CONSTRAINTS ON THE PRODUCTION OF KNOWLEDGE IN DISTANCE EDUCATION

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Abstract

Constraints on the Production of Knowledge in Distance Education

The concepts of Harold Innis and Raymond Williams are used in an interpretation of the history of the Open Learning Agency in British Columbia. The thesis also analyzes the shifts in purpose and organization which have accompanied the shift from the oral and print media of the conventional university to the television and print media of the Agency.

The thesis concludes that the conventional universities are organized to reflect their history in the oral tradition, and have a limited geographical scope and a decentralized system of governance. This structure supports several academic communities, providing several sites where the infrastructure for scholarly work is supported. These institutions, however, because they are self-governing communities and demand face-to-face interaction, create barriers for students who want to transfer credit from one institution to another, or who cannot study in the conventional setting. These students are forming a larger and larger proportion of the student population. Print media and television reverse the space/time dynamics of the education system, allowing students to study a great distance away from a highly centralized educational institution.

Where the oral tradition, however, supported certain traditions and protections in the post-secondary system, the new media are employed in such a way that many of these traditions and protections have been eroded. Also, the character of knowledge which is conveyed in the new system differs in some important

respects from that conveyed in a conventional institution. OLA serves some of the purposes of a conventional institution, but not all. Specifically, it supports no research work, develops no scholarly community, and does not attempt to train future scholars. The shift to television and print did not require such a shift in purposes, but made it possible.

Using the model of a democratic communications system provided by Williams, some goals are set out for the future development of distance education technologies. New technologies should attempt to recreate or enhance the oral tradition, to draw students back into an academic community. The interactivity of the oral tradition is essential to the development of strong and lively intellectual communities.

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Chapter One: Introduction

"Distance education" is the term usually used to describe a complex of activities which provide a student with an educational program of some kind without the necessity of any face-to-face interaction with a teacher. Over the last two decades, distance education systems have grown up all over the world, and a particularly interesting example has emerged in B.C. The Open Learning Agency is considered by many to be a particularly innovative and successful example of a distance education institution within the public post-secondary system.

The character of the traditional university, many predict, will be profoundly changed by the use of new technologies. The possibility may seem remote to those trained or working in traditional institutions, but undoubtedly less so to those who are graduates of distance systems. Linda H. Lewis, a prominent American writer on distance education, offers a typical prediction about the future of traditional education:

> ...the availability of communication services to people all around the world ... will expand dramatically. The widespread availability of inexpensive communication channels will increase demands for distance education. ...widely scattered groups will be easily able to access peers, experts, and information. ... Individuals will develop sophisticated skills as educational consumers ...to determine selectively what to use from the array of educational resources distributed by an ever-increasing number of educational institutions and private suppliers. ...the distinctions between formal and informal education will blur as learning at home and in other nonclassroom settings increases. 1

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1. Linda H Lewis, "Educational Technologies for the Future", *Handbook of Adult and Continuing Education*, ed. Merriam and Cunningham (San Francisco: Jossey Bass, 1989) p. 621.

If these predictions are correct, traditional institutions will be transformed, their purposes and structures altered in significant ways. As Lewis suggests, for example, post-secondary institutions will shift from offering educational programs to an audience which is largely "local" to one which is international.

Since distance education institutions can teach students anywhere rather than at a particular geographic site, they permit students who cannot get to a traditional institution to carry on a course of studies. They also provide an alternative to the existing kind of system for many poorer countries, who lack the resources to develop a system of universities and colleges. Some of the largest distance education institutions in the world currently exist in highly populous and relatively poor countries such as Indonesia and India.

Distance education systems are growing rapidly. Athabasca University in Alberta, for example, doubled in size between 1980 and 1986. Sukothai Thamatirat Open University in Bangkok offered its first courses in 1979, and in 1984 awarded 10,000 degrees. In 1984, the Universitas Terbuka began offering distance courses, and by 1985 had enrolled 90,000 students.2 The federal government of Canada announced plans in 1987 to create a Commonwealth University of Distance Learning, based in Vancouver, and employing expertise developed by the Knowledge Network of the West and the Open Learning Institute, the two organizations which have since merged to form the Open Learning Agency.3

There are currently three kinds of distance education institutions within the post-secondary system in Canada -- the traditional university offering a distance education program in addition to a traditional program; the free-standing institution which specializes in distance education; and the educational broadcasting authority. In B.C., the broadcasting authority and the free-standing educational authority are combined in the Open Learning Agency.

The media used in distance education in Canada can include print, audio tapes, radio, slides, film strips, video cassettes, computer communications, specialized experimentation kits, telephone, facsimile machines, video discs, or

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2. Ian Mugridge, "The Open Learning Institute", in *Distance Education in Canada*, ed. Mugridge and Kaufman (Kent: Croom Helm Ltd, 1986) p. 127.
3. "Canada, B.C. to give $12 million to network", *Vancouver Sun*, October 19, 1987

television. Computers represent what has been called the third generation of innovation; the second is tele-conferencing, and the first print packages and television.4 This first generation has already created significant changes in the structure and purpose of educational institutions.

Despite the wide range of possibilities, most distance education in Canada is still based on print. Because print does not accommodate easy two-way communication between teacher and student, print systems are usually supplemented with a system of tutors, who can meet with students face-to-face or over the telephone.

If print is the most common medium, however, television is by far the most visible, reaching the general population as well as the particular student taking the course. The use of television has demanded the development of educational broadcasting authorities, and television has absorbed most the money available for the development of non-print media over recent years. The history to date of distance education suggests that the introduction of print-based systems, and later television and print-based systems, have most influenced the way the new institutions are developing.

In this thesis, the Open Learning Agency, B.C.'s distance education institution, is studied to provide some insight into what changes print and television based systems of education might introduce in the post-secondary system. The analysis is informed by the theoretical work of Harold Innis, particularly his writings on communication media and education. To a lesser extent, the thesis relies on the seminal work of the English culture and communication analyst Raymond Williams.

The Open Learning Agency is a particularly useful example to consider, in that it represents within one agency both a broadcasting authority and a free-standing distance education agency, and also coordinates most of the distance education offerings of all the post-secondary institutions in the province. The Open Learning Agency is unique in the Canadian system in combining all these functions.

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4. D. Randy Garrison, "Distance Education," *Handbook on Continuing and Adult Education* (San Francisco: Jossey-Bass, 1989) pp. 223-225.

OLA has become largely independent of existing institutions, and has largely abandoned traditional teaching methods. It represents a possible future for education, dramatically different in shape from what exists now. The recent emergence of OLA provides a means to examine the nature of technological change in education, and an opportunity to employ and assess the contributions of Innis and Williams. In particular, the thesis considers the relationship between the transformations occuring in education and the creation of a democratic culture. The works of Innis and Williams, who considered this questions in relation to technological change, provide some insight.

New Media in Education

Technological change in education has far-reaching consequences, particularly if the change occurs in the media of communication. Communication is, in the broadest sense, the function of the university. The university plays a key role in the production and reproduction of the culture of a society, and a shift in the medium of communication creates major shifts in the organization of education and thus the organization of "knowledge production".

For example, the education system does not merely transport an otherwise fixed and stable and bounded body of knowledge. An active process of selection occurs, a selection of that from the past which seems relevant to the present. This process of selection is affected by, among other things, the ease with which the medium of communication can convey particular ideas. When the technology changes, that which can be easily conveyed, and therefor comes to be defined as knowledge, changes. Thus technologies central to the learning and teaching process play a role in shaping the character of knowledge which is passed from one generation to the next.

An examination of the history of Western society reveals that new technologies also give rise to new social organizations, new understandings of purpose and goals, and new sources of power. When they are introduced into a system whose primary purpose could be understood as communication, and that system plays a central role in the production and reproduction of culture, social impact is necessarily going to be widespread and significant.

While the use of new technologies in education has expanded very rapidly over the last two decades, research on the long term effects of these technologies has been slow to appear. Often, as in the rest of society, new technologies are introduced to meet an apparent need without any consideration of their long term impact at all. Generally research on technological change is done after the fact, a consequence both of the difficulties in accurately predicting how technologies will develop, and a tendency in Western societies to leave the development process largely in the hands of the private sector, where research focusses more on the exploitation of markets than long term social change.

The problem with existing research, however, also reflects a trend in research on education. Before any serious research can be done on how new technologies might change the nature of higher education, and whether these changes are positive or negative, there needs to be some consensus on what the nature of higher education is and should be. Such a consensus requires a vigourous debate within the academic community, a community fragmented and under great pressure to serve the needs of an increasingly diverse population. One discipline which might initiate the required debate is education, but as I discuss below, research in education is preoccupied with other issues.

The Contribution of Research in Education

In a survey of research on higher education done by Edward Sheffield for the Social Sciences and Humanities Research Council in 1981, Sheffield and several other contributors note the absence of significant research on the goals of education, on the role of the university in society or on the aims of scholarship.5 Research tends to focus on the details of administration - funding and governance, pedagogy and learning theory, technical details and reports on experimental courses with new media of instruction.

Within the literature specifically concerned with distance education, the pattern is repeated. Jocelyn Calvert, in her 1985 review of research in distance education, reflects a general concern that new technologies are being

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5. Edward Sheffield (study coordinator), Research on Post-Secondary Education in Canada: a review for the Canadian Society of Higher Education and the social Science and humanities Research Council (Faculty of Education, University of Manitoba: Canadian Society for Studies in Higher Education, 1981) p. 47

introduced without adequate consideration of their effectiveness or long-term value:

> ...reviewers with an international perspective typically have been critical of the quality and quantity of research...and some have commented further that most of what is written is not research at all....Canadians, who have reported relatively little research, have been prolific in their accounts of what they do in their programs and institutions but provide few details about effectiveness. This type of reporting may be useful in describing the dimensions of systems and suggesting new approaches, but it also has the potential danger of according apparent legitimacy to questionable assumptions and practices. [6]

If research is not being done in faculties of education, is it being done elsewhere? Unfortunately, questions about the nature and purpose of education do not fall easily within the current disciplinary boundaries of the social sciences or the humanities.

As Calvert notes, there is some evidence that research on education is actually discouraged.

> Not only do our academic communities fail to examine their own structures and processes, but there is also evidence that they do not value such research. Review of research funded by such national granting agencies as the Social Science and Humanities Research Council indicates that educational research in general is seriously under-represented. (Andrews and Rogers, 1982) Furthermore, according to Pedersen and Fleming, `the study of continuing education is perceived by faculty as an area of endeavor which is academically second-rate'. (1981:7) Since distance education is usually treated in the broader context of continuing education, the implications must be that first-rate researchers normally will not be attracted to the study of distance

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6. Jocelyn Calvert, "Research in Canadian Distance Education", *Distance Education in Canada.* (Beckingham, Kent, Great Britain: Croom Helm Ltd., 1986) p. 96.

> education and, when they are, they may have difficulty obtaining financial and institutional support. [7]

In an absence of critical thought on such issues, the debate on new technologies becomes one characterized by administrative concerns -- narrow definitions of effectiveness versus cost, discussions of faculty resistance, or descriptions of innovations in technology -- and this indeed is what one finds in most writing on technological change in education. The focus is on how to accomplish the introduction of new technologies, not on how they will change the system, or whether the change is desirable. All research is informed by assumptions about values, yet these values are rarely, themselves, the focus of discussion.

The vacuum left by academics, however, in defining the purpose of the work they do and how new technologies relate to that purpose, has not prevented leadership on these issues from emerging. Change occurs, whether or not the academic community choses to direct it. Since the sixties, a political trend to demand greater accountability from post-secondary institutions has resulted in greater government involvement in defining the purpose of the university and how its purposes should be accomplished.

As a result of various economic changes and changes in the way universities are perceived by the general public, the university is increasingly understood as an institution whose primary responsibility is to meet the needs of employers, both public and private. The general critical function of the university -- as a site for critical research into social ills, as a site of critical dissent, is rarely discussed by the politicians who fund the post-secondary system.

The ambiguity of the goals of the university and a lack of definition about how to accomplish each goal, has resulted in a system which does not seem very successful at accomplishing any. Employers complain that workers are not adequately prepared, and others complain that too many graduates are illiterate in the heritage of their culture. There is much discussion of the lack of critical reasoning skills among graduates. Meanwhile, demand for education rises, increasing the pressure on the post-secondary system to respond.

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7. Calvert, *Research in*, p. 95.

The number of purposes the post-secondary system is asked to serve has increased. Too little debate is occuring about whether all these purposes can all be satisfied by the same institutions. Is it possible to train workers in a short time, to meet the demands of employers, and provide the tools of critical reasoning at the same time? How does the need for training relate to the need to maintain a site in society where scholarly research can be done?

It is within this context that we must look at technological change in education, and ask what changes in social relations might occur as a result. Technological change is being introduced in a political climate in which there is little discussion of the traditional values of the university, with the conditions necessary for high quality research, or with how the critical role of the university might be affected in the long term. In the rush to provide access to education, and to prepare people for jobs, these traditional purposes must not be lost sight of, for they are critical in sustaining both economic and cultural growth, as well as making a major contribution to the creation of a more just and equitable state.

The Contribution of Research in Communication

There is excellent theoretical work to draw on within the literature of communications or cultural studies on the question of the relation between technological change and culture. In fact, there is also some rare critical thought on education, provided by the same theorists. Both Innis and Williams have written extensively on communications, culture, and education; the details of their contributions to a study of technological change in education are outlined in Chapter Two.

Chapters Three and Four discuss, respectively, the context within which OLA has emerged, and how the shifts in communication media have been accompanied by shifts in organization and purpose. In Chapter Three, the history of OLA is discussed, with special attention to the economic and social forces which produced the particular configuration of communication technologies employed. Chapter Four analyzes, within a general approach informed by Innis's theory of communication and social change, how the institution has emerged, and some of the differences between it and the conventional system. In this analysis, particular attention is paid to the role of

the university in creating a culture which supports a democratic state, and how the new technologies assist, or not, in acheiving this goal.

The thesis has several limitations. First, Innis's work is complex, and in presenting it I have focussed on his thought on education, particularly his critique of conventional universities, and on how this critique is based in his theory of the relationships between culture, communications technologies, and social change. Innis argues that a loss of the oral tradition in education would prevent the system from making a contribution to the long term well-being of society. While the theory Innis presents is very useful in the later analysis of OLA, I do not neccessarily adopt all of Innis's views on the purpose of the university, or his opinions on how it should be governed. Times have changed since Innis wrote on these issues, and now, forty years later, some of his arguments no longer apply. His fundamental questions about the nature and purpose of education, however, have been adopted for the purposes of this thesis, as well as his theory on the political economy of communications.

Second, the discussion throughout focusses on OLA rather than on the conventional system. Many observations made of OLA, particularly those which are critical, would certainly also be made of the conventional system, if that were my purpose. The comparisons between the conventional system and OLA are usually made to demonstrate changes accompanying the shift in communication media. Often the comparison is drawn between the `ideal' university and OLA, and the ideal, of course, is just that.

Third, the thesis is focussed primarily on OLA as a distance education institution, rather than an "open learning" institution. The argument concerns the shift in communication media, and while open learning is encouraged or discouraged by this shift, the central issue remains technological change and its implications.

Finally, distance education institutions in other countries and provinces are considered only to the extent that they play some role in OLA's history. The analysis is set in Canada, with its particular and unique communication environment. While some of the conclusions reached are generalizable, most are particular to the Canadian, and the British Columbian, context.

Definition of Terms

Several terms are used in the thesis which originate in the field of education. Although they will be explained again as they occur, they are discussed briefly here.

The first term, used extensively in the thesis, is "distance education". By this term it is generally meant that complex of activities, organization and technology by which students are taught through means other than the face-to-face encounter of the classroom. An organized program of education, provided by an educational institution, is assumed in the meaning. Distance education is currently accomplished through a variety of media - print, audio tapes, video, telephone, computer links, television. The purpose of distance education is generally understood to be the provision of educational services to populations which for some reason cannot or do not attend regular institutions. "Learning at a distance" and "distance learning" are related expressions.

"Open learning" refers to educational initiatives which provide greater opportunities to students who have not had access to post-secondary institutions. The idea is that by changing curricula, program requirements, scheduling or delivery methods, students will find it easier to take courses. Thus students who have had difficulty gaining access to educational institutions can gain access through open learning strategies. In an open learning system, courses are planned in such a way that those who wish to take them can do so - in other words, they are designed to meet the needs of students rather than institutions. Distance education may be employed in an open learning system, but distance education systems are not necessarily flexible enough to be considered open learning systems. The British Open University is based on an open learning system, as is Athabasca University in northern Alberta.[8] The Open Learning Institute was intended to provide open learning opportunities for B.C. students.

Finally, there is reference in the thesis to adult education, and the adult education movement. Related to adult education are the terms "continuing

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8. Robin Ruggles, John Anderson, David E. Blackmore, Clay Lafleur, J. Peter Rothe, Terry Taerum, *Learning at a Distance and the New Technology.* (Vancouver: Educational Research Institute of British Columbia, 1982) p. 3.

education" and "lifelong learning". In general, "adult education" refers to short-term, part-time, specially arranged educational services to adults. "Continuing education" is often used as a synonym, referring to organized adult education opportunities provided by an educational institution. Sometimes more comprehensive programs are made available, such as high school completion.

"Lifelong learning" refers to the fact that most people require educational services throughout their lives, due to the changing nature of the economy. The traditional student in post-secondary education, aged 18 to 24 years, has been until fairly recently the focus of attention in the post-secondary system. Advocates of life-long learning point to the need for educational opportunities for older workers, who need to upgrade existing skills or acquire new ones to meet the changing needs of their employment. Older and part-time students now make up a significant percentage of university enrollments, but have more difficulty gaining access to post-secondary institutions because they are tied to their communities by family and employment obligations. All three expressions are somewhat vague in application; all three are used extensively in discussions of distance education.

Chapter 2: The Conceptual Framework

Two thinkers provide insights useful to a study of technological change in higher education. Harold Innis, the Canadian communications scholar, discussed how changes in the dominant media of communication relate to shifts in political power. He also applied his thought directly to education, writing frequently on the role and purpose of the university and the scholar. Raymond Williams, the British cultural analyst, discussed the relationship between culture and cultural production and other social relations, the role of the education system, and the role of media in both society and in education. Williams too considered the nature of cultural production -- artistic or intellectual -- and the conditions under which it flourishes or declines.

The analysis in this thesis draws primarily on the work of Innis, but also on the work of Williams in relation to the nature of creativity and innovation. The works of the two thinkers are complementary in this context , and a consideration of the convergence in their thoughts on the issue of technology and culture, developed in Chapter Two, helps define the key questions which are asked in the analysis of OLA in Chapters Three and Four.

The first section of this chapter discusses the thought of Harold Innis and at how it contributes to the study of new communications technologies in education. The second section considers areas of convergence and divergence in the thought of Innis and Williams on key themes -- freedom and creativity, culture, education, and technology. The third section defines a way of approaching the study of distance education in B.C., using Innis's monopoly theory and William's theory of cultural production and innovation.

Harold Adams Innis

Harold Innis (1894 - 1952), in the first period of his career, was interested primarily in geography and political economy, but he also both wrote extensively on education and served on several boards and commissions

related to education. In 1937, he became head of his department at the University of Toronto, and in this role published and spoke across the country on issues in Canadian education, founded both a professional association and a journal, and contributed in a wide variety of other ways to the development of universities and scholarship in Canada. [9]

His thought on education is rather neglected, probably for reasons related to the absence of concern for purpose and goals discussed above, and also perhaps, because it is possible to see his comments as those of the administrator rather than the scholar. In the second half of his career, he devoted himself to the study of history and communications, and while he applied his theories to a study of scholarship and education, this aspect of his work is rarely discussed.

Innis's work on communications and culture began in the period between the World Wars. He began, in the early 1930's, to try to find a balance between the demands for freedom and order in society, to find a way to stabilize a civilization which seemed to be crumbling. He turned, during this period, to look at history, and the causes of war. A part of the task he set himself involved a deep examination of the potential of the social sciences to solve the larger questions of human existence.

During this examination, he developed the concept of "bias" , a concept which proved to later play an important role in his thought on education and technology. The concept is discussed at various points in the thesis, but its early origins are considered here.

The concept of bias first emerged in his examination of the nature of knowledge and scholarship in the social sciences. It was first used by Innis to deal with a problem which still preoccupies the social sciences, the problem of `objectivity'.[10]

In 1935, E. J. Urwick published an article entitled "The Role of Intelligence in the Social Process", in which he argued that the paradigm of the natural sciences

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9. Biographical information of Innis here and elsewhere is drawn from Creighton's biography of Innis, *Innis: Portrait of a Scholar* (Toronto: University of Toronto Press, 1957) and from Creighton's article "Harold Adams Innis - An Appraisal", *Culture, Communication and Dependency* (Norwood, New Jersey: Ablex Publishing Corporation, 1981) p. 13 - 26.

