

SIMON FRASER UNIVERSITY

MEMORANDUM

TO: SENATE

FROM: Senate Committee on
Academic Planning

RE: SCAP/Harbour Centre
Program Recommendations

DATE: 17 February, 1989

At its meeting of February 15th, 1989, The Senate Committee on Academic Planning considered a number of program initiatives from the SCAP/Harbour Centre Committee. These are attached for the information of Senate.

SCAP has approved the programs put forward as appropriate for the Harbour Centre Campus and has agreed that further planning and development and exploration of funding initiatives should proceed at this time. It is understood that SCAP approval at this time does not obviate the need for full academic approval through the usual senate committee process, i.e., SCUS, SCGS, SCAP, SENATE.

Memorandum

To: Dr. J.W.G. Ivany, Chairman
SCAP

From: Jack Blaney, Chairman
SCAP Harbour Centre
Sub-Committee

Subject: Program Recommendations

Date: February 8, 1989

Following from the statement on mission and objectives for the Harbour Centre campus approved by SCAP (SCAP 88-8) and Senate (S 88-33), the SCAP-Harbour Centre Sub-Committee has reviewed the program proposals received from across the university. The Committee unanimously believes that the following programs (which are in various stages of development and funding) would be central to the program focus approved for Harbour Centre and would contribute materially to its development. The programs are of three types: A) new program initiatives; B) programs previously approved by SCAP (April 9, 1986) as appropriate for a downtown campus and C) existing programs which are to be transferred to Harbour Centre, either in their present or in an adapted form. Copies of the proposals for new program initiatives are appended. Recommendations on other programs will be brought to SCAP following further review by the Sub-Committee.

A. New Program Initiatives

1. Centre for Image Sound Research
2. Canadian/American Business Studies Centre
3. Master of Arts in Liberal Studies
4. Centre for International Communication
5. B.C. Business Studies Institute
6. Canadian Institute for Advanced Research
7. Latin American Business Resource Centre
8. Actuarial Mathematics

(For the most part, the above initiatives represent extensions of existing programs or are already entered into the normal approval process.)

B. Programs Previously Approved

1. Human Performance Centre
2. Criminal Justice Administration
- currently under revision

C. Transfers of Existing Programs/Services

1. Executive MBA
 - from the Burnaby Mountain campus
2. Liberal Arts and Sciences/Certificates and Diplomas
 - refined and potentially expanded from the base established downtown over the past nine years. The Certificate in Liberal Arts will be a key to the selection and organization of courses.
3. Short Courses and Seminars Organized Through Continuing Studies
 - eg., the Writing Program, the Design Program, professional development programs in management, management skills for advanced technology, public policy studies
4. Praxis Film Development Workshop
 - to be relocated from rented space downtown
5. Psychology and the Law Institute
 - from the Burnaby Mountain campus
6. Statistical Consulting Service/Industrial Statistics
 - development of a downtown service modelled, in part, after the Burnaby Mountain campus service

The SCAP Harbour Centre Sub-Committee requests that these programs be approved as appropriate for the Harbour Centre campus. Given approval, further development and funding initiatives will be undertaken as required. Program implementation will occur when all three requirements (approval, development and funding) are satisfied. In the case of new program initiatives, it is understood that approval by SCAP at this time does not obviate the need for approval through the usual procedures (SCUS, SCGS, etc. to Senate).

J.P. Blaney/ym

SIMON FRASER UNIVERSITY

DEVELOPMENT OFFICE



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CENTRE FOR IMAGE/SOUND RESEARCH

PROJECT SUMMARY

The Centre for Image/Sound Research (ISR) will be located at Simon Fraser University's new Harbour Centre campus in downtown Vancouver. Initiated early in 1987 by the faculty of SFU's Centre for the Arts, the Centre for ISR is designed to be a partnership between SFU and the high technology industry in British Columbia and Canada.

The Centre for Image/Sound Research will be an interdisciplinary research facility where problems and opportunities arising in the area of arts and culture are addressed through strategic research initiatives. Artists of several interrelated disciplines and their considerable audiences will ultimately benefit from the work conducted at the Centre for Image/Sound Research.

Throughout the 1980's it became increasingly clear that the cultural industries were rapidly developing into a major economic sector in Canada and abroad. The fine and performing arts and the multi-faceted, ubiquitous entertainment industries which are based on the arts, are of unprecedented importance in the information age we live in.

Evolving art media and communications technologies are delivering more music, dance, theatre and literature through film and video to a global audience which expects more and more challenging content and increasing fidelity of image and sound. There are strong signs that audio and the printed word will be integrated with moving images to an even greater extent in the near future.

The arts and entertainment sector is an extremely volatile domain, subject to dramatic shifts in production techniques and audience receptivity. With the rise of advanced digital technologies there will be far greater changes in the immediate future. The Centre for ISR at SFU has emerged as an absolute necessity, a timely spin-off of the Centre for the Arts.

Like Praxis, a film development workshop which commenced operations in 1987, the Centre for ISR will complement research in progress by the faculty of SFU by providing an independent, non-academic research environment, designed to serve the arts and related industries in British Columbia and Canada.

The main objective of the Centre for ISR will be to conduct applied research in the use of new technologies in the cultural industries. This will involve its staff in pre-production and production initiatives (post-production will be contracted out), in direct partnership with private industry involved in the development

of software and hardware essential to the technology-driven arts and entertainment industries.

In order to meet the demands of applied research in such a complex field the Centre for Image/Sound Research will draw upon the knowledge of the faculties of SFU's Centre for the Arts, its Schools of Computing and Engineering Sciences, its Department of Communication, the Canadian Centre for Publishing Studies and its planned Centre for International Communication.

The Centre for ISR will also actively pursue collaborative research with other universities and colleges, in particular UBC, UVIC and BCIT, as well as with independent researchers, be they artists or engineers based in non-profit or for-profit companies in British Columbia and throughout Canada. Appropriate channels of communication will be opened with governments, institutions, groups and individuals involved in related work nationally and internationally.

At the heart of the Centre for ISR will be its partnership with private industry in B.C. and Canada. While the Centre for ISR will need a high percentage of public financing over the course of its first three years of operation, from the day the doors open there must be a steady climb towards self-sufficiency based on contract research in collaboration with the private sector. The problems and opportunities will emerge from the arts and entertainment sectors--the solutions will result from profitable, collaborative research with industry. Strategic research initiatives designed to result in technology transfer will determine the direction of the Centre for Image/Sound Research.

The Centre for ISR will have its own staff which will work in close association with an advisory committee. This advisory committee will be comprised of representatives of industry, SFU and the regional academic community, as well as independent researchers from the national arts community. While no formal academic courses will be offered by the Centre for ISR, it is anticipated that graduate and advanced students from the academic community will be employed as contract staff. Training and new skill development will be the product of applied research.

The diffusion of information on new uses of technology in the cultural field will be a very high priority at the Centre for ISR. To this end publications (paper, tape and electronic) and demonstrations via audio/video teleconferencing will emanate from this research centre on a frequent and ongoing basis. The Canadian Centre for Publishing Studies and the Centre for the Arts are fundamental to such a strategy. Industry will benefit directly from such an emphasis on diffusion. Hardware and software can be effectively promoted through artistic statement and performance.

The Centre for ISR will actively collaborate with government, industry and institutions inclined to diffuse non-proprietary information to the public on a national and international basis. While this research centre will be first and foremost a Canadian institution, as a national institution it will communicate internationally with like-minded institutions and interested publics around the world.

The Centre for ISR will naturally continue to place an emphasis on communication with Asia-Pacific nations. From its advantageous position in Vancouver it will serve as a catalyst for an ongoing exchange of culture-related technical information between Canada and the Asia-Pacific Region. To maximize such a trans-Pacific exchange, the Centre for Image/Sound Research anticipates a productive association with SFU's planned Centre for International Communication.

There is tremendous potential for an institution which can bridge the gap between technological development and cultural trends. In the academic environment it is clear that interdisciplinary research can be structured around the 'science of image and sound'. Within SFU's Department of Communication, a Media Analysis Lab is permitting researchers to perform social-scientific analysis of advertising and popular culture.

From the perspective of researchers in SFU's Schools of Computing and Engineering Sciences there is an interest in problems of visualization of scientific data, creating new models for perceiving the nature of complicated data terrains. On a more general level, an immense amount of work has to be done with respect to human factors in computing. How can human/machine interfaces be improved?

In the Canadian arts and entertainment industry there is rarely time or the means to address the fundamental problems or real opportunities arising from the rapid development of new technologies in the cultural industries. As this sector of our economy continues to grow there is a crucial need for effective infrastructure in this field.

With the assistance of government the Centre for Image/Sound Research will establish common ground between academic community and the hardware and software industry. Through shared research initiatives culminating in timely technology transfer the Centre for Image/Sound Research will make it possible for those with vision to participate in the creation of our future of image and sound.

February 1988
Vancouver

CENTRE FOR CANADIAN-AMERICAN BUSINESS STUDIES
PROPOSAL

Policy Group
Faculty of Business Administration
Simon Fraser University
April, 1988

RATIONALE:

The Faculty of Business Administration believes that a Vancouver-based research institute which focused on Canadian-American business issues, with particular emphasis on the western provinces and states, could serve a very worthwhile purpose. There is too little study of Canadian-U.S. issues in general, and no specialized institutions for the study of business issues specific to the western regions of both countries.

For a number of reasons over the last decade and a half, the effort expended on the study of Canadian-American relations has not been commensurate with the degree of interdependence between these two nations. In the early 1970s, as a reaction to perceived over-dependence on the United States, Canada sought a "third option," and academic research followed this pursuit. More recently, in recognition of the economic achievements, some would say supremacy, of Japan and the other trading powers of Asia, public interest has focused on Pacific Rim issues, and academic research has followed the trend. Nevertheless, relations, particularly business relations, between Canada and the United States are as important as ever, and will likely become more important with the imminent introduction of liberalized trade.

While there are research institutes on both sides of the border which address, or even specialize in Canadian-American issues, recent events have shown clearly that greater attention should be directed to business issues involving western Canada and the western United States. The recent trade disputes over shakes and shingles, softwood lumber, potash, and fish were primarily regional problems which might have been made more tractable had there been an independent business research institute with regional

expertise. No such research centre exists in western Canada today.

It is also clear that implementation of the free trade agreement over the next decade will generate considerable demand for independent analysis of its consequences. This is especially true given the framework format of the agreement--much detail remains to be worked out, and this should be based upon dispassionate, objective background research. Unfortunately, to date the free trade debate has been dominated by the private interest pleadings of regional and sectorial interest groups. For issues involving western Canada, policy makers, industry, and the public at large, would certainly benefit from recourse to the work of an independent, reputable, and regionally specialized research centre.

In summary, there is clearly a need for a study centre specializing in western Canadian-American business relations. Utilizing the reports such a centre would prepare, policy makers could more confidently design programs that would reduce the unemployment level and support individual business initiatives. Alert corporations would also be provided with information on new markets and regional windows of opportunity.

PROGRAM:

Focus:

It is our opinion that study centres often adopt so broad a focus that the result is a dissipation of resources and confusion of goals. To avoid this, the proposed centre will emphasize the study of business issues which are of immediate concern to western Canada, and which are compatible with the interests and expertise of SFU faculty.

Such areas would include, but are not limited to the following.

- A. Resource Industries. The economies of the western provinces are primarily resource based, and export oriented. A significant proportion of western Canadian resource exports are either destined for U.S. markets, compete with similar U.S. exports in third markets, or both. Simon Fraser University Faculty, particularly in the Faculty of Business Administration, the Department of Economics, the Institute of Fisheries Analysis, and the Master of Resource Management Program, have an established expertise in areas related to the economics, management, and public policy environment of western Canada's resource industries. SFU's areas of particular competence include forestry, fisheries, minerals, agriculture, water, hydro-electric power, and fossil fuels.
- B. Direct Foreign Investment. Of on-going concern is the extent, form, and consequences of trans-national direct investment. Canadian public opinion and public policy have vacillated on the the desirability of foreign ownership, particularly U.S. ownership, of Canadian industries. Currently there is a heightened sensitivity towards "foreign takeovers" in the United States. Finally, implementation of the free trade agreement will raise policy questions over the role of offshore investment in Canada and the United States to gain access to the free trade area. Simon Fraser University faculty, primarily in the Faculty of Business Administration and in the Department of Economics, have established a strong research record in this area.

C. Trade in services. International trade in services has become increasingly important, and for some economies has come to equal or surpass trade in goods. In western Canada the financial industries, telecommunications, engineering services, tourism and transportation are especially important in this regard. Trade liberalization in the service sectors has not progressed as fully as in goods sectors, due primarily to a plethora of subtle non-tariff barriers to trade. Trade in services will become an increasingly contentious issue between the United States and Canada, and western Canada can be expected to share these problems. Again, Simon Fraser University's Faculty of Business Administration, Department of Economics and Department of Communications have significant research expertise in these areas.

D. Creation, exchange, dissemination and exploitation of "intellectual property." The creation and use of ideas and information are of increasing importance in Canadian-American relations. Issues range from pharmaceutical patents, to protection of software, to distribution rights over artistic material. Western Canada has not escaped involvement in international disputes in this area--threats to the nascent British Columbia film location industry resulting from conflict over film distribution rights is a case in point. Again, Simon Fraser faculty have a strong research record in this increasingly important area of concern.

E. Trans-national business management. Expanded trade relations between the United States and Canada will confront business managers in both countries with a more complex decision-making environment. For example, human resource management, government regulation of business and corporate culture differ markedly between

the two countries. To successfully exploit the expanded opportunities provided by liberalized trade, managers will need to identify the changed environment and adopt strategies to deal with it. The Faculty of Business Administration is particularly strong in the fields of business strategy, human resource management, international business, and public policy towards business, all of which bear upon these business environment issues.

Functions:

The mission of the proposed centre would be to enhance knowledge of western Canadian-American business issues through research and education.

1. Research Activities

The primary function of the centre would be to facilitate research on western Canadian-American business issues by providing research support for relevant projects involving SFU faculty and students. Support would take the form of stipends for researchers and research assistants, secretarial services, computer time, and general office support. The centre could also provide stipends for visiting scholars.

At the outset, this support would be funded directly from the centre's initial operating subvention. With time it is expected that grants, appropriate contract research, commissioned by both public and private sectors, and the sale of publications would largely replace this governmental core funding.

2. Education

The centre's education function would be satisfied primarily through the dissemination of its research findings. Emphasis would be upon scholarly journal publications and research monographs. However, to make research findings more accessible to policy makers, interest groups and the general public, the centre would endeavor to open and maintain channels to the print and electronic media. Centre associates would be encouraged to provide non-technical summaries of their research to the print media and to make themselves available on a reasonable basis to the electronic media for interviews and background material.

As an ancillary educational service in cooperation with Continuing Studies, the centre would on occasion arrange open seminars, lectures, and ultimately, conferences on relevant, topical issues. Visiting scholars, guest lecturers and members of the centre would be expected to participate in these activities. The centre would not be directly involved in degree programs, although it would assist existing programs through, for example, support for relevant graduate student research.

ORGANIZATION

1. Location

The SFU/Harbour facility provides an ideal location for the proposed centre. Pragmatically, there is space available. Importantly, the downtown location will facilitate interaction between academics, practitioners and the public. It is proximate to many government offices, business institutions, the media, and support groups such as Continuing Studies. The centre's documentation requirements could be satisfied through integration with the proposed

downtown SFU satellite library. Its public seminar/lecture room needs could be met by the downtown facilities.

