGORY		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SEC-ONDARY
TOT'L RADIO LISTENERS VERY QUITE INTERESTED IN THAT SCIENCE	1110	75	214	236	213	372	489	621	610	352	149	597	201	313
MOST RADIO PROGRAMMES DEALING WITH THAT SCIENCE ARE ACCURATELY PRESENTED														
Agree	31.7	38.7	29.3	37.4	35.2	26.0	32.0	31.4	35.D	30.1	21.7	32.3	32.1	3D.3
Disagree	7.9	7.3	7.3	7.6	10.4	7.2	8.4	7.5	8.4	8.1	5.4	8.2	4.9	9.4
It varies	9.7	10.2	11.6	8.4	10.4	9.0	9.6	9.8	8.1	11.4	12.2	7.6	9.7	13.8
No opinion	49.8	43.8	51.2	46.6	41.6	57.1	48.3	51.0	47.9	49.6	58.5	51.2	51.9	45.8
Not stated	0.8	.	D.5	.	2.4	0.8	1.6	0.2	0.6	D.7	2.1	D.8	1.3	D.7
MOST RADIO PROGRAMMES DEALING WITH THAT SCIENCE ARE INTERESTING TO LISTEN TO														
Agree	4D.1	32.0	39.1	42.7	49.1	35.6	40.D	4D.2	42.5	37.7	36.3	37.5	41.7	44.3
Disagree	4.4	9.4	4.6	2.6	3.5	5.0	5.1	3.9	5.3	3.9	2.3	5.8	1.0	3.9
It varies	9.9	15.7	8.6	11.8	10.6	7.8	10.7	9.3	9.8	11.0	7.5	9.8	9.2	10.6
No opinion	44.6	42.9	47.1	42.9	34.5	50.4	42.6	46.2	41.7	46.7	51.8	46.2	46.1	40.5
Not stated	D.9	.	0.5	.	2.4	1.1	1.6	0.4	0.8	0.7	2.1	0.8	1.9	D.7
ENJOY LISTENING TO RADIO PROGRAMMES ON THAT SCIENCE														
Agree	38.9	31.1	37.1	40.6	48.8	34.7	38.8	38.9	41.3	34.8	38.4	35.0	40.3	45.4
Disagree	6.0	9.9	4.4	7.0	4.7	6.1	6.5	5.6	6.2	6.5	3.9	7.4	4.3	4.3
It varies	11.2	15.9	13.2	10.0	12.5	9.0	10.6	11.6	11.2	13.2	6.1	11.2	9.8	12.0
No opinion	42.9	43.2	44.3	42.4	31.3	49.1	42.3	43.4	40.2	44.8	49.5	45.5	43.7	37.3
Not stated	1.1	.	1.0	.	2.7	1.1	1.7	D.6	1.1	0.7	2.1	0.9	1.9	1.0
THESE PROGRAMMES ARE EASY FOR ME TO UNDERSTAND														
Agree	35.8	27.9	37.9	36.9	41.7	32.2	37.0	34.8	4D.4	29.8	31.2	28.0	37.8	49.6
Disagree	7.6	6.9	6.5	5.5	11.1	7.5	8.5	6.8	5.9	1D.9	6.3	10.6	4.7	3.7
It varies	11.8	22.4	9.4	13.8	13.1	9.0	10.2	13.0	12.D	12.3	9.8	15.D	9.3	7.3
No opinion	43.8	42.8	45.3	43.8	31.8	50.0	42.8	44.6	40.8	46.2	50.6	45.7	45.9	38.7
Not stated	1.1	.	0.8	.	2.4	1.3	1.6	0.7	1.0	0.7	2.1	0.8	2.3	D.9
NOT ENOUGH PROGRAMMES ON THAT SCIENCE														
Agree	26.2	25.7	30.1	28.0	28.2	21.6	25.8	26.5	25.8	28.7	21.5	23.6	29.7	28.9
Disagree	18.7	23.8	16.2	16.5	19.5	20.0	18.3	19.0	20.8	17.1	13.7	20.3	12.5	19.5
It varies	4.4	4.6	6.1	4.5	5.3	2.9	4.6	4.3	4.9	4.4	2.4	4.5	4.1	4.5
No opinion	49.5	45.9	47.0	50.6	43.7	54.4	49.4	49.6	47.3	49.0	59.8	50.3	51.8	46.4
Not stated	1.2	.	0.5	0.4	3.3	1.1	2.0	0.6	1.1	0.7	2.6	1.2	1.9	0.7
DIFFICULTY TO FIND PROGRAMMES ON THAT SCIENCE														
Agree	24.8	25.7	30.7	24.6	28.4	19.3	26.1	23.8	26.1	22.9	24.3	22.8	22.5	30.1
Disagree	15.9	19.7	12.0	16.6	17.1	16.1	15.4	16.3	16.2	18.4	8.5	16.0	15.1	16.2
It varies	7.1	4.4	9.3	6.3	8.9	5.9	6.7	7.4	6.5	8.5	6.5	7.8	5.5	6.8
No opinion	50.8	49.2	47.4	52.1	43.2	56.5	49.6	51.8	49.7	49.3	58.7	52.4	53.1	46.2
Not stated	1.4	0.9	0.5	0.3	2.4	2.2	2.2	0.8	1.5	1.0	2.1	1.0	3.9	0.7

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
102	*91*	*170*	*748*	*94*	*355*	*385*	*164*	*113*	*890*	*420*	*471*	*220*
27.2	29.6	33.3	32.2	49.1	29.4	33.1	21.6	34.1	31.1	35.0	27.6	34.1
10.3	5.8	8.2	7.8	8.7	9.6	5.8	10.2	6.0	7.7	9.2	6.4	8.8
11.0	6.4	11.5	9.5	9.9	11.5	8.3	6.4	13.6	10.3	11.2	9.5	7.4
49.3	58.1	45.2	50.0	32.3	48.5	52.6	60.3	44.0	50.0	43.4	55.8	49.3
2.3	.	1.8	0.5	.	1.0	0.2	1.6	2.4	1.0	1.3	0.7	0.3
36.8	41.9	40.9	40.2	59.5	37.7	40.6	32.6	41.1	39.3	42.1	36.8	43.5
4.4	0.7	5.1	4.7	2.7	5.0	3.3	5.8	5.8	4.5	5.7	3.4	4.3
13.1	5.5	13.6	9.1	7.6	9.8	11.2	6.4	12.4	9.6	8.8	10.3	11.1
43.5	51.8	38.5	45.3	30.2	46.1	44.8	53.7	38.3	45.6	41.9	48.9	40.8
2.3	.	1.8	0.7	.	1.3	0.2	1.6	2.4	1.1	1.6	0.7	0.3
39.7	37.4	40.2	38.6	58.9	34.6	39.1	33.2	42.8	37.9	41.1	34.9	42.9
5.5	6.0	7.0	5.8	4.7	7.8	4.1	7.4	5.6	6.1	6.2	6.0	5.4
12.3	7.7	10.7	11.6	11.8	11.5	12.3	5.8	13.4	10.3	9.7	10.8	14.8
40.2	48.9	40.3	43.1	24.6	44.8	43.8	52.1	35.8	44.5	41.2	47.4	36.6
2.3	.	1.8	0.9	.	1.3	0.6	1.6	2.4	1.3	1.8	0.9	0.3
45.4	29.4	37.1	35.0	48.8	31.6	38.6	25.9	42.9	35.9	42.8	29.8	35.3
6.1	3.5	11.3	7.4	13.6	9.3	5.1	7.9	5.0	6.3	5.2	7.3	12.4
6.0	17.2	10.4	12.2	12.7	11.4	11.6	11.5	13.2	11.0	8.0	13.7	14.9
40.2	49.8	39.4	44.6	24.9	46.2	44.4	53.1	36.6	45.6	42.2	48.5	36.7
2.3	.	1.8	0.9	.	1.5	0.3	1.6	2.4	1.2	1.7	0.7	0.6
23.9	13.3	29.2	27.3	30.5	30.9	22.3	25.4	22.0	25.9	29.8	22.4	27.2
15.3	13.9	20.0	19.4	23.9	15.2	20.1	15.5	24.8	19.4	19.8	19.0	15.8
5.5	8.4	5.2	3.6	11.2	3.3	6.4	0.9	0.8	3.6	3.5	3.7	7.7
53.1	62.9	43.4	48.8	34.4	49.3	50.6	55.8	50.0	49.7	45.1	53.7	49.0
2.3	1.5	2.2	0.8	.	1.3	0.6	2.4	2.4	1.4	1.8	1.1	0.3
32.2	19.1	23.0	24.9	27.5	23.7	24.9	23.4	27.9	24.3	27.1	21.8	26.9
11.2	9.9	22.2	15.8	19.9	18.5	14.0	11.4	16.8	16.6	18.4	14.9	13.1
2.4	5.2	8.9	7.6	15.8	7.2	7.6	4.3	2.1	6.5	6.1	6.9	9.5
48.8	65.9	44.1	50.7	35.9	49.2	53.0	57.4	50.8	51.2	46.8	55.1	49.2
5.4	.	1.8	1.0	0.8	1.3	0.5	3.5	2.4	1.4	1.6	1.3	1.3