10. Lesley Pal notes that the word is used for the first time in this context. Leslie Pal, "Scholarship and the Later Innis", *Journal of Canadian Studies*, v. 12, no. 5, Winter, 1977, p. 33.

was inappropriate for the social sciences. Social processes involved free-willed beings; there can be no laws comparable to scientific laws in a situation where values are a variable. Further, if the subject matter refused to permit of scientific treatment, so did the researcher - social scientists must, because they are human, infuse their work with values.[11]

Innis responded in "The Role of Intelligence: Some Further Notes". He tried to identify some subject matter for the social sciences, and a method which social scientists could use to retain some `objectivity'. Innis attempted to reconcile his belief that social laws exist with his belief that human behavior is not entirely determined. What he retained as the subject matter of social science is `the sediment of experience', or bias. As Pal comments:

> Innis was suggesting that while some human activity is consciously and spontaneously directed, much of it appears to be the result of unreflective and ingrained behavior. Such behavior is regular, and within limits, predictable.[12]

Innis, in the words of William Westfall, "solved the problem of bias by making the problem itself into a part of the solution."[13] He argued that while both the social scientist and the world he or she studies are shaped by bias, there are regularities in the way bias influences cultures. The patterns of bias are tied to other social processes, and both bias and the processes which interrelate to create bias can be studied. In this manner Innis established a subject matter for the social sciences - bias and the social processes which shape it. To study bias, then, one can begin with social institutions. As Innis put it, "The habits or biases of individuals which permit prediction are reinforced in the cumulative bias of institutions and constitute the chief interest of the social scientist."[14] While Innis recognized the complexity of the social factors which interrelate to mould the bias of an institution, he identified the medium of communication as the central one.

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11. Westfall, Pal, and Creighton each discuss the debate between Urwick and Innis.
12. Pal, p. 33
13. William Westfall, "The Ambivalent Verdict: Harold Innis and Canadian History", *Culture, Communication and Dependency,* p. 43
14. cited in Pal, p. 33

Innis's problem with objectivity, however, was not entirely resolved when he established the subject matter of social science. The scholar is also affected or influenced by bias; he or she is a product of a culture which is shaped by social forces. Innis was very aware of the problem, and cautioned scholars against excessive certainty in their conclusions: "We must all be aware of the extraordinary, perhaps insuperable, difficulty of assessing the quality of a culture of which we are a part or of assessing the quality of a culture of which we are not a part."[15]

The institutional setting of the scholar, for Innis, was very important, for institutions embody particular values or interests, and they encourage the development of particular kinds of knowledge. The values or interests of other institutions are not those of the university. A scholar, if he or she is concerned with the truth, should be working in a university, and the university should ensure that the scholar is free to pursue truth rather than meet the demands of other social institutions. Protection from the influence of institutions outside the university aids the scholar in approaching a more objective view, and it is this protection which Innis believes should be the primary task of university administrators.

One thing more was required, however, if the scholar was to attain some degree of objectivity. In a word, it was humility. In his essay "Discussion in the Social Sciences", Innis commented that:

> The task of the social scientist is to discover, not to persuade. There are fewer and fewer people who will admit they do not know, or who have the courage to say they have not solved the problem. And yet this is what the social scientist must continually keep saying if he hopes to maintain any hold on intellectual life. Constant admission of ignorance is not popular in lecturing, to say nothing of its impracticality as a means of winning elections.[16]

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15. Innis, Bias, p. 32
16. Harold Innis, "Discussion in the Social Sciences", *The Dalhousie Review*, vol. xv, no. 4, January, 1936, p. 408

For reasons related to this necessary humility, Innis was dismayed by the increasing tendency of the state and of the business sector to use the social scientist to buttress their views of the world. He was scornful of those academics who loaned their names to advertising. The social sciences, Innis warned, have no tradition of professionalism to protect them against the demands of government and industry.[17] In the hands of business or government, the scholar becomes an instrument to foster their interests.

In the course of fostering their interests, the scholar also fosters the impression that there are definite truths in the social sciences. This, in turn, fosters arrogance and an excessive concern with the concrete and practical. The scholar, and the public who view the scholar, are lead to believe that the social sciences are in a position to offer answers to questions about what should be done about major social issues. In reality, the social sciences can at best offer only approximations, derived through the study of bias. There are no final truths; the way should always be left open to the future. The first task of the social scientist is to recognize his or her own limitations, and the limitations of the social sciences.

In a related vein, Innis pointed to the fact that no one discipline can claim a knowledge of the whole social process. The social process is complex. Any particular discipline privileges some questions over others, some factors over others. By their nature, disciplines are biased. Objectivity is not possible while the mind of the scholar is not open to the whole truth. What is important is to come to ask the right questions, to take what Innis called the `philosophical approach'. When he talked about the `philosophical approach', as he often did, Innis meant that approach to questions which is characterized by a willingness to consider all the possibilities, a healthy skepticism, and a humility born of the knowledge that scholars through the ages have considered the same questions.[18]

The concept of bias became central for Innis in his examination of the forces which have shaped the modern world. He looked at the rise and fall of empires

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17. Innis, *Political Economy and the Modern State*, p 129, fn 73

18. It is interesting that Innis, despite his obvious respect for philosophy, never suggests that it be studied before any other discipline in the humanities. In his occasional comment on specialization in the humanities, Innis seems particularly worried about specialization in philosophy, and about the growth of empiricism. For example, see *Bias*, p. 82

-- political entities -- and at the cultures which flourished in each empire, and at the media which shaped the cultures. He divided the history of Western civilization into time zones, or epoches, divided from one another by shifts in dominant media. Shifts in media produced realignments in political power; extensions of media created cultural disturbance. Communication media were central, in Innis's view, in explaining large scale social change.

Innis argued that some media produce cultures which are oriented to time, and some produce cultures oriented to space. Time-oriented cultures value tradition and a long term perspective. They tend to forms of government which are decentralized. Space-oriented cultures are concerned with material and territorial expansion, and the exploitation of the natural world. They are more concerned with the immediate and the concrete. The oral tradition exists in cultures which are `time-bound'; the mass media are `space-bound'. The stability of a civilization hinges on whether or not the demands of space and time can be balanced - whether, for example, the need for freedom (the ability to innovate) can be balanced with the need for order (found in tradition).

The focus of change was culture, a term Innis used rather ambiguously. Often Innis seemed to mean the general knowledge of a civilization, the way in which a group of people regard the world. He used the word in an almost anthropological sense. Generally, however, he used the term to describe the artistic and intellectual products of a civilization, and particularly the values around which learning is organized. Greek culture, for example, was characterized by tolerance, open-mindedness, and flexibility, and it is these values, among others also originating in Greek culture, that Innis argued are necessary to preserve in Western culture. In a discussion of the modern university, Innis commented that:

> The blight of lying and subterfuge in the interests of budgets has fallen over universities, and pleas are made on the grounds that the universities are valuable because they keep the country safe from socialism, they help the farmers and industry, they help in measures of defense. Now of course they do no such thing and when such topics are mentioned you and I are able to detect the odor of dead fish. Culture is not concerned with these questions. It is designed to train the individual to decide how

> much information he needs and how little he needs, to give him a sense of balance and proportion, and to protect him from the fanatic...[19]

Innis saw the university as playing a political role, not in the sense of being a partisan supporter of any particular party or interest, but in the role of moderator. To understand how and why it is that the university must play this role, and how the university can balance the forces of fanaticism, it is necessary to understand how Innis linked the media of communication with political power.

The concept which linked communication to political power was monopoly. Innis described the system of knowledge which is produced by a medium of communication as a `monopoly'. He often used the term, in practice, to refer to more specific constraints on the production, dissemination and understanding of knowledge. At times , Innis focused on the control of the means of production, or the means of disseminating ideas, as in his discussions of the copyists' guilds and the publishing industry. He used the term monopolies in a different sense in his discussion of academic monopolies (monopolies formed by restricted access to an esoteric language, or in the restrictions on subject matter imposed as a result of extreme specialization). In these comments, and in his comments on the monasteries, he focused on control of the definition of knowledge.

It is through monopolies that the link is made between political power and communication media. Monopolies of knowledge support existing forms of political power, or make them possible. Challenging, or ascendent forms of political power can develop new monopolies through the adoption of new forms of communication. Shifts between epoches are not caused by the invention of new forms of communication, but are caused by a complex interplay between social, economic, and political factors. A new medium will only be sought out, or gain acceptance, if it compatible with the interests of an ascendent or existing form of political power. The system of knowledge which develops after a shift in the dominant form of media will be `biased' by a combination of the inherent tendency of the medium to organize experience in certain ways, and by the

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19. Innis, Bias, p. 85 and 86

social organization which is a product of the medium. Communication media became, in this account, a major factor in social change.

A new medium will be sought out, or an old medium will come to be used in a different way, as the result of monopolies which have become `rigid'. Monopolies become rigid when they are not challenged, when they become so pervasive that no other sources of power (and attendant monopolies) are permitted to exist. Freedom, a product of there being alternate perspectives from which to chose, is threatened. In Innis's words, "...a monopoly or oligopoly of knowledge is built up to the point where equilibrium is disturbed." [20] Change will come from the margins of a society -- from those who are marginal in the sense that they escape for some reason the influence of the monopoly or monopolies of knowledge.

In "Political Economy and The Modern State", first published in 1944, Innis set out a political philosophy which clarified his notion of `rigidities'. Here he pointed out that a basic condition for freedom is the division of power -- as necessary in a democracy as in a despotic state. He quoted Lord Acton to the effect that "government by the whole people, being the government of the most numerous and powerful class is an evil of the same nature as unmixed monarchy and requires for nearly the same reasons institutions that shall protect it against arbitrary revolutions of opinion."[21] The problem, as Innis saw it, was that few such institutions exist, and those that do exist are being eroded.

The modern state, and in particular the countries of North America, face the immanent final collapse of civilization (that is, the loss of those values which characterized Greek civilization), because political power is centralized in the state, and rests finally on public opinion. Public opinion is created by the mass media. The mass media organize information in such a way that the modern mind is unable to recognize long-term effects and implications. The loss of values results. In other words, the collapse of Western civilization is a product of a spatial bias created by the successive introductions of changes in communications technology and practice. The mass media create a monopoly of knowledge which is not moderated by any other significant monopolies - the state is a product of public opinion and the church no longer has any significant

20. Innis, *Bias*, p. 4
21. Innis, *Political Economy in the Modern State*, p. 103

influence. The culture of Western civilization, the values that have permitted and encouraged the development of knowledge, is threatened as the university becomes drawn into the sphere of the monopoly.[22] The development of the new and pervasive monopoly of the mass media was created, according to Innis, by an unhealthy faith in the capacity of science to solve social problems.

In "A Critical Review", Innis linked the development of science with the `mechanization' of knowledge:

> The impact of science on cultural development has been evident in its contribution to technological advance, notably in communication and the dissemination of knowledge. In turn it has been evident in the types of knowledge disseminated; that is to say, science lives its own life not only in the mechanism which is provided to distribute knowledge but also in the sort of knowledge which will be distributed.[23]

Among the effects of the mechanization of knowledge and the influence of science are the demand for the miraculous, and for certainty. Innis argued that we have come to believe that progress is guaranteed by science; final answers to all important problems will be provided by science. Thus we accept technological solutions to problems which are not technological in nature.

The role of the university, Innis argued, in the face of the monopoly of knowledge of the mass media in the modern world, is to encourage the development of several sources of centralized power, to counteract the centralization of power in the state. The university should provide an environment as free as possible of the bias of the various institutions which form the state, so that scholars can continue to seek knowledge. It should moderate the tendency to extremism and fanaticism which result from the spatial bias of the media, and teach people to resist the tendency to base decisions on the basis of public opinion as it appears to be represented in the media. The university, in short, is the only place where the monopoly exerted by the press and the radio have not yet reached.

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22. Innis, *Bias*, p. 190
23. Innis, *Bias*, p. 192

How is it that the university has remained a source of resistance? What has permitted it to remain a site where Western civilization is preserved are the traditions of the university, which are the product of an earlier time. It maintains an oral tradition, and with it, an emphasis on history. The values of the university, as the university is understood by Innis, are those which characterized Greek civilization. They stand opposed to the values implicit in the mass media.

Innis pointed to the history of the university to explain how it has played a moderating role throughout history.[24] It has always provided a place where learning could be organized, and from which monopolies of knowledge could be challenged. The traditions of the university are rooted in the civilization of the Greeks, and the values of the university should be those of the Greeks. Tolerance, an open-minded attitude to truth, flexibility, a `philosophical' approach -- all these values characterize the university ideal: "Her traditions and her interest demand an obsession with balance and perspective - an obsession with the Greek tradition of the humanities."[25]

The university is the only institution in modern society which has any interest in pursuing the truth in the public interest. The main interest of the newspapers is making money, not the development of knowledge, and the interest of government is in remaining government. Innis here is pointing to the economic structure of the mass media, and how news is defined within that structure. The university must moderate the claims of any institution to possess the truth, and thereby prevent fanaticism.

Thus it was essential, in Innis's view, that the university maintain, in a limited but important sense, an oral tradition. This tradition, along with the tendency in the humanities to take a long term perspective, balances the space bias of the mass media. The potential for free thought can in this way be preserved.

Innis argued that the problems that face the university arise primarily because it is being drawn into the sphere of political power and the monopolies which attend it. The university is being asked to do the work of government and

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24. Innis, "This Has Killed That" (an undated and slightly edited version of an address given by Innis sometime during the second World War) *Journal of Canadian Studies,* v. 12, no. 5, Winter, 1977, p. 5
25. Innis, *Political Economy in the Modern State,* p. 64

industry, rather than the work which properly concerns it. The resulting focus on the discovery of information useful to government and industry has left scholars unable to address questions of importance to civilization in the long term. Innis commented, for example, that:

> The overpowering demands of administration have been reflected in the decline in emphasis on philosophy in the study of political economy. The curricula of universities are concerned to an increasing extent with the routine and details of administration, and students are taught more and more about less and less. Larger numbers of poorer students can be trained in the details of routine, and routine demands larger numbers of poorer students. We have all the answers and none of the questions.[26]

The problem which Innis saw with training students in the accumulation of information useful to government or industry, and ignoring the larger issues which society faces, is that people lose the ability to assess information in terms of those larger questions, to develop the skills of a scholarship which is characterized by tolerance, objectivity, and humility. Their ability to resist the forces in modern culture which tend to fanaticism and intolerance is weakened; the freedom which arises from access to a multiplicity of monopolies is eroded. They are left defenseless, without the historical and philosophical basis to make informed decisions. This poses a great danger to democracy, as Innis pointed out in the following passage:

> We have assumed that government in democratic countries is based on the will of the governed, that people can make up their minds, and that every encouragement should be given to enable them to do so. This implies that the state is concerned with strengthening intellectual capacity, and not with the weakening of that capacity by the expenditure of subsidies for the multiplication of facts. It also implies that adults have been so trained in the educational system that they can choose the facts and reach their own decisions. We should, then, be concerned

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26. Innis, *Political Economy in the Modern State*, p. 128

> like the Greeks with making men, not with overwhelming them by facts disseminated with paper and ink, film, radio, and television. Education is the basis of the state and its ultimate aim and essence is the training of character.[27]

Not only is the student being robbed of the education which would adequately prepare her or him to make the decisions of a free individual, but what is being substituted in place of a proper education reinforces all the negative characteristics of the newspaper and radio. The student is overwhelmed with facts, but not taught what to do with them, how to use them to make crucial decisions.

In a related vein, Innis was also concerned with the growth in the universities of departments which stress the immediate usefulness of the curriculum to the student and the employer. He points out that professionals in fields like management studies and social work are preparing to take enormous responsibility for the quality of other people's lives, and should be required to undertake the most demanding training before they do so. Innis disliked the idea that the university was acting as a training ground for people studying how to "push other people around". In 1947, he prepared a section of the *Twenty-Second Annual Report of the Board of Evangelism and Social Service of the United Church of Canada.* In this essay, he commented on the problem:

> The discussion of questions which affect people's lives must be carried on with great circumspection. I have had occasion recently to come in contact with two professions, the nursing and the medical profession, and to be impressed again with the assumption that a long period of intense training is essential to the preparation of individuals who are to be concerned throughout their careers with the handling of problems affecting people's lives. I have been appalled on the other hand and by comparison with the cavalier fashion in which great numbers of people discuss the problems of managing people's lives with almost no intensive training. Dale Carnegie's *How To Win Friends and Influence People* is a symptom of a widespread

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27. Innis, *Bias*, p. 203

> interest in the technique of pushing people around. In universities the rise of the social sciences and in particular the emphasis on business subjects, personnel management, industrial relations, social work, applied anthropology, and so on point to the danger of forgetting that no one can undertake the task of pushing people around without adequate discipline and training...[28]

The emphasis Innis placed on the training of character in the university stands in sharp contrast to the trend today to emphasize the `usefulness' of courses to future employers. The role of the university, Innis argued, is not to be useful to employers, but to students, and to society, and ultimately, to civilization.

Innis saw ways in which courses based on the dissemination of information rather than knowledge lent themselves to delivery through non-traditional methods. These methods could, in turn, compound the problem.[29] The consequences of becoming involved with the new technologies is quite clear to Innis.[30] Not only is knowledge eliminated in favour of information, and the values implicit in the university tradition threatened, but the university itself is at risk. The community of scholars, engaged with students in the process of understanding the many facets of the truth, is fragmented by the new media. [31]

The emphasis on facts, and the advent of new communication media within the university, also threaten the scholar's ability to teach. Scholarship should not be separated from teaching, for in lecturing a scholar can test and develop ideas, and students can watch scholarship in action. Nor should classes be large, as large classes require the lecturer to speak to the lowest common denominator, and prevent any effective interchange of ideas. Large classes also require more reliance on text materials, and a reliance on text weakens the interaction between teacher and student. It is essential to preserve the remnants of the oral tradition in the university.

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28. Innis, "The Church in Canada", *Essays in Canadian Economic History* (Toronto: University of Toronto Press, 1956) p. 389
29. Innis, *Bias*, p. 84
30. William Christian, in his review of *Harold Innis' Idea File*, notes that Innis observed that the disturbing trend to preserve information rather than encourage thought was evident in the introduction of new technologies. An entry in the book reads: "Emphasis on micro-film-use of new methods of preservation - tendency to stress accumulation rather than synthesis..." William Christian, "Harold Innis' Idea File", *Queen's Quarterly*, v. 12, no. 5, Winter, 1977, p. 542
31. Innis, *Bias*, p. 84

Innis ended his essay "A Plea for Time" with: "Perhaps we might end by a plea for consideration of the role of the oral tradition as a basis for a revival of effective vital discussion and in this for an appreciation on the part of universities of the fact that teachers and students are still living and human."[32] Innis is reminding us that human beings are not machines, that to learn we need to discuss and reflect as well as acquire facts.

The university, Innis argued, because it has become overly concerned with the preservation of knowledge rather than the creation of it, has become conservative. This conservatism is accentuated by the mechanization of communication in print, radio, and film, which permit information to be stored. He linked this with a preoccupation with technique, and with the growth of faculties of education. He commented that : "Institutions thus concerned with the teaching of Education...are in themselves a comment on the poverty of education..."[33]

The mechanization of knowledge has tended to eliminate the personal factor, the personal connection between teacher and student. The same process has also meant the `grinding down' of ideas such that they can be distributed to large numbers of people. The long term perspective and the interest in ideas which have no immediate application are lost. Those few minds capable of the sustained intellectual effort necessary to produce useful work are buried in meaningless facts rather than being trained and encouraged to respect the values of a good scholar.[34]

The examination system, by which students are selected to go on to higher education, `reflects the worst evils of the mechanization of education'. The subject matter on the exams is uniform and particular, suggesting that knowledge is nothing but accumulated facts. When students fail the exams, as many do, the university is pressured to lower standards, and to adopt the teaching practices prevalent in high schools. To do so, in Innis's view, would be disastrous.[35]

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32. Innis, *Bias*, p. 32
33. Innis, *Bias*, p. 24 204
34. Innis, *Bias*, p. 205-207
35. Innis, *Bias*, p. 207

The unity of the university is also threatened by the way universities are funded, in that government seeks to fund only that which is `useful'. [36] Such funding distorts the `balance' that should exist in university offerings. The cult of science, of utility, is destroying the university. Innis quoted Nietzche: "In the long run, utility, like everything else, is simply a figment of our imagination and may well be the fatal stupidity by which we shall one day perish."[37]

Finally, Innis pointed to problems with university governance. Whose job is it to ensure that the university meets its responsibilities? Innis thinks there are serious problems with the system which employs the Board of Governors. In his essay "A Plea for the University Tradition", Innis compares university presidents to the superintendents of lunatic asylums, for they must cope with the politically motivated demands of Boards of Governors, rather than protect scholars from "...colonialism, imperialism, ecclesiasticism, academic nepotism, political affiliations, and the demands of special groups and classes..."[38]

The solution, Innis suggested, is to appoint boards with reference to the academic staff at universities, not to political interests. A board of governors selected by the academic community would not require the president to try to mediate between the interests of the state, represented on the board, and the interests of scholarship, represented by the academic staff.