2. Staffing and Governance

At the outset the centre would require a full-time director appointed by the SFU Faculty of Business Administration, a full time administrative assistant and clerical support. Provision would also be made for a researcher in residence. To avoid unnecessary initial organizational costs, research projects should be run in a decentralized fashion. That is, proposals should be solicited from both SFU faculty and other researchers, evaluated, and funded on a competitive basis. The adjudication process would be conducted by an evaluation board with representation from government, the private sector and the University. Recipients would be made largely responsible for the organization, and realization of the project. With time, it may prove more efficient for the centre directly to provide additional clerical staff, research assistance and the like.

The centre would be governed in accordance with existing SFU policies concerning research institutes and centres.

SOURCES AND APPLICATION OF CENTRE FUNDS:

Western Diversification funding will be required to establish the proposed centre. However, the requested level of support from that source decreases steadily over time and disappears entirely after the fifth year of operation. The local award of Western Diversification funding requested is \$1,900,000.

A proposed flow of funds statement is reproduced below and more detailed budgetary information will be furnished upon request. When the proposed statement of expenses is reviewed, the reader will notice that there has been no indexing to reflect increases in the cost of living. The impact of inflation should be offset by prudent cash management policies. Similarly, there is no separate budgeting item for furniture, furnishings and related capital equipment. We expect such acquisitions to be purchased from funds freed up by the fact that the Centre's three full-time staff members will not all be on payroll at the time of initial launch.

The identified expense items should be self-explanatory. Expected sources of funding include a decreasing Western Diversification fund subvention; a fixed annual contribution, from year two on, of \$25,000 provided from the endowment earnings of the SFU Institute of Business Studies; and increasing amounts of revenue generated by a) the centre's annual corporate subscription program; b) the volume of contract research that will be undertaken; and c) the centre's seminar and publication programs.

Resume Extracts

The Policy Group of the SFU Faculty of Business Administration was primarily responsible for the preparation of this proposal. To provide a feel for the range of intellectual interests of that group, information is furnished on their academic activities during 1986 and 1987. Should more detail of this type be considered desirable, complete curriculum vitae can be furnished. This could be done not only for members of our Policy Area, but also for colleagues in other areas of Business Administration with a demonstrated interest in Canadian-American business studies as well as the many SFU professors from related disciplines who possess relevant expertise.

STEVEN GLOBERMAN

Professor

B.A. (Brooklyn), M.A. (California), Ph.D. (New York)

Specialization and Research Interests

International Business: foreign exchange risk management; international investments. Industrial Organization: economics of telecommunications industry; transactions cost models; combines and regulatory policies; entrepreneurship and venture capital markets, culture industries and policy.

Publications

"Government Sponsored Venture-Capital Programs: Survey Results and Analyses," *Journal of Small Business and Entrepreneurship*, Vol. 4, No. 4, Spring 1987, pp. 7-17.

"Economic Issues Surrounding International Product Piracy," *Portfolio: International Economic Perspectives*, Denis Unkowc (ed.), Vol. 12, No. 7, Washington: United States Information Agency, 1987, pp. 1-12.

Culture, Governments and Markets: Public Policy and the Culture Industries, Vancouver: The Fraser Institute, 1987, 52 pages.

Foreign Ownership and Canada's Feature Film Distribution Sector: An Economic Analysis, Vancouver: The Fraser Institute, 1987, 104 pages, (with A. Vining).

Economics I, lesson notes prepared for CGA Canada, Vancouver: CGA Canada, 1987, 154 pages.

"Canadian Culture Under Free Trade," *Canadian Business Review*, Volume 13, No. 2, Summer 1986, pp.18-22, (with A. Vining).

"The Argument for Free Trade," *CMA —The Management Accounting Magazine*, May-June 1986, pp. 42-46.

"Dynamic Efficiency and Firm Size in the Life Insurance Industry," *Journal of Risk and Insurance*, Volume LIII, June 1986, pp. 278-293.

Fundamentals of International Business Management, Englewood Cliffs: Prentice-Hall, Inc., 1986, 415 pages.

"The Organization of Vertically Related Transactions in the Forest Products Industry," *Journal of Economic Behavior and Organization*, Volume 7, 1986, pp. 199-212, (with R.W. Schwindt).

"Changing the Telephone Pricing Structure: Allocative Distributional and Political Considerations," *Canadian Public Policy*, Volume XII, March 1986, pp. 214-226, (with B. Stanbury).

"The Merger Provisions of Bill C-91: An Evaluation," in *Reaction: The New Combines Investigation Act*, Walter Block (ed.), Vancouver: The Fraser Institute, 1986, pp. 103-114.

Software Policies for Growth and Export, Montreal: Institute for Research on Public Policy, 1986, 89 pages, (with R. Wills and P. Booth).

Accepted for Publication

Canada's Telecommunications Service Sector, Vancouver: The Fraser Institute.

Trade Liberalization and Imperfectly Competitive Industries, Ottawa: The Economic Council of Canada.

Research In Progress

"Recent Exchange Rate Volatility: Implications for Management"

"Canadian Investment Policy and Regulation"

"The Influence of University Programs on Entrepreneurship," (with R. Wyckham and W.C. Wedley).

Papers Delivered at Conferences

"Evaluating Canadian Cultural Nationalism," The Association for Canadian Studies in the United States Conference, Montreal, October 1987.

"Government Sponsored Venture Capital Programs: A Policy Evaluation," 32nd Annual World Conference of the International Council for Small Business, Vancouver, June 1987

"Determinants of Government Policies Toward Foreign Direct Investment," annual conference of The North American Economics and Finance Association, New Orleans, December 1986.

"The Economic and Regulatory Outlook for Satellite Services in Canada," Fibresat Conference, Vancouver, September 1986.

Research Grants and Contracts

\$60,000, 1987-89. CIDA, "The Role of Schools of Management in Entrepreneurship," (with R. Wyckham)

\$15,000, 1986. The Economic Council of Canada, "Trade Liberalization and Oligopolistic Competition."

\$11,000, 1986. The Max Bell Foundation, "Provincial Government Venture Capital Programs."

Other Activities

Reviewer, *Canadian Journal of Administrative Sciences, Canadian Public Policy, Canadian Journal of Economics*, 1987

Advisor, Consumer and Corporate Affairs, Government of Canada, 1987

Presented seminar on "Formal Education and the Adaptability of Workers and Managers to Technological Change," to British Columbia Government, Ministry of Finance, April 1986.

Participant, public debate on Free Trade in the Film and Broadcast Industries, organized by the Toronto Festival of the Arts, Toronto, September 1986.

Special Awards and Honours

Invited participant in C.D. Howe Institute Workshop on Industrial Policy and International Trade, Toronto, September 1986

JOHN G. RICHARDS

Assistant Professor

B.A. (Saskatchewan), B.A. (Cambridge), M.A., Ph.D. (Washington, St. Louis)

Specialization and Research Interests

Public policy; resource policy; labour relations.

Publications"Political Economy of Resource Policy," and "Saskatchewan Potash Industry: An Exercise in What Could Have Been," in *Resource Rents and Public Policy*, Halifax: IRPP (with T. Gunton, eds.), 1987."Expectations in 'Next Year Country'," *Transactions of the Royal Society of Canada*, (with T. Gunton, eds.), Series V. Vol. I., 1987."Introduction", "The Case for a New Social Contract", "Attitudes Towards Unions and Worker Participation in Management," in *Canada, What's Left? A New Social Contract, Pro and Con*, Edmonton: Newest Press, 1986."Industrial Democracy," in *After Bennett: A New Politics for British Columbia*, W. Magnusson, et al. (eds.), Vancouver: New Star Books, 1986.Review, *Rethinking the Economy*, by J. Laxer, *Labour/Le Travailleur*, Volume 17, 1986.***Accepted for Publication***"What Do Workers Want? Attitudes Towards Collective Bargaining and Participation in Management," *Relations Industrielles*, (with G. Mauser and R. Holmes)."Labour Relations in Western Canada," *London Journal of Canadian Studies*.Review, *The New Populism*, H.C. Boyte and F. Riessman (eds.), *Citizen Action and the New American Populism*, H.C. Boyte et al, *Beyond Revolution*, D.A. Ross and R. Larkin, *Labour/Le Travail*.***Papers Delivered at Conferences***

"The Administrative Burden Within Community Health Centres," Saskatchewan Community Health Centres Association, June 1987.

"Labour Relations in Western Canada," London Conference for Canadian Studies, November 1987.

"Expectations in 'Next Year Country'," annual meeting of The Royal Society of Canada (with T. Gunton), 1986,

"Natural Resources and Economic Development," Conference on Industrial Challenge and Transformation in Australia and Canada, SFU (with T. Gunton), 1986.

Research Grants and Contracts

\$2,000, 1986. Douglas-Coldwell Foundation, "The Economics of Social Democracy," conference co-sponsored by Douglas-Coldwell Foundation and McGill University, Economics Department.

Other ActivitiesReviewer, *Journal of Policy Analysis and Management, Canadian Public Policy*, 1987

Two invited lectures in Department of Economics, University of Ottawa, 1987

RICHARD SCHWINDT

Associate Professor

A.B., Ph.D. (California, Berkeley)

Specialization and Research Interests

Industrial organization of resource industries, particularly fish and forest.

Publications

"The British Columbia Forest Sector: Pros and Cons of the Stumpage System," Chapter 6, pp. 181-214 and "Public Policy and the Pacific Salmon Fishery's Harvesting Crisis," Chapter 7, pp. 215-248, 1987, in *Resource Rents and Public Policy in Western Canada*, Gunton and Richards (eds.), Halifax: IRPP.

"The Organization of Vertically Related Transactions in the Canadian Forest Products Industries," *Journal of Economic Behavior and Organization*, Volume 7, 1986, pp. 199-212, (with S. Globerman).

"Proposal for a Future Delivery Market for Transplant Organs," *Journal of Health Politics, Policy and Law*, Volume 11, No. 3, 1986, pp. 483-500, (with A. Vining).

"The Dual: The Market and Planning," Chapter 7 in *Canada What's Left? A New Social Contract, Pro and Con*, J. Richards and D. Kerr (eds.), Edmonton: Newest Press, 1986, pp. 113-127.

"A Taxonomy of International Banking," abstracted in *Atlantic Economic Journal*, No. 3, September 1986, pp. 82, (with J.W. Dean).

Research In Progress

"Industrial Organization of the Salmon Aquaculture Industry — An International Comparison," (with T. Bjørndal)

Papers Delivered at Conferences

"Norwegian Direct Investment in the B.C. Salmon Aquaculture Industry," WRSA, Kona, Hawaii, February 1987.

Other Activities

Referee, *Journal of Health Politics, Policy and Law*, 1987

Invited seminar, Norwegian School of Economics and Business Administration, March 1987

Research Fellow, University of Tromsø and Norwegian School of Economics and Business Administration, February–May 1986

CAROLYNE F. SMART
 Associate Professor
 B.Comm., M.B.A., Ph.D. (British Columbia)

Specialization and Research Interests

Strategic planning/management: organizational decision-making processes, environmental analysis.
 Policy analysis: implementation of organizational change.

Research In Progress

International financial centres project

Strategic planning processes in the North American banking industry

Papers Delivered at Conferences

"Information and the Competitive Environment," Sixth Annual Strategic Management Society Conference, Singapore, October 1986, (presented by co-author I. Vertinsky).

Research Grants and Contracts

\$1500, 1987. Dean's Grant, "North American Banking Industry."

Other Activities

Reviewer, *Administrative Science Quarterly*, *Strategic Management Journal*, *Human Relations*, 1987

Director, Undergraduate Program, 1986-87

MARVIN N. STARK
 Assistant Professor (Part-time)
 B.A., LL.B. (British Columbia)

Specialization and Research Interests

Law, business and society; legal relations; the role of lawyers in society and areas such as corporate and commercial law; torts, contracts and professional standards of the legal profession.

Other Activities

Senior Partner, Stark Christian Henderson, Barristers & Solicitors.

Member, Canadian Human Rights Tribunal Panel.

Chairman, Special Committee, Law Society of British Columbia Subcommittee regarding Solicitor's Legal Opinions

Member, Law Society of British Columbia Sub-Committee on Conflict of Interest and Lawyers as Business (since 1985)

Chairman, Law Society of British Columbia Sub-Committee regarding Solicitor's Legal Opinions, 1987

Member, Executive Committee, Canadian Jewish Congress, Pacific Region and Co-Chairman, Law and Social Action Committee (since 1986)

Member, Tribunal Panel of the Canadian Human Rights Commission (since 1985)

Lifetime member, President's Club, Simon Fraser University

Member, Campaign Committee, SFU, Bridge to the Future Campaign, Legal Profession Solicitation

AIDAN R. VINING

Associate Professor

LL.B.(Hons.) (King's College, London), M.B.A. (California, Riverside), M.P.P., Ph.D.(California, Berkeley)

Specialization and Research Interests

State-owned and mixed enterprises; conceptual issues in policy analysis and various aspects of criminal justice policy.

Publications

Foreign Ownership and Canada's Feature Film Distribution Sector: An Economic Analysis, Vancouver: The Fraser Institute, 1987, 104 pages, (with S. Globerman).

"Issues Relating to Sentencing Guidelines: An Evaluation of U.S. Experiences and Their Relevance for Canada," Research Reports to the Canadian Sentencing Commission, Research Report No. 2, Ottawa: Ministry of Supply and Services, 1987.

Review, "The Economics of Non-Profit Institutions," *Journal of Policy Analysis and Management*, Vol. 6, No. 4, 1987.

"Prison Labor Markets: The Supply Issue," *Policy Sciences*, Volume 19, 1986, pp. 83-111, (with D. Marks).

"Proposal for a Future Delivery Market for Transplant Organs," *Journal of Health Politics, Policy and Law*, Volume 11, No. 3, 1986, pp. 483-500, (with R. Schwindt).

"Use of Statistical Evidence in Employment Discrimination Litigation," *Canadian Bar Review*, December 1986, pp. 660-702, (with A. Boardman and D. McPhillips).

"Canadian Culture Under Free Trade," *Canadian Business Review*, Volume 13, No. 2, Summer 1986, pp. 18-22, (with S. Globerman).

"Public Enterprises in Canada," in *Public Enterprises in the World*, R.K. Mishra and s. Ravishankar (eds.), Bombay: Himalaya Publishing House, 1986, pp. 131-192.

"The Advantages and Disadvantages of Mixed Enterprise," in *Multinational Corporations and State-Owned Enterprises: A New Challenge in International Business*, A. Negandhi, H. Thomas and K. Rao (eds.), Greenwich, Conn.: JAI, 1986, pp. 221-244, (with A. Boardman and C. Eckel).

Accepted for Publication

"Ownership and Performance in Competitive Environments: A Comparison of the Performance of Private, Mixed and State Owned Enterprises," *Journal of Law and Economics*, (with A. Boardman).

"A Proposal to Increase the Supply of Transplant Organs for Infants and Other Minors," *Journal of Policy Analysis and Management*, (with R. Schwindt).

"The U.S. and Canadian Experience in Sentencing Guidelines," *Research in Law and Policy Studies*, Greenwich, CT: FAI Press.

"*Policy Analysis: Concepts and Practice*," N.Y.: Prentice-Hall.

Research In Progress

"A Framework for Mixed Enterprise"

"The Performance of Canadian State-Owned Enterprises and Mixed Enterprises"

"Information Asymmetry: A Policy Framework"

"A Theory of Public Production"

Papers Delivered at Conferences

"Ownership and Performance in Competitive Environments: A Comparison of the Performance of Private, Mixed and State Owned Enterprises," Symposium on Industrial Policy in the EEC and Spain, Barcelona, Spain, June 1987.

"The Performance of SOE, Mixed and Private Enterprises," Association of Public Policy and Management, University of Texas, Austin, November 1986.

Research Grants and Contracts

\$34,000, 1987. SSHRC, "Privatization and Mixed Enterprise," (with A. Boardman).