LIFE SCIENCES CATEGORY		AGE					SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD- HIGH SCHOOL	POST SEC- ONDARY
TOTAL RADIO LISTENERS VERY/QUITE INTERESTED IN THAT SCIENCE	*1325*	*103*	*236*	*265*	*232*	*489*	*600*	*725*	*741*	*407*	*176*	*785*	*226*	*313*
MOST RADIO PROGRAMMES DEALING WITH THAT SCIENCE ARE ACCURATELY PRESENTED														
Agree	34.7	37.8	30.1	37.0	35.4	34.8	31.5	37.4	35.7	36.4	27.0	35.9	35.9	31.1
Disagree	6.4	9.0	9.3	3.8	10.8	3.8	7.7	5.3	6.6	6.0	6.3	7.4	3.0	6.2
It varies	8.9	8.8	9.3	11.5	10.8	6.3	9.2	8.6	7.5	9.6	13.1	8.2	8.3	10.9
No opinion	48.9	44.0	50.8	47.7	40.0	53.8	49.5	48.3	49.4	46.4	52.6	47.5	50.3	51.1
Not stated	1.1	0.4	0.5	.	3.0	1.3	2.0	0.4	0.9	1.6	1.1	0.9	2.5	0.7
MOST RADIO PROGRAMMES DEALING WITH THAT SCIENCE ARE INTERESTING TO LISTEN TO														
Agree	39.4	33.9	37.4	39.2	42.8	40.1	37.7	40.9	40.2	39.3	36.1	38.3	40.0	41.7
Disagree	3.9	7.3	4.8	3.5	4.7	2.6	4.4	3.5	3.6	4.9	3.0	4.7	0.9	4.1
It varies	10.2	13.6	8.9	13.2	14.5	6.5	10.4	10.1	9.8	10.2	12.1	10.7	10.5	8.8
No opinion	45.4	44.8	48.5	44.1	35.1	49.5	45.6	45.1	45.6	43.9	47.8	45.4	46.1	44.7
Not stated	1.1	0.4	0.5	.	3.0	1.3	2.0	0.4	0.9	1.6	1.1	0.9	2.5	0.7
ENJOY LISTENING TO RADIO PROGRAMMES ON THAT SCIENCE														
Agree	38.2	34.3	38.4	39.2	41.2	36.9	35.7	40.2	38.3	37.9	38.1	36.1	41.6	40.9
Disagree	5.2	4.1	5.9	5.4	7.6	4.0	6.3	4.4	4.9	5.7	5.5	6.7	3.8	2.8
It varies	11.5	13.9	8.4	11.7	15.0	10.7	11.8	11.3	11.1	12.4	10.8	12.0	9.5	11.8
No opinion	43.8	47.3	46.4	43.7	33.0	47.1	44.1	43.6	44.5	42.3	44.6	44.2	42.6	43.6
Not stated	1.3	0.4	0.9	.	3.3	1.3	2.1	0.6	1.1	1.6	1.1	1.0	2.5	1.0
THESE PROGRAMMES ARE EASY FOR ME TO UNDERSTAND														
Agree	34.8	28.8	34.5	36.9	40.6	32.4	33.1	36.3	37.5	30.3	34.2	31.5	36.2	42.3
Disagree	6.0	5.8	7.6	3.2	10.0	4.9	7.9	4.4	4.2	9.5	5.5	8.4	3.4	1.8
It varies	13.4	20.1	11.7	15.5	11.4	12.6	12.5	14.1	12.4	15.0	13.8	14.5	12.7	11.3
No opinion	44.4	44.9	45.8	44.4	34.9	48.2	44.6	44.3	44.9	43.5	44.7	44.8	44.2	43.7
Not stated	1.3	0.4	0.5	.	3.0	1.9	2.0	0.8	1.1	1.6	1.9	0.9	3.5	0.9
NOT ENOUGH PROGRAMMES ON THAT SCIENCE														
Agree	26.0	30.6	29.5	23.7	25.5	24.9	25.3	26.7	25.8	26.1	26.9	25.6	29.7	24.4
Disagree	16.8	15.0	14.8	14.5	20.0	17.9	16.1	17.3	15.9	18.9	15.7	16.8	15.7	17.5
It varies	5.9	5.9	6.2	8.1	6.2	4.4	6.2	5.6	6.2	6.6	3.1	5.8	5.3	6.5
No opinion	49.9	48.0	49.0	53.4	45.3	51.1	50.4	49.5	51.0	46.5	53.2	50.4	46.8	50.9
Not stated	1.4	0.4	0.5	0.3	3.0	1.8	2.0	0.9	1.1	1.9	1.1	1.3	2.5	0.7
DIFFICULTY TO FIND PROGRAMMES ON THAT SCIENCE														
Agree	23.4	27.6	28.8	24.0	23.3	19.6	22.7	23.9	23.7	23.6	21.8	23.5	23.0	23.4
Disagree	16.8	19.2	13.3	14.7	20.4	17.4	17.0	16.7	15.5	20.6	13.6	17.5	15.7	15.8
It varies	7.5	3.6	7.0	8.2	7.5	8.2	7.9	7.2	6.6	8.6	9.0	7.4	7.9	7.5
No opinion	51.2	49.1	50.4	53.1	45.7	53.4	50.4	51.7	53.4	45.6	54.5	50.6	50.9	52.6
Not stated	1.1	0.4	0.5	.	3.0	1.3	2.0	0.4	0.9	1.6	1.1	0.9	2.5	0.7

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
101	*90*	*235*	*899*	*101*	*401*	*453*	*222*	*148*	*1036*	*464*	*573*	*288*
29.0	28.5	31.8	36.8	59.4	34.5	35.2	25.8	30.6	32.9	34.5	31.7	41.2
3.5	2.6	9.1	6.4	6.6	7.1	4.0	9.1	7.6	6.0	6.9	5.2	7.9
11.7	5.0	9.7	8.7	8.8	10.9	7.3	7.9	9.6	9.4	10.8	8.2	7.0
52.7	63.9	47.8	47.2	23.1	46.4	52.6	56.4	50.3	50.8	46.5	54.2	42.0
3.0	.	1.7	0.9	2.1	1.1	0.9	0.8	1.8	0.9	1.2	0.7	1.8
32.5	26.5	42.6	40.7	65.9	39.3	36.4	35.4	36.8	37.8	40.5	35.6	45.2
0.6	6.3	3.3	4.2	4.5	4.3	3.3	5.0	2.4	4.1	3.9	4.4	3.0
12.1	11.8	10.4	9.8	10.5	10.0	11.0	7.9	11.6	10.0	9.5	10.4	11.1
51.7	55.4	42.1	44.5	17.1	45.3	48.4	50.8	47.4	47.2	44.9	49.0	38.8
3.0	.	1.7	0.9	2.1	1.1	0.9	0.8	1.8	0.9	1.2	0.7	1.8
28.3	29.5	40.6	39.5	68.1	37.5	34.4	34.7	36.2	37.0	39.3	35.1	42.5
4.2	10.4	5.6	4.7	1.9	5.5	5.2	7.1	4.0	5.1	5.1	5.1	5.7
18.4	8.4	10.1	11.4	9.1	12.4	12.5	9.1	11.5	11.5	9.3	13.3	11.6
46.1	51.7	42.0	43.3	18.8	43.5	46.7	48.3	46.5	45.4	45.0	45.7	38.3
3.0	.	1.7	1.1	2.1	1.1	1.3	0.8	1.8	1.1	1.4	0.9	1.8
33.5	30.7	33.8	35.7	56.3	30.4	34.8	31.9	36.5	34.6	38.9	31.1	35.7
4.7	5.1	9.6	5.3	6.3	9.0	4.0	6.0	3.7	5.7	4.3	6.9	6.9
12.8	9.3	13.2	13.9	17.9	14.6	13.1	11.3	11.0	12.5	10.4	14.1	16.7
46.0	55.0	41.8	43.9	17.4	44.9	46.7	49.6	46.9	46.0	44.8	47.0	38.7
3.0	.	1.7	1.2	2.1	1.1	1.4	1.2	1.8	1.1	1.6	0.8	2.1
22.4	24.3	24.6	27.0	33.1	28.4	24.1	24.2	23.5	25.7	28.6	23.3	27.2
13.0	9.0	20.4	17.1	23.4	17.7	13.7	17.2	18.5	16.6	17.8	15.7	17.3
5.6	6.2	7.7	5.4	12.0	5.2	6.9	3.7	3.9	5.7	5.1	6.1	6.7
56.0	60.6	45.6	49.3	29.4	47.3	54.0	54.1	52.3	50.8	47.0	53.8	46.9
3.0	.	1.7	1.2	2.1	1.4	1.3	0.8	1.8	1.2	1.5	1.0	1.8
24.3	20.7	23.5	23.5	29.9	24.3	22.3	19.5	25.4	23.6	24.7	22.8	22.5
9.3	12.0	22.2	16.7	19.1	19.7	14.7	16.2	14.8	16.4	19.6	13.9	18.2
7.3	3.4	8.2	7.8	16.3	7.7	7.4	5.4	4.8	7.2	6.7	7.6	8.7
56.2	63.9	44.4	51.1	32.6	47.1	54.8	58.1	53.2	51.8	47.8	55.1	48.7
3.0	.	1.7	0.9	2.1	1.1	0.9	0.8	1.8	0.9	1.2	0.7	1.8