Despite the tremendous scope of his work, there are many things Innis did not anticipate, and certainly many points at which his views can be challenged. He perhaps failed to see the great advantages of some new technologies which are now being used in teaching and research. And he did not address some important questions -- such as how to educate large numbers of people without using media, or media influenced methods, how to train those who do jobs requiring specialized skills, and how to prevent the university from becoming a cosy retreat for the incompetent. Nor is it clear who should provide the employment-related training which is increasingly required in modern society, or why government should leave universities to run themselves when they fail to

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36. Innis comments that despite the recognition of political dangers to the community in the system of providing grants to subjects which demonstrate their usefulness, and the dangers to the unity and balance of the subjects taught in the university, the social sciences would not resist such funding. "...I am afraid that just as with other subjects if the federal government should provide grants the social sciences will be on hand with the most beautifully developed projects for research that federal money can buy." *Bias*, p. 85
37. Innis, *Bias*, p. 86
38. Innis, *Political Economy in the Modern State*, p. 69

provide the education people seek. Innis's work, however, is certainly of the kind to stimulate the right kind of debate -- he does ask very interesting questions.

Innis can be accused with some justification of simply ignoring the challenges facing modern education, and defending a conservative and elitist view of "culture". On the other hand, he defended the rights of the poor and the disadvantaged against the rich, who could buy the kind of education they wanted. Nor was he arguing that every student in a university must become a scholar, but only that every student learn the values of scholarship, that every student learn to value truth and tolerance. He wanted, simply, that universities serve the public interest rather than the private interests represented by business and industry.

As new information technologies become a part of every scholar's environment, shaping the work, and presumably the product, we need to think about the implications, as Innis did, of these technologies for the organization of the university. As teachers become less and less important in the learning process, or assume very different roles than the traditional one, how is the university community reorganized? What are the implications of television, which offers "experts", delivering "facts", in programs funded and even produced by industry -- developed in an institution where no scholarly work is done, and no students ever have the opportunity to publicly challenge what they are asked to learn? Is the loss of the oral tradition significant?

The concepts in Innis's work which are most valuable are those of bias and monopoly, rigidity and balance. He understood, through his examination of history, that communication media are not neutral, that they do not simply convey a set body of information. They transform both organizations and the character of knowledge, they redistribute power, and serve the interests of the powerful or those challenging existing power. It is these insights which are employed in the thesis.

Raymond Williams

Williams began his career as a follower of F.R. Leavis, and moved slowly to become a self-described Marxist, though very critical of much Marxist thought.

His interests, or at least his publications, shift back and forth between general theoretical works dealing with the relationship between culture and social institutions and specific commentaries on either literary figures, language, or technology. As his career proceeded, his literary analysis was increasingly informed by his social analysis, and his social analysis revealed an intimacy with the field of cultural production which few sociologists enjoy.

Anthony Bryant, in an article written for *The Insurgent Sociologist* shortly before Williams published *Culture*, traces his career in the context of the development of the New Left in England from the fifties to the early 1980's.[39] William's work over this period, according to Bryant, reworks the concept of culture as it is understood within the context of Marxist thought. Williams challenges the idea that culture is entirely determined by material processes, and establishes that culture is itself a process of material production. In *Culture*, Williams sketches the theoretical groundwork for the study of culture and cultural production, and defines a field of studies which has come to be called `cultural studies', or the sociology of culture. It is this book, as well as his other non-literary works such as *The Long Revolution, Keywords, Television, Technology and Cultural Form, Communications,* and *Culture and Society* which are drawn on in the following discussion.

The following discussion takes the form of a comparison of Williams and Innis on some key themes - history, culture, technology, determinism. Williams provides some of the specificity in theory and concept that Innis lacks, as Innis was concerned with change over very long periods of time, and Williams focuses on developing a framework which permits the analysis of particular and specific cultural processes. By comparing the two, their essential compatibility can be demonstrated, the particular nature of Innis's materialism more clearly defined, and their differences (those important to a study of new technologies in education) clarified. These same themes inform the analysis in the balance of the thesis. They are central to any consideration of education and technology.

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39. Anthony Bryant, "The Case of Raymond Williams", *The Insurgent Sociologist*, Vol XI, No. 2, Spring, 1982

Historical Perspective

Both Williams and Innis, like Marx, argued for the necessity of historical perspective. To properly understand what exists, one must understand how it came to be. We cannot examine an emerging technology or new use of an existing technology without thoroughly understanding how and why it has come to exist.

Further, it is necessary to understand not just the particular institution as a discrete entity, but to understand the social, economic, political, technological and cultural forces which have acted together to produce it.

Two particularly useful insights emerged here, from Innis and Williams respectively. Innis understood the study of history to reveal not only the true shape of the present, but to reveal the bias of our own culture and ways of thinking which lie beyond it. Other ways of thinking and seeing emerge in the study of the past, and other possibilities, other than those offered within the bias of our own time, emerge. For Innis, the various media that human beings have employed have played a key role in the development of certain basic perspectives or ways of seeing characteristic of certain cultures -- what Innis referred to as the `sediment of experience', the framework within which we view the world. Objectivity, or critical distance from the particular social relations of our own time, depended on the ability of the researcher to be conscious of the bias of our time, and not accept as inevitable relations which in fact are not.

Williams argued in a similar vein for a method of study which does not assume what it sets out to prove. He was very critical of Marxist theories of culture, for example, arguing that the base and superstructure model of cultural production assumes certain relationships which need to established in reality. He commented in *Culture* that:

> Any adequate sociology of culture must, it seems, be an historical sociology. When we look at the vast evidence of the relations of cultural production, in so many different societies and historical periods, it is clear that it would be unwise to adopt, as

> our first theoretical construct, some universal or general explanatory scheme of the necessary relations between `culture` and `society'.[40]

What both Williams and Innis attempted was to ground their investigations in both history and in demonstrable relations between culture and society in the present. The open dialectic between theory and empirical research which characterizes the approaches of both Innis and Williams is admirably suited to the study of distance education.

Creativity and Freedom

Both Williams and Innis assumed that a measure of freedom from the forces of dominant culture is possible, and that it is the source, within the limits set by material conditions, for social and cultural change.

For Innis, the way we know our own society is constructed by the accumulation of many experiences, leaving the `sediment of experience', or bias. Bias consists of a particular orientation to time and space, and with this, a certain basic understanding of the social and natural world. The freedom to see beyond the bias of ones own time is the result of being beyond the influence of the monopolies of knowledge, either because the monopolies are not strong for geographical or technological reasons, or because one has located oneself outside their influence by studying the biases each bring with them. Change occurs when new ways of understanding the social order can be communicated; this is the significance of new media, or new uses of existing media.

Williams adopted a similar position. Williams suggested that genuine innovation occurs when the conditions of cultural practice are sufficiently independent from other forms of social relations that freedom from the dominant culture is possible. Innovation can serve the ends of the dominant order, can serve no particular end and disappear, or can form the ground of emergent and oppositional tendencies. The conditions under which the third option would develop, as opposed to the first two, are left undefined, although in his

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40. Williams, *Culture*, p. 33

discussion of traditions, Williams noted that it is possible for oppositional traditions to develop, if it is possible for them to be reproduced.

Innis and Williams both argue that human beings create history, though that creation is related in complex ways to material conditions. The mechanical non-human history of orthodox Marxism eliminated human beings from the stage of history; there was no role left for them. Human beings are once more centre stage, but not divorced from a historical, social, and cultural context.

One area which Innis emphasized more than Williams in terms of its determining character in history is the medium of communication. This different emphasis results in Innis denying the value of television in education, while Williams waxes quite enthusiastic about it. This represents a significant divergence, and will be discussed below.

Technological Determinism

The relationship between communication technology and culture has been debated for centuries. Few critics of modern society fail to point out the role that science and advances in technology have played in the development of the modern world, but the role of science and technology was also a central concern for the Enlightenment philosophers, who clearly linked science and technological advance with progress, with a new age of liberty and peace, and thus laid the foundations for the modern reliance on scientific solutions to social problems. Technology is credited by some with producing material benefits which make the modern world better than any that has come before, but for others new technologies have represented at best a mixed blessing. The nature of the relationship between technology and the contours of humanness is a central question in modern thought.

Innis and Williams shared an understanding of the development of technology; for each, technological development is not an autonomous process. Technologies are developed and used according to specific social and cultural conditions. In *Television: Technology and Cultural Form*, Williams traced the social history of the development of television, making clear how defined needs for the technology existed before it did. Innis was equally clear on this issue; new technologies develop or are used when ascendent forms of political power

appropriate them, or when they are compatible with existing forms of political power. The way they are used is determined by complex relations between political, cultural, and social forces, and is not primarily the result of the technology's inherent capacities.

While there is a convergence in how and why new technologies develop, however, there is a fundamental disagreement with respect to the capacity of a medium to shape the knowledge it transmits. W. Russell Neuman comments, in his review of *Television: Technology and Cultural Form,* that:

> Williams is sympathetic to the idea that television programming is in part "determined" by the technological character of the medium. He discusses at several points the implications of the fact that viewing takes place in predominantly private settings, and notes that a televised image is in many ways a unique visual experience. But he argues that overemphasizing technology has important ideological implications. It implies that the current commercial pattern is intrinsic to the medium and leads to an uncritical acceptance of the status quo and unwillingness to experiment. [41]

Innis's emphasis on the oral tradition reflected his belief that a medium determines, by its inherent characteristics, the kind of knowledge possible to disseminate with it. While Williams focused on the production process, and on the decisions which are made about the use of a technology, Innis also looked at the technology itself, not just how it happens to be organized at this point in history. It is Innis, not Williams, who asked what traditions, what ways of thinking, what monopolies of knowledge, disappear with even the most progressive and democratic use of television.

The particular, and very limited, form of technological determinism which Innis subscribes to is a major factor in the differences between Innis and Williams in their interpretations of history.

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41. Russell Neuman, "Television, Technology, and Cultural Form" (book review) *American Journal of Sociology*, v. 83, summer, p. 502

History and Technology

Innis understood history as the rise and fall of successive civilizations, distinct from one another in the media they employed, and consequently in the cultures they developed. He distinguished historical periods, and referred to them as epoches'. Our epoch is distinguished by its space-bias, a bias which encourages a preoccupation with territorial expansion, the conquering of nature, and with material acquisition. We have no proper sense of time, of history, of tradition. Civilizations fall because the dominant monopolies become the only significant monopolies. They become rigid, and unable to accommodate the experience of the people. New communications technologies are then taken up at the margins, and threaten the stability of the existing order. Because Innis linked the inherent capacity of a medium with the development of concepts of space and time, and because he understood a stable society to be one in which a proper balance of the two concepts could be maintained, he also believed that a multiplicity of media must be preserved, grounding a multiplicity of monopolies. He considered the university a site where the oral tradition could survive, and with it an orientation to time concepts. He considered the modern age an age of fanaticism, fanaticism created by an absence of balance attributable to the dominant space-bias of the mass media. Our hope of a democratic society is to be found in the encouragement of many monopolies, based in many media. Freedom is possible only to the extent that individuals can see that there are many points of view, and to the extent that they are free to communicate their own understanding.

Williams, in *The Long Revolution*, argued that we are in the beginning stages of three revolutions - the industrial, the democratic, and the cultural. These revolutions are not separate processes, but closely linked.

> Our whole way of life, from the shape of our communities to the organization and content of education, and from the structure of the family to the status of art and entertainment, is being profoundly affected by the progress and interaction of

> democracy and industry, and by the extension of communications.This deeper cultural revolution is a large part of our most significant living experience, and is being interpreted and indeed fought out, in very complex ways, in the world of art and ideas. It is when we try to correlate change of this kind with the changes covered by the disciplines of politics, economics and communications that we discover some of the most difficult and also some of the most human questions. [42]

The cultural revolution is based on the extension of universal education, the rise of literacy, and the development of new means of communication. These make it possible to extend the active process of learning and participation in the affairs of the nation to increasing numbers of people. Williams changed his formulation of the issues somewhat in the twenty-two years between these comments and those he makes in *Culture,* but he was still essentially concerned with cultural production as a material force in the creation of society. He recognized, as Innis did, that in the modern age, a great deal of education is going on outside of educational institutions, that television is a major force in the shaping of ideas. He focused, however, on the use of the technology rather than any inherent limitations it might have. In *Communications*, he argued that what we need to do is think about what the conditions of a genuinely democratic culture are, and actively pursue them. He set out, as a basic condition, that people must have the right both to transmit and to receive, and that these rights not be tampered with in the interests of a minority.[43] He redefined `public' (for such institutions would have to be under public control) to exclude the concept of public monopoly, and proposed instead that the institutions should be largely controlled by cultural producers. Above all, the commercial model must not prevail.

Education

Innis argued that the absence of any serious critical debate about education was a symptom of a general inability among academics to come to grips with pressing social issues, one of which is the effect on the university of commercial

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42. Willliams, *The Long Revolution*, pp. xi & xii
43. Williams, *Communications* (rev. ed.), (London: Chatto and Windus, 1969) p. 128

culture. He considered the university to be in crisis, threatened by the extreme space-bias, the materialism and fanaticism of a culture molded by the mass media. The university is threatened by the fragmentation and specialization of the disciplines, a general withdrawal from work on social issues, the elevation of the `expert', the notion that certainty is available through science. He questioned the ability of the social sciences, in particular, to make any significant contribution to democracy or peace under such conditions. Certain modes of thinking, modes he identified with Greek culture, are threatened, and with them, the very existence of the university. These modes of thinking, represented in the traditions of the university, include a respect for reasoned inquiry, a freedom of inquiry, a recognition that knowledge is necessarily incomplete, and a search for truth regardless of its immediate utility.

Innis pointed out many particular dangers to the universities, among then the use of television in education. Television is suited only to the dissemination of facts, not the training of character which is the mark of the ideal university. The role of the university is not to be useful to employers, but to students, and to society, and ultimately, to civilization.

Williams discussed education extensively in *Culture,* and also in earlier works. In *The Long Revolution*, he outlined the history of the education system in England. He commented, in the introduction, on the clear links between the quality of a culture and the quality of its education system. We are warned, however, to avoid thinking about education as a `fixed abstraction', a "settled body of teaching and learning,...as if the only problem it presents to us is the problem of distribution: this amount, for this period of time, to this or that group."[44] He stressed the fact that education reflects an active process of selection of content, which reflects in turn wider social processes. Nor is the organization of education merely a distribution system; imbedded in the way we organize education is the organization of society. While Innis offered many insights into education and its role in society, it is Williams, in *Culture*, who provided a detailed theoretical framework within which we can look at the problems Innis identified.

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44. Williams, *The Long Revolution*, p. 125

In *Television: Technology and Cultural Form*, Williams discussed the use of television as a means of extending education. Given an organizational structure which is democratic, Williams argued that this use of television is very promising. The organizational structure required is not outlined specifically, but his later discussion of the conditions for democratic cultural production in *Culture* suggest that control by cultural producers would be a central concern.

Culture

The most significant contribution which Williams made to the study of distance education is in his mapping out of the field of cultural sociology. While the book is very uneven in the detail and rigour of the each section, each section offers new insights into the process of cultural production and reproduction. Some areas of discussion are particularly helpful -- reproduction, tradition, reproduction within forms, relative autonomy. In the latter case, for example, it is clear that one aspect of distance education which must receive particular scrutiny is the process of production, and the degree of autonomy it permits producers.

Although Innis's thought incorporated the concept of culture, he never actually defined the term.[45] The concept of culture was central to his theory; on it rested his account of how monopolies of knowledge are formed. He used the term ambiguously; at times he seems to mean `way of understanding life' or `way of thinking about the world', at other times he seems to mean `high culture'. His examples suggest that he understood the term very broadly in practice. Innis was no student of classics, literature, or art -- his sense of culture was a sense of values; when he considered cultural change, he thought about both basic shifts in how the world is perceived and the values which inform the creation of knowledge.[46]

Williams traced the development of the term "culture" in the first chapter of *Culture*, pointing out that the history of the word is itself a kind of history of a way

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45. He does say that the purpose of the university is to train character, and suggest that this is what culture is all about.
46. Creighton, in both his article and his book on Innis's life, sees as problematic the cultural impoverishment of Innis' upbringing and Innis' failure to remedy the deficiency later in his life. It left Innis, Creighton believes, unaware of the extent to which art could describe and clarify the conditions of human existence.

of thinking about the world. In concluding this discussion, he noted two kinds of usage - the idealist, or the "illustration and clarification of the informing spirit", and the materialist, the "exploration from the known...character of a general social order to the specific forms taken by its cultural manifestations."[47] He then noted that the new sociology of culture represents a kind of convergence of these two views. In the new view of culture, cultural practice and cultural production are not merely derived from an otherwise constituted social order, but are themselves constitutive: "...culture [is] the signifying system through which necessarily...a social order is communicated, reproduced, experienced, and explored.[48] Williams had been criticized for a lack of clarity in previous work on exactly what he meant by culture; in a sense, the book *Culture* is his response.

There are interesting parallels between Innis and Williams; both seek a situation in which there is free expression; neither equate free expression with the freedom to chose between the limited possibilities of the commercial model. For both, a basic condition of democratic culture is the right to both receive and to transmit, to both hear and be heard. For Innis, a further condition was necessary: we must be able to speak and be heard in a variety of media.

While there are important differences in the approaches and conclusions reached by Innis and Williams, they are engaged in the same enterprise -- the attempt to link the force of ideas in history to a materialist framework. At a fundamental level, their work is complementary, and forms an adequate body of theory to inform the study of television in education.

The central concerns of such a study must be role of technology in organizing the structure of education, and in organizing the content. The approach must be historical, and pay attention to the complex technological, political and economic factors which create the institution. Redistributions of power, or shifts in the formation of monopolies of knowledge, must be studied, as well as how these relate to the ability of the new monopoly to create the conditions necessary for creation and innovation in a democratic state. These issues are pursued in subsequent chapters.

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47. Williams, *Culture*, p. 12
48. Williams, *Culture*, p. 13

Conclusions For a Study of Distance Education

This thesis cannot accomplish all that Innis and Williams together suggest should be accomplished in a study of distance education. What is attempted in the following study is an examination of some key elements in the organization of the technology, and how these might, in larger terms, affect society.

Innis's concept of monopoly, if all its dimensions are fleshed out, provides a way to consider whether or not an emerging technology will shift power relations significantly. He identifies, directly or indirectly, some of the aspects of a new medium that should be looked at. This discussion can be organized around three basic themes: 1. the control of the production and distribution process; 2. the control of the definition of knowledge; and 3. control of access to literacy. These are, of course, the ways in which Innis, in practice, defines monopolies of knowledge. The emergence of a new monopoly reveals a shift in power relations; it is how this shift is occurring, and in whose interests it is occurring, that the balance of this thesis considers.

The other issue considered in the thesis is what is won, and what is lost, in the ability of cultural producers, in this case scholars and students, to offer critical dissent. This analysis will be informed by Innis's contention that the university should serve the interests of students and of society in general, that it should provide a site for teaching which develops the ability of students to manage their lives, and research which is directed by the search for the truth. The analysis is also, in a more direct way, informed by William's thought on innovation.

Innis and Williams converge in their discussion of what produces genuinely new knowledge, new solutions, new visions. While Innis would protect the scholar from other institutions in society, Williams suggests that genuine innovation is possible only where producers enjoy relative autonomy from dominant social relations. This autonomy is determined by the extent to which producers control the means of producing their work and the means of distributing it, their distance from dominant social relations (such that they can themselves define what they consider knowledge), and universal access to the media with which they communicate. These conditions mirror Innis's concept of monopoly, and also anchor his vision of what a university should do in society.

This thesis argues that distance education as it currently exists at OLA cannot accomplish all the purposes of the university, although it can accomplish some of them as well or better. OLA does not set out to meet all the goals of a traditional university, of course -- its mandate is limited. It does, however, offer undergraduate degrees, like traditional universities. The ambiguity and lack of direction which exists about the goals of the university, combined with high demand for education, has encouraged the development of a new system designed primarily to improve access to the post-secondary system, based in print and electronic technologies rather than the oral tradition. In this transformed system, some of the important purposes of the traditional institution are lost or diminished (in particular, the creation of new knowledge), power is redistributed, and the character of knowledge is altered.

Throughout the thesis, the discussion focusses on the evolution of distance education in B.C., and particularly on the development of OLA. Many of the points made apply equally well to the traditional post-secondary institutions as they now stand. The thesis is not a de facto defense of the traditional system, but rather an attempt to contrast the kind of organization which has developed around the oral tradition with the kind which has developed around print and electronic communication. It is not intended that the reader assume the conventional system has all those virtues that the distance system lacks, or that the strengths of the distance education system are necessarily entirely unique to it. The modern university has been changed by the use of print media, but the thesis does not focus on this. Institutions outside Canada, or outside B.C., are not considered except in relation to their role in the history of OLA.

What is attempted is an interpretation of the history of the development of OLA, within the framework offered by Innis, and a discussion of some of the implications of the shifts in technologies. Because Innis and Williams both understood new uses of technologies to evolve in response to social conditions, attention is paid to the social, economic and demographic factors which influenced the growth of the organization. By considering OLA from the perspective Innis offers, new light may be shed both on the usefulness of this approach, and on the role of distance education in the future development of post-secondary education in B.C..