Other Activities

Referee, *Journal of Policy Analysis and Management, Economic Inquiry, Canadian Public Administration*, 1987

Seminar "A Future Delivery Market for Organs," Department of Economics, University of Rochester, New York, 1987

NEW PROGRAM PROPOSAL
for a
MASTER OF ARTS (LIBERAL STUDIES)
at
SIMON FRASER UNIVERSITY

RATIONALE:

The Master of Arts (Liberal Studies) degree will be a graduate degree with a difference. Unlike conventional postgraduate degrees, it will provide an avenue for students of widely varying backgrounds and ages to pursue paths of learning which integrate knowledge from many of the traditional disciplines. The graduate Liberal Studies program will provide an alternative educational choice for those students who wish in their graduate work to develop not merely expertise within a single field but a deeper intellectual grounding in the values and traditions which have shaped our culture as a whole.

Although there are 75 such graduate programs in the United States, in places as diverse as Harvard, Johns Hopkins, Chicago and the University of Oklahoma, this will be the first such program in Canada. The Liberal Studies Program will not duplicate existing graduate programs, and it will reach new students, particularly as it will be offered at SFU Harbour Centre.

At the center of the Liberal Studies Program will be the sense of the underlying ties between the disciplines. This focus is based on the belief that discovering these intrinsic relationships among the fundamental ideas of our civilization forms a coherent basis for intellectual growth. The program will provide a rigorously structured, broadly conceived curriculum which will place learning in the widest available contexts, lending coherence and depth to issues of perennial human concern.

The Liberal Studies curriculum will be based on careful analysis of central intellectual tensions which are interwoven into the fabric of our culture. An interdisciplinary approach to these fundamental historical themes will cut through the traditional boundaries that tend to lead to intellectual segregation in many curricula. Because such basic themes of our intellectual culture as the dialectic of reason and passion in human affairs, the relation of self to society, and the struggle between tradition and modernity have resonances in many disciplines, a curriculum structured around the study of such tensions will permit the contribution of faculty from many parts of the university. Because such themes have both an historical dimension and clear applicability to present concerns, they will provide an effective curricular structure for mature students who wish to gain intellectual grounding for their action in the contemporary world. The program will lead students to clearer, more deeply based questioning of contemporary cultural assumptions understood in the light of cultural traditions.

STUDENTS:

Judging from the experience of other similar programs, the student body will consist largely of mature students with ages ranging from 23 to 65, about evenly divided between men and women. Some will have been out of university for many years, whether in business and professional careers, or as housewives and mothers. Others will be more recent university graduates who have not begun a career and who do not wish to pursue graduate work in a specialized field. Some will go on to do a Ph.D. in a professional field, though for many more the Liberal Studies Program will be part of career reorientation or intellectual enrichment for those who feel constrained by the narrowness of their careers and their earlier educations. For all these students, the program will offer a far deeper and more structured educational challenge than that offered by other forms of adult education, and a more flexible and broader program than that given in traditional, specialized graduate programs. Given Simon Fraser's long tradition of interdisciplinary innovation to meet the educational needs of a diverse student body, we seem particularly well suited to this kind of academic program. To be offered at SFU Harbour Centre, this program will contribute a strong liberal studies presence within the overall mandate of that campus.

NOTES ON THE PROGRAM:

The structure of the program is detailed in the attached draft calendar entry. The following notes augment that information.

1. Each seminar will be for five graduate credits. All students will enter during the Fall semester, and will be required to take the two core seminars in sequence during the first year. A brief pre-seminar for entering students will overview the program and sharpen the scholarly skills of new students. Each student will also complete four additional seminars, at his or her own pace. It is anticipated that one or two such additional courses will be offered each Fall and Spring semester.
2. In addition to the thirty credit hours earned in this fashion, each student will present two of his or her essays for formal examination in order to satisfy the Simon Fraser extended essays requirement for a Master's degree. It is anticipated that the defense might take place within a seminar situation tailored to the program, in order to enhance collegiality within the program.
3. Normal graduate grading standards will apply throughout the program. To maintain the quality of seminar discussions, enrollment will be limited to about twenty new students each year.
4. The touchstone of the Liberal Studies Program will be the two integrated core seminars which all incoming students will be required to take in sequence. Both courses will deal with texts which address profound human concerns that have remained fundamental over a long span of time. A series of brief essays written in these seminars will enable students to elucidate themes raised during intense and critical class discussions. To maintain coherence the teaching and the content of the two core seminars will be carefully coordinated. This may involve either team teaching or a more limited but still intense participation by each teacher in the other's class. In addition, experts on specific issues, some of whom may teach other courses in the program, will be invited to join the core seminars from time to time. It is anticipated that as these courses are refined over time, a substantial number of the texts will be regularly used, so that students at different stages of the program will have some common background.

5. The other seminar courses will have more varying content, within the general theme of the course. This approach will enable faculty from various disciplines to teach in the program, either individually or in collaboration. Typically, a faculty member might work out an approach to the course theme in consultation with the Program Director, and then invite one or more experts to participate in the instruction at various points in the course. However these courses may be taught from time to time, they are interdisciplinary in conception and should never include only a single disciplinary perspective.

STAFFING AND FUNDING:

The program will be guided by a steering committee of senior academics, appointed by the Dean of Arts. This committee will serve as the Graduate Program Committee, and will approve all individual course offerings. The Dean will also nominate a Director for the program to the Vice-President, Academic, to serve a term of three years.

Teaching faculty will be drawn from well established scholar-teachers at Simon Fraser, augmented by distinguished visitors. It will be essential to offer attractive incentives for participants in the program, and to their home departments when secondment is involved.

A substantial endowment for the program is being sought, and currently close to a million dollars has been secured. When complete, the endowment should finance a very substantial portion of the program's operating costs. We estimate the annual costs of the program at full operation (6 courses per year) to be distributed as follows:

Director (half time)	\$40,000
4 course secondments per year @ \$8,000/course	32,000
Honoraria for guest specialists @\$500/course	3,000
Program Assistant (half-time)	10,000
Office and publicity expenses	<u>5,000</u>
Total	\$91,000

PROGRAM IMPLEMENTATION:

An essential step in the implementation of the Liberal Studies Program will be the appointment of a Director. Following Senate approval of the Program a search for this individual should begin. Optimally a senior faculty person will be appointed to provide continuing intellectual and administrative leadership. It may be appropriate to bring a senior scholar to the university, jointly appointed with a regular Arts department.

The director will be expected to co-ordinate, lead and shape the evolution of the Program, soliciting the interest of faculty across the University and insuring the coherence of course offerings over time. The following course descriptions have been developed prospectively in order to help articulate the shape of the Program and to demonstrate the strong Liberal Studies Program that this University can offer. When actually mounted, the specific content of the courses may differ from the attached sample course outlines, within the general shape now proposed.

The Program will be phased in over a three year period, starting in the first semester with one of the core courses, followed in the second semester by the second core course and one seminar. By the start of the second year one of the two core courses should be offered each Fall/Spring semester, accompanied by at least one of the other seminar courses.

Proposed Calendar Entry

Master of Arts (Liberal Studies)

The Faculty of Arts offers a program of Liberal Studies leading to a Master's Degree. The program is intended for appropriately prepared individuals who wish to pursue a liberal education at the graduate level. It offers the opportunity for wide reading, careful reflection and intense discussion about human thought, values and experience. The program is offered through evening study at SFU Harbour Centre, and is designed primarily for persons who can only undertake part-time study.

The central theme of the program is an exploration of significant tensions within our intellectual culture, tensions that have historical origins and that have practical consequences in our present world. The required series of seminar courses and the preparation of extended essays will enable participants to understand the intellectual and cultural contexts of contemporary problems, to reflect on central dilemmas that have marked human civilization, and to enrich their lives by encounters with important texts and seminal ideas.

ADMISSION

Applicants must satisfy the Liberal Studies Graduate Program Committee of their academic suitability for the program. In addition to fulfilling the normal university graduate admission requirements, prospective students must demonstrate their readiness for the program through letters of reference, samples of written work, and normally an interview. Exceptionally, the Graduate Program Committee may recommend for admission applicants who do not meet normal university requirements, but who by reason of prior experience, strong interest, and demonstrated competence are particularly suited to the program.

DEGREE REQUIREMENTS

Students are required to complete six seminar courses, and to submit two extended essays for oral examination. Two of the six required courses are core courses, which must be completed in the first two semesters of attendance. These are: L.S. 800-5, Thinking about Human Passion, and L.S. 801-5, The Capacity and Limits of Reason. The remaining four courses may be selected from among those offered within the program. Students may enrol for one or two courses per semester. Exceptionally, and by agreement of both the Graduate Program Committee and the department involved, a student may be permitted to take one graduate course in another department toward the Liberal Studies degree.

The extended essays will normally be developed from papers completed for course work. They will be examined as for the examination of a Master's thesis under 1.10.1 of the General Regulations.

The Liberal Studies Program is designed for students who seek educational breadth at the graduate level. It emphasizes a community of inquiry and discussion over independent research. For this reason, the program entails several special expectations, within the general regulations for graduate study at Simon Fraser.

1. Students admitted to the program are required to attend an introductory short-course conducted prior to the beginning of the first core course in the Fall semester.
2. Supervisory committees will be arranged by Director of the Program. By approval of the Dean of Graduate Studies, the supervisory and examination process for the extended essays requirement may be modified to emphasize collegial exchange.
3. Students should expect to participate in out of class activities, such as occasional pre-class dinners, that are designed to encourage interchange among the participants, and to enhance a sense of intellectual community.
4. Because the program is designed for individuals having other obligations, who may for that reason require greater or lesser amounts of time to complete the program, the normal SFU graduate tuition fees have been adjusted for this program. See the appropriate entry under graduate student fees.*

LIBERAL STUDIES COURSES

Liberal Studies Courses are designed as intensive seminar courses. The two core courses, L.S. 800 and 801, will develop a common base of readings for all students in the program. The other six courses may be expected to vary considerably in approach and in specific content on each occasion of their offering. Each of them, however, will address a central tension in our intellectual lives, trace some of its sources, and consider its impact on our experience of the present. All the courses are cross-disciplinary in orientation and may draw on faculty from across the university to contribute expertise to the discussions.

L.S. 800-5 *Thinking about Human Passion*

The first of two core courses that constitute an extended examination of the tension between reason and passion in human experience. This course will emphasize close reading and discussion of works, drawn from different cultures and epochs, that reflect on human passion.

* It is proposed that fees should be set on a per course basis, equal to the normal fees required for a Master's candidate who completes a degree in two years -- currently \$3234, or \$539 per course. It is further proposed that from endowment funds dedicated to this program, a graduate bursary be established for students within it, with a maximum value of tuition reimbursement.

L.S. 801-5 *The Capacity and Limits of Reason*

The second of two core courses that constitute an extended examination of the tension between reason and passion in human experience. This course will examine writings by some of those who have insisted on the indispensability of reasoning as a guide to action and the source of truth, as well as writings by some of those who on various grounds have cast doubt on this faith in human reason.

L.S. 810-5 *Self and Society*

This course will examine some aspects of the relationship between selfhood, as idea and experience, and social organization. Approaches to the topic will vary, but may involve scientific, social scientific, philosophical and aesthetic perspectives.

L.S. 811-5 *Tradition and Modernity*

This course will examine ways in which ideas of tradition and traditional societies have come into conflict with forces of modernization and ideas of modernity.

L.S. 812-5 *Science and Human Values*

This course will deal with issues surrounding the nature of the scientific attitude, the growth of scientific knowledge and the impact of scientific and technological change. Specific attention will be given to the value implications of science and technology in relation to other forms of human understanding and experience.

L.S. 813-5 *Religious and Secular World Views*

This course will deal with the conflicts and continuities of secular and religious approaches to such fundamental issues as the origins of the universe and of the human species, human virtue, and human destiny.

L.S. 814-5 *Liberty and Authority*

This course will examine the tension between liberty and authority as expressed some of the following: political and judicial ideas and systems; conflicting economic ideologies; personal relationships.

L.S. 815-5 *Organizing Social Realities: Gender, Class, Race, Nation*

This course will examine how distinctions among people create pattern and conflict, by studying some of the fundamental organizing concepts of society which both unite and divide people.

L.S. 819-5 *Selected Topics*

This course provides an opportunity for the occasional offering of a seminar course appropriate to the program but on a topic outside the regular courses. Not more than one such offering may count toward the Liberal Studies degree.

L.S. 829-5 *Directed Study*

This course provides an opportunity for individual study on a topic of the student's choice, under the guidance of one or more faculty. Arrangements for this course must be approved by the Graduate Program Committee in advance of registration. Not more than one such offering may count toward the Liberal Studies degree.

Master of Arts (Liberal Studies)
Sample Course Outline for Core Course #1
L.S. 800-5
Thinking About Human Passion

This course will explore a variety of texts that express or reflect upon the human passions. The readings are grouped thematically, but this does not limit their relevance to a single perspective. The intent is to derive interlocking issues from the texts themselves. Students will be expected to keep up with extensive reading as assigned at the beginning of the course. The developing interests of the group will determine which works will provide the focus for weekly discussions. The course will provide an opportunity for wide-ranging discussion about the force of feeling in human experience.

1. (1 Week) Romantic love -- We will begin with a consideration of the power and limits of romantic love, and of the tradition that gives it a central place in our culture. Reading and discussion of Shakespeare's Romeo and Juliet will be accompanied by a brief selection of love lyrics from the early Renaissance forward.

2. (1 Week) Passion as an inherent reality -- We will read two Greek tragedies by Euripides, The Medea and The Bacchae, works that examine in disturbing ways the power of passion in our lives and the costs of failing to acknowledge that power.

3. (2 Weeks) The divisions of the human soul -- We will study selections from two classic works, from the traditions of East and West, that discuss the need to control emotion. Plato's Republic and The Bhagavadgita, in different ways, both provide reflections on our cultural assumptions about the proper place of emotion in human experience.

4. (1 Week) The philosophy of passion -- We will approach the thought of Friedrich Nietzsche, primarily through selections from The Birth of Tragedy, as a nineteenth century attempt to re-envision the centrality of passion for thought and experience. Some attention will be given to the musical correlatives of Nietzsche's thought in Richard Wagner.

5. (2 Weeks) Religious passion -- Through a wide variety of religiously inspired texts, we will explore some of the ways in which religion has elicited, shaped, and directed human feeling. Texts will include: The Book of Job, selections from St. Augustine and Martin Luther, poems by John Donne and Gerard Manley Hopkins, and a sermon by Jonathan Edwards. Some attention will also be given to other expressive forms -- a gothic cathedral, paintings of the Italian and Spanish baroque, the music of Handel.

6. (1 Week) Form and Feeling -- One of the strongest powers of art lies in its ability to express human feeling, but artistic expression shapes feeling in intricate ways. We will examine the relationship between form and feeling in art through a consideration of selected works from European modernism, including selected poems by William Butler Yeats and Rainer Maria Rilke, prose works by Gertrude Stein, and paintings by Van Gogh, Kandinsky, Kollwitz and Matisse.

7. (1 Week) Passion as "the feminine" -- Women have often been viewed, paradoxically both by feminists and anti-feminists, as in some ways closer than men to the sources of passion -- closer to bodily experience, less imprisoned within rationality, more emotional in orientation. We will examine some aspects of this concept of femininity, in its traditional and contemporary variants, through reading and discussion of essays such as Sherry Ortner, "Is Female to Male as Nature is to Culture?"; Hélène Cixous, "The Laugh of the Medusa"; Luce Irigaray, This Sex Which is Not One (selections).

8. (2 Weeks) Passion and neurosis. -- We will explore, through both literary sources and psychological writings, some of the ways in which pathological behavior can arise through the distortion or repression of emotion. Readings: Franz Kafka, "The Metamorphosis"; Sylvia Plath, The Bell Jar; Bruno Bettelheim, "Individual and Mass Behavior in Extreme Situations"; Jules Henry, Pathways to Madness (selections).