ENGINEERING SCIENCES CATEGORY

	AGE						SEX		MOTHER TONGUE			EDUCATION		
	TOTAL	15-17	18-24	25-34	35-44	45 & OVER	MALE	FEMALE	ENGLISH	FRENCH	OTHER	SOME HIGH SCHOOL OR LESS	GRAD-HIGH SCHOOL	POST SECONDARY
TOTAL RADIO LISTENERS VERY/QUITE INTERESTED IN THAT SCIENCE														
MOST RADIO PROGRAMMES DEALING WITH THAT SCIENCE ARE ACCURATELY PRESENTED														
Agree	31.3	34.5	24.5	37.5	35.4	28.5	30.6	32.7	31.0	33.6	28.2	33.2	30.2	28.1
Disagree	7.0	11.7	9.3	5.6	6.4	5.8	7.2	6.6	7.6	6.3	5.6	8.5	4.4	5.6
It varies	11.4	11.6	9.7	15.1	12.8	9.3	12.0	10.2	10.8	13.1	10.8	9.7	9.3	16.3
No opinion	49.1	42.2	55.9	41.7	42.4	54.9	48.9	49.6	49.8	45.6	53.1	47.9	53.4	48.8
Not stated	1.2	.	0.6	.	3.1	1.5	1.3	0.9	0.9	1.4	2.3	0.8	2.7	1.2
MOST RADIO PROGRAMMES DEALING WITH THAT SCIENCE ARE INTERESTING TO LISTEN TO														
Agree	37.8	42.2	31.3	40.2	46.7	34.1	40.6	32.0	37.7	40.3	32.8	39.9	34.5	35.3
Disagree	4.5	11.8	3.8	5.5	4.9	2.6	3.0	7.8	4.5	5.2	3.5	3.8	3.1	7.0
It varies	12.1	9.2	10.9	16.5	11.3	11.3	11.1	14.2	12.6	9.4	15.4	11.3	12.6	13.6
No opinion	44.3	36.8	53.3	37.8	34.0	50.5	44.0	45.0	44.3	43.7	46.0	44.1	47.2	42.8
Not stated	1.2	.	0.6	.	3.1	1.5	1.3	0.9	0.9	1.4	2.3	0.8	2.7	1.2
ENJOY LISTENING TO RADIO PROGRAMMES ON THAT SCIENCE														
Agree	35.6	31.6	29.0	39.1	44.8	33.0	36.8	32.9	35.6	34.6	37.1	35.9	35.9	34.8
Disagree	5.2	14.4	4.9	5.8	2.5	4.4	4.0	7.6	4.5	6.5	5.8	5.8	4.0	4.6
It varies	14.1	17.4	14.8	17.0	14.0	11.1	13.5	15.3	14.9	14.1	9.9	12.3	12.0	19.0
No opinion	44.0	36.6	50.7	38.2	35.7	50.0	44.4	43.3	44.1	43.4	44.8	45.2	45.4	40.4
Not stated	1.2	.	0.6	.	3.1	1.5	1.3	0.9	0.9	1.4	2.3	0.8	2.7	1.2
THESE PROGRAMMES ARE EASY FOR ME TO UNDERSTAND														
Agree	32.3	24.1	26.4	43.0	37.1	28.4	32.8	31.4	34.7	28.8	28.3	27.0	36.2	41.2
Disagree	7.2	12.5	9.6	4.8	9.7	4.8	7.9	5.9	5.3	11.8	7.1	10.4	2.4	3.6
It varies	15.1	27.4	13.1	12.3	16.1	14.6	13.8	17.7	14.8	14.5	17.4	17.0	11.7	13.0
No opinion	44.2	36.0	50.2	39.9	34.1	50.7	44.3	44.1	44.3	43.6	45.0	44.8	47.0	41.1
Not stated	1.2	.	0.6	.	3.1	1.5	1.3	0.9	0.9	1.4	2.3	0.8	2.7	1.2
NOT ENOUGH PROGRAMMES ON THAT SCIENCE														
Agree	24.5	29.8	27.0	26.0	28.6	18.7	25.4	22.7	25.0	26.6	18.3	23.5	25.9	26.0
Disagree	16.2	15.7	13.2	16.5	14.9	18.8	15.2	18.4	15.5	18.3	15.9	17.1	15.9	14.7
It varies	8.3	6.9	6.0	11.2	10.7	6.8	8.9	7.0	8.8	6.4	9.6	7.8	5.2	11.2
No opinion	49.7	47.5	53.2	46.3	42.8	54.0	49.1	50.9	49.8	47.3	53.9	50.8	50.2	46.9
Not stated	1.3	.	0.6	.	3.1	1.7	1.4	0.9	1.0	1.4	2.3	0.9	2.7	1.2
DIFFICULTY TO FIND PROGRAMMES ON THAT SCIENCE														
Agree	25.7	30.5	27.0	25.5	34.3	19.3	27.3	22.6	27.3	22.7	24.6	25.1	26.9	26.5
Disagree	15.3	14.5	11.9	16.8	14.7	17.0	15.4	15.1	13.4	21.3	11.8	16.2	13.9	14.2
It varies	7.5	6.7	6.4	9.7	6.6	7.5	7.0	8.7	8.5	5.3	7.3	6.7	6.8	9.7
No opinion	50.2	48.2	54.0	48.1	41.4	54.7	49.1	52.7	49.9	49.2	54.1	51.2	49.8	48.4
Not stated	1.2	.	0.6	.	3.1	1.5	1.3	0.9	0.9	1.4	2.3	0.8	2.7	1.2

OCCUPATION				REGION					COMMUNITY SIZE			
									URBAN			
MANAGER /PROF.	WHITE COLLAR	BLUE COLLAR	OTHER	ATLANTIC PROV.	QUEBEC	ONTARIO	PRAIR-IES	BRITISH COLUM-BIA	TOTAL	OVER 500M	1M-500M	RURAL TOTAL
97	*81*	*254*	*459*	*74*	*236*	*328*	*144*	*110*	*714*	*315*	*400*	*176*
24.3	30.8	35.3	30.6	51.2	34.3	30.4	20.7	28.3	31.2	35.0	2B.2	31.6
4.3	2.0	7.1	8.4	9.3	6.8	7.5	7.1	4.5	6.0	5.9	6.1	11.1
15.B	5.6	12.4	10.9	13.7	11.7	8.9	10.5	17.6	10.9	13.9	8.5	13.5
52.4	61.5	44.0	49.1	25.8	45.2	52.8	60.4	47.2	50.4	43.2	56.1	43.9
3.1	.	1.3	0.9	.	2.0	0.4	1.3	2.4	1.5	1.9	1.1	.
32.0	25.3	49.0	35.0	62.6	40.0	33.0	32.8	37.1	36.2	39.4	33.6	44.2
1.7	5.8	2.3	6.2	5.0	4.7	6.2	1.5	2.8	5.0	5.5	4.6	2.7
15.3	12.6	7.5	14.0	13.1	7.9	13.2	10.6	19.5	11.4	13.2	10.0	15.1
47.8	56.4	40.0	43.9	19.3	45.3	47.2	53.8	38.2	45.9	40.0	50.6	38.0
3.1	.	1.3	0.9	.	2.0	0.4	1.3	2.4	1.5	1.9	1.1	.
31.7	25.2	41.5	34.9	51.9	35.4	30.9	34.8	39.8	34.5	38.0	31.8	39.6
.	7.1	5.0	6.0	3.1	6.1	6.6	3.3	2.8	5.8	6.0	5.5	2.8
19.1	12.0	11.3	14.9	26.6	11.5	15.9	7.1	14.7	13.1	14.7	11.9	17.9
46.1	55.7	40.9	43.3	18.3	45.1	46.1	53.5	40.3	45.1	39.3	49.6	39.7
3.1	.	1.3	0.9	.	2.0	0.4	1.3	2.4	1.5	1.9	1.1	.
38.7	30.9	34.6	30.0	42.8	30.6	33.0	26.1	35.2	33.2	41.7	26.6	28.6
1.9	3.3	9.6	7.8	5.8	11.2	6.5	6.6	2.8	6.8	6.8	6.8	9.0
13.0	9.5	14.0	17.0	30.6	11.0	14.0	13.0	19.3	12.9	9.8	15.4	23.7
43.2	56.3	40.6	44.3	20.8	45.3	46.1	53.0	40.3	45.6	39.8	50.1	38.7
3.1	.	1.3	0.9	.	2.0	0.4	1.3	2.4	1.5	1.9	1.1	.
17.4	18.0	27.7	25.5	26.4	27.7	21.9	24.2	24.8	24.6	29.5	20.8	24.2
9.7	11.7	19.5	16.7	20.4	17.3	14.4	12.6	21.6	16.1	16.8	15.5	16.8
16.0	3.6	9.4	6.8	25.9	5.4	7.4	5.1	9.2	6.6	6.8	6.5	14.9
53.8	66.8	41.9	50.2	27.3	47.6	55.7	56.7	42.1	51.1	44.7	56.0	44.2
3.1	.	1.5	0.9	.	2.0	0.6	1.3	2.4	1.6	2.1	1.1	.
26.0	15.3	28.5	26.0	26.7	25.0	23.9	24.9	33.2	26.1	27.8	24.8	24.2
12.4	12.4	19.7	14.0	11.4	20.0	13.4	13.8	15.5	14.8	17.6	12.5	17.5
4.6	3.6	10.0	7.5	28.6	3.9	7.8	2.0	7.4	6.1	7.0	5.4	13.3
53.9	68.6	40.6	51.5	33.2	49.1	54.4	58.0	41.4	51.5	45.7	56.1	45.0
3.1	.	1.3	0.9	.	2.0	0.4	1.3	2.4	1.5	1.9	1.1	.

Main Table 29. A Multimedia Comparison of Science Presentation--by Degree of Interest in the Sciences.