Chapter 3: The Development of the Open Learning Agency

The Open Learning Agency was formed after a merger of two existing institutions, the Open Learning Institute and the Knowledge Network of the West Communications Authority. The Open Learning Institute was formed to offer courses at a distance to students in the province, and KNOW was formed to act as a distribution network for telecourses prepared by existing post-secondary institutions, including OLI. OLI and KNOW are products of a variety of factors explained in this chapter.

The Context of Development: Economic and Demographic Factors

An Increase in Student Numbers

The first major "boom" in Canada's education system occurred just after the Second World War, when Canadian veterans returned home. Across the country, various programs were made available to returning veterans, often through extension departments. The University of British Columbia began to offer university correspondence courses in 1949. On the whole, however, the nature of Canadian universities was not significantly changed by the influx of veterans, and the universities remained structured in a way which assumed that students would be young, full-time, and male.

The second significant increase in numbers occurred during the sixties, when the post-war baby boom arrived at Canadian universities. By this time, there were not only more university-age students, but the participation rate in higher education had risen dramatically, and more students than ever before finished high school in anticipation of going on to higher education. The high school retention rate nearly doubled in the ten years between 1960 and 1970.[49]

The increased post-secondary participation rate was due both to increased interest in education on the part of students and increased opportunities. The cold war of the fifties and sixties, and the launch of the Soviet satellite Sputnik in

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49. Organization for Economic Cooperation and Development, *Review of National Policies for Education: Canada.* (Paris: Organization for Economic Cooperation and Development, 1976) p. 24.

1957, created great anxiety in the West about whether the education system was producing enough people capable of innovation in science and technology. Education was seen as the way to produce the people who would ultimately win the race to conquer space, to develop the technologies which would permit Canada to retain a role in world affairs.

The human capital theory, originally articulated by Schultz in 1960, and two years later by Dennison, argued that by investing in education and the development of "human resources", the United States could maintain a high level of economic growth.[50] The theory influenced policy makers around the world. In Canada, unprecedented amounts of public funding flowed to the universities and into the public school system in general, money available to government through the general prosperity of the sixties.

Canadian universities responded to the massive influx as best they could, accommodating not only more students, but spending more money on the education of each of them. According to an OECD study of Canadian education funding, "Over the decade of the 1960's, Canadian education authorities not only accommodated in the schools, colleges and universities roughly 50 per cent more pupils and community students, they also spent 50 per cent more on average on each of them in "real" terms."[51]

Enrollments at Canadian universities continued to climb until the early seventies, peaking in the academic year 1971/1972.[52] During the late sixties and early seventies in B.C., spurred on in part by the human capital approach, a network of community colleges was formed, following upon similar initiatives throughout the sixties in other parts of the country.[53] Because the government was funding the universities and colleges beyond what was required for simply teaching all the additional students, the student/teacher ratio also dropped, and the number of teaching staff hired grew faster than enrollments.[54] Despite this,

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50. Kjell Rubenson, "Adult Education: The Economic Context", *Choosing Our Future: Adult Education and Public Policy in Canada* eds. Frank Cassidy and Ron Faris (Toronto: OISE Press, 1987) p. 78.
51. OECD, *Review of National Policies for Education: Canada*, p. 26.
52. OECD, *Review of National Policies*, p. 22.
53. Kjell Rubenson, "Adult Education: the Economic Context", *Choosing Our Future: Adult Education and Public Policy in Canada* ed. Frank Cassidy and Ron Faris (Toronto: OISE Press, 1987) p 78
54. OECD, *Review of National Policies*, p. 25.

undergraduate classes at the universities across the country were often extremely large.

About 1971, the climate of opinion in Canada about the value of both universities and university education began to change. Reasons included a faltering economy instead of an expected boom, negative reactions to the student movements on campus, unemployment among graduates, and pressure from both students and employers to make the university "relevant". Government lost faith in the human capital theory, and public opinion of the universities and colleges definitely soured.

By 1976, the author of a study sponsored by the Organization for Economic Co-operation and Development on Canadian education policy was moved to comment that "Everywhere the talk is about economies, and restrictive measures have become common. Care is taken not to further anger unwilling taxpayers; the great enthusiasm of the 1960's is muted; and new public tasks are coming to the fore (together with their financial demands) in place of education."[55]

The provinces played a larger role in university funding after 1965, and some provinces cut more money from the system than others. From 1945 to the mid-sixties, the federal government gave money on a per capita basis directly to the universities. In 1965, the federal government began to make transfer payments to the provincial governments, undertaking to pay half the bill for post-secondary education. Since 1977, education payments have been made as part of one global payment which includes payments for health care. The provincial governments are supposed to match the funds, then distribute them.[56] In the eighties, federal transfer payments were reduced, and in many provinces, the federal contribution was not matched. One of these was B.C., where the mid-eighties saw a series of serious funding cuts for both colleges and universities.

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55. OECD, *Review of National Policies*, p. 37.

56. Thelma Rosen, *Communications and Information Technologies in Canadian Universities*, Paper 4 in a total of 17 studies coordinated by Ignacy Waniewicz for the series *New Technologies in Canadian Education*, (Toronto: TVOntario, 1984) p. 3.

With the general downturn in education funding came a demand for greater accountability, particularly in terms of the direct economic benefits of education. Universities and colleges found themselves justifying their programs on the basis of the employability of graduates, and the usefulness to industry of their research programs. In the words of Micheal Skolnik, Chairman of the Higher Education Group at the Ontario Institute for Studies in Education, writing in 1983,

> Canadian higher education has in the past few years succumbed to a mood of despair and defensiveness. Until just a few years ago, it was characterized by a confident, forward-looking energy, secure in the notion that it was the pre-eminent engine of national development. Since then we have seen our relative salaries decline; our plant, equipment, and libraries erode; our jobs threatened; and the value of our contribution to Canadian society severely threatened....One popular explanation is that Canadian higher education is now (justly) paying off debts it incurred in Faustian compact with *homo economicus.* We financed our tremendous growth of yesteryear, this explanation purports, on promises of contributing substantially (or worse, by ourselves delivering) unprecedented economic growth and industrial expansion. Now that industrial growth has come to a standstill (and even declined), the primary case for generous funding of higher education is at best called into question, and at worst severely undermined.[57]

With an increased demand for accountability came increased centralization. Increasingly, and particularly in B.C., control over the post-secondary system was centralized in government. The colleges formed in the late sixties and seventies were originally given considerably more autonomy than they ended up with in the eighties.[58] Greater efficiency and productivity were demanded -- the production of more graduates with fewer resources. More efficiency was also demanded in terms of standardization of courses and programs, and

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57. Micheal Skolnik, "Will High Technology Save Higher Education From Decline?", *The Canadian Journal of Higher Education,* Vol. XIII-2, 1983, p. 71.
58. Gordon Selman, *The Invisible Giant* (Vancouver: University of British Columbia, 1988) pp. 12,31.

pressure began to be felt for greater openness in the transfer system. In many ways, the autonomy of the university began to be undermined.

Industry criticized the post-secondary system for failing to produce people with adequate employment skills, and private training programs within industry grew. Private production facilities for print and video courses developed, creating a major consulting industry. The federal government increasingly used private training schools for federal job training programs, particularly during the eighties.

Given the shortage of funds for education, and the links between student numbers and funds, the public system began to feel increasing competition from the private sector, and most colleges and universities over the last decade have become involved in entrepreneurial ventures such as selling their programs to students abroad, selling services to business and industry, and designing programs for particular industries. Increasingly, a "partnership" between industry and higher education is being touted as an ideal within the system.

Also, within the last two decades, the universities have felt increasing pressure to provide "high technology" programs, or "information age" education. The argument is that "...industrialism is presently at the threshold of a new era in which the dominance of the capital-intensive, physical-resource-based economy of the past will give way to a knowledge-intensive, human-resource based economy. The spearhead of this transition will be the rapidly growing computer, semiconductor, software, bio-genetics, and telecommunications industries. Growth of these industries will require an extraordinary expansion of research and enrollment...the purported transformation of industrialism will occur in an highly competitive world economy, and those nations which do not make the necessary adjustments will become economic backwaters, with resultant declines in living standards and quality of life."[59]

Again, it is suggested by many who argue for an expansion of university programming in the high technology area that the best programs are formed out of partnerships between industry and higher education.[60] Many such

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59. Micheal Skolnik, "Will Technology?", pp. 71-72.
60. This is the argument advanced in *Global Stakes*, an influencial book on the subject. The book is reviewed by Micheal Skolnik, "Will Technology?".

partnerships currently exist using distance education technologies, such as the Stanford University program for engineers in the Silicon Valley, reaching 44,000 engineers, and earning Stanford a million extra dollars a year above basic tuition fees.[61]

The Emergence of New Kinds of Students

During the seventies, another demographic factor began to change the shape of post-secondary education. The age structure of the Canadian population caused a dramatic shift in university enrollment patterns. During the seventies and early eighties, the number of full-time students in the 18-24 year-old age group began to decline, and the baby-boom generation began to demand access to post-secondary education, causing an increased demand for part-time studies. Robert Sweet points out that demographics alone could not account for the change, and suggests that rapid economic change and the changing role of women in the economy also contributed to the shift in demand for college and university services. It is certainly true that the women's movement began during the seventies to have a profound influence on campus. According to Sweet,

> As Canada began moving towards a 'post-industrial' society, a work force possessing specialized, technical skills and knowledge became increasingly important. Technological changes in most occupations were rapidly outdating the knowledge acquired through formal education, necessitating further learning if the employee hoped to advance in his or her career. The post-war investments Canada had made in its educational system combined to produce, by the 1970s, a highly educated population. (Statistics Canada, 1979) ...However, part-time study was the only real alternative for most full employed workers with family responsibilities.[62]

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61. Micheal Skolnik, "Will Technology?," p. 74.
62. Robert Sweet, "University Programmes", *Distance Education in Canada* ed. I. Mugridge and D. Kaufman (Croom Helm Ltd., Kent: 1986) pp. 169-170.

By the end of the seventies, part-time older students made up a third to a half of enrollments at major universities [63]. This lead to a discussion which continues today of what constitutes equality of educational opportunity, especially for women.

Various assessments were made by government and by the institutions of the ability of the post-secondary system to respond to this new demand during the early seventies. The concept "lifelong learning" became current during this period, and is reflected in an OECD report on educational policies in Canada in 1976: "...the right to education opportunity should not remain confined to the short period of childhood and youth, but should be a life-long recurrent principle, aimed at catching up on lost chances and at opening up new opportunities."[64]

In the eighties, the education system is still responding to a perceived need for people with higher and higher qualifications, more and more specialized skills, and the notion that the skills people develop last them only a few years before they need to be up-graded. The idea that the economy requires such specialized expertise is controversial, however, as many have argued that the "information economy" requires not large numbers of highly skilled workers but large numbers of people willing to work at jobs requiring very few skills.[65]

Geography and Settlement Patterns

A final and significant demographic factor which contributed to the evolution of distance education systems is the nature of Canadian geography and settlement patterns. Like Canadian communications systems, the education systems across the country have to contend with the fact that the population is small relative to the total geographic area, and dispersed unevenly.

The new learners demanding access to post-secondary institutions were tied to their communities by employment, family, and financial need, and could not, as

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63. W. Tetlow and R. Taylor, *Looking Beyond* (Vancouver: University of British Columbia, Vancouver, 1981) cited in R. Sweet, "University Programs," p. 170.

64. Organization for Economic Cooperation and Development, *Review of National Policies for Education, Canada* (OECD, Paris: 1976) cited in R. Sweet, p. 170.

65. See, for example, Henry M. Levin and Russell W. Rumberger, *The Educational Implications of High Technology*, Project Report No. 83.A4 (Stanford, NJ: Stanford Institute for Research on Educational Finance and Governance, School of Education, 1983)

previous generations of university students had, move into the urban centres to study full-time. Not all potential students were ever served, of course, by theurban universities, but until the seventies, political pressure had been insufficient to significantly change the situation. The colleges and universities, faced with diminishing resources, failing public support, demands for increased accountability to government and for new kinds of services, had to make some accommodations.

Different universities handled the crisis in different ways, but generally speaking, some of the immediate accommodations were to lower entrance requirements, develop outreach programs of some kind, permit part-time study, and develop or create more extensive correspondence divisions. More extensive support services for female students began to appear, though many would argue they never actually met the needs of mature women for child care and other services.

Throughout this period, the role of the adult education movement was significant. Adult educators found a home in the expanded institutions, and contributed a body of theory on the different needs of the adult learner, as well as a vision of post-secondary education which included adults. Often, adult educators were early promoters of educational technology, providing some of the theoretical underpinnings which justified alternative approaches to teaching. Finally, they provided an institutional base for experiments in distance education - adult or continuing education divisions within post-secondary institutions.

The Context of Development: Social and Political Factors

The Role of the Adult Education Movement

The adult education movement in Canada has a long and, particularly with respect to its early accomplishments, illustrious history. Growing out of the grim Depression years, a central movement goal was to provide individuals with the

kind of knowledge which would help them "comprehend the structure of their society in order to overcome injustice and gain control of their lives."[66]

The Commonwealth Cooperative Federation, the League for Social Reconstruction, the churches, the Christian socialists, and older voluntary organizations like the Workers Educational Association were all involved extensively in adult education activities between and after the World Wars. The primary concern of the movement in its early days was to provide the information to permit greater and more informed political participation on the part of ordinary people.

The Canadian Association for Adult Education acted as a clearing house for many of these groups with respect to their adult education activities. For these organizations, the problems of the adult learner, as they were identified in the early seventies, were not new. The movement had, in various ways, been trying to reach the adult learner for decades.

Founded in 1936, the Canadian Association for Adult Education was led by Dr. E.A. Corbett. Dr. Corbett had come from the University of Alberta Department of Extension, which had managed the university radio station CKUA. He was also an executive member of the Canadian Radio League. Dr. Corbett was responsible for planning the CBC school broadcasts, and was involved with both the "Farm Radio Forum" and "Citizen's Forum". The CAAE was very active in organizing voluntary organizations in the study of the potential of the mass media during the late 1940's, and influenced many presentations made to the Massey Commission in 1949, as well as presenting a brief of its own.[67]

Throughout the fifties and sixties, CAAE was very active in promoting the use of educational television, and responded to the White Paper on Broadcasting, 1966, with a brief arguing, among other things, that educational broadcasting should not be relegated to the UHF band, as the White Paper had

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66. Micheal Welton, "On The Eve of a Great Mass Movement: Reflections on the Origins of the CAAE", *Choosing Our Future: Adult Education and Public Policy in Canada*, ed. Frank Cassidy and Ron Faris (Toronto: OISE Press, 1987) p. 14.
67. Frank W. Peers, *The Politics of Canadian Broadcasting, 1920-1951* (Toronto: University of Toronto Press, 1969) p. 402-403.

recommended.[68] The brief also argued that "The CAAE believes that Canada should engage in educational broadcasting by means of television as rapidly and fully as possible. We believe that it is a resource too long neglected and that the benefits of education in Canada cannot be challenged. In fact, we do not believe that many of the presently stated goals of Canadian education can be achieved without a large investment in and dependence on television."[69]

The Canadian Citizenship Council, discussing the issues raised by educational television in a meeting in September of 1967, raised two central problems - control and access. Since these are raised again as issues later in this thesis, it is worth noting what they had to say as the Broadcasting Act of 1968 was being formulated. With respect to control of provincial educational television authorities, the Council observes that:

> The Broadcasting Act, in order to prevent the vast power of radio and television being used for solely political purposes, stipulates that no government may own or operate a radio or television broadcasting station. Our citizens have had this protection for many years. Now the question of Educational Television puts this issue squarely to citizens again. Shall we put the vast power of a television network into the hands of a particular political party by the simple act of allocating the sole control of ETV to the Minister of Education in each province?[70]

With respect to access to the new networks, the discussion assumes that the organizations traditionally involved in adult education will continue to be, and the question is raised of who shall set priorities for air time and control of content. In the end, provincial governments have controlled educational television through arms length agencies (but without mechanisms to ensure a lack of government intervention), and the older adult education organizations like the YM/YWCA play little or no role in television production.

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68. Canada, "White Paper on Broadcasting" (July 4, 1966), *Documents of Canadian Broadcasting*, ed. by Roger Bird (Ottawa: Carleton University Press, 1988), pp. 362-363.
69. Canadian Association for Adult Education, *Brief to the Parliamentary Committee on Broadcasting*, (Toronto: CAAE, 1967) p. 149.
70. Canadian Citizenship Council, "Educational Television and the Citizen," discussion notes for a meeting, September 29, 1967. (Document Centre, Department of Communication, Simon Fraser University)

During the economic boom of the sixties, with ample money flowing to the post-secondary system, the attention of adult educators shifted from the broad social goals of the movement to how to reach the disadvantaged learner, how to create educational opportunities for people who had not traditionally been able to gain access to the system. Adult education became a profession, and many adult educators now found work within the post-secondary system. In general, the movement lost its broad social focus, and became institutionalized within the education system. According to Micheal Welton, writing on the history of the adult education movement in Canada, the adult education movement of the eighties is "professionalized, becalmed, and technicized...captive to ideologies of the individual learner...lack[ing] a coherent understanding of the social purpose of adult education."[71]

An interest in the potential of various communication technologies to extend the education system survived, however, and adult educators promoted the idea within the academic community. The idea of using technology for this purpose was met with disinterest if not outright hostility by most university and college faculty, giving early discussions of distance education a crusading air they have not lost now. Adult Education programs were generally lodged in the extension or continuing education areas, and these areas also, quite naturally, provided a sympathetic home for early experiments in educational television.

As programs developed across the country, production facilities continued to be centralized within the continuing or adult education areas, and drew on the expertise of adult educators in instructional design and teaching techniques, as well as their commitment to greater educational opportunities for students off campus. The adult educators had as their central concern the teaching of disadvantaged adults; the early promoters of educational television the teaching of students outside the classroom. Together, they began to challenge the conventional view that teaching requires teachers, and that all learning must take place in a classroom.

In this campaign, they were aided greatly by the development of the Open University in England in 1968. The Open University provided a model for a university with no campus at all, a university which any student anywhere in the

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71. Welton, "On the Eve," p. 29.

country could attend without moving. The Open University responded to the inflexibility of the traditional institutions and their failure to meet the needs of adult learners. Although more extensive correspondence programs existed by this time, and the college system had developed across the country, a climate still existed which encouraged more expansion. On the other hand, governments were beginning to pull back from funding more expansion within the traditional system, which had failed to produce the economic growth it had promised.

The Development of Distance Education Systems

Early Distance Education Projects

The earliest form of distance education (assuming that the term implies no or little face-to-face contact between teacher and student) was the correspondence course, and among the earliest of these was the program developed at Queen's University in 1889. The program was developed shortly after the introduction of generalized postal service, and has remained in place, uninterrupted, since.

The bulk of distance education in Canada is still delivered via the correspondence course, and even those institutions which use other technologies usually rely on a combination of media including print. A notable and extensive program exists at the University of Waterloo, and many universities offer well-established programs.

Correspondence courses are also offered across the country by many private training schools. Granton Institute of Technology, for example, has existed since 1934, and is the largest Canadian private correspondence school.[72] Industry has also used correspondence education for employee training.

In B.C., correspondence programs were introduced by the provincial government in 1919 for elementary school students, and in 1929 for secondary school students. The service was provided to help the many families involved in the isolated and often short-lived communities created by the primary

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72. Christopher Hope, "Private Correspondence Schools", *Distance Education in Canada*. ed. I. Mugridge and D. Kaufman (Croom Helm Ltd., Kent: 1986) p. 208.

industries -- logging, fishing, trapping and mining. The first conference ever held on correspondence education was held in B.C., in Victoria in 1938, and in the proceedings of this conference it is noted that B.C.'s elementary correspondence program was the first in America.[73] Post-secondary correspondence courses were first offered by the University of British Columbia in 1949, a response to the veterans returning from the second World War who could not leave jobs and family to return to their studies.

Experiments in educational radio began in Canada during the 1920's. Until the late 1930's, such experiments involved a partnership between a public educational institution and a private broadcaster. The University of Alberta, for example, broadcast a series of lectures over CJCA in Edmonton in 1925 and 1926, and in 1936, CKUA in Edmonton broadcast school lessons to children confined by a polio epidemic. In 1938, however, the newly established Canadian Broadcasting Corporation began a series of school broadcasts on its provincial network in British Columbia. These broadcasts proved very popular, and by 1942 the broadcasts were carried nation-wide.