9 (2 Weeks) Passion within "a regime of pleasure" -- We will examine some recent imaginative and theoretical writings that challenge some of our conventional assumptions about passion, by calling into question the relevance of individual subjectivity under the conditions of "postmodernism." Possible readings: Jean Genet, The Balcony; Jean Baudrillard, "The Implosion of Meaning in the Media"; Laura Mulvey, "Visual Pleasure and Narrative Cinema"; Roland Barthes, Image, Music, Text (selections); Paul Smith, Discerning the Subject; Jean-François Lyotard, The Postmodern Condition: A Report on Knowledge.

Master of Arts (Liberal Studies)
Sample Course Outline for Core Course #2
L.S. 801-5
The Capacity and Limits of Reason

The on-going debate about the proper role of reason in human affairs is a peculiarly central issue within the Western cultural tradition.. Our own era mirrors this fundamental tension in our culture between faith in reason, science and progress on the one hand and, on the other, basic, even cataclysmic, doubts about the viability of reason as a guide in human affairs. Thus we witness the expansion of religiosity within an increasingly scientific/technicist age, evidence of infinite progress paralleled by evidence of imminent annihilation, 'third wave' utopias countered by popular fantasies of post-armageddon pastoralism or barbarism. This is a recurrent theme in western culture, reflecting the sophistication of a cultural system that replicates the essential duality in each of its members, searching for reconciliation but tolerant of conflict and ambiguity.

This course examines this tension over reason and its manifestations in science, politics and belief in progress by examining specific cases or eras in which the debate was particularly salient. One such era begins with the 'Scientific Revolution' in the 17th century and proceeds through the era of the 'Enlightenment', followed closely by the rise of 'Positivism' and 'Modern Science' through to what some see as the "reactionary modernism" of the Nazi era, the dystopian tradition of Orwell, Huxley and Zamiatin, and the ecological/political catastrophe eras of Rachel Carson, Helen Caldicott and E.P. Thompson.

The course begins with a two week introduction to the central issue of the course, the on-going tension in western culture over the proper role or place for reason in human affairs. The reading consists of a major text(s) which focusses on the conceptual rather than the particular. Examples could include: John Passmore, The Perfectibility of Man, Otto Bird, Cultures in Conflict, Alasdair MacIntyre, After Virtue, or Willem Vanderburg, The Growth of Minds and Cultures.

Following this introduction, the course unfolds as follows:

1. (2 weeks) The Promise of Reason -- The development of the scientific method and faith, in both its French -- Voltaire's Candide, Descartes' Discourse on Method -- and its English rationalist forms -- selections from Newton, Locke's Second Treatise on Government, and A Letter Concerning Toleration, selections from Adam Smith's Wealth of Nations, Tom Paine's Common Sense, and David Hume's Enquiry Concerning Human Understanding.

2. (2 weeks) Doubts From Within -- While this new modernism endured attacks from the existing late medieval institutions, the more important attack came from within the enlightenment tradition. Readings here would include J.J. Rousseau's Second Discourse and Social Contract, Burke's Reflections on the Revolution in France, Jane Austen's Mansfield Park and selections from Godwin's Enquiry Concerning Political Justice.

3. (2 weeks) Reason Politicized and Mobilized --The rationalist tradition emerges from the disarray of the revolutionary/Napoleonic era in a more politicized form, more organized, empiricist, aggressive and imperialist, vanquishing its reactionary opponents and by-passing the new romantic and subjectivist modernism. The debate of the enlightenment ends in a temporary world of two solitudes. Readings include Karl Marx, The Critique of Political Economy and The Communist Manifesto, selections from Comte, Bentham, Kant and Hegel, selections from Wordsworth and Blake, and selections from the Marquis deSade.

4. (3 weeks) Reason Triumphant --It is with the full flowering of 19th century science that reason assumes its true grip on the imagination of western culture and, coincidentally, on the lives of all its members. This 'scientific' world view is pervasive in the scientific/technical world as well as in the realms of political and social philosophy/policy. To illustrate the profound effect of this scientism on culture we will examine selections from Darwin's work on evolution and Freud's work on psychology. In literature, the novels of George Eliot show the substitution of positivism for religion in the search for a moral basis for human action, the political philosophy of John Stuart Mill offers a utilitarian rationale for behaviour, and B.F. Skinner's behaviourist utopia Walden Two offers a new rationale for rule by the rational philosopher-king.

5. (2 weeks) The Re-Emergence of Doubt --The First World War shook the foundations of this cultural comfort with science and reason and by the mid-20th century the tradition of doubt, even scepticism and cynicism, was laying claim to equal status. The experience of fascism at the very centre of the culture was central to this. Jeffrey Herf's Reactionary Modernism and Hannah Arendt's Eichmann in Jerusalem examine the complex nature of the relationship between fascism and modernity. Within the scientific tradition itself doubts were also being raised. Selections from Stephen Jay Gould (The Mismeasure of Man) and Albert Einstein will be read.

Sample Course Outline
L.S. 811-5 Tradition and Modernity

Ancients and Moderns

(Paul Dutton and Evan Alderson)

A perennial tension in the intellectual life modern western societies is a confrontation between those who espouse the primacy of traditional wisdom and those who advance the claims of new knowledge. This intellectual tension, while it reflects competing positive concepts of human value, is also clearly responsive to changing political and economic circumstances and to scientific and technological innovation. Increasingly, this tension has come to mark discussions of humanistic study itself.

This course will examine some variants of these competing claims to loyalty -- to the party of the past and the party of the future. It will range across differing epochs and cultures, in order both to bring new perspectives to our experience of modernity, and ultimately to ask questions about the nature of humanistic inquiry.

1. (1 week) -- Introduction

Reading: selections from Hannah Arendt, Between Past and Future

2. (2 weeks) -- The Roman case: from Republic to Empire

Within traditional societies, the very concept of tradition as well as the sense of a possibly threatening future may be the product of new conditions. The transition to Empire was an early case in the West of both a new situation which some "traditionalists" decried, and of the use of "traditionalism" as a political justification of the new.

Readings: from Sallust, On the Conspiracy of Cataline and Cicero, Catalinarian Orations, against the new dynastic politics; and from Virgil, Aeneid, justifying new ways by recreating old ones in the Augustan restoration of Rome.

3. (2 weeks) -- The Enlightenment

Growing from new scientific attitudes, and in reaction to monarchical cultural aggrandizement of the early modern period, enlightenment skepticism and faith in reason led to a welcoming of modernity and entrenchment of the idea of progress -- but not without a "quarrel" between ancients and moderns that exemplifies the interaction of scientific, political and cultural attitudes.

Readings: from Bacon, Novum Organum; Fontanelle On the Ancients and the Moderns; Perrault, A Comparison of the Ancients and Moderns; Condorcet, An Historical Picture of the Progress of the Human Mind.

4. (2 weeks) -- Aesthetic modernism

The pressures of modernity are often revealed through the arts, and were particularly visible in 20th century modernism. Among the many branches of this disruptive break with tradition, surrealism is especially revelatory, for its attempts at once to radically undermine aesthetic and social complacencies, to find new sources of authenticity, and to create aesthetic interventions in the world.

Readings: Jarry, Ubu Roi; Breton, What is Surrealism?; and numerous reproductions of art works, such as Max Ernst's "The Virgin Spanks the Christ Child before Three Witnesses" and "Benjamin Peret insulting a Priest."

5. (2 weeks) -- Japan and the modern: The case of Mishima
 New perspectives on the longstanding tension between ancients and moderns within the European intellectual tradition are available from the even sharper confrontations of tradition with modernization in non-western societies. There are a large number of books on the modernization of Japan, but the sense of alienation and adjustment it has produced is best expressed in Japanese novels.
 Readings: Tanizaki, The Makioka Sisters; Mishima, The Temple of the Golden Pavilion; and The Decay of the Angel.
6. (2 weeks) -- Nation, dependency and modernity: The case of Canada
 The responses to modernity are strongly interwoven with both political and intellectual attitudes, all the more so where the conservation of values can be equated with the preservation of a nation. Intellectual differences in Canada are both a way to study these interconnections and to understand them as creating choices for action as well as substance for reflection.
 Readings: George Grant, Lament for a Nation; and Technology and Empire; Marshall McLuhan, Understanding Media.
7. (2 weeks) -- Tradition and modernity in the university
 The contemporary debate about educational purpose in the human sciences provides both a pointed case of the quarrel between ancients and moderns and an opportunity for reflection on the most important meanings and uses of education, or indeed of a Liberal Studies program.
 Readings: From Alan Bloom, The Closing of the American Mind; E. D. Hirsch, Jr. Cultural Literacy; Henry Giroux, Theory and Resistance in Education; Jean François Lyotard, The Post-Modern Condition.

Sample Course Outline
 for
 L.S. 813-5 Religious and Secular World Views

Tensions Within Utopia

(Michael Fellman)

Even as the secularists of the Enlightenment turned against organized religions, which they equated with superstitious authoritarianism, they posited other means of attaining human perfection. For them worldly means would suffice to attain a Heaven on earth. Secular utopias were efforts, in part, to replace the telos of religions. For the traditionally religious, such secularism was blasphemy, the very Antichrist. Yet secular utopianism can best be seen as a religious heresy rather than as inimical to religion--as an attempt to displace religion rather than to destroy the religious sentiment.

Today, as in the Eighteenth Century, religious utopians denounce what they now call secular humanism, while they seek to usher in their total solution, now often through political means. In many respects their most powerful foes are those technologists and scientists who believe that they can end want, disease and suffering through correct application of rational means.

This seminar will examine the rise of modern utopianism by focusing on the tensions within the utopian tradition. Rather than accepting the notion that on the one hand there are secularists and on the other the religious, we will explore the religious as well as the secular elements in both. Analysis of attacks on the other will be juxtaposed to claims to correctness. We will examine these claims and attacks as moral assertions, as the basis for social action and as spiritual quests.

We will begin with a reading of the Frank and Fritzie Manuel, Utopian Thought in the Western World, on the growth of the utopian tradition. We will proceed to explore the tensions within three important nineteenth century utopian projects, Owenism, Fourierism and the Oneida Community. In each instance we will discuss the grand blueprints, the attempts to form model, perfect communities, and the tensions between the world and the utopianists. Next we will analyze technological utopianism and the counter-utopias of technological nightmare. We will go on to discuss modern liberalism and its use of the state and the rise of religious fundamentalism, seen as a counter-attack on the presumptions of secular utopians and liberals. We will end with close analysis of the dualistic, anti-secular utopian thought of Ronald Reagan.

WEEKLY SEMINAR TOPICS AND READINGS

Week 1....Children of the Enlightenment, An Overview

Reading: Frank E. and Fritzie P. Manuel, Utopian Thought in the Western World, (Cambridge: Harvard, 1979), pp. 413-814.

Week 2....The Ideal World of Jean-Jacques Rousseau

Readings: The Social Contract and selections from Emile and La Nouvelle Heloise.

Week 3....Utopian Socialism: Robert Owen's New Moral World

Reading: J.F.C. Harrison, Robert Owen and the Owenites in Britain and America (London: Routledge and Kegan Paul, 1969).

Week 4....Utopian Socialism: Fourier and American Fourierism

Readings: Jonathan Beecher and Richard Bienvenue, eds. The Utopian Vision of Charles Fourier (Boston: Beacon Press, 1971), selections; Carl G. Guarneri, Utopian Socialism and American Ideas: The Origins and Doctrine of American Fourierism (forthcoming).

Week 5....Utopian Sexuality: The Cases of the Shakers and John Humphrey Noyes

Readings: Lawrence Foster, Religion and Sexuality: Three American Communal Experiments of the Nineteenth Century (New York: Oxford University Press), pp. 21-122; Louis J. Kern, An Ordered Love: Sex Roles and Sexuality in Victorian Utopias (Chapel Hill: The University of North Carolina Press, 1981), pp.71-134, 207-279; Michael Fellman, The Unbounded Frame: Freedom and Community in 19th Century American Utopianism (Westport, Conn.:Greenwood Press, 1973), pp. 42-61; Dolores Hayden, Seven American Utopias: The Architecture of Communitarian Socialism (Cambridge: MIT, 1976), pp. 64-103,186-223.

Week 6....Technological Utopianism

Reading: Howard P. Segal, Technological Utopianism in American Culture (Chicago: University of Chicago Press, 1985).

Week 6....Edward Bellamy's Technological Utopia

Readings: Edward Bellamy, Looking Backward (1888); Fellman, The Unbounded Frame, pp. 104-123.

Week 7:....Technological Utopias as Nightmare

Readings; Aldous Huxley, Brave New World ; Ignatius Donnelly, Ceasar's Column (1890).

Week 8....Toward Modern Liberalism, the Progressives

Readings: Walter Lippman, Drift and Mastery (1914); The Autobiography of Lincoln Steffens (1931), selections.

Week 9....The Liberal State as Utopian Agent

Readings: selections from Frances Perkins, The Roosevelt I Knew (1946); Henry A. Wallace, New Frontiers (1934); Arthur E. Morgan, The Making of the TVA (Buffalo:Prometheus Books, 1974).

Week 10....On to Armageddon: The Fundamentalist Counter-Utopia

Readings, Jerry Falwell, ed., The Fundamentalist Phenomenon (Garden City: Doubleday, 1981); Grace Halsell, Prophecy and Politics Militant Evangelists on the Road to Nuclear War (Westport, Conn.: Lawrence Hill, 1986).

Week 11....Ronald Reagan's Counter-Utopia

Readings: selections from Richard M. Scaife, ed., Ronald Reagan Talks to America (Old Greenwich, Conn.: Devin Adair, 1983); Fred L. Israel, ed., Ronald Reagans Weekly Radio Addresses, (Wilmington, Del.: Scholarly Resources, 1987); Emil Arca and Gregory J. Pamel, eds, The Triumph of The American Spirit: The Presidential Speeches of Ronald Reagan (Detroit: National Reproductions, 1983).

Sample Course Outline
for
L.S. 814-5 Liberty and Authority

Individual Freedom vs. Social Equality

(Stephen Duguid)

In the classic dualist trap of the Western cultural tradition, we seem fated to have to choose between two obvious 'goods': individual freedom on the one hand and social equality on the other. In contemporary times the dichotomy is presented on the stage of world politics with two rival *systems* espousing extreme versions of each pole of the dichotomy. There are four basic approaches to this issue which will be reviewed in this seminar:

1. The argument for the primacy of equality (the *left*)
2. The argument for the primacy of liberty (the *right*)
3. The argument for an acceptable middle ground (the *liberal*)
4. The argument that the paradigm presents a false duality (the *other*)

The debate is set up nicely in the following from Ralf Dahrendorf, an advocate for a somewhat right-of-liberal focus on the issue:

"This is the place to recall once again Kant's critical rejoinder to Rousseau, that inequality is a 'rich source of much that is evil, but also of everything that is good'. There is certainly reason to regret that children are ashamed of their parents, that people are anxious and poor, that they suffer and are made unhappy, and many other consequences of inequality. There are also many good reasons to strive against the historical and therefore, in an ultimate sense, arbitrary forces that erect insuperable barriers of caste or estate between men. The very existence of social inequality, however, is an impetus toward liberty because it guarantees a society's ongoing dynamic, historical quality. The idea of a perfect egalitarian society is not only unrealistic; it is terrible. Utopia is not the home of freedom, the forever imperfect scheme for an uncertain future; it is the home of total terror or absolute boredom."

The seminar will open with a review of contemporary thinking on the issue of equality, sampling works from moral philosophy and political theory as well as some exposure to recent sociological analysis of equality. The origins and evolution of the debate amongst the four approaches will then be reviewed, starting with Plato and moving through the Western intellectual tradition to Rousseau, Smith, Mill, and the 'moderns' with a concluding focus on the nature of the debate in the 20th century.