	INTEREST IN															
	NATURAL SCIENCES				SOCIAL SCIENCES /HUMANITIES				LIFE SCIENCES				ENGINEERING SCIENCES			
	WITHIN				WITHIN				WITHIN				WITHIN			
[1]	NP	MAG	TV	RAD	NP	MAG	TV	RAD	NP	MAG	TV	RAD	NP	MAG	TV	RAD
TOTAL AUDIENCE VERY/QUITE INTERESTED IN THAT SCIENCE	*726*	*600*	*791*	*759*	*1063*	*863*	*1166*	*1110*	*1254*	*999*	*1404*	*1325*	*845*	*673*	*949*	*891*
MOST ARTICLES/ PROGRAMMES DEALING WITH THAT SCIENCE ARE ACCURATELY PRESENTED [2]																
Agree	40.8	63.5	68.5	32.4	41.7	55.9	60.4	31.7	49.0	62.3	67.3	34.7	44.5	59.8	62.0	31.3
Disagree	28.5	10.7	8.5	7.6	26.5	15.1	12.8	7.9	20.9	11.0	10.2	6.4	22.9	11.5	10.8	7.0
It varies	19.4	16.7	13.7	9.2	22.3	16.8	14.4	9.7	21.2	15.0	12.1	8.9	19.8	16.2	15.1	11.4
No opinion	10.5	8.1	9.0	50.1	9.2	10.9	11.9	49.8	8.4	10.6	10.0	48.9	12.0	12.0	11.9	49.1
Not stated	0.7	1.0	0.3	0.7	0.3	1.3	0.5	0.8	0.4	1.1	0.4	1.1	0.7	0.5	0.2	1.2
MOST ARTICLES/ PROGRAMMES DEALING WITH THAT SCIENCE ARE INTERESTING																
Agree	67.8	79.9	81.6	37.9	68.9	77.1	76.8	40.1	73.0	80.6	83.6	39.4	67.2	76.4	77.9	37.8
Disagree	9.6	3.1	5.2	6.1	9.6	5.8	5.7	4.4	7.4	2.8	2.4	3.9	8.8	3.1	4.9	4.5
It varies	19.7	11.7	9.3	9.8	19.3	10.8	11.8	9.9	16.4	11.0	9.9	10.2	21.2	15.6	13.3	12.1
No opinion	2.2	4.3	3.6	45.5	1.8	5.4	5.2	44.6	2.8	4.7	3.7	45.4	2.1	4.4	3.7	44.3
Not stated	0.7	1.0	0.3	0.7	0.3	0.9	0.5	0.9	0.4	0.9	0.4	1.1	0.7	0.5	0.2	1.2
ENJOY ARTICLES/ PROGRAMMES ON THAT SCIENCE																
Agree	67.3	79.8	79.7	35.8	68.7	76.6	75.1	38.9	75.6	82.0	81.6	38.2	71.2	75.9	75.2	35.6
Disagree	7.8	5.4	4.9	8.5	6.7	5.7	4.3	6.0	5.8	1.7	3.1	5.2	5.7	3.3	4.7	5.2
It varies	20.9	10.4	11.6	10.9	22.4	12.4	15.4	11.2	16.0	10.8	11.4	11.5	20.5	16.3	16.2	14.1
No opinion	3.1	3.4	3.4	44.0	1.8	4.2	4.6	42.9	2.1	4.2	3.4	43.8	1.7	3.9	3.7	44.0
Not stated	0.9	1.0	0.5	0.8	0.3	1.1	0.6	1.1	0.5	1.3	0.5	1.3	0.9	0.6	0.2	1.2
ARTICLES/ PROGRAMMES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND																
Agree	56.7	63.6	70.8	34.3	57.8	64.7	65.3	35.8	55.2	60.6	67.5	34.8	49.1	55.9	58.6	32.3
Disagree	14.4	13.3	9.1	9.0	15.7	8.9	9.5	7.6	15.0	11.2	9.2	6.0	19.1	13.8	13.8	7.2
It varies	26.4	18.5	16.4	11.8	25.0	20.7	20.2	11.8	27.3	22.6	19.5	13.4	28.5	25.1	22.7	15.1
No opinion	1.5	3.5	3.1	44.2	1.2	4.7	4.4	43.8	1.8	4.6	3.2	44.4	1.9	4.6	4.4	44.2
Not stated	1.0	1.1	0.5	0.7	0.4	1.0	0.7	1.1	0.8	0.9	0.6	1.3	1.4	0.6	0.4	1.2
NOT ENOUGH ARTICLES/ PROGRAMMES ON THAT SCIENCE																
Agree	59.0	44.0	55.7	28.0	50.5	37.9	48.9	26.2	53.7	41.3	52.0	26.0	51.1	43.2	52.4	24.5
Disagree	23.5	36.6	28.3	16.9	30.8	40.1	32.7	18.7	24.6	37.6	31.0	16.8	29.2	37.9	27.9	16.2
It varies	9.5	9.5	6.7	3.7	12.0	10.6	7.2	4.4	12.2	8.8	7.1	5.9	9.6	9.1	8.8	8.3
No opinion	7.1	8.8	8.9	50.8	6.3	10.4	10.5	49.5	9.1	11.2	9.6	49.9	8.9	9.2	10.6	49.7
Not stated	0.8	1.2	0.4	0.7	0.4	1.0	0.6	1.2	0.5	1.1	0.3	1.4	1.1	0.6	0.2	1.3
DIFFICULTY TO FIND SPECIFIC ARTICLES/ PROGRAMMES ON THAT SCIENCE																
Agree	48.6	29.6	41.4	28.1	40.8	28.0	36.8	24.8	41.9	27.6	36.0	23.4	44.5	31.9	39.2	25.7
Disagree	30.3	46.4	36.3	14.1	34.8	46.7	36.5	15.9	32.7	46.6	37.2	16.8	31.7	45.0	33.2	15.3
It varies	10.8	12.1	10.8	5.9	13.8	11.3	12.9	7.1	14.8	13.1	13.1	7.5	12.5	10.5	13.6	7.5
No opinion	9.5	10.8	10.8	51.3	10.0	12.9	13.3	50.8	10.1	11.6	13.1	51.2	10.5	12.1	13.8	50.2
Not stated	0.7	1.1	0.7	0 7	0.5	1.2	0.5	1.4	0.6	1.2	0.6	1.1	0.8	0.5	0.2	1.2

[1] NP denotes Newspapers; MAG, Magazines; TV, Television, RAD, Radio.

[2] Statement headings have been modified to encompass all four media. See Main Tables of the individual media for exact wording.

MAIN TABLE 30. A MULTIMEDIA COMPARISON OF SCIENCE PRESENTATION--BY EXTENT OF MEDIA USAGE.

	INTEREST IN															
	NATURAL SCIENCES								SOCIAL SCIENCES/ HUMANITIES							
	READ NEWSPAPERS		READ MAGAZINES		WATCH TELEVISION		LISTEN TO RADIO		READ NEWSPAPERS		READ MAGAZINES		WATCH TELEVISION		LISTEN TO RADIO	
	Regu-larly	From time to time	Regu-larly	From time to time	Less than 2 hours	Two hours or more	Less then 2 hours	Two hours or more	Regu-larly	From time to time	Regu-larly	From time to time	Less than 2 hours	Two hours or more	Less than 2 hours	Two hours or more
TOTAL AUDIENCE VERY/ QUITE INTERESTED IN THAT SCIENCE	*490*	*238*	*323*	*276*	*314*	*476*	*436*	*321*	*722*	*341*	*463*	*399*	*469*	*696*	*637*	*474*
MOST ARTICLES/ PROGRAMMES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED[1]																
Agree	41.5	39.3	68.9	57.1	67.9	68.9	28.7	37.4	44.3	36.1	60.4	50.7	57.9	62.1	27.8	36.8
Disagree	27.5	30.7	8.6	13.1	8.2	8.7	4.7	11.6	26.0	27.5	14.9	15.4	14.9	11.4	7.6	8.3
It varies	21.1	16.0	14.2	19.7	12.2	14.7	8.4	10.3	22.4	21.9	14.6	19.3	11.2	16.5	8.9	10.8
No opinion	8.9	13.9	7.9	8.4	11.6	7.4	57.0	40.7	7.0	14.0	9.4	12.5	15.0	9.9	56.5	43.6
Not stated	1.0	0.2	0.4	1.7	0.2	0.4	1.1	.	0.2	0.6	0.6	2.1	0.9	0.2	1.1	0.5
MOST ARTICLES/ PROGRAMMES DEALING WITH THAT SCIENCE ARE INTERESTING																
Agree	68.7	66.0	84.1	75.0	81.0	82.0	32.8	44.9	72.4	61.6	83.0	70.3	75.4	77.8	36.0	45.7
Disagree	10.2	8.4	3.7	2.5	4.2	5.9	3.5	9.6	8.2	12.7	4.8	7.0	6.8	5.0	4.1	4.9
It varies	18.5	22.1	8.3	15.6	9.3	9.2	9.5	10.2	18.7	20.7	8.6	13.4	9.3	13.5	9.0	11.1
No opinion	1.6	3.4	3.5	5.2	5.4	2.4	53.0	35.3	0.5	4.6	3.1	8.0	7.6	3.5	49.7	37.8
Not stated	1.0	0.2	0.4	1.7	0.2	0.4	1.1	.	0.2	0.4	0.6	1.2	0.9	0.2	1.3	0.5
ENJOY ARTICLES/ PROGRAMMES ON THAT SCIENCE																
Agree	71.6	58.6	83.6	75.4	77.1	81.4	31.3	41.9	72.7	60.3	82.2	70.2	71.5	77.5	36.3	42.3
Disagree	6.4	10.6	4.1	7.0	5.7	4.4	6.7	11.1	5.4	9.5	5.2	6.2	4.7	4.1	5.2	7.0
It varies	18.6	25.8	8.8	12.2	12.5	11.0	9.8	12.3	21.3	24.9	9.4	15.8	16.0	15.0	9.2	13.8
No opinion	2.2	4.9	3.1	3.7	4.3	2.8	50.9	34.7	0.4	4.7	2.6	6.0	6.7	3.2	47.9	36.2
Not stated	1.3	0.2	0.4	1.7	0.5	0.4	1.3	.	0.2	0.6	0.6	1.8	1.1	0.3	1.4	0.7
ARTICLES/ PROGRAMMES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND																
Agree	60.7	48.4	68.7	57.8	74.2	68.6	27.6	43.4	61.1	51.0	70.5	57.9	72.3	60.6	28.7	43.0
Disagree	12.0	19.5	11.1	15.9	8.1	9.7	7.1	11.5	12.5	22.3	6.7	11.5	6.9	11.2	5.7	6.4
It varies	25.3	28.6	17.0	20.3	12.8	18.8	12.4	11.2	25.3	24.2	19.0	22.7	13.9	24.5	12.2	15.0
No opinion	0.7	3.2	2.7	4.3	4.5	2.2	51.7	34.0	0.8	2.1	2.8	6.8	5.8	3.4	51.7	34.8
Not stated	1.3	0.3	0.6	1.7	0.4	0.6	1.3	.	0.3	0.4	0.9	1.2	1.1	0.4	1.8	0.7
NOT ENOUGH ARTICLES/ PROGRAMMES ON THAT SCIENCE																
Agree	57.2	62.8	47.2	40.2	52.2	58.0	23.2	34.5	49.8	52.1	41.1	34.1	46.1	50.8	21.4	32.2
Disagree	25.8	18.6	39.6	33.1	27.7	28.6	15.4	18.8	33.5	25.3	43.1	36.7	32.8	32.6	15.0	19.2
It varies	10.6	7.2	6.8	12.5	6.1	7.0	3.7	3.7	12.3	11.4	8.3	13.3	5.6	8.3	4.8	7.3
No opinion	5.1	11.2	6.0	12.1	13.8	5.7	56.6	43.0	4.3	10.4	6.8	14.5	14.2	8.1	57.1	40.4
Not stated	1.2	0.2	0.4	2.0	0.2	0.5	1.1	.	0.2	0.8	0.7	1.3	1.3	0.2	1.7	0.9
DIFFICULT TO FIND SPECIFIC ARTICLES/ PROGRAMMES ON THAT SCIENCE																
Agree	47.6	50.5	34.9	23.3	40.0	42.3	21.6	37.0	39.4	43.9	29.8	25.8	31.9	40.1	19.3	28.9
Disagree	32.2	26.5	46.1	46.8	31.6	39.4	12.0	17.0	37.6	29.1	50.5	42.2	37.0	36.2	14.8	19.5
It varies	10.7	11.1	10.4	14.1	10.0	11.3	6.3	5.4	14.8	11.9	8.7	14.4	11.3	14.0	7.0	8.2
No opinion	8.4	11.8	8.1	14.1	17.4	6.5	59.0	40.6	7.8	14.7	10.3	15.9	18.9	9.5	57.3	43.0
Not stated	1.0	0.2	0.6	1.7	1.1	0.4	1.1	.	0.5	0.4	0.7	1.8	0.9	0.2	1.7	0.3