The CBC also initiated the first `interactive' radio service when it began broadcasting the "Farm Radio Forum". "Talk-back" radio was also used with some school broadcasts. The adult education movement, as noted above, was very involved in these early experiments, hoping radio might be a vehicle for public education. Although educational radio had a promising beginning, however, the federally mandated CBC and provincially mandated educational institutions were never able to combine forces, and educational radio is not a significant factor in distance education in Canada today.[74] Audio cassettes, however, are used extensively. (Although it never achieved widespread use in Canada, the idea of "talk back" radio is now used to add an interactive element to public educational broadcasting projects in many developing countries).[75]

Early experiments in educational television were also conducted by the CBC. During 1954 and 1955 the CBC ran nation-wide programs intended to

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73. Robin H. Ruggles and others, *Learning at a Distance and the New Technology.* (Vancouver: Educational Research Institute of British Columbia, 1982) p. 16.
74. A notable exception is the Open College initiated by Ryerson.
75. Charles R. Shobe, "New Technologies in Distance Education", *Distance Education in Canada.* ed. I. Mugridge and D. Kaufman (Croom Helm Ltd., Kent: 1986) p. 216.

supplement the school radio broadcasts. However, until the early seventies, most experiments in educational television (outside the classroom context) involved a partnership between private broadcasters and public institutions, and because the educational institutions were governed at the provincial rather than the federal level, services developed provincially rather than across the country. Recently, the idea of a nation-wide educational network has surfaced again, based on a consortium of the local television authorities and production centres in post-secondary institutions.

During the sixties, television was used extensively in the classroom. Various institutions across the country also experimented with closed circuit and broadcast television. For the most part, these experiments were designed to reach students either on campus or close to it, or to provide general non-credit education to local communities. These experiments usually grew out of experiments on campus in using television to teach extremely large undergraduate classes.

Educational Television On Campus

One result of the rapidity with which the universities were forced to respond to vastly increased numbers of students in the sixties was a consideration of the potential of educational television. In 1966, the Metropolitan Educational Television Association of Toronto conducted a survey of Canadian school boards and provincial ministries of education to determine the extent to which educational television was being used. They had done such a study every year since 1962. In the 1966 study, they discovered that educational television was suddenly "taking off" at every level of the education system. For the first time, they received responses from people with titles like "ETV coordinator".

D.C. Williams, then Vice President of the University of Toronto, commented that "It has now become clear...that rising enrollments and increasing staff shortages demand extraordinary measures, including ETV. It has also become clear that the preferred system is that of closed-circuit television...While this system is not easy, it is infinitely less trying than broadcasting because it keeps such

programs on the campus (where they belong) and, more importantly, under the control of the professor doing the teaching."[76]

Dr. William's comment foreshadows events to come, but the debate in the literature at the time about educational television remained largely focussed on the value of television as a teaching tool, with most people either arguing or assuming that the role of the teacher would never be entirely usurped. Those who argued that a potential danger existed to teacher's jobs were considered extreme in their criticism. The face-to-face interaction of the classroom, it was argued, would be augmented by television, not eliminated.

At the same time, articles began to appear discussing the possible benefits of expanding the use of educational television to reach students off-campus. Articles also begin to appear which identify faculty resistance as a significant problem for promoters of educational television. The solution was usually considered to be more training in television teaching methods for faculty, and more promotion of the idea within the academic community. A few note, however, that a ready supply of enthusiastic academics exists, and that not many are needed. The following example appeared in a book addressed to university and college administrators, published in 1969. The authors are under no illusions about the potential impact of educational television.

> It seems perfectly obvious that educational television has the potential of displacing large numbers of teachers from teaching. Whether or not this is consciously recognized among professors, it is a self-evident conclusion. There turns out to be a very obvious countermeasure to this potential threat, not one of smashing the TV receivers and smashing the transmission cables, a la Luddites, but rather one of insisting that the loss of student-faculty contact literally eliminates functional teaching. Thus the professor contends that a major segment of each student's college education must occur within voice and eye contact range measured from a professor at the podium to the last student in the far corner of the classroom....

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76. D.C. Williams, Vice-president, University of Toronto, "University Television", *Educational Television: Canada*, ed. by Earl Rosen (Toronto: Burns and MacEachern Limited, 1967) p. 35.

> There appears...to be an individual rather than a collective distaste for college level television instruction. This turns out to be an extremely important consideration in determining college policy regarding educational television. It means that those professors who are opposed to personal utilization of the television medium do not have to become TV performers. In every faculty there are ETV enthusiasts or experimentally-minded professors who are willing to give the new medium a try. It is, after all, quite clear that the few professors who use ETV can reach a student audience of unlimited numbers in dispersed locations unrestricted by day or time of day. It takes just the few to teach as large a student body as may be enrolled in ETV courses.[77]

As the passage above suggests, resistance to the use of television was more often expressed by ignoring it than debating it (and that situation has persisted) as long as television was not used in any particular opponent's discipline or classroom. That form of resistance enjoyed some success initially, but when control over educational television left the universities, as it soon did, the unofficial boycott became largely ineffective.

The situation changed dramatically, in terms of the extent to which universities could control the use of educational television, in the late sixties and early seventies, when satellite and cable distribution systems became available. They made possible much more ambitious attempts to reach students off campus.

In B.C., extensive print-based correspondence systems existed by this time, though they were not well coordinated, and students had difficulty transferring credits between institutions. The demand for greater efficiency in the system, noted above, lead to a demand for easier student transfer between institutions, less program duplication, and more coordination of distance education services.

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77. Robert Dubin and R. Alan Hedley, *The Medium May Be Related to the Message: College Instruction by T.V.* (Eugene, Oregon: Centre for the Advanced Study of Educational Administration, 1969) pp. 70-71 and 88.

Experiments with the Hermes satellite in 1977, discussed more thoroughly below, provided examples of the uses to which satellites could be put within the education system. Satellites offered a glamorous, though as yet unproved, alternative to telephone and postal services for a centralized province-wide system, one independent of the colleges and universities for delivery of courses. The new system could thus be free of the faculty and institutional resistance which had plagued the campaign for educational television from the beginning, as well as the problems of jurisdiction, both of cable companies and of colleges and universities.

The Social Credit government, which had returned to power in 1975, began to consider establishing a provincial educational television authority, as well as an agency to coordinate print-based correspondence services, and the transfer of credits from one institution to another. The move followed a string of studies, described below, and new legislation which centralized within government many aspects of decision-making in the college system. The final result was the creation first of the Open Learning Institute, and then of the Knowledge Network.

Expansion of the B.C. Education System in the 70's

In 1962, at the beginning of the baby-boom influx, John Macdonald, then president of the University of British Columbia, noted in a report to government entitled *Higher Education in British Columbia and a Plan for the Future* that the population of the province needing post-secondary education was expanding rapidly, and recommended that both the kinds of education available and the places to get an education be expanded.

The Macdonald Report recommended that a four year college to serve the Lower Fraser Valley be established, along with several regional colleges throughout the province. The four year college became Simon Fraser University, and the regional colleges were established over the next decade, though none were given the degree-granting status which was originally recommended for the Okanagan.[78] The Colleges expanded over the next three decades. Now, some of the community colleges are moving toward degree-granting status.

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78. Ruggles, "Learning," p. 16.

The Development of North Island College

One of the colleges established was North Island College. North Island College developed a very innovative model for "course delivery"-- the term "teaching" beginning at this point to disappear in discussions of courses and students. The model developed at North Island was to prove very influential in the creation of the Open Learning Institute; it in turn had been deeply influenced by the model developed at the Open University.

North Island College developed as a result of the geography and demographics of the northern end of Vancouver Island. The school districts on the north end of the Island had opted out of the proposed college district for Malespina College (in Nanaimo) on the grounds that Malespina was too far away, and could not serve the dispersed tiny communities, separated by fjords and mountains, of the area. As a result, the first non-campus based community college in Canada was created in 1975.

The College created a "learning system" consisting of "individualized learning materials" not dependent on classroom instruction. The packages of material usually consist of print instructions and readings, which may or may not be supplemented with video or audio material, or computer disks. Students may register for most courses whenever they wish, and take as long as they need to finish.

Throughout the North Island College district, tutors provide help to students with their assignments. The tutors either work out of permanent facilities, or travel to the communities for tutoring sessions in trailers equipped with whatever equipment the College can provide for instruction. Theoretically, the College is totally decentralized, and no one centre is considered the "base".[79]

The development of North Island College marks the beginning of a clear distinction between teaching and scholarly functions (research and course creation) first introduced at the Open University. The preparation of course materials is distinguished from the activity of guiding students in learning the materials. Thus the person preparing the course has no particular student or class to prepare materials for, and the person guiding the student learning

79. North Island College now appears to be moving to a more traditional, campus-based model.

process has no role in selecting content. This redefinition resulted in the use of other words than "teaching" in the discourse of distance education -- it does not fit in many of those situations where it might be used. Instead, the word "learning system" (or something similar) is often substituted, emphasizing not the activity of the teacher but that of the learner.

The separation of the selection of materials from the task of tutoring really began, of course, during the numbers crisis of the sixties. In the debate about educational television during the late sixties, it was often pointed out that many undergraduate classes were taught by graduate students, and classes were very large. The task of teaching became much more onerous under the pressures of large classes and inadequate facilities, and many scholars who liked to work closely with students preferred upper level classes where the numbers of students in classes were more reasonable. The result was that most students did not receive any of the benefits of face-to-face instruction.[80] Many early experiments in campus closed-circuit television received favourable reviews from students, who could at least get a front row seat in a televised lecture.[81]

At North Island, the task of teaching, in the usual sense of the word, basically has disappeared altogether, if teaching is understood as the preparation of materials particularly suited to assist a particular group of people understand a subject. "Course writers", who have no particular group of students at hand, prepare the written and other materials the student is to study, and tutors, who have no control over the selection of materials, help students learn the materials and prepare for examinations. The tutors are not necessarily specialists in any academic discipline; in fact they cannot be, given the wide range of courses students may be taking in any particular community.

According to Robin H. Ruggles, in his description of early distance education initiatives in B.C.,

> Learning at North Island College has essentially been "unspaced and untimed" thus creating increased lifelong learning

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80. During the same period, introductory survey texts came to be widely used. These, in a sense, are another form of correspondence course.

81. For examples, see results of early surveys of students on campus.

> opportunities for people through the region. The self-paced mastery learning approach has enabled educational opportunities in the North Island College region to be independent of instructor, campus and schedules.[82]

It is clear from Ruggle's description that a kind of liberation is being claimed here -- a liberation from being in a particular place at a particular time, of course, but also from the teaching/learning schedule and discipline imposed within the classroom. This freedom is reflected in the ideal which NIC espoused -- "open learning", or "any pace, any place".

North Island College modelled itself, to a large extent, on the "open learning systems" created at the British Open University. As mentioned previously, the Open University was an inspiration to those who argued for more access to education, for it seemed to provide a means of reaching people which took into account their need to remain in their own communities, at their jobs, and with their families.

The Open University Model

The British Open University began its first year of instruction in 1971. By the late seventies, 78,000 adults were studying at the Open University, and 33,000 had graduated with BA degrees.[83] By 1986, the Open University was enrolling 90,000 students a year.[84] The Open University was extremely influential in the development of similar Canadian institutions, although many of the features the Open University were most proud of were not duplicated in Canada.

The Open University, like Athabasca University, Tele-universite, and OLA, is a non-campus based institution, although it differs from OLA in that it does employ a faculty, offers places for on-campus graduate study, and research facilities for both. It was founded to provide opportunities for adult learners to study at home. It was also innovative in the British system in that it would accept anyone over the age of 21 years as a student.

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82. Ruggles, "Learning," p. 22.
83. Ruggles, "Learning," p. 4.
84. Ian Mugridge, "The Open Learning Institute", *Distance Education in Canada*, p. 127.

The use of "course teams", and of the mass media as vehicles for conveying course materials are perhaps the two most important aspects of the OU. The concept of "course teams" influenced the course production model developed at both North Island College and OLA, providing a structure for course development which was later adapted, with significant changes, to the situation in B.C.. Walter Perry, the first Vice-Chancellor of the Open University, and the person responsible for most of the decisions which determined its final structure, has detailed the creation of the course production model in *The Open University*, and the following description is drawn from this source.[85]

Walter Perry felt that the Open University would never achieve any degree of acceptance in the academic world unless it recruited faculty on the same terms, and offered the same benefits in terms of research time, that other universities offered. Originally, the Open University (called initially the University of the Air) was to have seconded faculty from existing universities. Perry argued successfully that such faculty would not be sufficiently committed to the new institution to defend its interests or to ensure high course quality, and further that a base of faculty was needed to create a university with credibility among others. As a result, the Open University has its own faculty, and also has campus-based graduate students as well as those studying at a distance.

It was originally thought that only one person from each discipline would be required, as the courses, once written, would require no further involvement. Perry argued successfully that a minimum of four faculty in each discipline area would be necessary to maintain faculty interest in the discipline and provide `a cross-fertilization of ideas'. When it came to the structure of course production, however, Perry entirely abandoned conventional practice, and vested control of course production in course teams rather than discipline areas. [86]

The teams consisted of educational technologists (specialists in adult education and educational media production), representatives from the BBC (producers of the television component of each course), and discipline area people. The

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85. Perry, "The OU". The details of course creation and distribution are found in "Part Two: The Courses", pp 53-121.

86. The Open University now employs over 400 central academic staff, and one half to one third of the courses are single-discipline. Dr. A. Bates, Executive Director, Reserach and International Development, Open Learning Agency, correspondence, March 26, 1991.

discipline area people often represented a variety of disciplines, for the foundation courses at least were interdisciplinary. The disciplines, while organized into departments for research purposes, were not in control of the courses. Perry comments on this arrangement as follows:

> From the very beginning the Planning Committee was anxious to ensure that responsibility for the nature, the content and the teaching of each course offered by the University should be vested in the University as a whole. It should not be left to the whim of the individual department or the individual member of staff. Thus in our recruitment policy we made it clear that each professor, while he would be head of his discipline, would not be head of a discrete department with its own budget. I had long believed that departmental control of teaching is a root cause of much that is wrong with educational programs in conventional universities. It permits individual academics to produce courses primarily designed for the scholars of the future and militates against the provision of courses more suited (relevant!) to those whose careers lie outside the pursuit of the discipline concerned.[87]

The model for course production at the Open University could have been found in multi-disciplinary programs at traditional universities, with two important differences - the involvement, at the decision-making level, of people concerned with television production values and with teaching techniques, and in the assumptions concerning the purpose of the enterprise in general.

The course teams were, and still are, at the OU, responsible for every stage of course production, from setting the objectives of the course to determining the content of particular modules or units. While the academic staff determined the general content, their reliance on television producers represented an unusual intrusion into what is traditionally the domain of faculty, and on the other hand, into the traditional domain of the television producer. Perry notes that clashes between the two interest groups were frequent. The other difference is reflected in Perry's reasoning -- the purpose of the course is not to, as a first priority,

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87. Perry, "The OU," p. 83.

prepare future scholars in the discipline, but rather to prepare people for employment, particularly those with some previous experience in the post-secondary system who need further training.

It is important to note, before abandoning this brief description of course production at the OU, that the OU survived because it was considered a cost-effective way of reaching adults. It is cost effective because, despite the high production costs, courses can reach a very large number of people. This is possible because the OU is a national university. It can be a national university in part because the broadcast component of the OU is carried by the BBC, a national broadcaster. Clearly the same possibility did not exist in Canada when the distance education institutions were established, and still doesn't. In Canada, provincial responsibility for education makes the formation of a national institution difficult.

The Founding of OLI, and More Extensive Correspondence Programs in Traditional Institutions

The founding of OLI, and concurrent expansions of the correspondence services of the major universities in B.C., followed a series of government reports and commissions. These are briefly summarized below.

The NDP government during the 1972-1975 period strengthened the community college system, and started several new colleges, to serve rural populations. *Towards the Learning Community: Working Paper on the Community College in British Columbia* (1974), the report of a task force on extending educational opportunities in B.C., recommended a general strengthening of the college system, greater local accountability, stronger relations between colleges and universities, more opportunities for correspondence and media assisted education, and more innovative instructional methods in general. The colleges, however, would essentially broker all these services, responding to local needs as they were represented by locally appointed and elected Boards. The report did recommend provincial-level coordination of media services and production to avoid duplication and needless cost. It also recommended that the Department of Communications

(provincial) coordinate its work with the Department of Education to create an "educational media-communications policy".[88]

In the mid-1970's, following the return of Social Credit to power, the B.C. government commissioned a series of reports to look at "barriers to education and proposed solutions". One of these, the Winegard report (*Report of the Commission of University Programs in Non-Metropolitan Areas,* 1976), was asked to look at opportunities to study in academic programs outside the Vancouver area.

The Winegard report suggested that interior residents required outreach programs and directed study programs to accommodate those who could not study on a college campus, and recommended further that a multi-campus university, initially administered by Simon Fraser University, be established in the interior. It would administer a comprehensive outreach program for degree credits, and have a variety of course production facilities, including a television production centre.

The report also recommended the creation of a union catalogue and interlibrary loan system. Technical education was to be coordinated by BCIT, and first and second year university transfer courses by the existing colleges. These institutions were also to employ media-assisted courses. The concept of media assisted courses was developed in the report to include a variety of possibilities, including correspondence. It was noted that no way existed of broadcasting television programming to the whole province; it was suggested that where sufficient numbers of students existed in areas with no cable or network television coverage, the programs could be shown at convenient central sites.[89]

Another important report, also submitted in 1976, was the *Report of the Committee on Continuing and Community Education in British Columbia,* chaired by R. Faris. The committee was asked to report on policy, funding and administration of continuing education in B.C.. The committee pointed out a

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88. Task Force on the Community College, *Towards the Learning Community: Working Paper on the Community College in British Columbia,* (Victoria, BC: Department of Education, March, 1974)
89. W.C. Winegard, *Report of the Commission on University Programs in Non-Metropolitan Areas,* (Victoria, BC: Ministry of Education, September 2, 1976) pp. 27-29.

need to strengthen opportunities for basic adult education, particularly in rural areas, using the 1971 census to show that only 15.8% of the population of the province had completed Grade 12.[90]

Also in 1976, a report entitled *The Needs of Libraries and Post-Secondary Education in British Columbia,* chaired by Stuart-Stubbs and Carter, was presented to the B.C. post-Secondary Coordinating Committee. The report pointed out that rural students had inadequate access to library materials, and recommended that an inter-library loan system and union catalogue be developed. Both recommendations were adopted, creating the inter-library loan system which exists today, and providing a means for students studying at a distance to obtain materials.[91] Another report which eventually influenced subsequent decisions was the *Report of the Commission on Vocational, Technical, and Trades Training in British Columbia* (1977), which recommended that vocational training opportunities be expanded throughout the province.[92]

The most significant study in this flurry of reports, in terms of the development of OLI and KNOW, is the *Report of Distance Education Planning Group on a Delivery System in Distance Education in British Columbia,* chaired by P. Carney, and submitted in 1977 (revised in 1978).[93] Carney, later a Conservative member of Parliament, led a group of six people drawn largely from the Ministry of Education or related government agencies. The task of the group was to develop a system "for the delivery of educational programs and services to students throughout the province studying in a "distance learning" mode." The group, originally an ad hoc group consulting with the then Minister of Education, Dr. Pat McGeer, was established "as part of a program of major

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90. Committee on Continuing and Community Education in British Columbia (Dr. R. Faris, chair), *Report of the Commission on Vocational, Technical, and Trades Training in British Columbia* (Victoria, BC: Ministry of Education, 1976), cited in Ruggles, p. 17.

91. Stuart-Stubbs and Carter, *The Needs of Libraries and Post-Secondary Education in British Columbia* (Victoria, BC: Ministry of Education, 1976) cited in Ruggles, p. 17.

92. Commission on Vocational, Technical, and Trades Training in British Columbia, *Report of the Commission on Vocational, Technical, and Trades Training in British Columbia,* (Victoria, BC: Ministry of Education, 1977) cited in Distance Education Planning Group (P. Carney, chair), *Report of the Distance Education Planning Group on a Delivery System for British Columbia,* (Victoria, BC; Ministry of Education, 1978) p. 1.

93. Distance Education Planning Group (P. Carney, chair), *Report of the Distance Education Planning Group on a Delivery System for Distance Education in British Columbia,* revised edition (Victoria, B.C.: Ministry of Education, March, 1978)

new initiatives undertaken by the Ministry of Education in line with emerging new priorities."[94] Dr. Walter Hardwick, later to play a key role in the development of the Knowledge Network, was a member of the group.

The Planning Group considered three options for the delivery of distance education -- a system using existing institutions, a system developed by an entirely new agency, and a system consisting of both existing institutions and a new agency. The first recommendation of the report is that "a new educational institute or agency be designated as the provincial agency responsible for the development of distance education and delivery systems." The other four recommendations suggest that the government persist in trying to acquire educational channels on provincial cable systems, that the government continue to experiment with satellite delivery by participating in the ANIK B satellite experiments, that some funding be provided for experimentation with alternative delivery modes, and that "educational delivery services be coordinated and operated where appropriate."[95] The report emphasizes television as the most interesting and exciting of the possible delivery modes.

The functions of the proposed new Institute were to coordinate distance education activities throughout the province; to centralize services like copyright acquisition, materials acquisition, financial planning, and credit banking; to develop a delivery infrastructure (such as satellite air time, cable access); develop programs; provide information to other institutions; train people in distance education skills; produce print, video, film and computer materials and distribute them; and distribute all funds allocated by the provincial Ministry of Education for distance education purposes.[96] Distance education, like many other aspects of the post-secondary system, was clearly to be highly centralized.