1. (2 weeks) --The debate in contemporary context: political philosophy and the egalitarianism question.

Readings: Alan Ryan, ed. The Idea of Freedom: Essays in Honour of Isaiah Berlin; Frank Lucash, ed., Justice and Equality Here and Now; selections from John Rawls, A Theory of Justice and Robert Nozick, Anarchy, State and Utopia.

2. (2 weeks) -- A review of the extended debate. Explorations in the history of political philosophy.

Readings: Brian Redhead, Political Thought from Plato to NATO; Plato, The Republic; Thomas More, Utopia; Thomas Paine, The Rights of Man.

3. (3 weeks) -- The first modern crucible: individuality and *fraternite* in the era of the French Revolution and early modernity

Readings: J.J. Rousseau, The Social Contract; Adam Smith, Selections from the Wealth of Nations; Edmund Burke, On Revolution; Anatole France, The Gods Will Have Blood; J.S. Mill, On Liberty; Judith Shklar, Men and Citizens: A Study of Rousseau's Social Theory; Carol Blum, Rousseau and the Republic of Virtue.

4. (2 weeks) -- Setting the context for revolution in Russia: the second crucible in the debate over modernity.

Readings: N.G. Chernyshevsky, What Is To Be Done?; F. Dostoevsky, Notes from Underground.

* Ralf Dahrendorf, "On the Origin of Inequality Among Men, in Essays in the Theory of Society

5. (4 weeks) --The 20th Century Debate: cynicism and optimism - utopian and dystopian experiments.

Readings: Erich Fromm, Escape From Freedom; Victor Serge, Conquered City; Ortega y Gasset, The Revolt of the Masses; George Orwell, 1984; John Steinbeck, The Grapes of Wrath; B.F. Skinner, Walden II; Anthony Burgess, A Clockwork Orange; Paulo Friere, The Pedagogy of the Oppressed; Hannah Arendt, On Revolution; Michael Ignatieff, The Needs of Strangers: An Essay on Privacy, Solidarity and the Politics of Being Human.

APPENDIX 1

Programs in Other Institutions

Over seventy-five universities which have Master of Arts Graduate Liberal Studies programs belong to the Association of Graduate Liberal Programs, which headquarters at Georgetown University in Washington, D.C. Most universities offering MA-LS programs are in large urban settings such as Vancouver and have a broad base of potential participants. Students in these programs range in age from 22 to 73 with the average age being 36. About half the students are women. Students come from a variety of educational and professional backgrounds. They include attorneys, teachers, business administrators, homemakers, health professionals, engineers, ministers and scientists, among others.

According to most MA-LS administrators, students come to their programs for a variety of reasons. As the administrators of the Dartmouth College program have written, students come "...to fill in gaps in their undergraduate training, to strengthen existing expertise in a subject area, to explore new academic disciplines and to expand career options. Individuals entering the program often return to formal academic work after years away from school and discover new confidence in their intellectual strengths." Although their degree may have a career or material payoff, for many MA-LS students the rewards are deeply internal. As the Wake Forest MA-LS educators put it, students "...hone the habits of mind and perspective essential to living better." They understand more deeply "...the connections among people and cultures. [They] regrind the lens through which they view the world."

Structurally, most of the successful programs are those based on a seminar format. Although we believe that some students may wish to pursue individual instruction as an element of their program, we feel that the independent reading course, characteristic of much of the current graduate work at Simon Fraser, often fails to generate the kind of enthusiasm provided by the seminar context. Furthermore, most MA-LS programs limit enrollment to a maximum class size of twenty students, thus ensuring a high level of student participation. Nearly all offer their courses in the evening, and some on weekends or during intensive 'short courses'. Several, particularly those with attractive campuses, offer much of their work in summer terms.

Most MA-LS programs exist independently within arts and science graduate faculties, and most are staffed by regular, tenured faculty drawn from the host institution. And nearly all have one or two core seminars as the basis of the program. Beyond these similarities there are a variety of approaches.

The cheaper and less organized approach is to require the student to enroll in a number of graduate seminar courses already in existence on campus, with the advice of a MA-LS advisor. Thus the courses beyond the core seminars are not necessarily interdisciplinary in nature; the students are expected to supply linkages for themselves, and they are submerged in the general graduate student population. In our program we have avoided such an approach, in part to maintain high *esprit de corps* among the students and in part because we believe MA-LS seminars and the program as a whole are different than disciplinary ones. However, if the student wishes to take one seminar from the regular program because it fits well into his or her educational needs, we allow for that possibility. Such a student would need to secure the permission of the program director.

The more disciplined (and more expensive) approach, the one we take, is to make the MA-LS program an integrated series of seminars designed specifically for the MA-LS

students. Fields of learning are integrated within each course as well as in the program as a whole. Furthermore, students in such a program get to know each other quite well, as they share an approach and a corpus of reading, and a seminar experience extending over several courses.

Such a structure also encourages professors to attempt courses which are more interdisciplinary and cross-cultural than courses in their home departments. Such a possibility, plus the opportunity to teach disciplined, curious adults who are eager readers and participants means that in several universities professors line up to teach in the MA-LS program. Several leading MA-LS educators have stressed to us that this element of 'faculty renewal' has proven to be one of the greatest unexpected payoffs of their programs.

In several leading MA-LS programs, the History of Ideas is the backbone of the curriculum. At New York University, for example, each student takes four courses on the seminal ideas, developed over the long reach of intellectual history, in philosophy, literature, anthropology/sociology, psychology, political science and economics. Each student takes six seminars in more specialized reaches of each of these disciplines, such as *literature and rebellion*, the *politics of tragedy*, the *nature of music*, the *psychological novel*, or *twentieth century political movements*. Similarly, Johns Hopkins, where Arthur O. Lovejoy pioneered the history of ideas approach over fifty years ago, uses this method as the base of its program. Seminars at the Hopkins MA-LS program include such topics as the *ideas of the Italian Renaissance*, the *platonist tradition*, the *idea of modernism in the twentieth century*, the *splendor of Venice*, the *scientific revolution*, and the *Iliad*.

We have been quite influenced by the history of ideas approach, particularly in our core courses. We have sought to take a long run over time in these courses, to avoid dealing only with the work of white, western males, and to consider issues on a topical as well historical basis. We also seek to explore the thrust of a variety of disciplines, although we much admire the integrative qualities of the history of ideas approach. Our central theme is an exploration of significant tensions within our culture, tensions that have historical origins and that have myriad consequences in our present world. In particular we believe that issues of science can well be integrated into a MA-LS program. One of the most successful examples of this is the primary course at Wake Forest, taught by a distinguished philosopher of science, entitled "The Universe of Modern Science" which tests the coherence and adequacy of the fit of the various parts of modern science, physics, biology, chemistry and astronomy.

We depart somewhat from the history of ideas base in our belief that central texts, a canon of great books and ideas, can limit as well as advance education. Profound issues can be formulated in a variety of ways, combining disciplines and 'texts' in a variety of manners. Consider the titles of two courses at Hamline University, *Confronting the Holocaust* and *From Paint to Print: Art and Literature in the Twentieth Century*. Washington University in St. Louis offers *Extinction and Conservation* and *The Logic and Rhetoric of Law in American Society*. None of these courses deals with Great Books from start to end, but all are deeply serious.

Most successful MA-LS programs are highly disciplined while also allowing for some choice in subjects and approaches. They encourage unexpected combinations of disciplines and issues, while they also attempt to develop a coherent approach to intellectuality. Perhaps half of the MA-LS programs require a demonstration of knowledge and integrative capacities at the conclusion of the program. A few require that the student sit comprehensive exams, which we will not. Others have a thesis requirement. We will

adopt the Simon Fraser extended essays method, which will require each student to take two pieces of work to the stage of public defense.

We are heartened by the enthusiasm of the MA-LS student at Johns Hopkins who said of his experience, "It was, for me, a kind of personal renaissance. The program affirmed my belief that a love of learning and scholarship must continue throughout one's life."

APPENDIX 2

Proposed External Referees

The following four people are experienced administrator-teachers in prominent Graduate Liberal Studies programs. As there are no such programs in Canada, all these educators are Americans.

Dr. William M. Chace
President
Wesleyan University
Middletown, Connecticut 06457

Barbara E. Smith
Executive Director
The Master of Arts in Liberal Studies Program
203 Wentworth Hall
Dartmouth College
Hanover, New Hampshire 03755

Dr. Phyliss O'Callaghan
Assistant Dean
School for Summer and Continuing Education
Georgetown University
Washington, D.C. 20057
(Dr. O'Callaghan also directs the Association
of Graduate Liberal Studies Programs)

Anne Hetlage
Assistant Dean
Faculty of Arts and Sciences
Washington University
Campus Box 1064
One Brookings Dr.
St. Louis, Missouri 63130

***** CENTRE FOR INTERNATIONAL COMMUNICATION *****
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***** SIMON FRASER UNIVERSITY at HARBOUR CENTRE *****

Course and Programme Offerings
in downtown
VANCOUVER, BRITISH COLUMBIA

(DRAFT DESCRIPTION)
January 1, 1989

Contents:

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9. Inter-Institutional Involvement
10. Space, Staffing and Startup

-- INTRODUCTION --

1. The Post-Industrial Age and the Need for Communication Studies

Over the past two decades, our society has crossed the threshold into a new era in productivity, transportation and communications, whose international dimension includes dramatic increases in foreign trade and investment, international finance, international development co-operation, tourism, cultural and educational exchanges. We have entered into unprecedented levels and frequency of international and intercultural relations in most fields of human endeavour.

This technologically-induced increase in international, intercultural and interlingual relations, however, has created and will continue to create non-technological problems for people who now more than ever before must communicate and co-operate across national, cultural and linguistic boundaries. **Most of us approach intercultural relations with inappropriate expectations:** either we regard the barriers as so significant that meaningful communication must be turned over to specialists, or we ignore the barriers and rely on the standards and expectations used to guide interaction within our own culture. Both approaches inhibit effective communication and co-operation.

The result, then, is that most of us are utilizing the latest advances in transportation and communications technology to ask irrelevant questions, expect inappropriate answers and misinterpret the right answers as we try to base our cross-cultural interaction on inappropriately conditioned expectations.

This new situation is exceedingly relevant for business and professional people, government support agencies, researchers, educators and trainers in languages, cross-cultural studies, intercultural communication, and international relations. Economically, growing numbers of citizens, thrust by technological advances into a "global village" relationship of economies, are no longer in a position to consider whether they wish to interact across national and cultural barriers. Instead, they must consider how to interact with optimum effectiveness and sensitivity. Evidence that we already live in an internationalized society is abundant and obvious:

-- More International Trading and Enterprise Partners: Technological advances in production, transportation and communication have created unprecedented access to international trade markets and new opportunities for international joint ventures in enterprises. Most of the new market growth is in Asia. This means more

East-West trade negotiation and longer-term interaction in enterprise-related co-operation and problem solving.

-- More International Development Co-operation:

Canada, together with the other industrialized nations of the world, has pledged to increase its contribution to the international development effort. Canada has decided to emphasize Human Resource Development Assistance, as opposed to capital-intensive construction projects, and has chosen to increase co-operation with developing countries in the Asia Pacific region, such as China, Indonesia and Thailand. These international development policy emphases underscore the need for more and better training in international and intercultural communication with an Asian focus.

-- More International Student and Teacher

Exchanges: Internationalization of local economies in the post-industrial era creates unprecedented demands for internationalized education. The continued growth in student and teacher exchanges between Canada and other countries, particularly in the Asia Pacific region, means that more students and teachers than ever before are having extended and repeated contact with people whose expectations regarding human relations have been conditioned by very different social experiences and cultural values.

2. The Importance of International Studies in Education

Traditional Expectations: For North Americans traditionally, knowledge, expertise and experience concerning Asian peoples and cultures has been of peripheral importance -- an interesting supplement to, but not an important part of, a well-rounded, "standard" education. This belief and practice have been reinforced by a philosophy and structure of education and career training programmes that place heavy emphasis on the separation of disciplines that reflect and reinforce the industrial mentality. In an era when non-industrialized cultures were of peripheral economic importance to us (mere suppliers of raw material for our industrial machine), this was understandable.

Current Needs: As discussed above, however, the situation today has changed. No longer are knowledge, expertise and experience concerning non-Western cultures of peripheral

importance. Since non-European peoples, our fastest growing group of trading and business partners, approach business from a more holistic, long-term human relations orientation, we must understand how they interact if we are to interact successfully with them. This does not mean that we must adopt their social behaviour and cultural values and forsake our own; it does mean that we must understand the nature of our different approaches, the significance of the differences, and where the common ground for effective co-operation lies.

The need for greater competence in international, intercultural and interlingual communication is here. Awareness of the need has grown and spread in business, government and education circles. Research, education and training strategies for addressing the need must follow the growing awareness. A major step in this direction is the establishment in downtown Vancouver of the Centre for International Communication with a high-profile focus on Interdisciplinary, International, Intercultural and Interlingual Communication. The Centre is located in Simon Fraser University at Harbour Centre.

3. GUIDING PRINCIPLES FOR THE CENTRE FOR INTERNATIONAL COMMUNICATION:

In order to provide the focus required to assure success of a new downtown Vancouver initiative in International Communication research, education and training with a strong Pacific Rim dimension, the following guidelines for programme development are adhered to in principle. Programmes are:

TIGHTLY FOCUSED - It is essential to develop and retain a sharp focus on a few priority programme areas within International Communication, so as to assure maximum impact with startup resources.

APPLICABLE AND ACADEMICALLY APPROPRIATE - To capture the interest and address the needs of the downtown community while simultaneously maintaining University standards, offerings are to be both applicable and academically sound.

INTERSECTORAL - Centre offerings aim to make optimum use of existing knowledge, expertise and experience in various sectors of southwestern British Columbia society -- business, government and cultural as well as education sectors. Where appropriate, experienced and respected non-academic leaders are invited to teach or contribute to faculty-led courses as Adjunct Lecturers.

INTEGRATIVE - Offerings encourage optimum use of existing programmes and human resources both at SFU and sister institutions, seeking to develop complementarity while attempting to avoid undesirable redundancy, within and between institutions.

SUPPORTIVE - Programmes seek to avoid the appearance of competition with, or creating a potential drain on, programmes and services offered or intended to be offered at the SFU main campus, or by other B.C. universities. Rather they are intended to complement existing and planned offerings to the optimum degree.

STARTUP: The Centre is starting at a modest-but-high-profile level by concentrating on credit and non-credit courses and programmes, research and development activity, linking communication with language, culture, education, development and comparative management. Most programmes are offered using locally available instructors from the academic community, drawing upon business and government communities for collaborative teaching, training and case study work.

-- PROGRAMMES --

The first blocks of courses and Communication-focused activities to be offered through the Centre include the following:

4. COURSES IN EAST-WEST COMMUNICATION

A series of upper-level courses in International Communication for professionals, with an emphasis on identifying, articulating and overcoming obstacles to effective East-West co-operation through context-sensitive communication. Much attention will be paid to the ways that language structure, social experience and cultural values reflect and encourage habits and expectations that may inhibit effective international and intercultural communication and co-operation.

Courses Offered (late afternoon or evening, annually):

CMNS 346-4 International Communication

Effective communication between individuals, nations, cultures, etc., depends upon shared understanding and expectations regarding signs and sign-systems through which information is structured and exchanged. Increasingly, North Americans engaged in international activity today find themselves needing to communicate with non-Western counterparts whose expectations regarding interaction and

communication differ significantly from their own. In this seminar we will survey and interpret universals and variations in signification and sign interpretation in international communication. We will consider perspectives from which to identify and articulate differences as well as universal patterns in sign interpretation and communication in international relations, and particularly in development co-operation, economic and trade relations. Throughout the seminar, comparative and contrastive examples will be drawn from sign systems and communication practices current in the Asia Pacific region.