[1] Statement headings have been modified to encompass all four media. See Main Tables of the individual media for exact wording.

	INTEREST IN															
	LIFE SCIENCES								ENGINEERING SCIENCES							
	READ NEWSPAPERS		READ MAGAZINES		WATCH TELEVISION		LISTEN TO RADIO		READ NEWSPAPERS		READ MAGAZINES		WATCH TELEVISION		LISTEN TO RADIO	
	Regularly	From time to time	Regularly	From time to time	Less than 2 hours	Two hours or more	Less than 2 hours	Two hours or more	Regularly	From time to time	Regularly	From time to time	Less than 2 hours	Two hours or more	Less than 2 hours	Two hours or more
TOTAL AUDIENCE VERY/ QUITE INTERESTED IN THAT SCIENCE	834	419	514	485	528	876	756	569	590	256	358	315	377	572	537	354
MOST ARTICLES/ PROGRAMMES DEALING WITH THAT SCIENCE ARE ACCURATELY REPORTED [1]																
Agree	50.2	46.5	67.6	56.7	66.2	68.0	29.8	41.3	44.6	44.4	60.9	58.4	55.9	66.1	27.4	37.2
Disagree	19.6	23.6	9.1	13.0	8.8	11.1	5.9	7.1	21.8	25.5	10.7	12.4	11.1	10.7	5.5	9.4
It varies	21.9	19.9	12.1	18.0	10.6	13.0	7.3	11.0	20.8	17.6	16.7	15.7	17.2	13.7	11.1	11.9
No opinion	7.7	9.7	10.1	11.1	14.2	7.4	55.3	40.3	11.8	12.5	11.4	12.7	15.8	9.3	54.5	41.0
Not stated	0.5	0.3	1.0	1.2	0.1	0.5	1.7	0.3	1.0	.	0.2	0.7	.	0.3	1.5	0.7
MOST ARTICLES/ PROGRAMMES DEALING WITH THAT SCIENCE ARE INTERESTING																
Agree	74.7	69.6	85.0	76.0	81.2	85.1	33.1	47.8	65.8	70.6	79.3	73.1	74.3	80.3	33.3	44.6
Disagree	6.6	9.2	2.7	2.9	2.8	2.2	3.5	4.4	9.8	6.6	1.6	4.8	6.3	4.0	3.9	5.5
It varies	16.4	16.3	8.5	13.7	9.2	10.4	8.9	11.9	21.1	21.3	15.8	15.3	13.6	13.0	10.7	14.3
No opinion	1.8	4.8	3.2	6.3	6.5	2.0	52.8	35.5	2.3	1.4	3.0	6.1	5.8	2.3	50.5	35.0
Not stated	0.5	0.1	0.6	1.2	0.3	0.4	1.7	0.3	1.0	.	0.2	0.7	.	0.3	1.5	0.7
ENJOY ARTICLES/ PROGRAMMES ON THAT SCIENCE																
Agree	77.0	72.7	86.0	77.8	77.8	83.8	32.1	46.3	72.4	68.5	79.1	72.4	70.9	78.1	32.5	40.2
Disagree	5.4	6.7	1.9	1.4	2.9	3.2	5.3	5.2	5.8	5.5	3.1	3.5	6.0	3.9	4.2	6.6
It varies	15.9	16.2	7.7	14.0	12.3	10.9	10.1	13.3	18.5	24.9	14.7	18.1	16.8	15.7	11.7	17.6
No opinion	1.1	4.2	3.5	5.0	6.4	1.6	50.7	34.7	2.0	1.1	2.6	5.3	6.2	2.0	50.0	34.9
Not stated	0.6	0.2	0.9	1.8	0.6	0.5	1.8	0.5	1.2	.	0.5	0.7	0.1	0.3	1.5	0.7
ARTICLES/ PROGRAMMES ON THAT SCIENCE ARE EASY FOR ME TO UNDERSTAND																
Agree	58.4	49.0	67.7	53.1	72.3	64.7	31.2	42.0	51.6	43.2	60.9	50.2	59.6	58.0	27.7	39.3
Disagree	12.4	20.0	8.9	13.7	7.6	10.2	7.3	7.9	17.5	22.8	11.4	16.5	11.2	15.6	5.8	9.4
It varies	27.8	26.4	19.4	26.0	14.1	22.8	11.2	12.5	27.0	32.0	24.4	25.8	22.5	22.9	14.4	16.1
No opinion	0.6	4.0	3.3	6.0	5.6	1.7	48.8	37.0	2.1	1.4	3.0	6.4	6.6	2.9	50.5	34.6
Not stated	0.8	0.7	0.6	1.2	0.4	0.7	1.5	0.5	1.7	0.5	0.2	1.0	.	0.7	1.5	0.7
NOT ENOUGH ARTICLES/ PROGRAMMES ON THAT SCIENCE																
Agree	53.7	53.7	43.4	39.1	49.8	53.3	19.9	34.5	48.6	56.9	44.0	42.2	50.1	54.0	19.8	31.8
Disagree	27.2	19.3	38.7	36.4	30.0	31.5	19.7	17.4	29.8	27.8	38.7	37.1	28.1	27.8	14.3	19.2
It varies	12.5	11.4	8.8	8.9	5.2	8.3	4.2	4.7	10.5	7.6	8.4	10.0	6.8	10.1	9.2	6.9
No opinion	5.8	15.5	8.5	14.0	14.9	6.5	54.6	42.7	9.5	7.7	8.7	9.7	14.8	7.9	55.1	41.5
Not stated	0.7	0.1	0.6	1.6	0.1	0.4	1.6	0.7	1.6	.	0.2	1.0	0.2	0.3	1.7	0.7
DIFFICULT TO FIND SPECIFIC ARTICLES/ PROGRAMMES ON THAT SCIENCE																
Agree	39.7	46.2	29.0	26.0	33.3	37.7	22.2	28.3	44.5	44.7	32.0	31.8	36.7	40.8	20.8	33.2
Disagree	35.2	27.8	49.7	43.2	36.3	37.7	14.0	18.3	30.9	33.6	47.5	42.1	30.6	34.9	13.9	17.4
It varies	16.1	12.1	11.6	14.6	11.4	14.1	6.0	8.6	12.8	11.8	9.0	12.3	12.3	14.5	8.0	6.8
No opinion	8.2	13.7	9.1	14.4	18.3	10.0	55.7	44.1	10.7	10.0	11.3	13.1	20.3	9.6	55.7	41.9
Not stated	0.8	0.1	0.6	1.8	0.7	0.6	2.0	0.6	1.1	.	0.2	0.7	.	0.3	1.5	0.7

[1] Statement headings have been modified to encompass all four media. See Main Tables of the individual media for exact wording.

Main Table 31-A. Some Staff Characteristics of the Canadian Dailies Surveyed in the Managing Editors Poll.

	N	Number of Dailies with Staff Sizes: 1-10	11-25	26-50	51-100	More than 100
Editorial Staff [1]	*(48)* [3]	10	17	11	5	5
Reporting Staff [2]	*(51)*	22	19	8	3	-

[1] Includes both reporters and editors.

[2] One of these dailies also employed five part-time reporters; another, six part-time reporters.

[3] Three replies where only editorial writers, or writers on editorial pages, were given, were excluded.

Main Table 31-B. Number of Specific Reporters or Editors Assigned to Various Science or Science-Related Beats on Canadian Dailies.

Category	Number of Dailies: With One Reporter	Number of Dailies: With More than One Reporter	Number of Dailies: With One Editor	Number of Dailies: With More than One Editor
a) Medicine and Health	22	-	3	-
b) Science	11	-	3	-
c) Ecology	15	-	3	-
d) Aviation	4	1	2	-
e) Agriculture	21	-	4	1
f) Business/Finance	10	9	9	5
g) Oil/Mining	4	3	2	2
h) Automotive/Trans.	5	2	1	-
	N=51		*N=52*	

Main Table 32. Reasons given by Managing Editors Polled for their Daily Not Hiring or Assigning Special Science Writers

	Number of Editors [1] Who Felt Their Paper's Reply to be:			
	Yes	No	*Uncertain of Reply*	No. of Editors Stating Reason was Predominant one:
a) Science news is covered adequately by other staff writers	14	12	-	4
b) Science news is covered better by other staff members	1	18	4	-
c) Science is not of sufficient interest to our readers to warrant a specific reporter	4	15	7	-
d) We do not have enough staff-written science news to justify a full-time science writer	29	3	1	11
e) It is cheaper to supplement the paper's news with science news from the wire services	16	9	1	2
f) We cannot afford a science writer	20	6	2	6
g) No one on the staff is qualified for/ capable of handling a science beat - but the situation is acceptable as is	13	8	6	2
h) No one on the staff is qualified for/ capable of handling a science beat - but we are currently looking for someone to handle science exclusively	1	23	1	-

1. The number of editors who replied to this question, N=33. Multiple responses are possible.

Main Table 33-A. Views of Managing Editors on the Adequacy of the Science News/ Features Reaching their Publication from National News Services.