The new agency was created as a provincial institute, under the *Colleges and Provincial Institutes Act,* on June 1st, 1978, and called the Open Learning Institute. The *Universities Act* was subsequently amended to give OLI the legal right to offer undergraduate degrees in arts and sciences. The Distance Education Planning Group's recommendations reflected a great interest in

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94. Distance Education Planning Group, "Preface", p. 1.
95. Distance Education Planning Group, "Recommendations", p. 3.
96. Ruggles, "Appendix F", p. 97.

technology, but little in the costly and difficult problems of program development. Among the many difficulties of the new institution was the problem of developing, over a very short period of time, adult basic education, career and vocational, and undergraduate programs. The problems were compounded by the structure of funding set up under the new *Colleges and Institutes Act,* a structure which required the institute to make applications to several different agencies for money.

At a fairly early stage, it was decided not to invest scarce funds in television production. A radio network to support courses had been ruled out because only the CBC had province-wide coverage, and the federal versus provincial jurisdictional problem again reared its head. Audio cassettes were chosen instead. With respect to television, it was decided that television would not be an integral part of credit course delivery. It was decided that television programmes of "manifest educational quality...be offered under the rubric of continuing education....It was felt that this proposal would help the Minister honour his political commitment,...help OLI establish a visible presence, it would help OLI "buy time" until improved technical facilities became available."[97]

Dr. Walter Hardwick, then Deputy Minister of Education, and Dr. Patrick McGeer, then Minister of Education, received a visit during this period from Dr. Walter Perry, Vice-Chancellor of the Open University, and the visit was subsequently returned. Dr. Hardwick also visited distance education agencies in Texas and Massachusetts. It is reported that he took with him on his visit to the OU a shopping budget of $3 million, and returned with materials which were subsequently turned over to OLI. The materials were not suitable, from OLI's perspective. It has been noted by many that Hardwick and particular OLI staff disagreed over the value of television. Whatever the reasons were for the initial rejection of television, the matter was resolved in favour of print. John Ellis and Ian Mugridge, two figures closely involved in the early stages of OLA, comment that:

> The resolution of the video issue was more complicated. In fact, it became so complex in its many ramifications that it would be

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97. John F. Ellis and Ian Mugridge, "The Open Learning Institute of British Columbia: A Case Study", *International Council for Media Education* (Paris), 1984, No. 3, p. 27.

> impossible to provide the reader with a comprehensive view of the matter. Political, educational, technical, pedagogical and personal issues were all involved.[98]

By September of 1979, the first credit courses were already being offered. The mandate of the Institute was, and remains, to offer courses leading to a first degree in Arts, career/technical/vocational programs, and high school completion. In terms of course design, production, and distribution, the Institute has been influenced by several other distance education programs, but particularly by the Open University and North Island College.

Initially, to prepare the adult basic education courses, resident teams of course writers were used, but this system quickly gave way to the use of seconded faculty from other institutions, combined with course designers from the institute. The seconded faculty were to provide the courses with the credibility that would follow from using established instructors and professors, and versions of courses already being taught within the system. In addition to the course writer, a course consultant, usually a more senior academic in the area, reviewed the material, and was OLA's major agent of academic quality control. The idea of course teams, copied from both the British OU and North Island College, was developed into a highly structured process, which came to be called a course development blueprint.

OLI did not follow the lead of the OU in developing interdisciplinary courses, but stuck closely to both the structure and content of traditional courses. Elaborate systems of course production, aided greatly by the advent of desk top publishing, have developed, along side systems for delivery, such as warehousing, inventory control, and book purchase. All copyright was vested in OLI, and OLI acquired copyright clearance for any materials obtained.

Since the primary "mission" of OLI was to meet the needs of the adult rural learner, and most of these were scattered throughout the province and far apart from one another, OLI abandoned the idea of study centres or tutorial sites. Instead, tutors communicated with students by mail and telephone, the traditional province-wide communications systems. Tutors were hired under

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98. Ellis and Mugridge, "A Case Study," p. 27.

contracts which lasted only as long as the course they were tutoring for lasted. Full-time advisors helped students with course selection and other problems related to their studies. A Registrar's Office maintained student records, awarded credits, and provided other related services.

Library services, where they were unavailable locally, were provided by Simon Fraser University through a telephone service which was free to the student. The print materials were often supplemented with other materials, depending on the course. Most materials were delivered by mail.

In the fall of 1984, the Open University Consortium of B.C. was created, which permitted the combined use of all distance education courses offered by the three major universities plus those of OLI available to students through OLI. OLI served as the accrediting agency for degree purposes. A similar consortium was created for career and technical education, and called the Open College.

Faculty resistance was still, in the mid-80's, mainly taking the form of passive resistance. The futility of simply ignoring distance education and hoping it would go away, however, was pointed out in a position paper presented to the College Institute Educators' Association of B.C. in 1984. CEIA's committee on distance education notes the entrepreneurial involvement of faculty with OLI, the reassurances of OLI that it intended merely to supplement and not compete with the colleges and universities, and a distinct lack of government commitment to the college system. It also noted that withdrawing from involvement with OLI would have no effect, whereas developing a critical perspective on the institution, and demanding cooperation in various forums might be more useful. It was pointed out as well that inter-institutional cooperation at the faculty level was difficult, as OLI had no faculty.[99]

A few courses run by OLI were supported by television, but the television component played only a minor role. OLI came under increasing pressure to use television, however, when the Knowledge Network was established in 1980. "Although at first sight a satellite-delivered educational channel, KNOW's originators see it as a radically innovative concept which brings all the adult

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99. Committee on Distance Education, "Final Report", College Institute Educators Association, 1984.

education resources of the province together in a synergistic manner."[100] Dr. McGeer, still Minister of Universities, Science and Communications, announced the creation of the Network on July 24, saying as he did so that "With increasing demand for distance education programs, it is vital that our institutions coordinate their offerings. The Knowledge Network will be able to perform the coordinating function in an objective manner."[101] Dr. Walter Hardwick was the first chairman of the Board, and was also chief executive officer. With the merging of OLI and KNOW in 1988, KNOW became, in effect, part of a degree-granting institution.

The Development of Satellite and Cable Technology

KNOW was a product, to a large extent, of developments in satellite technology. Although alternatives existed, such as postal services and telephone services, and despite the lack of any evaluation of the use of television outside the classroom setting, television had captured the imaginations of policy makers. A provincial system had the advantage of high visibility and public popularity, a winning combination from the perspective of the politician. As one person involved in the early development of KNOW pointed out, correspondence courses could never create the impression of modernity and glamour, sheer high technology glitz, that television could.

The development of satellite technology made educational television on a provincial scale feasible. B.C. is sparsely settled, particularly in the North, and until satellite transmission made cable services available to many communities, they had limited or no service. The American space program was funded heavily after the Sputnik launch in 1957, however, and military research produced quite quickly a series of satellite launches for military purposes. The technology had many peacetime and potentially commercial applications which Canadian policy makers were quick to see. According to Robert Babe,

> Compared with terrestrial systems of wire, cable, and microwave, satellites have a number of advantageous civil applications;

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100. W.A.S. Smith, John S. Daniel, and Barry Snowden, "University Distance Education in Canada", *The Canadian Journal of Higher Education*, Vol. XIV-2, 1984, p. 78.
101. cited in John Dewey, Dennis Foth, Roger Hart and Micheal Ovenden, *Academic Uses of the Inter-institutional Service of the Knowledge Network*, Discussion paper, (Vancouver: Knowledge Network, undated, about 1981) p. 12.

> particularly pronounced for sparsely populated countries like Canada where the electronic birds quickly captured the imagination of our policy-making elite. In particular, satellites were foreseen as a way of `integrating' remote communities into the Canadian mainstream: through improved telephone, radio, and television services to the North; through more rapid dissemination of medical information to help save lives; through increased accessibility to educational materials; and by facilitating lateral communication among remote communities.
>
> Other factors too were at work: striving after `national prestige;' lobbying by Canada's scientific/industrial elite; a desire by government to foster high-tech industry; perceived imminence of an information revolution; and finally, national unity through communication hardware, a recurring theme in Canadian public policy....[102]

Through the sixties, four Canadian satellites were launched, all for scientific research. In April, 1971, an agreement was signed between the federal Department of Communications and NASA to develop and deploy a Communications Technology Satellite. The satellite program had a two year experimentation budget of $50 million to be used for non-commercial applications. According to Babe, "...underlying these rather hefty expenditures was a desire to stimulate through `make work' an infant space industry...."[103] When the CTS satellite (called "Hermes", after the messenger of the Greek gods) was launched in January of 1976, educational applications were sought, and, given the generous budget for experimentation, found.

Educational Uses of Satellite Technology

The experimentation budget for the Hermes satellite funded several projects at post-secondary institutions across the country. Several B.C. institutions,

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102. Robert E. Babe, *Telecommunications in Canada*, (Toronto: University of Toronto Press, 1990) p. 220.
103. Babe, "Telecommunications," p. 221.

Memorial University, the University of Quebec, and the University of Western Ontario all used the satellite to create some kind of instructional programming.

In British Columbia, a series of reports and commissions, described in more detail above, had culminated in *The Report of the Distance Education Planning Group on a Delivery System in Distance Education in British Columbia,* submitted to the provincial government in November, 1977, and revised in March the following year. The Distance Education Planning Group had been charged with planning a distance education delivery system, and when the Hermes satellite became available, undertook a series of demonstration projects to determine the feasibility of interactive television. The STEP, or Satellite Tele-Education Program in British Columbia, began in October 1977, and lasted two months.

The Distance Education Planning Group invited the British Columbia Institute of Technology; Okanagan, Northern Lights, North Island, and Fraser Valley Colleges; and the three public universities to form a production and delivery consortium for the duration of the project. The Department of Communications provided the uplink and five portable receiving stations, and the Provincial Educational Media Centre the staff for the production of programming, coordination of programs from various institutions, and the transmission site.[104]

The demonstration projects received mixed reviews, and the task of evaluation was virtually impossible given the lack of any definition of success,[105] but the possibilities afforded by satellite transmission had intrigued policy makers, and the Hermes experiments were followed up with further programming on the ANIK B satellite launched in December of 1978.

In September of 1979 several B.C. post-secondary institutions offered credit courses for undergraduates via satellite transmission during the academic year. According to Robin Ruggles and others in their survey of the educational uses of satellites around the world, this "marked the first time anywhere in the world

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104. Ruggles, "Learning," p. 36.

105. J.S. Daniel, *Educational Applications of Communications Satellites: Considerations in Developing and Performing An Evaluation,* (Edmonton, Alberta: Athabasca University, mimeo paper from the Department of Communications Pacific Region Library, undated, about 1977-1978). The paper is based, in part, on conversations with Hermes evaluators.

that satellites had been used to provide interactive instructional television on a year-round credit basis for undergraduate students living in remote areas."[106]

The advantages of satellite transmission were considered to be the provision of educational services in communities without cable services, and the possibility of providing an interactive service, with one-way video and two-way audio by telephone. Also, according to the evaluation "...satellite delivery appears to be cost effective mode, in that transmission costs do not increase with the distance covered." (Critics of the report note the lack of consideration of the costs of creating programming). The evaluation also notes that "satellite delivery meets the criteria of equity, since any station on the system receives the same signal, at the same cost, as any other....It is clear that there is no prevailing mode that is accessible to all college regions...with the possible exception of satellite telecommunication."[107]

One reason that satellite technology offered new possibilities was the hope of the government that distance education services could somehow be centralized rather than left to the community colleges and universities. The universities and colleges were not developing distance education programs at a rate which suited the government, citing a host of reasons. The report of the Planning Group, while listing the reasons colleges had given for not developing more extensive distance education programs, also expresses the authors' frustrations.

First, it was felt that the colleges were reluctant to develop innovative teaching techniques because they wanted to preserve academic credibility with universities. Then, college faculty were unfamiliar with distance education techniques. The college administrators were also conservative, and the public within the college regions was too. Some colleges claimed there were no clientele for distance education services. Others claimed that budgets were insufficient to develop distance education materials.

Interestingly, the report notes that lack of access to non-print modes of communication is a barrier. Inadequate curriculum development and a lack of appropriate student support services were also cited.

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106. Ruggles, "Learning," p. 36.
107. Distance Education Planning Group, "Report," pp. 85-86.

Other colleges questioned the timing of the demand for distance education, saying they did not wish to divert much needed funding to this purpose. Faculty resistance, and especially fear of central control by government, are noted. Finally, copyright and ownership problems are raised, particularly the rights to material purchased from institutions outside the B.C. system, or from faculty within the system, who often insisted on maintaining copyright.[108]

The College Institute Educators' Association Committee on Distance Education later questioned the "failure" of the colleges to develop distance education programs. Many faculty had been working on directed independent study courses for which they had been unable to get funding. The decision of the Planning Committee to centralize the system was seen by the committee as an entirely political one, serving interests the government was not willing to make public.109

The Distance Education Planning Group, who prepared the report, were clearly not happy with the idea of the decentralized, college-based system proposed earlier by the NDP. The college system was apparently equally unenthusiastic about distance education, particularly since the provincial government was reducing funding to the college system at the same time as it was proposing a distance education service, and failing to support college-initiated distance education services. The result -- the formation of the Open Learning Institute -- is discussed in more detail below.

The success of the satellite projects, at least from the point of view of policy makers, led in the end to the establishing of the Knowledge Network of the West Communications Authority in 1980, whose mandate was to provide an educational telecommunications service to other institutions seeking access to the satellites, and in particular to the Open Learning Institute. KNOW transmitted to ANIK B, and later to ANIK C when it became available. Aside from the satellite service, KNOW created an inter-institutional closed circuit network to join the universities, hospitals and law-courts, and a broadcast service to some post-secondary institutions.

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108. Distance Education Planning Group, "Report," pp. 88-92.
109. Committee on Distance Education, "Report," p. 2.

Provincial and Federal Government Jurisdictional Wrangles

Provincial governments played an insignificant role in the early history of broadcasting, mainly because the federal government retained tight control over its constitutional jurisdiction. Manitoba put CKY on the air in 1923, and the University of Alberta's CKUA began broadcasting in 1927, but these ventures were ignored by federal regulatory agencies until the sixties, when Ontario began to lobby for a license for a provincial educational television station. The government responded in 1967 with the *Canadian Educational Broadcasting Act,* but the Act died after strenuous provincial objections were raised to federal interference in education, a provincial responsibility. The matter was resolved, for the short term, when the federal and provincial governments agreed in 1969 to a definition of educational broadcasting:

> programming...to provide a continuity of learning opportunity aimed at the acquisition or improvement of knowledge or the enlargement of understanding of members of the audience.[110]

They agreed, as well, that cabinet would direct the CRTC to ensure that one cable channel was reserved, in every province which requested it, for educational television provided by a provincial authority. As a result of the agreement, TVOntario and the Access Network in Alberta began broadcasting in 1970, and Radio-Quebec and CKUA's (now run by the Access network) operations were regularized. In 1972, the provinces and federal government agreed that the provinces could broadcast anything which fell within the definition above, but that provincial broadcasters must be licensed by the CRTC. The Clyne Committee, recognizing in 1979 that the provinces were broadcasting almost anything within the definition, recommended to the CRTC that it simply license provincial broadcasters and let them determine what they carried.

In B.C., during the period of the NDP government between 1972 and 1975, a report was commissioned which recommended, among other things, that a provincial communications network be established, only part of which would be

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110. Canada. Federal Cabinet. "Direction to the Canadian Radio-Television Commission re reservation of cable channels," Statutory Orders and Regulations 70-113, *Canada Gazette*, part 2 (April 8, 1980) 381-382; in *Documents of Canadian Broadcasting*, ed. by Roger Bird (Ottawa: Carleton University, 1988) pp. 421-422.

dedicated to educational purposes. *A Proposal to Establish an Integrated Communications System in British Columbia,* submitted by Barrie Clark, a former radio hotliner and liberal MLA, was regarded by many as a statement of the Barrett government's intentions with respect to communications.[111]

It recommended that an integrated provincial communication system be established, and that all existing private and commercial facilities be required to "integrate." The NDP had established a Ministry of Transport and Communications under Robert Strachan, and Clarke had been directed to examine how cable and satellite technology could be used to provide education services. He was particularly directed to look at the "University of the Air", as the Open University had initially been known. The report actually says little about education, but a great deal about regaining some provincial control over communications, criticizing the CRTC for a failure to meet provincial needs.

The B.C. government under Social Credit refused any federal involvement in what it saw as an educational undertaking, and the Knowledge Network of the West, created by the provincial cabinet in 1980, has never applied for a license. (They are currently considering an application, as they want access to the development and production funds available from federal agencies.) KNOW was funded by the provincial government not as an educational institution, but as a distribution network for programs produced by other educational institutions. According to the *Report of the Task Force on Broadcasting Policy*,

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111. Barrie Clarke, *The British Columbia Communications Authority: A Proposal to Establish an Integrated Communications System in British Columbia* (Victoria, BC: Department of Transport and Communications, 1974). News coverage of the report and a subsequent exchange between the federal and provincial government included:
Bill Bachop, "BC gov't asks to run television Channel 10", *Vancouver Sun,* January 15, 1975 (page unavailable)
"Non-commercial Use of Channel 10 Asked", *Vancouver Sun,*
January 22, 1975 (page unavailable)
"Gov't Wants Use of TV Channel 10", *Vancouver Sun,* October 23, 1974 (page unavailable)
Scott Macrae, "Gov't bid for educational TV channel new competition for last opening", *Vancouver Sun,* October 24, 1974, p. A8.
Allan Fotheringham, "Allan Fotheringham", *Vancouver Sun,* June 24, 1974 (page unavailable)
Allan Fotheringham, "Allan Fotheringham", *Vancouver Sun,* August 30, 1974 (page unavailable)
"Report Favours Provincial System: BC Jurisdiction Over Airwaves Proposed", *Vancouver Sun,* July 17, 1974, p. A14.
Marjorie Nichols, "Marjorie Nichols" (continuation entitled "Courage of Barrett's convictions shown by NDP rentalsman Clarke", Vancouver Sun, *Vancouver Sun,* July 17, 1974 (page unavailable)
Roy Sheilds, "It's TV to learn by...if TV can Barrett", *The Province,* July 26, 1974, (page unavailable)

the B.C. government did not consider KNOW to be a broadcasting service, but rather a telecommunications service, despite the fact that its distribution structure was similar to that of the Access Network, which was licensed.[112] The Knowledge Network currently delivers educational programming via Anik C. The distribution network includes community cable television, low power community re-broadcast transmitters and direct broadcast earth receiving terminals.[113]

The Open Learning Agency

The Open Learning Institute and the Knowledge Network of the West Communications Authority were amalgamated in 1988, combining the degree granting authority of OLI with the communications capacities of KNOW. As early as 1982, two years after KNOW was formed, Dr. Hardwick was talking about the terms of amalgamation, and the merger was finally accomplished, though the two organizations retain separate identities to a some extent. The resulting organization looks much more like the one which the Distance Education Planning Group, which had included Dr. Hardwick, had originally imagined.

The structure of the new institution reflects its history. OLA is managed by a Board, the members of which are appointed by the Minister of Advanced Education, Training and Technology. The president of OLA (currently Dr. Glen Farrell) oversees four divisions -- the Knowledge Network, the Open University, the Open College, and Administration. The KN, Open University and Open College are each advised by Planning Councils, which consist of representatives from relevant interest groups.

The Knowledge Network Council consists of continuing education representatives and independent producers; the Open University council consists of representatives from the major universities; the Open College council consists of representatives from the college system. Each planning council employs a research officer.

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112. *Report of the Task Force on Broadcasting Policy* (Canada: Ministry of Supply and Services, 1986) p. 339.

113. J. Murry Richmond, *Educational Applications of Communications Satellites in Canada,* New Technologies in Education Series (Toronto:TVOntario, 1984) p. 31.

The role of the planning councils is to plan programming. The Open College and Open University generally try to fill the gaps in programming left after other institutions have contributed courses. Institutions creating courses usually do all of the production themselves, although KN will provide studios for live programming, and will provide the audio bridge for teleconferencing. The Open College and Open University are programmers in their own right, using the facilities of KN.

The contributions of the Open College and Open University to KN programming are beginning to grow, but both OU and OC are still primarily print-based. When the Open College does use television, the programs are generally acquired from elsewhere. Because television is so costly to produce (at least the kind of television which KN wants), and the student population in B.C. is so low, programming purchased from elsewhere is cheaper than locally produced products. Like the world of commercial broadcasting, the world of educational broadcasting is dominated by programming produced outside the region where students live, and often outside the country. Forty-three percent of the programming on KN is Canadian, with many programs coming from other educational broadcasting centres.[114]

The acquisition of programming from elsewhere is not perceived to be a major problem at KN, although the organization is pressing for funds to produce more local programming.

Betty Mitchell, telecommunications director at KN, describes the acquisition process for television programming as "tiered":

> The acquisition of programming is not a problem -- colleges serve a region, universities a province. Distance education serves the world. Things are adapted, altered, to suit local needs. The tiering system of acquisition involves acquiring most, adapting some, developing some.[115]

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114. Open Learning Agency, *Quick Facts Annual Report, 1989-1990*, p. 19
115. Betty Mitchell, Telecommunications Director, Open Learning Agency, personal interview, June 4, 1990.