CMNS 436-4 The Communication of Science and the Transfer of Technology

This course develops the critical evaluation of the communication of scientific knowledge and the transfer of technology, particularly but not exclusively, from industrialized to non-industrialized settings. Examples include television software and hardware, biotechnology, telecommunication, health technology, and weapons. Special reference to the communication of values related to the use of technologies, and to the role of science and technology in international development. This course will proceed on a case-study basis and will include sessions in which students present the results of their own research and analyze each other's findings. It will also test knowledge of theoretical and policy approaches to the communication of science and the transfer of technology.

CMNS 486-4 Special Topics in Communication
(East-West Communication for Managers;"
"Labour-Management Communication in Japan;"
"Communication and Economic Reform in China,"
etc.)

5. TRAINING IN LANGUAGES FOR PACIFIC RIM COMMUNICATION

A series of elementary and intermediate courses in Mandarin Chinese, Japanese, and other Pacific Rim languages, whose successful completion will earn a certificate in basic communicative competence in the chosen language. Teaching methodology will emphasize a transactional, context-sensitive, situational approach. Working in close co-operation with other departments, we may also offer courses in Chinese and Japanese as part of

professional degree or diploma programmes with a Pacific Rim focus (MBA, M.Ed, etc.) and for diplomats, teachers and business people destined to work overseas for extended periods.

Generally, these courses will be offered on a non-intensive basis, in late afternoon, evening and weekend time slots, so as to ensure optimum access by the Vancouver business, education and government communities. If the demand were perceived, intensive courses could be organized, varying in length from two to seven weeks, depending upon the size and diversity of vocabulary required by the group.

6. PACIFIC RIM BUSINESS AND MANAGEMENT COMMUNICATION FORUM

BUSINESS is a type of **SYSTEM**, composed of separate **ELEMENTS** that **CO-OPERATE** with each other for **SEPARATE and MUTUAL BENEFIT**. **MANAGEMENT** of a business involves **IDENTIFICATION, ARTICULATION, and CO-ORDINATION** of the **RELATIONSHIPS** between business elements. Just as the elements of a business must relate with each other, so the business, which exists only as one of many elements in an environment, must relate with its environment, which includes other businesses as well as the social and natural environments. "**Articulation of relationships between separate elements**" is a concise definition of, and is also the main concern of, **COMMUNICATION**. **Business and Management Communication**, then, may be defined as: "**the articulation and co-ordination of relationships between separate elements of a business, and between a business and its environment.**"

The Forum: The Pacific Rim Business and Management Communication Forum will provide an ongoing arena for the periodic reporting, analyzing, discussing and debating of new and old strategies for articulating relationships within and between businesses and their environments around the Pacific Rim, but with an emphasis on North America and East and Southeast Asia.

Attention will be paid to the requirement for consonance and compatibility between corporate and social relationships and cultural values, East and West, but the general purpose of the Forum will be to draw attention to case studies that illustrate improved communication by drawing upon strengths of various formal and informal articulation strategies and practices around the Pacific Rim.

Research Associates: Each year, two distinguished, experienced, and articulate representatives of business or professional service will be given a **Research Associate** appointment in the **Centre for International Communication**, one in each of the Fall and Spring terms. The appointment, which will be awarded only to people with acknowledged success in communi-

cation and co-operation in the Asia Pacific region, will be on a half-time basis so as to allow for continuity in ongoing business commitments. The Research Associate will have an office in the Centre, and will be expected to perform two primary functions during the term: (1) to perform research in his/her field of business or management in the Pacific Rim, with a view toward publishing the results in business columns of appropriate newspapers, magazines or newsletters; and (2) to offer guest lectures and seminars on Pacific Rim Business and Management Communication at universities, colleges and institutes in the greater Vancouver area. Such an arrangement will have the dual benefit of allowing for a "mini-sabbatical" leave for the individual to read, think and write to an extent that is unrealistic under a full-time work load, and allowing business and professional expertise in the Asia Pacific region to be shared through the larger education institutional framework.

Inter-Institutional Speaker Clearinghouse: In addition to inviting outstanding speakers from Canada and the U.S. for regular monthly presentations, the **Pacific Rim Forum on Business and Management Communication** will make the useful knowledge, expertise and experience in southwestern British Columbia universities, colleges, business and government offices available and to speak at regularly scheduled breakfast, luncheon and dinner meetings of the major Trade Associations (Canada-Hong Kong, Canada-Japan, Canada-China, Canada-Korea, Canada-ASEAN, etc.). Making use of existing trade-promotion organizational channels is a better strategy than creating another, perhaps competing, demand upon the tight schedule of busy executives.

Dissemination of Forum Presentations: Concise "Forum Reports" will be edited and made available for publication in existing business print media such as the Sounding Board newsletter of the Vancouver Board of Trade/World Trade Centre, in co-operation with their Asia Pacific Foundation Business Associate. Through the Foundation's Business Associate network and Regional Information Centre network, the Forum Reports will be made available for release across Canada.

7. INTENSIVE TRAINING IN INTERNATIONAL COMMUNICATION

Canadian and Asian professionals -- teachers, consulting engineers, development project managers, bankers, and government personnel in foreign service -- are residing abroad, travelling abroad for extended periods, or otherwise coming into extensive contact with international counterparts.

Similarly, we see today unprecedented numbers of Asians -- particularly students, business people and development project trainees -- involved in extensive co-operation with Canadian counterparts, in Canada or abroad.

Most of the increased contact involves residence, training, travel or other forms of extensive interaction with colleagues, trainees or trainers in Canada and in Asia, giving rise to the serious challenge of intercultural communication and co-operation with people whose day-to-day social and professional relationships reflect very different cultural values. Intensive context-sensitive training in the material and spiritual cultures, social, business and professional relationship patterns, and "survival language" will significantly enhance the communicator's ability to perform effectively and sensitively with counterparts in the other culture.

Intensive, context-sensitive Communication and International Development Training, Communication and Cross-Cultural Management Training, and Cross-Cultural Communication Skills for Canadians and Asians will be structured and scheduled periodically, and in response to specific requirements of business, government or other institutions. In addition to structuring and delivery on demand, a regularly scheduled programme may be offered in mid-to-late summer of each year, just prior to the time most students, teachers and development trainees begin their extensive stay in the host country overseas.

SAMPLE PROGRAMMES:

Asian Communication Skills for North Americans:

Five weeks of training, five days a week, ending late August. Two hours a day of "survival Mandarin," "survival Japanese," "survival Thai," or "survival Indonesian" (depending upon the specific destination of the trainee); one hour a day of cultural history, social structure and behavioral expectations, focusing on specific countries; one hour a day of East-West Intercultural Communication and Cross-Cultural Adaptation Seminars. Another one or two hours a day may be used for tutorials, discussions, case-studies, etc.

North American Communication Skills for Asians:

Five weeks of training, five days a week, ending late August. Two hours a day of "practical English"; one hour a day of North American cultural history, social structure and behavioral expectations; one hour a day of East-West Intercultural Communication and Cross-

Cultural Adaptation Seminars. Another one or two hours a day may be used for tutorials, discussions, field trips, etc.

Communication and International Development Training:

Training and research programmes focusing on the role of context-sensitive communication in international development, designed and supervised under contract by Centre staff, will be tailored to fit the requirements of the International Development trainees.

Communication and Cross-Cultural Management Training:

Training programmes on cultural context-sensitive management, designed and supervised by Centre staff in co-operation with experienced corporate and government colleagues, will be tailored to fit the requirements of the sponsoring organization.

8. INTERNATIONAL COMMUNICATION RESEARCH AND DEVELOPMENT

Several types of research and development activities will be undertaken by or through the Centre for International Communication. They will include: the development and maintenance of annotated on-line bibliographies of print, audio and video instructional materials on international and intercultural communication; development of computerized methods for learning Chinese characters (for use in Chinese and Japanese languages); demonstration and research in microcomputer applications for teaching Pacific Rim languages and cultures; hosting of an on-line permanent conference on the Pacific Rim for school teachers in British Columbia; a research and training project on international emergency communication; and an applied research project on international communication network analysis.

1. INTERBIB (International, Intercultural and Interlingual Communication Bibliography On Line). The annual increase in business, professional and educational interaction between Canadians and their counterparts abroad -- particularly in the Asia Pacific region -- means a new and unprecedented need for knowledge and skills in communicating across international, intercultural and interlingual boundaries. INTERBIB will develop and offer on-line access to a comprehensive annotated bibliography of practical information through print, audio and video media on communicating with counterparts in the Asia Pacific region. (Jan Walls)

2. EMERGENCY INTERNATIONAL COMMUNICATION PROJECT.

In recent years increased attention has been paid domestically to the importance of developing emergency civil communication systems for use when normal channels break down. With increased Pacific Rim communication in support of international economic relations, there is a growing parallel need to develop strategies and infrastructures for Emergency International Civil Communication Systems. This database will provide information on existing and planned strategies and infrastructures, and its operators will promote international dialogue on the necessity for cooperating in the delivery of emergency international communication services. (Peter Anderson)

3. NEGOPY INTERNATIONAL: PACIFIC RIM NETWORK ANALYSIS PROJECT.

The NEGOPY software program for plotting and analysing communication linkages has been developed, applied and used with much success in several countries around the world. NEGOPY INTERNATIONAL will study and promote the application of NEGOPY to Pacific Rim communication network analysis, focusing on the different types of purpose served by international civil communication, and the optimum degree of networking required by different purposes. The results of the analyses will be made available through presentations at international conferences, and through publication of papers. (William Richards)

4. KANJI: A 'SEMAPHONIC' PROGRAMME FOR CHINESE CHARACTER LEARNING ON COMPUTER.

An interactive, structural-functionalist approach to learning Chinese characters (kanji). Only a small percent of kanji are entirely "pictographic" or "ideographic." About 85% have a "semaphonic" structure, with two major components -- one giving a semantic hint, and one a phonetic hint as to the character's identity. An interactive programme based on this rational structural principle for learning Chinese characters will save Chinese and Japanese language students hundreds of hours traditionally spent in rote memorization of "meaningless" sequences of strokes. (Jan Walls)

5. -- EXCITE APPLICATIONS IN PACIFIC RIM LANGUAGES AND CULTURES.

The EXEMPLARY Centre for Interactive Technology in Education is a demonstration and research centre for educational applications in CD-Rom and videodisc technology. The facility

establishes the Faculty of Education at SFU as a resource centre for optical information systems technology serving the educational community of B.C. Applications in Pacific Rim languages and cultures include: demonstration of Chinese character teaching and learning methods, such as 'KANJI,' mentioned above; demonstration of Asian language word and data processing programmes available for microcomputers in classroom and office (TianMa, China Star, Duke China Typist, etc.); demonstration of how the combining of microcomputer and laserdisc technology allows teachers to compile their own Pacific Rim multimedia instructional modules. (J. Walls, Gerri Sinclair)

6. PACRIM FORUM (Pacific Rim Education On-Line Conference for Teachers). The pilot PACRIM Conference, initiated in May, 1988 by the SFU Faculty of Education, brought British Columbia's Asia Pacific expertise on-line to answer questions and engage in discussions with B.C. teachers interested in developing their understanding of Pacific Rim societies, cultures and histories in response to the Ministry of Education's Pacific Rim Initiative. This conference will be turned into a two-year PACRIM FORUM, with a view to responding to the needs of the growing number of teachers outside the lower mainland district who would otherwise have difficulty finding answers to the many questions involved in developing new course content with an Asia Pacific focus. (David Porter, Gerri Sinclair)

7. PACIFIC RIM EDUCATION ELECTRONIC COMMUNICATION CONSORTIUM. In response to increasing requests from British Columbia schools for assistance with the planning of electronic communication links with countries in the Asia-Pacific region, the Faculty of Education is promoting a joint venture in the form of a consortium of participating school districts. A two-stage process is envisaged. Stage One involves the building of a resource base, both human and information. Stage Two involves the prototyping and evaluation of communications links between schools in the B.C. Schools TeleLink Consortium and schools in Pacific Rim countries. Communications may take place in a number of formats, including: electronic mail and teleconferences; slow scan television using existing telephone lines; facsimile document transfers. (Gerri Sinclair)

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-- IMPLEMENTATION --

9. INTER-INSTITUTIONAL INVOLVEMENT

While the Centre's programme activities will be located primarily at the SFU Harbour Centre Campus, it will visibly draw upon, and welcome participation and co-operation from, other centres of expertise in Pacific Rim interaction -- especially U.B.C. with its Asian Studies resources, UVic with its growing faculty strengths in Pacific Studies, and community colleges with strengths in Pacific Rim Studies. This approach will enrich and strengthen the Centre from the very start. It will also highlight SFU as being not only a leader and developer of relevant-and-respectable university outreach programmes, but also an advocate of initiative, complementarity and synergy in higher education.

10. SPACE AND STAFFING

SPACE -- the Centre consists of administrative office space for a Director, Associate Director and secretary/typist; a few smaller offices for sessional staff appointments; a small international communication reference library/periodicals reading room, and access to lecture halls, an "interaction lab," language labs, seminar and teaching rooms in Harbour Centre.

STAFFING -- regular staff include a Director who is a senior SFU faculty member; an Associate Director who is an SFU faculty member (in East-West Comparative Management in the Faculty of Business Administration); one full-time secretary/typist; SFU faculty members engaged in specific International Communication Research and Development projects; faculty members teaching International Communication courses at the Centre; sessional instructors teaching the Languages for East-West Communication courses; teachers and trainers working under contract for Intensive Training in International Communication; and Adjunct Lecturers from the business, government and professional communities attached to the Pacific Rim Forum on Business and Management Communication. The Director and Associate Director co-ordinate regular faculty participation in course offerings; training programmes, and research and development projects; recruit and co-ordinate Forum contributions from Adjunct Lecturers in the business, government and professional communities; and arrange for sessional academic appointments as required to deliver other courses and services.

STARTUP: The Centre begins activities in the spring of 1989, and becomes fully operational in September, 1989.

For further information on (or suggestions for strengthening) the Centre, please contact:

Jan W. Walls
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B.C.
BUSINESS
STUDIES
INSTITUTE

High up on Burnaby Mountain there is a business school with its research sights set squarely on British Columbia.

The Faculty of Business Administration at Simon Fraser University has always considered the problems and concerns of the provincial economy as a priority in its research thrusts. Now there are plans to bring this expertise and research acumen downtown to Vancouver's business core, where faculty and business executives can have greater and more direct opportunities to work together.

A newly-established B.C. Business Studies Institute will focus research efforts even more closely on issues of particular relevance to corporations and government agencies in B.C.

What impact will subsidies for mines have on B.C.'s economy? How should stumpage fees be rearranged, in the light of the new 15 per cent export levy? What are the economic opportunities left by Expo 86? These are the kinds of topics the Institute will research.

Results of funded research projects will be presented to the business community and the public at periodic seminars, and the Institute will sponsor a lecture series on current topics of interest to business people. Also proposed is an "executives-in-residence" program, which would invite noted leaders of industry into the University's classrooms to share their experience of the business world with today's, and tomorrow's, business executives.

The Institute would act also as a downtown base for semi-annual forecasts on the state of the provincial economy, using computer models like Professor Holmes's well-known predictor of fluctuations in B.C.'s industrial employment. Developed at SFU, this model has been used by the Business Council of British Columbia.

The business community would have an equal hand in deciding what research is relevant. A committee drawn from both the academic and business communities would review all proposed research projects and recommend which to support.

An endowment of \$1 million would provide core funding to get the B.C. Business Studies Institute up and running, including the lecture series and the research program. Additional funding for major research projects would be generated through contracts with government departments and corporate interests.

The establishment of bridges between the university and the business community has clear benefits for both. In this case, the Institute would focus the facilities of a modern business school on the economy of British Columbia, helping to solve problems and discover opportunities relevant to today's business people. And SFU's Faculty of Business Administration would benefit from enhanced access to the knowledge and experience of people in the business community.