Science News/ Features From:		Canadian Press (CP)	Wire Services of the Newspaper Group
Adequate in Quantity for Audience?	Yes	37 *(76%)*	26 *(79%)*
	No	12 *(24%)*	7 *(21%)*
Adequate in Quality for Audience?	Yes	31 *(63%)*	30 *(91%)*
	No	18 *(37%)*	3 *(9%)*
		N=49	N=33 [1]

[1] Nineteen of the managing editors polled either did not respond, or their newspapers did not belong to any group.

Main Table 33-B. Views of Managing Editors on Selected Issues Regarding Science News/ Features Reaching their Publication from National News Services.

Science News/ Features From:		Number of Editors Who Found Issues to Occur: Never	Seldom	Now & Then	Often	Always	*At Least Now & Then*
Canadian Press (CP)[1]	c) Items insufficient in their news value for your readers?	1	13	18	9	-	27
	d) Items not of interest to your local readers?	-	10	20	11	-	31
	e) Items do not offer enough background to make them meaningful?	2	16	11	12	-	23
	f) Items too technically-written for your readers?	2	22	8	8	-	16
	g) Items do not have sufficient illustration?	-	5	8	23	2	33
Wire Services of the Newspaper Group[2]	c) Items insufficient in their news value for your readers?	1	11	12	3	1	16
	d) Items not of interest to your local readers?	-	7	13	5	-	18
	e) Items do not offer enough background to make them meaningful?	2	17	6	4	-	10
	f) Items too technically-written for your readers?	4	13	9	2	-	11
	g) Items do not have sufficient illustration?	1	1	5	18	2	25

[1] N=49.

[2] N=33. Nineteen of the 52 managing editors surveyed either did not respond, or their newspapers did not belong to any group.

Main Table 34. Managing Editors' Perception of Audience Interest in the Sciences.

	N	Number of Managing Editors Who Felt:			
		Audience Very Interested In It	Audience Mildly Interested In It	Audience Not Interested In It	Audience Very/Mildly Interested In It
a. Medicine and Health	(47)	45	2	-	47 *(100%)*
b. Biological Sciences	(41)	3	34	4	37 *(90%)*
c. Agriculture	(48)	22	23	3	45 *(94%)*
d. Ecology	(46)	27	18	1	45 *(98%)*
e. Social Sciences	(45)	15	28	2	43 *(96%)*
f. Science & Provincial/ Municipal Government	(45)	6	32	7	38 *(84%)*
g. Science & Federal Government	(45)	2	35	8	37 *(82%)*
h. University Research	(43)	4	30	9	34 *(79%)*
i. Industrial Innovation	(43)	8	31	4	39 *(91%)*
j. Physical Sciences	(42)	2	30	10	32 *(76%)*
k. Business/Economics	(42)	12	28	2	40 *(95%)*
l. Space and Aviation	(44)	19	23	2	42 *(95%)*
m. Education	(43)	24	18	1	42 *(98%)*
n. Oil/Mining/Resources	(43)	11	30	2	41 *(95%)*
o. Engineering Sciences	(41)	2	28	11	30 *(73%)*

Main Table 35. College Courses and Supplementary Training in the Sciences Taken by Managing Editors of Canadian Dailies.

Science and Science-Related Fields	Number with College Courses (C)	Number with Supplementary Training (S)	Number with Either (C), (S), or Both
a) Medicine and Health	3	2	5
b) Biological Sciences	5	-	5
c) Agricultural Sciences	2	4	6
d) Environmental Sciences	1	-	1
e) Sociology	11	4	15
f) Psychology	11	4	15
g) Political Science	15	4	19
h) Physics	4	1	5
i) Chemistry	4	-	4
j) Mathematics	5	1	6
k) Business/Economics	11	5	16
l) Engineering	1	-	1

N=48; multiple responses possible in each column.

Main Table 36. Science Writers in the Sample-- According to their Employment.

Employer			Number of Science Writers With Primary Job :[1] Science/ Medical Writing	Science-Related Writing	Non-Science /General Writing	N
Mass Media *N=98*	1	Reporters with Daily Newspapers with:				
		a) Circulation less than 25,000	1E			(1)E
		b) Circulation 25,000-75,000	5E	2E	1E	(8)E
		c) Circulation greater than 75,000	19E 9F	5E 1F	9E 1F	(33)E (11)F
	2	Wire/News Services Reporters[2]	5E	1E		(6)E
	3	Editors with Daily Newspapers		4E	6E[3]	(10)E
	4	Writers and Editors of Business/ Technical Publications	12E 5F	1E		(13)E (5)F
	5	Writers/Producers for Radio[4]	4E		1E	(5)E
	6	Writers/Producers for Television[5]	3E 1F	1E		(4)E (1)F
Institutions *N=15*	7	Writers with Universities	5E			(5)E
	8	Writers with Government	9E 1F			(9)E (1)F
N=113						

[1] French-language science writers denoted by the letter F, English by the letter E.
[2] No circulation listed for one of these science reporters.
[3] These six replies came from dailies which had no specific science writer. Two were from managing editors, one news editor, one city editor and one executive editor. Of these, five were from papers with circulations of less than 35,000; one, with 100,000 circulation.
[4] One respondent was a radio freelancer.
[5] One reply came from an Educational Television; one from a writer and producer of a university TV medical series.

Main Table 37. Distribution of the Science Writers by Age and Sex.

By Age	By Sex			
	Male		Female	
	Number in Total Sample	Number among Daily Reporters	Number in Total Sample	Number among Daily Reporters
Under 20 years	-	-	-	-
21-30	26	15	10	5
31-40	22	10	6	4
41-50	23	11	4	5
51-60	10	4	-	-
Over 60 years	3	2	1	-
N	(84)	(42)	(21)	(14)

Main Table 38. Annual Salaries of Science Writers.

	Number of Science Writers in the Given Salary Ranges					
	Male		Female		Both Groups	
	In Total Sample	Daily Reporters	In Total Sample	Daily Reporters	In Total Sample	Daily Reporters
$ 4-5,999	-	-	1	-	1	-
$ 6-7,999	2	2	1	1	3	3
$ 8-9,999	5	4	2	2	7	6
$10-11,999	14	9	3	1	17	10
$12-13,999	14	10	6	3	20	13
$14-15,999	12	4	7	6	19	10
$16-17,999	9	4	3	1	12	5
$18,000 plus	11	5	-	-	11	5
N	(67)	(38)	(23)	(14)	(90)	(52)

Main Table 39. Distribution of Weekly Time on Science Reporting/ Broadcasting by Science Writers Polled

Employer			Number of Science Writers[1] Who Spent ___ Hours 0-20	21-40	Over 40
Mass Media	1	Reporters with Daily Newspapers with:			
	a)	Circulation less than 25,000	-	-	-
	b)	Circulation 25,000-75,000	3	3	2
	c)	Circulation greater than 75,000	17	14	8
	2	Wire/News Services Reporters	-	2	4
	3	Editors with Daily Newspapers	5	-	1
	4	Writers and Editors of Business/ Technical Publications	9	3	4
	5	Writers/Producers for Radio	2	3	-
	6	Writers/Producers for Television	2	1	2
Institutions	7	Writers with Universities[2]	2	-	2
	8	Writers with Government	2	1[3]	3[3]

[1] N(Sample)=96
[2] Time spent was that while respondents were science reporters for dailies.
[3] Four are former science writers with the media, and listed time spent per week on science reporting while with the media.

Main Table 40. Extent of Coverage of Scientific and Science-Related Fields by Science Writers.

Category	Number of Science Writers Who Covered Field: Never	Once a Year	Several Times a Year	Monthly	Weekly	Daily	N	Number who Write at Least Monthly	Number who Feel More Coverage is Needed
a. Medicine and Health	12	14	23	10	18	16	93	44	10
b. Biological Sciences	21	13	30	8	12	1	85	21	13
c. Agriculture	23	16	23	8	7	6	83	21	10
d. Ecology	3	14	41	14	15	3	90	32	7
e. Social Sciences	21	11	36	9	5	2	84	16	14
f. Science and Provincial /Municipal Government	18	19	27	11	6	1	82	18	11
g. Science and Federal Government	16	10	37	9	9	5	86	23	13
h. University Research	13	10	43	7	15	3	91	25	11
i. Industrial Innovation	17	12	37	13	6	0	85	19	12
j. Physical Sciences	22	17	24	9	4	4	80	17	2
k. Business/Economics	27	10	18	10	12	8	85	30	7
l. Space and Aviation	23	16	28	7	6	2	82	15	3
m. Education	16	22	25	11	1	4	79	16	1
n. Oil/Mining/Resources	26	11	26	6	10	4	83	20	3
o. Engineering Sciences	28	17	23	7	4	0	79	11	1

[1] Number of science writers who replied to this column, N=45; multiple responses also possible here.

Main Table 41. Number of Science and Science-Related Fields Covered by Science Writers.

Number of Fields [3]	Number of Writers Who Cover ___ Fields: Coverage by All Writers Polled [1]: At least several times /year	Coverage by All Writers Polled [1]: At least monthly	Coverage by Daily Reporters Only [2]: At least several times /year	Coverage by Daily Reporters Only [2]: At least monthly
1	5	21	1	14
2	6	15	4	7
3	5	11	5	9
4	10	5	6	2
5	10	6	7	5
6	7	7	4	6
7	8	6	4	1
8	6	3	5	1
9	6	2	4	1
10 or more	37	6	20	4

[1]N=101.
[2]N=58.
[3]Fifteen categories which deal with science are given in Main Table 40.

Main Table 42. Frequency of Consultation of Various Sources of Science Information.