Some telecourses are purchased from private institutions or industry; some come from other educational jurisdictions such as the Open University in England or the Coast Colleges Consortium of the United States; some come from other Canadian distance education institutions such as Athabasca University; some come from other Canadian educational broadcasters like TVOntario; and some productions are underwritten by sponsors, including publishing companies who publish the textbooks used. Print packages are almost entirely produced by local educational institutions or OLA.

Colleges and universities offer courses via OLA; they may also deliver telecourses (courses offered with a significant television component) offered by OLA, providing tutors and other support systems on their campuses. The Colleges have reacted in various ways to this latter idea, which has been around since OLI was first established. Some sense of the climate of the early discussion on campus is provided by a discussion paper prepared for the Instructional Board of Capilano College, from which the following passage is taken:

> ...if there is a competition between classroom education and distance education it is not competition for enrollments. The majority of students will chose to register for classroom rather than telecourse education. The real competition is for funding. The present government is constructing a provincial distance education framework at the same time as it is restricting funding for traditional classroom education. Sometimes it seems as if the the construction of the former is merely a screen to mask the strangling of the latter...it may be cheaper to pay for the appearance of a province-wide distance education function than adequately fund an entire system of universities and comprehensive community colleges. This temptation will continue to lure any government that sees itself in a financial squeeze.[116]

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116. [Author unknown] *Should Capilano College Support the Delivery of Credit Telecourses?* Discussion paper prepared for the Instructional Board of Capilano College, January, 1985, p. 10.

The suspicion that the government had ulterior motives in founding OLI and KNOW has never entirely subsided. The development of OLI and KNOW coincided with the restraint program of the Social Credit government, which saw support for conventional institutions shrink considerably. In the intervening period, the system has enjoyed somewhat more stability, and much of the suspicion has dissipated. OLA has also worked to establish cooperative relationships with other institutions, and to assure them that it is not OLA's goal to replace them. Finally, most colleges and universities have continued to feel the pressure of having more students seek their services than they can accommodate, so initial fears that they would lose students to the new system have abated.

The cost effectiveness of OLA has never been measured, or at least no research appears to be published on the subject.[117] Cost-effectiveness is not easy to measure, for what is included as cost, or gain, is a matter of some interesting debate. An OLA source suggests that the cost per student at OLA is no more than the cost per student at a conventional institution.[118] However, as noted earlier, the small population, fragmented market, language differences, and high production costs make it difficult to ensure that distance education will ever be cost-effective, unless a national institution is created through a national consortium. Even with a national consortium, Canada's population may not be sufficient to create a viable market.[119]

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117. Jocelyn Calvert, "Research in Canadian Distance Education", *Distance Education in Canada*, ed. by Mugridge and Kaufman (London: Croom Helm Ltd., 1986) p. 106. Calvert reports that as of 1986, only one study had been done on the cost-effectiveness of a hypothetical insitution. She also reports that Smith et al (1984) have noted that "...the conparatively high cost of developing distance education materials is offset by low marginal costs for delivery once an optimum number of studetns is reached...they also cautioned that Canada's low population and fragmented educational system mitigate against the economies of scale that could make distance education truly cost effective."

118. Dr. A Bates, Executive Director, Research and International Development, OLA, correspondence, March, 1991.

119. This point is made in several sources, but explained in detail in a report on the instructional technology marketplace written by Jeet Hothi, Technology Policy and Planning Branch, entitled *Use of Information Technology in Information and Training,* prepared for the Department of Communicaton (Canada: Department of Communication, April, 1988)

Trends in Distance Education

Several sources in the literature point to trends in the field of distance education, and it is difficult to distinguish, at times, between prediction and actual movement. The evidence for a trend is rarely cited. Some trends, however, seem to correspond to the experience of people at OLA, and these are discussed below.

The first trend is to "globalization", the term used by Betty Mitchell of the Knowledge Network.[120] She points to the trend to share educational resources across geographic boundaries. This occurs in two ways. First, satellite signals can be picked up over a wide area, and are not restricted to a particular region. Institutions can no longer count on being the only alternative in a region, and political boundaries mean little. Secondly, and perhaps more importantly, distance education institutions are sharing programming, usually through sales of programming, creating in any one place a mixture of programming drawn from several sources. Doug Shales points to this as one of the unintentional, but significant, innovations of distance education institutions.[121]

A consequence of the dissolution of geographic boundaries is that people may take courses from any distance education institution, and may seek the educational materials which yield the best result for their investment. One valuable feature of distance education, for example, is that it can "narrowcast", teaching small groups of people, widely dispersed, a highly specialized curriculum which would be unavailable within their region or even country.

The second trend to note is the increasing emphasis within higher education in Canada to define the purpose of education as "meeting the needs of industry". Within B.C., the college system has had its purpose redefined to the extent that vocational and career programming has been shaped to meet particular employer specifications; new program applications to the Ministry must assure

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120. Betty Mitchell, Director of Telecommunications, Knowledge network, personal interview, July 4, 1990.
121. Doug Shales, "Innovation in Higher Education", *Journal of Distance Education*. Vol. 2, No. 1 (Spring, 1987) p. 21.

officials that students are immediately employable. There is a good deal less interest expressed in the academic quality of the programs, at least in terms of their broader social purposes. The same trend is noted by many in the universities, where increasing emphasis is placed on the practical and the immediately useful. In the distance education context, meeting the needs of employers and students for employment-related education has become the primary function.[122]

A third trend is the entrepreneurial nature of the production of educational "products". With the shift to learning systems, and the fragmentation and re-packaging of teaching, components of a learning system may come from anywhere. Industry now uses distance education training programs to teach employees the particular skills which a particular industry requires, particularly in the United States, and these programs are finding their way into the public system. This phenomenon has been referred to the "deregulation of the education industry".[123]

Private sector involvement is contributing, to a significant extent, to the evolution of distance education systems (and conventional systems as well). According to Glen Farrell (currently president of OLA) and Margaret Haughey,

> Private sector initiatives are another major force contributing to the development of open learning systems. There are billion of dollars spent annually by the private sector on education and training activities for its employees. As these organizations increasingly use more open and self-directed learning strategies to meet these needs, they have realized that the learning materials developed have external market opportunities. As a consequence, we have seen in recent years some major initiatives to make these materials available through sophisticated marketing strategies. Indeed, some companies have developed specialized components to develop and market educational materials as an integral part of their corporate activity.[124]

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122. See the Open Learning Agency 1991-94 Strategic Plan, p. 5.
123. Betty Mitchell, Director of Telecommunications, Knowledge Network, personal interview, July 4, 1990.
124. Glen Farrell and Margaret Haughey, "The Future of Open Learning: Overview," *Distance Education in Canada*. p. 32

Indeed, some American corporations have established their own universities and grant their own degrees, usually in high technology areas.[125] The public sector is attempting to compete with private sector organizations, and with public sector distance education organizations, and make money at the same time. Several large American universities have created distance education divisions to market to students abroad, and students anywhere in the world may now acquire a degree from a prestigious American university, provided they can pay for it.

A fourth trend is to increasing government support for distance education worldwide.[126] The reasons for this expansion are usually cited as cost-effectiveness and increased access.[127] With increased investment comes experimentation with a new generation of media which can provide the interaction which was never really a feature of television, despite early hopes. Interaction is seen to be an important goal, both because it improves the quality of the learning experience, and because the lack of it is understood to be the cause for the poor completion rates in some distance education offerings. Dropout rates range from 40 to 90 percent.[128] (OLA's completion rates compare favorably, in many areas, with the rates of colleges and universities). Computer, tele- and video conferencing are the most promising of these new media.

A final trend is the appearance in the literature on distance education of discussions of using distance education materials back on the traditional campus. Some of the learning systems created for self-guided study are very well produced, with large investments of capital in design. Perry notes that Open University materials are being used in colleges in England, often without any significant amendment. Betty Mitchell of the Knowledge Network commented that in areas where teacher shortages exist in the elementary and secondary system, packages prepared by private firms for self-study are being purchased.

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125. Karen E. Watkins, "Business and Industry," *Handbook of Adult and Continuing Education,* ed. by Merriam and Cunningham (San Francisco: Jossey-Bass, 1989) p. 432.
126. Kate Seaborn and Arlene Zuckernick, "Course Design and Development," *Distance Education in Canada,* p. 47.
127. For example, see Glen Farrell, p. 32.
128. D. Randy Garrison, "Distance Education,"*Handbook of Continuing and Adult Education,* ed. by Merriam and Cunningham (San Francisco: Jossey-Bass, 1989) p. 224.

In the final chapter of this thesis, I consider the history of OLA from the perspective of Innis's theories on the nature of technological change, bias, monopoly and rigidity. I also consider the nature of the emerging monopoly in terms of key defining features which Innis suggested -- the redistribution of power, shifts in the character of knowledge, and access to literacy.

Chapter Four: Teaching in the Age of Electronic Reproduction

Innis and the History of OLA

Innis understood the history of the Western civilization to be punctuated by shifts in the dominant medium of communication. Change in the dominant medium came about, he argued, either because change served the interests of the powerful, or because those seeking power could turn a new medium to their ends. Each medium biases communication in many ways, with the most fundamental bias being the orientation of users to space and time.

The oral tradition, as Innis understood it, encourages a preoccupation with the heritage of the group, with tradition and with the lessons of history. It permits users to see themselves as part of a historical process, and makes possible a long term perspective on social problems. Oral cultures are not concerned with the conquering of space, for the medium does not permit the administration of large territories. Other media, such as print and television, make possible and encourage the expansion of the culture over space. Messages are portable, and survive transmission over long distances. With an orientation to space comes a preoccupation with the immediate concerns of administration, and with territorial expansion. An examination of OLA's history represents an opportunity to examine an institution which has largely abandoned the oral tradition.

The conventional universities, with traditions and productive processes formed primarily by the necessity of face-to-face interaction, have, like the monasteries of medieval Europe, a limited geographic scope. They exist to serve defined geographic areas. In the case of B.C. colleges, the region served is very small. The structure assumes that students will come to the university, not the other way around. Although students may travel long distances to study with particular scholars or take particular programs at the graduate level, the typical undergraduate student is born within the province where he or she attends university. Even where universities exist which attract students from beyond the

local region, the students come to the university; the university does not extend its offerings to the student.

The oral tradition within the universities has also created a decentralized governance system for universities. Each university has its own government, and hiring, promotion, research and other decisions central to the institution are made locally. Each academic community has its own traditions. Anyone who has attended more than one university is aware of how differently things are done from one to another. This, in turn, has created problems in transferring from one institution to another, for each jealously gaurds the variations in curriculum and program requirements developed locally. Despite the problems posed for students, however, the decentralized structure of post-secondary education has been an important factor in the preservation of a healthy diversity in the system, and a lively scholarly community. Each institution offers new possibilities for scholarly work, and supports its own academic community.

This decentralization at the governance level, combined with the centralization of scholars and learners within the universities, has run counter to trends in the society which surrounds the universities. The numbers of people who need an education are increasing because of the demands of employers for higher and higher levels of training, and the demands of students for access. Students, like the rest of the population, are increasingly mobile, and move frequently from area to area, institution to institution. They need access to the education system for most of their working lives, and need to be able to gain some credit for work they've done in each institution. The rigidity of the traditional system, with each institution preserving its own system of accreditation and denying the validity to a large extent of others, has marginalized such students, or denied them the opportunity to get an education at all.

Students have also been left, in many cases, without any access to a post-secondary institution at all. Older students, tied to their communities by families and jobs, cannot travel to take university courses. Other students are tied to schedules which make taking courses very difficult, or may be physically unable to attend courses on campus because they are institutionalized or disabled. Still others wish to work at a different pace than university courses permit. Participation in the oral tradition of the conventional university, has, for many, become a luxury they can't afford.

Distance education systems reverse the space/time dynamics of the education system. Print and television permit the distribution of information on a global scale, and also permit vastly increased centralization of governance. Learning is decentralized, accreditation and transfer centralized. Employment opportunities for scholars are concentrated at the centre, while employment possibilities are lost at the periphery. While the benefits to students of increased access to courses and credits are clear, these advantages have to be weighed against the other side of the dynamic -- the centralization of governance, and the transformed structure of the institution. Centralization and transformed institutional structure are not necessarily problematic, but are accompanied by shifts in purpose in goals, and these shifts need to be examined to ensure that they are appropriate and desirable.

Innis's theories on the nature of technological change are consistent with the changes which led to the formation of OLA. Innis argued that new media, or new uses of existing media, would only be developed if these media served the interests of an existing form of political power, or an ascendent one. Change, said Innis, would come from the margins of society, from those groups excluded by or less dominated by existing monopolies of knowledge. In the case of OLA, the development of the new technologies came about as a result of the marginalization of particular groups in society, and by the compatibility of the new uses of the existing technologies with the interests of those with political power.

Government, facing political pressure from the public for increased training and skill development, and from employers for more training funded from the public purse, found the decentralized structure of the post-secondary system inefficient. When an opportunity arose to centralize the newest part of the system, they did so. The federal government, hoping to stimulate an infant space industry, sought applications for satellite systems within the education system. Political pressure and economic motives shaped the system as it developed, opening some possibilities and closing others.

Innis argued that the system of knowledge which develops after a shift in the dominant medium of communication is biased by a combination of the inherent tendency of the medium to organize experience in certain ways, and by the social organization which is a product of the medium. Williams argued that

although people experience different media in different ways, and that different media have inherent possibilities and limitations, the central question about the character of knowledge which develops after a shift is one about how the technology is organized, how it is employed. Television is not necessarily problematic, for example, but is only so if it is used to sell us things we don't need. For Innis, no use of television within the university or to extend education beyond its walls would be acceptable. Does the history of OLA provide any insight into the question of technological determinism?

Print lends itself to the development of linear, logical thought, rather than the circular and cumulative patterns of oral communication. Television is a visual medium, relying heavily on images to convey ideas. Each requires a different literacy, and is "sensed" in a different way. All of these media convey the same ideas differently, but more to the point, are each best suited to conveying particular kinds of ideas. The subject would require another thesis, or perhaps several. What can be observed is something Innis and Williams would agree on -- the pattern of development of a technology is the product of a particular set of social and economic conditions. Thus technologies are reflections of the cultures they exist in, embodiments of trends and ways of understanding the world, extensions of what already exists.

From this perspective, the development of distance education in B.C. suggests that the emphasis in education at present is on centralization of administration, economy of scale, and decentralization of reception, a model which exists already, of course, in the organization of the mass media. Other models exist in society for the organization of technology -- the telephone and facsimile machine are point to point, for example, as the computer and computer/television convergence may turn out to be. Nor does distance education have to be organized in such a way that the structures of the conventional university are abandoned. Other institutions which teach primarily at a distance have maintained a more conventional structure (the Open University in the United Kingdom, for example). That these possibilities were not considered at the time has more to do with political and economic realities than with the inherent capacities of the media, or their state of development. The inherent capacities of the media are crucial in one sense, however -- they permit the abandonment of the conventional structure.

Interactive technologies are reshaping the face of education again. Will they follow the lead established with print and television, or will new demands and understandings of the nature of education encourage an entirely new system to evolve?

In the following section, I consider whether or not OLA corresponds to what Innis considered a monopoly, and how some of the characteristics of a monopoly can assist us in isolating the most important axis of change in a shift from one medium of communication to another.

Innis pointed to some of the defining characteristics of a monopoly -- control of the means of production, of the means of distribution, of the definition of knowledge. Monopolies could co-exist; the term was not meant to imply that with the rise of one came the necessary diminishment of the other. He argued, in fact, that a multiplicity of monopolies would help to assure freedom of thought.

In every society, however, some media are dominant, and form the communication system through which most people get most of their information, their values, and their ways of understanding the world. In modern society, the mass media play this role. Innis argued that because the mass media are spatially biased, the oral tradition of the university should be preserved to ensure that alternative perspectives remain available. He argued against the excessive use of print, as well as the use of television and radio. He also argued for the virtues of the oral tradition in its own right, not merely as an alternative to the mass media. The tradition, he believed, was the best medium for conveying certain kinds of ideas, and for supporting the kind of organization which could produce these ideas.

OLA can be understood as an emerging monopoly, a monopoly which does not immediately threaten the existing monopolies of the conventional universities. Yet, there is a sense in which a threat exists -- not immediately for enrollments, or for funds, but for a vision of the nature of education and what purposes it serves. Innis suggested that culture both creates and is created by technological change; our vision of the world governs how technologies are developed, and once developed, these technologies reinforce the same tendencies. In the course of the following discussion, where each dimension of monopoly is considered, we see some fundamental traditional understandings

of the nature and purpose of the university challenged. In the long term, these new values and assumptions may well effect profound changes.

The Process of Production

The differences between the traditional university and the distance education institution are perhaps no where more evident than in the physical plant. A stroll around the Open Learning Agency (rather difficult to actually accomplish, for KN and OLA occupy different facilities. They will move into a new facility together in 1992.) reveals production facilities for print, audio-conferencing, and television, a sophisticated warehousing operation, and administrative offices. The library is oriented to distance education literature. Neither the teachers nor the students are present. While the activities of the traditional institution are everywhere evident on a typical campus, the activities of OLA mostly happen somewhere else -- the course writing done by an individual in one place, the learning done by an individual in another.

The physical plants of the two kinds of institution reflect the productive activities each is engaged in. While the traditional university produces teaching and research, both of which are most accurately described as processes, the distance education facility produces learning systems, most accurately described as things. The things produced are designed to teach, to engage the student in a process of learning, but the process occurs primarily between student and thing, not student and teacher. It might be argued that an excessive reliance on print has produced a similar situation in the conventional university, especially given the sometimes poor quality of teaching, but it is still assumed by both students and teachers that the classroom is an important learning environment. The focus on the production of products has lead one prominent writer on education to call distance education the first industrial form of education[129], and another to note that "...distance education operations usually need to be highly centralized and require much more directive style, analogous to that needed to operate say a high technology factory."[130]

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129. O. Peters, "Theoretical Aspects of Correspondence Instruction," O. McKenzie and E.L. Christensen, eds., *The Changing World of Correspondence Study*. University Park: Pennsylvania University Press, 1971, cited in Doug Shales, "Innovation in Higher Education,"*Journal of Distance Education*, Vol. 2, No. 1 (Spring, 1987) p. 13.

130. W.A.S.Smith, John S. Daniel, and Barry L. Snowden, "University Distance Education in Canada." *Canadian Journal of Higher Education*, Vol. XIV-2, No. 14, 1984, p. 79.

The purposes of an institution generally suggest the nature of key productive processes, and vice versa. The purposes of post-secondary education, as explained earlier, seem to be many, and ill-defined. Innis suggests that the purpose of a university (he does not discuss other possible post-secondary institutions) should be the creation of new knowledge, and the training of character. Modern post-secondary institutions are required to do far more than this, yet these two purposes seem central, and it is these two which I consider in this chapter, accepting Innis's definition of these two purposes without necessarily accepting his contention that no employment preparation of a more specific kind belongs within the university. Clearly, employment preparation must be done; I leave open the question of who should do it. Since employment preparation has become a preoccupation of government, the purposes Innis argues for are less prominent in discussions of education than they might be.

The following description of the traditional university, drawn from a recent article by Doug Shale, is consistent with the definition which Innis offered:

> The standard characterization of a university is that it has a teaching role, a research role, and a public service role. What differentiates a university...is its commitment through research to the discovery of "new knowledge" and new understandings -- and it upon this new knowledge and these new understandings that the universities' teaching is to be based. The instruments of this pursuit of "truth" are the academic faculty. The quality of a university is manifested largely through the quality of the endeavors of the academic staff. Students become educated in the liberal tradition through an exposure to and involvement in this process. They begin by acquiring a knowledge base, and in the process they simulate the systematic, scholarly inquiry that is the defining essence of a university. Ideally, as time goes by the students become more faculty-like in that they become self-directed and pursue lines of systematic inquiry by themselves. All of this is to say that universities are defined essentially by the education *process* that is followed -- rather than by some

> specifiable or quasi-specifiable product (such as, for example, "amount learned").[131]

This definition serves to highlight the central functions of a university, though not all universities, perhaps no universities, conform entirely to the ideal. The three purposes suggested -- teaching, research, and public service -- all correspond to productive processes which shape the institution, with teaching and research forming the basis for public service.

The productive processes of the university assume the oral tradition. (That is, the assumptions which create the structures, physical and organizational, include the assumption that teachers and studetns require face-to--face interaction. Whether much actually occurs is another question.) Face-to-face encounters between student and teacher are still understood to be a necessary part of education. A typical university campus contains classrooms, faculty offices, research facilities, theatres, libraries, cafeterias and various other provisions for a community of people who spend significant amounts of time together. Although in many ways print, and large "mass" lectures, have undermined the original debating tradition of Canadian universities, evidence of a strong oral tradition remain in the form of classroom discussions, seminars, and defenses of theses and dissertations. The productive processes of the distance education institution, however, assume the absence of face-to-face interaction, while assuming that interaction will occur in another form.