SIMON FRASER UNIVERSITY
Memorandum

To: Jack Blaney
Subject: Space in Harbour Centre
for CIAR Project

From: Curtis Eaton
Date: June 29, 1988

Dick Lipsey and I are involved in a proposal to The Canadian Institute for Advanced Research (CIAR) to study the implications of science-based technical change in the global economy. If it flies, there will initially be 6 full time researchers from across Canada and, over the first five years of the project, participation will increase to approximately 15 full time researchers and a large number of project associates. Researchers will remain at their own universities, and there will be periodic conferences of 1 to 2 weeks duration.

If the project is successful, it will be renewed for an additional 5 years. The project will be "high profile" both in the economics profession and in the public policy community. The fate of our proposal will be decided in September, but my subjective probability of success is .9 or so.

If the project does fly, Dick Lipsey will be the research director, and he will probably be associated with SFU. Our hope is that there will be room for Dick and I, and possibly a secretary at the Harbour Centre. In addition we would also like to hold small conferences at the Centre from time to time.

I enclose a memo to George Ivany on the subject, a copy of our initial proposal to CIAR, and some background material on CIAR.

Dick Lipsey will be meeting with various members of the SFU community on August 12. Is there any possibility that we could have a tour of the Centre at that time? I realize that it's not finished, but the possibility of housing our CIAR research operation at Harbour Centre will, I think, be very attractive to Lipsey - - it may determine whether Lipsey comes to SFU.

SIMON FRASER UNIVERSITY
MEMORANDUM

To: George Ivany
Subject: Richard Lipsey

From: Curtis Eaton
Date: June 28, 1988

Lipsey and I are involved in a proposal to CIAR for a 5 year program to study the economic implications of rapidly evolving technologies in the global economy. We now have a green light to proceed to the next step - - presenting a detailed research proposal in September. My understanding is that we will know in late September if the project will be funded by CIAR, and my guess is that it will be funded (probability .9). If it is funded, Lipsey would be the research director. He would begin work in January and the rest of the "pioneering" team (tentatively James Brander (UBC), Richard Harris (Queen's), James Marksen (UWO), John Whalley (UWO), and I) would begin work in July. CIAR would pay our full salaries, but not fringe benefits, and provide a big hunk of money for travel and conferences. The team would gradually get larger - - perhaps 15 full time researchers would eventually be associated with the project. If the team met CIAR's expectations, the project would probably be renewed for another 5 years.

Lipsey wants to explore the possibility of an association with SFU, beginning on July 1, 1989. He wants it to be understood that he would regard the first year of the association as a trial period - - he would like the option of leaving on July 1, 1990 with no hard feelings.

What sort of association makes sense? A tenured appointment in economics seems most obvious, but there might be better options. Dick is 60 years old, and sees the CIAR project as his last major effort in economics. He currently intends to retire at 65, but I certainly would not bet that he will.

What are the costs to SFU?

- (1) Space - - 2 or 3 offices in the downtown center, and an office for Lipsey on the hill.
- (2) Fringe benefits for Lipsey
- (3) A full or part time secretary - - I don't know if Dick will raise this possibility, but expect that he might.
- (4) CIAR will, of course, be paying my salary, but I'll continue to teach one core course in our graduate program. Can we buy a replacement for the rest of my teaching and pay Lipsey's fringes out of the salary savings? Is there enough for a half time secretary?

What are the benefits to SFU?

- (1) Lipsey would teach a graduate seminar on stuff related to the project and would supervise graduate students working in the area.
- (2) He is Canada's most famous economist, and his association with SFU would help to attract graduate students and faculty.
- (3) The project itself will have a high profile in the profession and perhaps in the public policy community as well.
- (4) A major objective of CIAR is to induce the very best Canadian academics working outside Canada to return to Canada. Some of the additional slots in the project will go to such people, and CIAR will demand that they take appointments in Canada. Having the project centered at SFU will give us a better chance of attracting these people. I think that we should be prepared to be very aggressive in trying to attract 1 or two of these people, and if we're successful this will be a major benefit to SFU.

Finally Dick will be in town on August 10, 11 and 12. We should arrange a meeting with him during this period. The 11th. or 12th. are the best dates but the 10th. is possible.

AN OUTLOOK ON: SCIENCE AND TECHNOLOGY, ECONOMIC GROWTH
AND INSTITUTIONAL CHANGE IN THE GLOBAL ECONOMY

by:

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June 1988

CIAR PROPOSAL

I INTRODUCTION

The authors wish to examine the interactions between science-driven innovation, technological progress, economic growth, and social and institutional change in the global economy. We wish to assess where the rapidly changing global economy is headed over the next few decades, and to study the implications for Canada. The basic premise is that existing theoretical and empirical analysis of these issues within the traditional paradigms of modern neo-Classical economics are inadequate, and that a fresh look at these issues is needed, using new theoretical insights that allow for the characteristics of science-based innovation.

Students of industrial organization -- including the four whose names are on this paper have been dissatisfied with neo-Classical economics as a tool for understanding industrial structure in all industries -- including those that are science-based -- for nearly two decades. (An early discussion of these issues is to be found "The Introduction of Space into the Neo-Classical Model of Value Theory" B.C. Eaton and R.G. Lipsey, in Studies in Modern Economics, M.J. Artis and A.R. Nobay, editors, Basil Blackwell, 1977.) Lately pure theorists have been coming to the same view. An important convert is Nobel Laureate Kenneth Arrow, one of the two or three most creative living economists.

Basic questions that are central to this project concern:

- o the role of pure scientific research in economic growth;
- o how pure research is translated into industrially useful applied science;
- o how industrially useful results are translated into on-line product production;
- o the mathematical properties of the complex systems involved in all of these stages of the growing, innovating economy;
- o the optimal institutions for ensuring that these stages work effectively;
- o the actual and optimal responses by business, government, and financial sectors to the economic changes which constantly impinge on them;
- o the relation in the engine of economic growth between the goods industries and the service industries -- the latter must be divided into tradeable services, such as banking and insurance, and (largely) non-tradeable services such as hospitals and education;
- o the social adjustment questions posed by rapidly developing technologies -- such economic issues as employment and the demand for both unskilled and skilled labour as well as a wide range of sociological issues;
- o the implications for advanced industrial countries such as Canada of more rapid development of low cost production methods in developing countries (current policy responses are clearly sub-optimal); and
- o the significance of the extraordinary speed at which financial capital now moves around the globe and at which institutions that facilitate financial and economic globalization are changing.

We wish to address such issues, using both new and existing methodologies, while developing a more adequate conceptual and empirical framework for looking at how science, technology and economic growth interact.

We are suggesting a Herculean amount of effort. We see our suggestions, however, as various ways to attack the single issue of science, technology and innovation in the modern world. If one approach proves unfruitful, it will be dropped in favour of another. As the philosopher has said: "There are many routes to wisdom". We are committed to seek the wisdom, not to follow a particular route thereto.

II SCOPE AND OBJECTIVES

Two features of contemporary economic systems signal the need for fresh approaches to studying the role of science-driven technical change in economic affairs.

- o First, science-driven innovation has become the single most important source of actual and potential increases in economic welfare; it has accounted for the proliferation of high-quality products, the development and extension of basic services, and the rise in incomes stemming from improved productivity.
- o Second, regional and national economies around the world have become so thoroughly integrated over the past 50 years that it is now more appropriate to think in terms of a single global economy, than of a series of national economies. This globalization of the world's economic system is, however, a two-edged sword. It offers

the potential for major worldwide improvements in economic welfare, but it also makes any one national economy much more vulnerable to economic changes occurring elsewhere in the world.

Science-Based Technical Change

In his pioneering work on the determinants of economic growth, Robert Solow attributed up to 85% of U.S. economic growth to technical progress. More recent studies have confirmed Solow's view that technical change is the major source of increases in national income in developed countries -- although there is also some suggestion that Solow overestimated the importance of technical change by underestimating the growth of factor supplies.

Another, and perhaps more dramatic, indication of the dominant role of technical change is the startling rate at which new products are introduced and old products fall by the wayside, which adds up to an ever-decreasing length of the product cycle -- the time over which any given product will be developed and stay in production. Today, product competition -- developing new products for clearly identified niches in a particular market -- is the prime focus of most manufacturing firms. For example, Mitsubishi introduced more than 500 new products to its catalogue in 1987.

From a theoretical perspective, the primacy of science-based technological change, and its most visible manifestation, product competition, have profound implications. Most of these can be captured under three headings:

- o economies of scale
- o economies of scope, and
- o learning by doing.

Scale: The traditional view of economies of scale concerns situations where increases in the rate of output allow the use of more and more specialized equipment. The modern view emphasizes the fixed costs of developing products and installing the specific machinery required for their production. These fixed costs cause average unit costs to decline continually as output of a particular product increases.

A central feature of the rapid rate of product innovation found in science-based economies is that firms must recover their expenditures on research and development for any given product over a relatively short period of time. High development costs in conjunction with a short recovery period, imply that unit costs of production are declining significantly over the relevant range of output, and that product development costs on a per-unit basis are usually a significant fraction of total costs. For example, developing the Dash 7 airplane was an expensive proposition whose development costs must be recovered on a total production run of less than 200 airplanes.

Scope: In many cases economies of scope -- efficiency in multiproduct development -- are significant, implying that firms often become well entrenched in particular industries. For example, the cost of developing a new automobile is, in many cases, much less for an established car maker than it is for a new entrant.

Small countries, small industries and small firms may suffer serious disadvantages when the scope economies extend beyond their specific bounds.

Learning By Doing: Finally, learning by doing -- discovering how to develop and produce a particular new product or line of products -- is an important phenomenon in science-based industries, one which poses some challenging policy problems. On the one hand, learning by doing that is firm-specific confers important advantages on a firm that is successful in the early stages of a new line of science-based products. After 40 years, for instance, IBM is still the dominant firm in the computer industry -- a dominance it owes in large measure to its early and successful pioneering in the computer field. On the other hand, learning by doing that is significant but not appropriable by the firm in question -- i.e., once done it is available to all firms -- may well mean that private firms cannot recover the cost of developing a new product line. As a result, the potential economic gain from technical progress may not be realized in the textbook private enterprise economy.

Appropriability, Scale and Public Policy

More generally, the issue "appropriability" is a central (and very tricky) issue in science-based private enterprise economies. If private firms such as IBM can appropriate a significant portion of the benefits that flow from their research and development and from learning by doing, then concentrated centres of economic power may develop -- and this concentration of power may not be desirable. Yet if private firms are not able to appropriate such benefits, they will not invest in the development of potentially useful new products -- and the resulting economic benefits will not materialize.

The central economic argument for government support for basic research in science has been that, because of non-appropriability such research will not be paid for by private industry and must, therefore, be promoted through public funding. Appropriability is also an important issue in research and development as well as basic science in the world of rapid technical change in which a firm must recover its expenditure on research and development over a relatively short time horizon. The appropriability problem raises important policy issues in many areas, including property rights over innovations, anti-combines policy, tax or other incentive instruments designed to regulate the economy's research and development, and direct subsidies and/or government sponsorship for research and development.

The optimal scale of R&D operations is also important for policy. Some people have argued that the optimal scale for product-oriented high-tech research is at the level of the industry, rather than of the firm. The standard economist's answer is that one firm will then grow to monopolize the industry so the firm will become the industry. But, say critics, what if the optimal level for other activities is at the firm level in a multi-firm industry? The challenge is then to find ways of efficiently concentrating development at the industry level, while leaving production, and other activities, to the firm in a multi-firm industry.

The scale issue suggests that units beyond the level of firms may be needed to encourage optimal research and development.

The preceding discussion suggests two reasons why an industry-wide R&D program may be needed: first, firms may not be able to appropriate the income streams generated by their own research, second, scale economies in research and development may make firms a non-optimal R&D unit in multi-firm industries.

These considerations raise the question of the best way to institutionalize industry-wide, science-based, innovation. This issue will be an important focus of our research.

Broader Policy Issues

Traditional economic theory either ignores government, or treats it as a benign entity whose sole objective is to maximize the economic well-being of its citizens. Most formal economic models simply fail to address the complexity of real, political-economic, interactions. A further research objective is to rectify that failure by analyzing what we might call the political economy of science-based technical change.

- o How do governments typically react to the call for an industrial policy?
- o Why do decisions on such policies so often become politicized in Canada?
- o What institutional changes would be needed to encourage a rational consensus making body that could remove decisions from the vote maximizing arena?

These studies will build on recent more sophisticated work on the place of government in the economy by such authors as Nobel Laureate James Buchanan and Gordon Tulloch.

More far reaching social issues are also pertinent. How does the current accelerated rate of science-driven change affect the frequency and duration of unemployment, the size of the "unemployable"

bottom layer of society, the sense of social adherence or alienation of the average citizen, and the distribution of benefits among various social groups? How do these in turn affect health, welfare, crime, divorce and a host of other social indicators?

These studies will link up with others such as the CIAR's project on medicine and health.

Model Failure

Many of the issues raised by the accelerating importance of science-based technologies cannot be treated within the confines of the standard neo-Classical economic model because that model is essentially static: it focuses on a fixed set of products, produced with unchanging technologies under conditions of constant returns to scale, which in turn requires that all inputs are infinitely divisible -- it is possible to halve the inputs of everything indefinitely, and this will always indefinitely produce half the output.

The challenge presented by a science-based economy requires, at the very least, a major modification of standard economic models. In many cases, the resulting models will be complex because they will involve interactions among a number of sectors; they will be dynamic because they will necessarily be concerned with the evolution of economic systems; and they will be highly non-linear, because of economies of scale, and scope, and significant learning effects. Developing a basic understanding of the mathematical properties of complex, dynamic, and non-linear models, and then applying them to the processes we have discussed, are key elements in the project.

Two avenues of attack are available within the class of such models. The first uses the conventional economic hypothesis that individuals are rational and able to compute the entire set of future implications of their economic decisions. This approach relies heavily on the techniques of modern game theory and dynamic programming. The second sees individuals as using imitation, "rules-of-thumb", and other forms of behaviour to make the best economic decisions that they can in a complex and often opaque economic environment. In Darwinian fashion, "good" behaviours are rewarded and "bad" behaviours are punished. In biological fashion "rules of thumb" are changed occasionally, and discretely, when bombarded by enough evidence that they are seriously defective. This approach, sometimes called "evolutionary economics", uses the mathematical tools of evolutionary biology.

We intend to pursue both avenues of research.

Scales of Observation

Our research will focus on the interaction between basic science on the one hand, and science-driven innovation and technical change on the other. This interaction can be viewed from four distinct, but interrelated scales of observation:

- o the firm,
- o the industry,
- o the appropriate R&D unit, and
- o the economy as a whole.

The Firm: In private enterprise economies, the firm is the innovator. One important set of questions at the firm level concerns how firms manage innovation and technical change and, in particular, how information is communicated and used throughout the firm. The instruments that a firm uses to control, and direct, the flow of information are its organization and its contracts -- both implicit and explicit -- with its employees, other firms, and government agencies. Empirical techniques will be used to identify the organizational characteristics of firms that do and do not manage technical change efficiently. The theoretical tools of contract theory will also be used. (Although relatively new, contract theory has already produced important insights into government procurement.) Contract theory will be used to explore the ways in which firms manage technical change and product development.

The Industry: Economies of scale, economies of scope, and learning by doing -- the hallmarks of a technically-evolving economy -- have profound implications for the structure and performance of an industry. Brander, Eaton and Lipsey, Harris and Markusen have made significant contributions at this level. Recently, theorists in industrial organization have been exploring these implications using the tools of modern game theory. As a result, there is now a significant body of literature on the possibilities of concentrated economic power and the related problems of over- and under-investment in innovation and technical change. A major research component of the project will be to continue this approach both in the game theoretic vein and by developing the relatively neglected evolutionary approach to it. The related empirical work on market structure will largely consist of detailed case studies.