	Number of Science Writers who Used Source:					
	Never	Once/ Year	Several Times/Year	Monthly	Daily	*N*
a) University scientists, engineers	12	5	41	19	16	*93*
b) University information officers	20	9	38	19	6	*92*
c) University reports/publications	13	12	46	17	5	*93*
d) Ooctors/medical personnel	10	14	34	13	17	*88*
e) Hospital administrators	31	15	27	12	3	*88*
f) Attendance at seminars/conventions	11	14	48	19	2	*94*
g) Professional/scientific associations	14	14	49	13	3	*93*
h) Industry spokesmen/PR officers	11	12	39	28	7	*97*
i) Industry R&D scientists	25	19	31	9	2	*86*
j) Industry reports/publications	19	12	30	19	11	*91*
k) Government scientists	17	11	42	10	13	*93*
l) Government information services	15	9	44	21	12	*101*
m) Departmental officials	10	12	36	13	15	*86*
n) Government reports/publications	8	6	43	20	14	*91*
o) Wire copy: CP	20	5	16	10	33	*84*
p) Wire copy: BN	46	4	4	3	4	*61*
q) Wire copy: AP, UPI	29	6	17	10	17	*79*
r) Canadian scientific journals	17	11	27	25	8	*88*
s) Popular or semipopular magazines	19	8	27	16	15	*85*

Main Table 43. Estimated Reliability of Various Sources of Science Information According to Frequency of Use.

	Number of Science Writers Who Used Source __ and Found Source Reliable/Unreliable						
	Never	Once/ Year	Several Times/Year	Monthly	Daily	N(Reliable)/ N(Unreliable)	*N*
a) University scientists, engineers	1/-	5/-	37/1	19/-	14/-	(76)/(1)	*77*
b) University information officers	3/5	4/4	30/6	17/2	5/1	(53)/(18)	*77*
c) University reports/ publications	-/-	10/-	42/1	16/1	5/-	(73)/(2)	*75*
d) Doctors/medical personnel	-/-	10/2	30/-	10/2	15/2	(65)/(6)	*71*
e) Hospital administrators	2/2	12/-	15/6	11/1	3/-	(43)/(9)	*52*
f) Attendance at seminars/ conventions	2/1	13/-	44/1	15/1	2/-	(76)/(3)	*79*
g) Professional/scientific associations	-/1	11/1	39/4	10/1	3/-	(63)/(7)	*70*
h) Industry spokesmen/ PR officers	1/3	8/3	26/10	16/9	7/-	(58)/(25)	*83*
i) Industry R&D scientists	3/-	12/1	26/4	9/-	2/-	(52)/(5)	*57*
j) Industry reports/ publications	3/4	10/1	23/6	11/6	9/2	(56)/(19)	*75*
k) Government scientists	1/1	8/-	36/2	8/2	11/1	(64)/(6)	*70*
l) Government information services	1/1	8/-	33/6	15/5	7/4	(64)/(16)	*80*
m) Department officials	-/-	9/2	29/5	10/1	14/-	(62)/(8)	*70*
n) Government reports/ publications	2/1	5/-	40/-	16/2	11/1	(74)/(4)	*78*
o) Wire copy: CP	-/1	4/1	12/4	6/4	27/5	(49)/(15)	*64*
p) Wire copy: BN	-/1	2/1	3/1	3/-	2/2	(10)/(5)	*15*
q) Wire copy: AP, UPI	3/1	4/2	14/2	7/3	14/3	(42)/(11)	*53*
r) Canadian scientific journals	1/1	9/-	22/1	23/1	B/-	(63)/(3)	*66*
s) Popular or semipopular magazines	1/5	6/2	15/9	11/4	11/3	(44)/(23)	*67*

1. Listed first are total of science writers who found source usually or always reliable. Following each slash are science writers who found source poor, unreliable, or variable in reliability.
2. No replies in any category indicated by a dash.

Main Table 44. Use of Scientific Journals by Science Writers.

	N	No. of Writers Who Use Journals Regularly	No. of Writers Who Don't Use Journals
Canadian Scientific Journals	(100)	54	46
Foreign Scientific Journals	(95)	61	34

Main Table 45. Comparison of Use of Canadian and Foreign Scientific Journals by the Science Writers Polled.

		FOREIGN SCIENTIFIC JOURNALS	
		No. of Writers Who Use Regularly	No. of Writers Who Don't Use
Canadian Scientific Journals	No. of Writers Who Use Regularly[1]	47	5
	No. of Writers Who Don't Use	14	31

[1]N=97 science writers who replied to both the Canadian and Foreign journal parts.

Main Table 46. Estimated Usefulness to Science Writers of News Releases from Various Sources.

Percentage Useful	Number of Science Writers Who Found __%__ News Releases Useful from the Following Sources				
	Federal Government	Provincial Government	Industry	Universities	Scientific/ Professional Associations
0-25% [1]	53	42	46	36	35
26-50% [2]	17	19	14	20	17
51-75% [3]	3	5	4	2	5
76-100% [4]	7	2	9	9	11
N	*(90)*	*(68)*	*(73)*	*(67)*	*(68)*

[1] Includes statements such as negligible, few, very low, or small proportion wherever percentage ranges not stated explicitly.

[2] Includes statements such as some, spotty.

[3] Includes many.

[4] Includes most, all.

Main Table 47. Volume of News Releases Received by Science Writers in a Three-Month Period.

	Number of Science Writers Who Receive ___ News Releases from the Following Sources				
	Federal Government	Provincial Governments	Industry	Universities	Scientific/ Professional Associations
Number of Releases					
0-10	24	29	25	36	42
11-20	17	10	11	8	5
21-50	14	9	12	11	3
Over 50	14	5	10	1	4
N	*(69)*	*(53)*	*(58)*	*(56)*	*(54)*

Fourteen writers did not specify the volume, but noted few, small number, can't estimate, dozens, too many, swamped, etc.

Main Table 48. Science Writers' Perception of Audience Interest in the Sciences.

	N	Number of Science Writers Who Felt:			
		Audience Very Interested In It	Audience Mildly Interested In It	Audience Not Interested In It	Audience Very/Mildly Interested In It
a. Medicine and Health	(109)	95	14	-	108 *(99%)*
b. Biological Sciences	(104)	16	66	22	82 *(79%)*
c. Agriculture	(101)	13	72	16	85 *(84%)*
d. Ecology	(105)	69	36	-	85 *(81%)*
e. Social Sciences	(102)	23	57	22	80 *(78%)*
f. Science & Provincial/ Municipal Government	(100)	7	39	54	46 *(46%)*
g. Science & Federal Government	(100)	10	48	42	58 *(58%)*
h. University Research	(103)	11	64	28	75 *(73%)*
i. Industrial Innovation	(104)	27	59	18	86 *(83%)*
j. Physical Sciences	(100)	10	59	31	69 *(69%)*
k. Business/ Economics	(100)	18	64	1B	82 *(82%)*
l. Space and Aviation	(100)	35	60	5	95 *(95%)*
m. Education	(103)	33	61	9	94 *(91%)*
n. Oil/Mining/Resources	(98)	26	51	21	77 *(79%)*
o. Engineering Sciences	(98)	3	49	46	52 *(53%)*

Main Table 49. Science Writers' Perception of the Coverage of Canadian Scientific Activities by the Mass Media.

Number of Science Writers Who Felt that Media Coverage was: [1]

	Sufficient in quantity for public's demands			Sufficient in quality for public's demands		
	Yes	No	*N*	Yes	No	*N*
Newspapers	31 E 35 4 F	57 E 70 13 F	*(105)*	24 E 28 4 F	65 E 75 10 F	*(103)*
Magazines	29 E 34 5 F	58 E 69 11 F	*(103)*	32 E 40 8 F	52 E 58 6 F	*(98)*
Radio	12 E 17 5 F	73 E 84 11 F	*(101)*	13 E 17 4 F	70 E 80 10 F	*(97)*
Television	24 E 29 5 F	63 E 75 12 F	*(104)*	28 E 34 6 F	56 E 64 8 F	*(98)*

[1] French language science writers denoted by the letter F; English by the letter E.

Main Table 50. Science Writers' Perception of the Coverage of Science News of Quebec Origin Reaching the Public Across Canada Through the Mass Media.

Number of Science Writers Who Felt that Media Coverage was: [1]

	Sufficient in quantity for public's demands			Sufficient in quality for public's demands		
	Yes	No	*N*	Yes	No	*N*
Newspapers	13 E 15 2 F	40 E 52 12 F	*(67)*	12 E 16 4 F	37 E 45 8 F	*(61)*
Magazines	7 E 8 1 F	42 E 53 11 F	*(61)*	10 E 13 3 F	37 E 44 7 F	*(57)*
Radio	5 E 6 1 F	44 E 52 8 F	*(58)*	6 E 7 1 F	40 E 46 6 F	*(53)*
Television	8 E 10 2 F	41 E 49 8 F	*(59)*	9 E 15 6 F	37 E 39 2 F	*(54)*

1. French language science writers denoted by the letter F; English, by the letter E.

Main Table 51. Frequency of Occurrence and Seriousness of a Selection of <u>Internal</u> Barriers Encountered by Science Writers.