The Right Unit: A central issue in the science-based view of innovation concerns spillovers. If the activity of one firm favourably affects other firms, and if the activity of one industry favourably affects others, then the firm may be the wrong unit on which to centre innovative activity. If so, how are efficient larger units to be created, and how are they to be shielded from capture by a vote-maximizing government?

These spillovers and agglomeration issues have a distinct spatial aspect. Do we need a Silicone Valley, or a Route 128, if we are to succeed in the science-driven world? Eaton and Lipsey have been pioneers since 1970 in introducing such spatial aspects into economic theory.

The Economy As A Whole: Much theoretical and empirical work is needed at this level. The theoretical work will primarily center on the structure of the science-driven macro economy. Virtually all of standard macroeconomics of scale and scope and learning by doing imply that major pockets of market power must exist in technically-based industries. A macroeconomic exploration of the implications of technically-driven market power is thus needed. The modern work on market structure provides several promising points of departure.

In pursuing the relevant macroeconomic empirical work, we will use modern tools of quantitative analysis, and large scale modelling -- of the sort that John Whalley and Rick Harris have pioneered -- to analyze the growth process in Canada and in high-growth countries such as Korea, Japan, and Singapore. Surprisingly little is understood about the spectacular growth performance in these countries over the

last three or four decades. How have science, technology and growth interacted, and what are the implications for countries such as Canada? Using non-linear computer-based simulation techniques in what is known as "applied general equilibrium modelling", we hope to analyze, in a logically-consistent and empirically-based way, the simultaneous determination of prices, production, and incomes. Because this analysis introduces the linkage between growth and technology and because it is both empirically-based and closer in a short-run sense to policy questions, it will complement the other research components by providing a vehicle through which theoretical developments from elsewhere in the project could be evaluated within a numerical framework.

Globalization

National economies have become progressively more interdependent over the past 50 years, until it now makes sense to speak of a global economy. This new interdependence is reflected in vast increases in capital mobility, in the level of international borrowing and lending, and in the volume of international trade as well as in the increasing importance of multinational firms. These are institutional changes of critical importance -- and changes which cannot be considered by neo-Classical theory which is devoid of any significant institutional content.

The mind boggles at the task of summarizing the causes and consequences of globalization in any constrained space. We satisfy ourselves, therefore, with a few comments that are clearly relevant to our proposal and that have important implications for our research.

- o The economies of scale associated with technical change are themselves an inducement to international trade because access to large international markets allows firms to exploit economies of scale more fully. (In fact, most of the economic gains realized within the EEC, and the economic gains anticipated from free trade between Canada and the U.S. arise from this source.)
- o The phenomenon of multinational firms is driven in part by technical change -- the effects associated with learning by doing are a clear inducement for firms to become multinational.
- o The globalization of the world's economy has vastly increased the potential gains from technical progress even though it has simultaneously made national economies much more vulnerable to technical economic changes taking place outside their own borders. This is particularly true for small, open economies such as Canada's.
- o The firm is increasingly an international entity, capable of transferring technological change and its economic activity across international borders. These capabilities necessarily limit the degree to which any single national government can influence the activities of international firms.
- o An "industry" can span a number of countries, and in many cases it may even stretch worldwide. These international industrial linkages again impose significant constraints on the policy options open to any single national government.
- o Economies of scale, of scope and learning by doing may give rise to significant concentrations of economic power. In an international setting, this concentration of power may force different economies down very different developments paths, with the disturbing

possibility that the fruits of technical progress may be distributed quite unevenly across countries.

- o Globalization has changed the nature of the political economy problem. While it may, or may not, be a useful fiction to regard a national government as a benign entity acting in the best interests of its citizenry, no global government representing the best interests of the world's citizens exists. The political economy problem, therefore, takes on many of the features that characterize competition among firms within a particular industry.

III EXECUTION OF THE PROGRAM

Our research could be organized in several different ways, and our organization may well evolve with experience. What seems best to us at this point is to envisage three or four separate, but overlapping groups, focusing on the issues raised by science-driven technical change at the various levels identified in Section II. We also see these groups coming into the project at several distinct stages.

STAGE 1:

- o Group 1 will focus on the firm. A serious effort, perhaps involving a number of lengthy case studies, will be made to identify the organizational and contractual characteristics of firms in various key countries which are successful innovators. The techniques of contract theory will be used to identify optimal organizations for innovative firms, and to assess the forms of organization used by successful innovators.

- o Group 2 will focus on the industry, looking particularly at the several dimensions of market structure, including the size distribution of firms, the distribution of innovators over firms and over countries. One approach will use game theoretic tools in a dynamic setting. The other will use tools adapted from evolutionary biology. The questions to be addressed will include the following: When is it sensible for a firm or a nation to act as an imitator as opposed to acting as an innovator? This issue is particularly important for a small open economy such as Canada. Under what conditions is it possible that countries will be frozen out of the innovation game in a particular industry or industries? Are national and international conventions on patents, and intellectual property rights appropriate for an evolving, technically based economy? What can be learned by directing the tools of industrial organization at the issues of the political economy of industrial policy?
- o Group 3 will investigate alleged spillover effects. These pose serious theoretical and empirical issues which Brander and Lipsey have already addressed. (See Shaping Comparative Advantage, R.G. Lipsey and W. Dobson, (eds.) Toronto: C.D. Howe Institute, 1987.)

STAGE II:

- o Group 4 would focus on the macro economy. Using applied general equilibrium techniques, the group will develop a quantitative understanding of the relationship between economic growth and technical change in several countries, including Canada, Korea and Japan. These models will also permit simulations of the effects of various policies with respect to technical change. The group will

also focus on the implications of technical change for the structure of the macro economy and macroeconomic models. Roughly speaking, the issues concern the implications of technologically drive market power for the macroeconomy. Here there will be significant interchange between the macro group and the industry group.

STAGE III:

- o If the first two stages prove successful, further stages would bring in wider groups of social scientists. The political economy of industrial policy, and the sociological effects of globalization, are two of the many broader areas in which study could be rewarding and would involve all of the social sciences. A selection of the issues that would be addressed here have been outlined earlier in this paper.

IV ORGANIZATION OF THE PROGRAM

Why the CIAR?

A project such as we have outlined requires the study of a very complex social process. No one discipline is trained to handle it fully. It needs a large and interdisciplinary effort.

We have proposed attacking it in several phases. Phase 1 would primarily involve economists, but later phases would spread the net much more widely.

Even Phase 1 is radical enough in conception. It will require a group organization that is certainly unique in Canadian economics, and probably in most of Canadian social science. The Canadian

institutional structure of isolated departments, and individual research grants, does not facilitate the kind of coordinated effort that we envisage. Neither does the rugged individualism of most Canadian economists.

We propose to organize a group effort on the lines that are well known in the natural sciences, but virtually unknown to economists. We believe in scale economies. We believe this effort will produce work an order of magnitude better than if the same amount of money were given to the participating scholars as individuals. Group effort will create intellectual economies of scale.

We also hope that the effort will evolve to become interdisciplinary: maths and science inputs are needed near the outset, and political science and sociology will come in later. For good reason, economists are skeptical about interdisciplinary work. We believe that, if appropriately organized around the problems outlined in this paper, it can be successful.

The CIAR is uniquely placed to encourage this kind of group effort among economists, and multidisciplinary effort among the various groups.

The initial phases of the research program would involve the limited participation of a small number of scholars. They would each organize different research components, identify relevant individuals with the necessary talent and expertise, and lay out the longer term structure of the research activity divided between basic research, conferences, workshops and publishing.

In addition, advice from other research groups involved in related research areas in other countries will be sought, both for guidance on the research program and as sources of ongoing

interaction. Initial contacts have already been made with the Santa Fe Institute which is studying the basic theory of our problems. The Berkeley group has done a vast amount of work on Japan and the NIC's. The Institute program on Population and Health will be approached for cooperation on the social adjustment aspects of the program.

A limited number of scholars will probably devote their full-time activities to the project starting in July of 1989 for a full five-year period, the length of the program. Considerable emphasis will also be placed on bringing promising young scholars into the program as the research proceeds.

An initial list of core participants might be:

1. Professor Jim Brander (UBC). A leading international trade theorist, widely published in major journals, and specializing in innovation and trade.
2. Professor Curt Eaton (Simon Fraser). An internationally acknowledged expert on spatial modelling applied to firm behaviour and innovation.
3. Professor Richard Harris (Queen's). A pioneer in modelling Canada-U.S. trade in the presence of market structure and scale economies, as well as a major theorist on industrial policy and product innovation.
4. Richard Lipsey (C.D. Howe). One of Canada's foremost economists; he has worked with Curtis Eaton over two decades in reformulating neo-Classical theory along many of the lines discussed in this paper.

5. Professor Jim Markusen (Western). An internationally known trade theorist currently working on multinational enterprises and firm behaviour. His past work also deals with growth and trade.
6. Professor John Whalley (Western). A pioneer in developing computable general equilibrium models; he is currently studying issues relating to the place of developing countries in the GATT and the growth performance of Korea.

The group intends to draw on expertise from the U.S. and Europe both in designing and executing the program. Harris has major contacts at Berkeley, and elsewhere in the U.S.; Whalley at Stanford and Yale, and the NBER. Lipsey has already been invited to visit Santa Fe and has major U.S. contacts including Yale, where he held the Irving-Fisher Visiting Professorship in 1979-80. Contacts already exist between one or the other of us and most of the following list of key researchers in the field: Brian Arthur (Stanford and Santa Fe), Nate Rosenberg (Stanford), Paul David (Stanford), Rich Gilbert (Berkeley), Laura Tyson (Berkeley), Sidney Winter (Yale), Tim Kehoe (Minnesota and Santa Fe), Larry Summers. (Where in one or two cases there are as yet no strong contacts, these will soon be sought.

Ⓟ → SCAP Ac

SIMON FRASER UNIVERSITY
MEMORANDUM

TO: Dr. J. Blaney, Chairman
SCAP Sub-Committee on
Harbour Centre

FROM: J. Garcia, Chair Elect
Spanish & Latin American Studies

RE: Proposal for a Latin American
Business Resource Centre

DATE: 17 August 1988

Please find enclosed a draft of a proposal for the creation of a Latin American Business Resource Centre at SFU Harbour Centre. There is no similar centre in Canada. There is a clear need for these services; and our contact with business and development could be beneficial to our academic and cultural programs.

JG/mjc

- cc Dr. R.C. Brown, Dean of Arts
- Dr. J.W.G. Ivany, Vice-President Academic
- Dr. S. Shapiro, Dean of Business Administration

Enc

**LATIN AMERICAN BUSINESS RESOURCE CENTRE
at SFU HARBOUR CENTRE**

1. Introduction

Latin America with its twenty-one nations and a population of more than 400 million, represents a gigantic market for Canadian technical expertise and manufactured goods. The Central and South American sub-continent share with Canada geographical proximity, and the Pacific and Atlantic Rims. Canada and Latin America are similar in their abundance of natural resources; forestry, agriculture, mining, fisheries etc; but they are complementary in industrialization: Canada is industrialized in precisely the areas that Latin America needs to industrialize. Both areas are in an optimal position for a mutually beneficial transfer of technology. The climatic contrast of both areas, and the reverse sequence of seasons provide for year-round opportunity for trade of produce and other commodities.

2. The Centre

The Centre will be an independent operation adjunct to the Latin American Studies Program and the Faculty of Business Administration. It will be located at the SFU Harbour Centre in Vancouver. Its mandate will be to provide expert assistance and information on bi-lateral business opportunities between Canada and Latin America, and to promote economic and cultural cooperation and understanding between Canada and Latin America.

It will act as liaison between Canadian entrepreneurs, consultants and businesses; and the Trade Development Divisions of the Department of External Affairs; Federal and Provincial Trade and Commerce Departments; Trade Commissioners and chambers of commerce of Latin American diplomatic missions in Canada. The Centre will also liaise with financial and research institutions such as the World Bank, the Inter-American Development Bank, the Canadian Development Bank, CIDA, IDRC and others.

3. Space

The Centre should house a reference library, a computer, film and video resources, and a conference room with facilities for cultural activities, exhibits, lectures and workshops.

**LATIN AMERICAN BUSINESS RESOURCE CENTRE
at SFU HARBOUR CENTRE**

4. Staff

The Centre should have a Director, an Information Officer, a Financial Officer and support staff.

5. Services

The Centre should:

- i. Provide advice in locating financial sources for small businesses and import/export operations.
- ii. Identify opportunities for investment in private and mixed enterprises in Latin America.
- iii. Assist on bidding for engineering and development projects.
- iv. Provide translation services; English-Spanish, English-Portuguese and vice-versa, for legal and business documents.
- v. Organize periodical seminars and workshops, and offer short courses in "Doing Business with Latin America".

In addition, the Centre could also offer credit-free Spanish and Portuguese translation and business writing courses, as well as audio-lingual courses for executives contemplating postings in Latin America.

The Centre will also sponsor cultural and artistic events in cooperation with diplomatic and regional organizations and corporate patrons.

6. Finances

A plan for a gradual implementation of the Centre together with a budget should be drawn up.

**LATIN AMERICAN BUSINESS RESOURCE CENTRE
at SFU HARBOUR CENTRE**

International institutions, canadian and latin american Federal and Provincial Governments and corporate sources should be identified to endow or finance the Centre's operations.

The Centre should be able to generate a modest revenue from fees charged for services and courses.

Prepared by Jorge García
Chair Elect
Dept. of Spanish & Latin American Studies

17 August 1988

SIMON FRASER UNIVERSITY

MEMORANDUM

To: Dr. J. Blaney Vice-President Development	From: A.R. Freedman, Chmn. Dept. of Math and Stats
Date: 18 November 1987	
Subject: DOWNTOWN CENTRE IDEAS FOR MATH/STATS	

I reiterate from our meeting on Monday, November 16, some of the projects for the Downtown Campus that are under development in the Department of Mathematics and Statistics

1. **Masters Degree in Mathematics Education.**

- A joint program with the Faculty of Education.
- Approximately one course per semester year round.
- The organizers are not unanimous in thinking the best place is downtown - some feel the expanding population of the Fraser Valley is a better target market. I disagree with that. Downtown we could get high school teachers (they are the enrollees for this program) from North and West Vancouver, Vancouver and West Burnaby.
- This is likely to be a very successful program. I think Downtown should actually bid on it.

2. **Training Program for Actuaries**

- This is envisaged as an aide to students of Actuarial Mathematics to help them pass the first five exams of the Society of Actuaries. (A program for all ten exams is a large scale project requiring considerable resources and not envisaged in the near future.)
- This program involves several existing courses like Math 151, 152, 232, 272 and two or three new courses similar to Math 398 which will be put on downtown, spring semester, 1988.

- We would hope that the Society of Actuaries and the Canadian Society of Actuaries would endorse the program.
- Downtown usage for this program would probably range between 3 and 6 courses per year.

3. **A downtown office for the Statistical Consulting Service.**

- This would require only a small office with a computer connection, telephone and minimal secretarial services.
- A workstation with "Televideo" communications* with the Department of Mathematics and Statistics on Burnaby Mountain, would be desirable but certainly not compulsory.
- Hopefully, this operation would be completely self supporting from fees paid by the clients from the local business community.

In due course you will receive detailed proposals for all of these programs. In the meantime if you have any questions please feel free to contact me at 291-3378.



A.R. Freedman

ARF/bcl

c.c. Dr. J.M. Webster, Dean of Science
Dr. J.W.G. Ivany, Vice-President Academic

* These machines, which allow for two way verbal and written communications, are marvelous. You might consider such devices in general in planning the downtown developments. They can go a long way towards bringing the downtown campus into closer contact with the main campus which would be desirable.