RANK		NUMBER OF WRITERS WHO ENCOUNTER SITUATION: NEVER		SELDOM		NOW & THEN		OFTEN		ALWAYS		N	PER CENT WHO ENCOUNTER SITUATION[1] (%)[3]	*PER CENT WHO FEEL SITUATION IS SERIOUS*[2] *(%)*[3]	*(%)*[4]
1	Find that I must work on a hit-and-miss approach on the sciences because my beat/range of topics/ covers too broad a spectrum.	7	-	8	*2*	17	*8*	21	*16*	14	*13*	67	(78%)	*(58%)*	*(71%)*
2	Too little time allotted to thoroughly research my science stories.	9	-	14	*4*	23	*12*	31	*23*	7	*6*	84	(73%)	*(54%)*	*(67%)*
3	Difficulty in keeping the details of stories I write simple yet still scientifically accurate.	3	-	20	*7*	27	*9*	31	*25*	11	*6*	92	(75%)	*(51%)*	*(58%)*
4	Find that I miss opportunities for science stories because I am forced to cover other topics.	18	-	11	*3*	14	*5*	24	*15*	7	*6*	74	(61%)	*(39%)*	*(58%)*
5	Difficulty in gleaning the "news" from the large number of press releases I receive daily.	10	-	21	*2*	16	*6*	19	*13*	11	*7*	77	(60%)	*(36%)*	*(57%)*
6	Too little space provided for the science stories I write/ produce.	12	-	22	*2*	25	*9*	17	*13*	2	*1*	78	(56%)	*(32%)*	*(52%)*
7	Feel uncertain about the comprehension level of my audience/ readership for science news.	15	*1*	22	*2*	25	*9*	19	*6*	5	*3*	86	(57%)	*(24%)*	*(37%)*
8	Hard to convince my editors of the importance of science news.	21	-	23	*1*	20	*6*	13	*9*	4	*3*	81	(46%)	*(23%)*	*(49%)*
9	Find that I miss opportunities to cover the national science scene because I am forced to cover local interest science.	16	-	11	-	16	*4*	14	*9*	5	*1*	62	(56%)	*(22%)*	*(40%)*
10	Feel uncertain about the interest level of my audience/ readership for science news.	14	-	23	-	31	*7*	11	*6*	4	*2*	83	(55%)	*(19%)*	*(33%)*
11	Dislike having someone else write the heads for my science stories.	23	*1*	14	*3*	18	*4*	2	-	10	*3*	67	(45%)	*(15%)*	*(23%)*
12	I consider it a handicap not having a full-time science editor to edit my copy.	28	*1*	7	-	9	*2*	7	*3*	4	*2*	55	(36%)	*(15%)*	*(35%)*

[1] Total of NOW & THEN, OFTEN and ALWAYS. [2] In Italics: Writers who listed the situations as one of their five most serious.
[3] Per cent of Total (N). [4] Per cent of those who noted encountering situation (omitting NEVER).

Main Table 52. Frequency of Occurrence and Seriousness of a Selection of External Barriers Encountered by Science Writers

RANK		NUMBER OF WRITERS WHO ENCOUNTER SITUATION: NEVER	SELDOM	NOW & THEN	OFTEN	ALWAYS	N	PER CENT WHO ENCOUNTER SITUATION[1] (%)[3]	*PER CENT WHO FEEL SITUATION IS SERIOUS*[2] *(%)*[3]	*(%)*[4]
1	Find that scientists are reluctant to communicate the possible social implications of their research to the public.	5 *1*	13 *2*	21 *5*	41 *26*	13 *11*	93	(81%)	*(48%)*	*(56%)*
2	Difficulty in translating the jargon of scientists into the language of my readers/audience.	3 -	13 *3*	30 *9*	35 *23*	15 *10*	96	(83%)	*(47%)*	*(53%)*
3	Trying to overcome the traditional distrust of the media by the science community.	3 -	14 *2*	29 *7*	42 *25*	6 *5*	94	(82%)	*(41%)*	*(48%)*
4	Find that scientists are reluctant to communicate the facts of their research to the public.	4 -	20 *3*	25 *8*	41 *24*	3 -	93	(74%)	*(38%)*	*(46%)*
5	I find that scientists are psychologically unprepared to meet science writers.	5 -	13 *2*	20 *1*	43 *18*	4 *2*	85	(79%)	*(27%)*	*(31%)*
6	Find scientists are unfamiliar with day-to-day procedures for meeting science writers/broadcasters.	2 -	10 -	16 *1*	48 *14*	13 *9*	89	(87%)	*(27%)*	*(31%)*
7	Scientific groups keep inviting me to non-news press conferences.	11 *1*	17 -	29 *5*	21 *10*	- -	78	(64%)	*(21%)*	*(30%)*
8	Industry officials keep inviting me to non-news press conferences.	12 *1*	18 -	21 *8*	28 *7*	- -	79	(62%)	*(20%)*	*(31%)*
9	Government officials keep inviting me to non-news press conferences.	11 -	21 *1*	27 *4*	19 *9*	1 *1*	79	(59%)	*(19%)*	*(30%)*
10	Difficulty in locating authoritative scientific sources to verify the facts of my stories.	10 *1*	25 *3*	29 *3*	23 *9*	2 -	89	(61%)	*(18%)*	*(22%)*
11	I find it hard to convince my editor(s) that I should be allotted funds to attend national scientific meetings	22 -	18 -	9 -	14 *7*	8 *5*	71	(44%)	*(17%)*	*(39%)*
12	I find that scientific organizations don't have standard procedures for meeting science writers/ broadcasters.	2 -	14 -	13 *1*	41 *10*	8 *2*	78	(79%)	*(17%)*	*(21%)*
13	Find that Canadian scientific journals are reluctant to publish material which has already appeared in the mass media.	6 -	19 *2*	11 *2*	11 *4*	4 -	51	(51%)	*(16%)*	*(23%)*
14	Hesitate to cover stories because of difficulties in communicating with sources fluent in French__/ English__ only.	17 -	18 *1*	12 *2*	7 *2*	7 *2*	61	(43%)	*(8%)*	*(21%)*

[1] Total of NOW & THEN, OFTEN and ALWAYS. [2] In Italics: Writers who listed the situations as one of their five most serious.
[3] Per cent of Total (N). [4] Per cent of those who noted encountering situation (omitting NEVER).

Main Table 53. Reasons for Canadian Dailies Not Hiring Special Reporters to Cover Science News, as Perceived by Writers with the Daily Press.

	Number of Writers[1] Who Felt Their Paper's Reply to be: Yes	No	*Uncertain of Reply*	No. of Writers Stating Reason was Predominant one:
a) Science news is covered adequately by other staff writers	16	14	3	7
b) Science news is covered better by other staff members	2	22	5	0
c) Science is not of sufficient interest to our readers to warrant a specific reporter	14	15	3	9
d) We do not have enough staff-written science news to justify a full-time science writer	16	8	4	5
e) It is cheaper to supplement the paper's news with science news from the wire services	21	5	7	11
f) We cannot afford a science writer	9	14	7	6
g) No one on the staff is qualified/capable of handling a science beat - but the situation is acceptable as is	8	19	5	3
h) No one on the staff is qualified/capable of handling a science beat - but we are currently looking for someone to handle science exclusively	4	4	5	3

1. N=44. Only reporters and science or science-related editors employed by dailies and news services are included in this total. Multiple responses are possible.

Main Table 54. Educational/Science Background of the Science Writers Polled.

		Number Within Total Sample		Number Within Mass Media Only	
No High School Science		2		2	
Science Courses in High School Only	1-2 years 3 years or more	2 13	(15)[1]	2 11	(13)
Science Courses in College	1-2 years 3 years or more	33 28	(61)	2B 24	(52)
Post-Graduate Courses in Science	1-2 years 3 years or more	10 5	(15)	7 4	(11)
College Courses in Journalism	1-2 years 3 years or more	16 14	(30)	12 10	(22)
TOTAL WITH:[2]	Both Science and Journalism Courses in College	26		19	
	At least a B.Sc. Degree	22		20	
	At least a Journalism Degree/Diploma	23		19	
	At least a B.A. Degree	21		19	
	At least another Degree/Diploma	3		3	
	At least an M.Sc. Degree	9		8	
	Master's in Journalism/Communications	3		2	
	At least an M.A. Degree	5		3	
	Ph.D. or M.D.	4		3	
		N=101		*N=88*	

[1] Six of these writers had had related courses/supplementary training in a number of sciences.

[2] Since a number of respondents had transferred from science programs to others such as Liberal Arts, Communication, or vice versa, cumulative totals are provided. Hence, within the 22 writers who have obtained their B.Sc.'s are included writers with M.Sc., M.A. and higher degrees.

Main Table 55. Reporting and Science Writing Experience of the Writers Polled.

		Number Within Total Sample	Number Within Mass Media Only
Reporting Experience	1-2 years	6	6
	3-5 years	17	14
	6-10 years	21	18
	11-20 years	29	26
	More than 20 years	12	11
Average Reporting Experience (in years)		12.8±8.5(s.d.)[1]	12.9±B.8(s.d.)
Experience in Science or Technical Writing	1-2 years	10	10
	3-5 years	19	17
	6-10 years	20	17
	11-20 years	13	8
	More than 20 years	7	4
Average Science and Technical Writing Experience (in years)		9.7±B.4(s.d.)	B.4±7.2(s.d.)
		N=101	*N=88*

[1] (s.d.)= Standard deviation.

Main Table 56. College Courses and Supplementary Training in the Sciences Taken by Science Writers.

	Number of Science Writers Who Have Taken:[1,2]					
	College Courses		Supplementary Training		College/Supplem./ or Both	
	Total Sample	*Mass Media*	Total Sample	*Mass Media*	Total Sample	*Mass Media*
Medicine and Health	23	*20*	21	*17*	37	*31*
Biological Sciences	29	*20*	21	*17*	42	*33*
Agricultural Sciences	6	*5*	11	*8*	16	*13*
Environmental Sciences	7	*6*	21	*17*	25	*21*
Sociology	36	*32*	13	*12*	42	*37*
Psychology	36	*29*	11	*10*	41	*34*
Political Science	38	*31*	14	*12*	45	*27*
Physics	33	*27*	11	*8*	40	*32*
Chemistry	33	*27*	11	*6*	38	*30*
Mathematics	35	*31*	7	*5*	39	*34*
Business/Economics	30	*26*	17	*15*	41	*35*
Engineering	7	*6*	9	*6*	15	*11*

[1] N=105 for Total Sample; N=96 for Mass Media writers; Multiple responses possible.

Main Table 57. Number of Science Courses in College Taken by the Science Writers Polled.

Number of Science Courses Taken	Number of Writers in Total Sample	Number of Mass Media Writers
None	36	33
1	11	9
2	10	9
3	14	13
4	9	7
5 or More	25	19
	N=105	*N=96*

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