There are several issues which need to be examined in relation to this shift in the production process. First, who controls the production and distribution process? How are the relationships within the academic community changed? Second, is the nature of the process changed? Third, does the shift create a shift in the character of knowledge? Who is now in a position to define what knowledge is? Finally, what dangers, and what opportunities, does the new organization pose for the creation of a democratic culture, assuming this to be dependent on people with good critical reasoning skills, and on the production of independent research within the university? These matters are discussed in subsequent sections.

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131. Doug Shales, "Innovation in Higher Education," *Journal of Distance Education,* Vol. 2, No. 1 (Spring, 1987) p. 12.

Control of the Production and Distribution Process

The productive activities of OLA are basically course design and distribution, otherwise known as the creation of learning systems. The consumption stage is left aside here, as it was in the discussion of the conventional university. There are three stages in the production process-- the creative stage, wherein courses are developed and written, the production phase where the design is translated into actual materials, and the distribution phase, where the materials are mailed or broadcast (or, less often, telephoned or sent via computer.)

There are several significant shifts to mark initially. First, the emphasis in the traditional institution is on the development of new knowledge, a knowledge which is expected to inform teaching. This is not an emphasis at OLA. OLA is designed to facilitate learning on the part of students, not faculty.

No research facility is provided at OLA; no permanent faculty are employed. Research which is done at the administrative level generally deals with the field of distance education. The infrastructure for research is absent -- there is no research library, no funding for discipline-based conferences, no discipline-based journals, no guest faculty, and so on. While scholars do short-term work at OLA, it is generally work done in addition to work done at some other post-secondary institution, and this other institution is carrying all the costs of the research infrastructure.

This does not mean, of course, that no creation of new knowledge is occurring. The design of learning systems is a very demanding process, requiring considerable ingenuity and time. Often valuable new knowledge is discovered within this process. This creative process, however, is of a different order from the process of doing what is usually defined as scholarly research. One purpose of the conventional institution -- the creation of new knowledge through research, is not met.

The shift in the production process also shifts control over content, and over distribution. The structure of the work is different, and where in conventional institution the same person controls course creation and course distribution, these tasks are often divided into several tasks done by several people.

The students in the distance course are not present, nor will the teacher ever meet them in the ordinary course of affairs. The role of the teacher is played by television programs or books or packages of print materials. The creation process involves designing things for students to use which will stimulate their imaginations, and encourage them to learn on their own. Because so much thought and effort are required to do this, people with specialized skills in curriculum design usually participate. The packages and programs produced are often very impressive, for they reflect, far more than the typical equivalent course on campus, a concern with anticipating and responding to the learner. It must also be noted that the work of teaching, be it in the form of course design in the distance education institution or the conventional one, requires a form of scholarly activity which is no less valuable for the fact that it is not yet adquately recognised within the realm of activities normally considered "scholarly research".

Because academics are usually trained only in the oral and scholarly print traditions, they must design print or television-based courses in conjunction with a specialist in educational technology, or an editor, or a course designer, or a producer, or some combination of all of these. The terminology differs from place to place and institution to institution. The media literacies which academics bring into the new teaching context are valuable, but literacy experts in new media, or new forms, are needed to assist them.

This has some implications for control of production, for producers, in this case academics, must acknowledge production values in media they are not able to produce in. In television, particularly, they are dependent on the literacy skills of others, namely television producers. The visual literacy of television, its demand for an entirely different form of composition, expands undoubtedly offers an opportunity for the tradtionally trained academic to explore a new medium, but it is the rare academic who is familiar enough with the complex technologies and production values of television to produce independently.

Course creation requires the participation of others; so does distribution. In the case of print, the package must be published and warehoused for distribution. OLA has a very sophisticated publishing and warehousing system. If other media are involved, then they must be produced, and in some cases, reproduced for distribution. Several people are employed in this stage.

Tutors help the students learn the materials they are given. Someone else may be responsible for grading papers and examinations. At OLA, the tutor is sometimes also the course writer and the grader. Someone else edits the material and someone else may illustrate it. While the final product may be very unified, it is certainly not usually the product of one imagination in the sense a traditional course is. The traditional course is usually taught using a textbook or readings, and in this sense is not entirely the product of a single person, but the day-to-day teaching unites all the production processes. In univerisites where tutors or teaching assistants are used as graders and discussion leaders, some comparable specialization occurs.

Finally, the print and video and audio packages are mailed; television programs are shown on the cable system. All three stages would be accomplished by one person in a university -- creation, production, and distribution -- assuming of course that the teacher is using his or her own work as the basis for the course and not teaching from a textbook. It is in this sense that teaching is dismembered and reconstituted. What is in the conventional institution a process involving one person is now a process involving several, each with a specialized function.

This may often produce a better course than one person could produce. On the other hand, the opportunities for simply losing control of the content, for having no real sense of how students respond it, are multiplied -- they do not witness the process the way they do in the classroom, they do not respond immediately to the author, permitting the automatic and immediate feedback available to the author in the classroom. In the classroom, a teacher generally knows immediately if an approach does not work, if the material is not getting across.

The Role of Scholars and Scholarship

Along with a shift in purposes, a shift in technology is usually accompanied by a shift in the kind of work that is done, and who does it. Some of these shifts are outlined above. The focus here is on the changed role of the scholar as a participant in a larger academic community.

Generally, scholars in Canada go to work every day prepared to do three kinds of things. First, they are generally required to teach. Second, they are required

to publish a reasonable amount of research over the years of their employment. Third, they are required to carry an administrative load, for the protections they enjoy come at the price of making decisions, and decisions require administrative work.

The role of the faculty member hired on a short-term contract to write a course for OLA must prepare for quite a different kind of day. Although his or her research work may have brought the scholar to the attention of OLA administrators, research work is neither expected nor supported at OLA. Nor is the task at hand teaching, in the traditional sense, for this has been replaced by the production of learning systems. Administrative work is not required either, for the scholar hired to write a course plays little or no role in the institution beyond the particular course being written.

The role of the scholar is diminished in many ways in this system. Decisions about accreditation, curriculum, hiring, promotion -- the whole elaborate protection of a monopoly of knowledge within the university -- is altered. While representatives of the conventional universities are involved in accreditation, and course writers have control over content, this represents less involvement than is typical at a conventional institution, where the proposal of a new course or a request for accreditation is likely to occasion considerable debate within a department. With the alteration in how such decisions are made goes immediate control of the definition of knowledge, for this ultimately hinges on being able to identify who a credible scholar is and who is not, what is a credible course and what is not.

The power to make such determinations has shifted from the department level within the conventional institution to the Academic Council at OLA. Although the Council has representation from the conventional universities, and decisions made appear often to rely on consultations with departments at conventional institutions, courses are not reviewed by a "community of peers" as they would be in a properly functioning conventional department. The point is not that the resulting courses are necessarily any better or worse than those offered by conventional institutions, but simply that the power of decsion-making has shifted. At some institutions, a scholarly community has been created; the lack of one is not a necessary feature of the shift in technologies. It is true, however, that the shift in technologies makes it possible to do without one, for a

teacher anywhere can be drawn on for course material, and it is not necessary to have an in-house staff.

One must also consider the mechanisms in place at OLA to preserve and foster academic freedom. There are two structural barriers to academic freedom as it is understood in the traditional institution. There, academic freedom means the freedom to teach what one believes, although of course the title of the course is not open to change without department approval. One can, however, teach freely within this constraint, provided students don't rebel or colleagues accuse one of gross incompetence.

The first barrier is connected to the lack of individual authorship. A course is designed by a team, and the ability of any one member to have free rein over content and presentation is automatically limited to varying degrees by this fact. A second limitation is that the course is a public document or program, available for perusal by politicians, other academics, future employers, and anyone else who cares to look. The privacy of the classroom is gone, along with its freedom to challenge and discuss. The writer or producer is rare who will deliberately raise controversial issues in such a forum, or make anything but very carefully qualified statements. While the result may be free of the bias of an individual teacher, it is also free of the challenge often put to students to find the errors and refute the arguments, to experiment with ideas.

The same problems arises at the level of the whole institution. Programming decisions must be made without any reference to a tradition of academic freedom, for such a tradition does not yet exist in the distance education system. If OLA decides to air a controversial program, for example, which is very critical of the government's policies or raises topics the government does not wish publicly discussed, the institution runs a strong risk of losing funding as a result.

People in conventional institutions are not really free to say anything they want either, of course, but they do enjoy some measure of protection from political tampering. OLA enjoys an arms-length relationship from government, which is a start, but the notion of academic freedom really needs to be redefined in this new context, and some principles developed to protect it. Without it, the tendency will always be to prefer the safe over the controversial.

Another shift in role comes about as a result of the redefinition of teaching. One point of view is represented in the following passage, drawn from an article in a distance education journal:

> The use of sophisticated educational technology also changes the role that the instructor must take with respect to the student. In many cases, the instructor ceases to be master of the content and must become the guide, mentor and catalyst to aid the student's journey through a pre-structured or open-ended learning experience. It is this change that seems to be the most difficult for teachers to accept. Understandably, teachers enjoy the `delivery' aspects of classroom teaching, the class discussion, the lecture where considerable personal satisfaction can be experienced. Although distance education changes this role it certainly does not eliminate the scope for personal satisfaction on the part of the instructor. However, the challenge to promote learning is possibly much more difficult but potentially more rewarding. As John Holt says ..."It must always be the first and central task of any teacher to help the student become independent of him, to learn to be his own teacher. The true teacher must always be trying to work himself out of a job." [132]

It is suggested that the reason teachers might not like to tutor rather than teach is that tutoring is harder work. In fact, it permits minimal independent intellectual authorship, and offers little scope for individuality. The irony is that teachers are being berated for their lack of creativity. The tutor, unless he or she is also the author, does only a fragment of what a teacher does within a conventional institution.

There are creative possibilities with tutoring which do not exist with teaching, such as the greater involvement which is possible with individual students, but the fact is that the teacher in this new role may be helping the student understand someone else's vision of the truth, not the teacher's own. Both teacher and student are often working with the "truth" of another, absent party.

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132. Kathleen Forsythe (Knowledge Network of the West), "The Human Interface: Teachers in the New Age," *Programmed Learning and Educational Technology,* Vol. 20, No. 3, August, 1983, p 163

Challenging printed material or a television set to account for itself, to answer a question about motive or rationale or logic or origins is, as Plato pointed out, like challenging a painting. There can be no response.[133]

The role of the teacher need not change so much -- it is not required by the technology. A permanent academic staff could combine the course creation and tutoring functions, and the person who designs the course could also be evaluating the work of students. In courses currently running at OLA, many authors are also tutors for the same course. Again, the technology makes possible these divisions of function, it does not require them.

Tutors at OLA, like course writers, are very often also employees of other post-secondary institutions. Their employment ends when the course ends, and they form a pool in the academic community of part-time, unorganized workers. While OLA provides support for them in their role as tutor, there is no support for creative activity, research, or discipline-based professional development. All this, again, is left to the traditional institutions. They also employ a pool of temporary workers, usually graduate students, but these workers do have some rights within the organization, are usually unionized, and are represented where decisions are made.

Distance education, open learning, and non-formal education will be part of the future. The population is aging, and more rather than fewer older adults will require educational services. Distance education initiatives are mushrooming world-wide, both in the public and private sectors. Where distance education institutions do employ faculty on terms similar to those offered faculty elsewhere, they don't require as many to do the work. Courses can be shared between institutions and used over long periods of time. While students may prefer the traditional system, the costs of leaving home to attend a university are becoming very high, even if the first two years are taken at a community college. Many students, as pointed out elsewhere, study OLA courses even though they live within travelling distance of a traditional institution.

The structure of post-secondary education is being altered by new expectations of the system, by new technologies, and a new economy. The transformations

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133. Plato, *Phaedrus*, pp. 520-524

in the system which result need to be considered not just from the perspective of how well information can be conveyed to large numbers of people, but also from the perspective of what will happen to the organization of the traditional university and the definition of its purposes.

The Role of Students

The status of the students is also changed at OLA. The student plays virtually no role in the governance of the institution, the setting of policies, or the provision of services to other students. Without the community of the traditional university, this interaction with the institution is difficult to provide. Traditional student activities like newspapers, clubs, student government, participation at the Senate level, unions, and so on are difficult to sustain. Again, where distance education institutions have an on-campus academic community, students may play a larger role. The central difficulty is the inability of students to communicate easily with one another.

The ability of a group to defend its interests politically depends on, among other things, its ability to communicate its interests, both within and outside the group. With each student isolated in his or her home or workplace, the organization of distance education students is rendered virtually impossible, for the discussion of common issues cannot occur. The student in this situation has little stake in, or influence in, the institution. Here again, the existence of genuinely interactive technologies would make a big difference. A community can only be a community if every participant can talk to every other participant with ease. As so many writers in communication studies have pointed out, the the mass media provide information, but provide no vehicle for debating it within a community of interest.

The Senate, where student, faculty, and administrative interests are generally negotiated, is absent in the OLA structure, although the planning councils do create a forum for negotiation among representatives of the various post-secondary institutions involved. The Senate sets the direction of the whole university, however, a function no one planning council has. Nor do the planning councils represent the interests of faculty or students, at least in terms of their membership. The role of students in conventional institutions is problematic as well, of course. If the goal is to make them active members, for

some period of their lives, of an academic community, then both forms of institution as they currently stand largely fail to do so.

The Character of Knowledge

A study of the differences at the course level between courses delivered with print and television and those delivered on campus would be very valuable, but the methodology for and questions asked in such a study would be difficult to determine. Student performance on standardized tests, as Innis pointed out, are a very poor measure of what is actually learned beyond bits of information -- the least important thing a student should learn. Such a study is well beyond the scope of this thesis.

The discussion above of the process of production deliberately left off at the point of consumption, at the point where the distance education student receives his or her package of materials and the traditional student sits in the lecture hall. In some respects, this omission disadvantages the distance education model in any comparison, for there is no doubt that well-designed distance education materials produce a guided learning process at the consumption stage which is quite different in some crucial respects than that experienced by the traditional student, yet comparable to it. The course design process is designed to embed in the materials an engagement between the student and the course, an interaction or conversation.

Innis argued that the character of knowledge shifts when new media are introduced, and at the simplest level this is obviously true. As mentioned above, different media are understood differently, consumed differently, used differently by individuals. It is also clear that some provide more easily for the transmission of particular ideas than others, creating a tendency to focus on these ideas rather than those which are more difficult to convey. Finally, we know that different media require different forms of literacy, and thus permit different people to send and receive. This last issue, how control of the definition of knowledge shifts, is partially addressed above in the discussion of the altered role of academics at OLA.

An examination of the process of production tells us something about the character of the product, and it is this very limited and modest analysis

attempted here. An adequate exploration of the consumption stage would go beyond the scope of this work. I consider only some of the shifts in content which are created by the economic constraints imposed by the new media, particularly television; the altered role of the author of the ideas presented; and the consequences of the absence of the *kind* of interactivity offered by the oral tradition.

Television

Television offers some advantages over print alone. The advantage of television is the strong visual and audio messages which can be sent. Another advantage is the creation of a situation which mimics the traditional classroom -- the student can see the teacher. Television, until video conferencing became a possibility, however, was only interactive if linked to an audio-conferencing system, which was not feasible for most programs.

As Walter Perry notes in his book on the Open University, the usefulness of television was initially largely accepted "on faith", for there was then no research which established its effectiveness as a distance teaching medium.[134] Its distributive advantages were obvious, but its educative advantages were left to be discovered. The distributive advantages were seen to be, however, both in England and Canada, so important as to warrant heavy investments of government funds.

The use of television in distance education is controversial. It has its supporters, however, among those who see a way of reaching many people at once, and also those point to the fact that the best scholars and the most useful images can be presented, an advantage over the traditional classroom. It also permits processes to be demonstrated in a way that would be difficult to convey in print.

The seductiveness of television cannot be over-emphasized. The Open University was initially called the University of the Air; the document which led to the formation of the Open Learning Institute focussed not on correspondence courses but on television as the medium of the future. Both institutions were formed with the expectation that television would play a major role, and were

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134. Walter Perry, *The Open University* (Kent: Croom Helm Ltd., 1977)

perceived by the public as being forerunners of the electronic universities of the future. Neither institution based courses primarily on television, in both cases doubting the educational value of the medium.

Television still plays a minor role at OLA, in that most courses are print-based, and use television as a supplement if at all. It is so visible, however, to the public, that it seems to play a much larger role than it does. Ninety percent of households in B.C. receive the Knowledge Network, and it has an average weekly viewing audience of 650,000 people. About half the programming is curriculum-based, with the programming coming primarily from traditional colleges and universities.[135]

Television production costs are high, so audience size must be maximized by extending the reach of the program through time or space, or both. Production is also influenced by the need to maximize "shelf life". Replacing an expensive production is difficult, so the program must not contain information which is quickly dated. Programs are, in this sense, much like textbooks, but much more difficult to update.

Television need not be so expensive. A difficulty arises, though, with simply taping a class as it is occurring. Television, it is argued, can teach some things better than a teacher can. This is undoubtedly true -- the visual dimension television can offer is very powerful. In order to take advantage of the unique power of television, however, it is necessary to produce images which are dramatic and unique. Television is very effective when it brings the student images of things that would otherwise be unavailable -- the inside of the eardrum, the mating dance of the whooping crane, the voices and pictures of those who could never be represented the same way in print, music and motion.

"Talking head" television does not exploit the unique potential of television to teach what only it can teach well, and is clearly less effective than the genuinely interactive situation in the classroom. Thus there is an expectation that if television is used in instruction, it will be used in a way which clearly demonstrates its unique advantages as an educational medium. In other words, television has to be expensive to compete with the classroom teacher.

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135. Open Learning Agency, *Quick Facts, 1989/90*, p. 19

In an interesting argument for educational television, Ronald Keast suggests that provincial broadcasting authorities should be supported by the federal government because they contribute Canadian content to a system overwhelmed by American television, and further, because they employ Canadian talent and help develop a Canadian production industry. In Keast's words, "...a region's culture can be reflected best by people who live and work there."[136] The shortage of funding available for local production, however, makes this ideal very difficult to achieve.

The idea that the country of origin does not really matter, that information is information and material can be adapted for local conditions, enjoyed considerable popularity many years ago, when the struggle was launched for Canadian textbooks and a Canadian publishing industry. In fact, the same kind of argument was put forward when it was thought not to matter if foreign academics occupied most university posts. The struggle for Canadian content in the mass media has never been won, but universities are now for more sensitive to the issue than they were thirty years ago, and the market for Canadian books in the universities much more vigorous. If the Knowledge Network is not adequately funded to produce local programming, and foreign products must be used, the struggle for a truly Canadian education system will be lost on this front while it is being won on campus.

Related to this issue is the increasing role of the private sector. As discussed in Chapter Three, private sector involvement in education is growing rapidly, and a whole industry is devoted to the production of education and training materials. The production of educational materials for profit has always been with us in the publishing industry, but these materials have always been used by a teacher, who is accountable in some degree to peers within his or her discipline. Private training schools have also existed for as long as the public system has, but the two systems have been independent of each other. The cross-overs which are now begining to occur, as the post-secondary system seeks "partnerships" with industry, open the possibility of having courses within the post-secondary public system designed by the private sector. Can the university retain any credibility as an alternate source of information in such a

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136. Ronald Keast, *The Role of the Provinces in Public Broadcasting*, study prepared for The Task Force on Broadcasting Policy (Burlington, Ontario: Video World Inc., January, 1986) p. ix.

situation? The new technologies make possible such incursions, for they allow courses to be packaged as products, and sold as products. The structure of the conventional university makes such incursions more difficult, though not impossible.

The commodification of the "course" and its sale and consumption, plus the character of some partnerships with industry, raise at both sites a major policy issue in education: Is the public education to be used as a vehicle for the view of the world and of human beings and their educative needs developed by particular interest groups? If so, or if one argues that academia is itself just another interest group, then the role of the univeristy as a site of independent and "objective" reserach into social ills is indeed threatened.

The Disappearing Author

In the traditional institution, the productive and distributive aspects of the process of teaching are combined. In fact, they were seen as inseparable until the development of the correspondence course, which relied on the mails to take the printed product to the student. In the classroom, one produces a course and distributes it simultaneously with ones voice. The student, because production and distribution are simultaneous, sees both occur. Within the ideal classroom, students still see other human beings decide, discuss, defend, create, and attack ideas, and participate in all these activities themselves.

However, in the absence of a human teacher, selecting the material and responding to queries, to whose imagination does the student credit the particular ideas presented, their arrangement and emphasis? How does the student constitute the "teacher"? The information presented on television is often the product of a collective whose composition and internal differentiation of function is invisible. The technology conveys ideas, but is less successful often in conveying the sense that the ideas are produced by particular human beings; that the ideas are not universally agreed upon truths.

A problem posed by the intervention of technology (or by lecturing to a large number of people at once) is that the responsibility of the presenter for the selection and validity of the ideas presented is not challenged. Students have little immediate ability to argue with the presenter or to discuss the material as a

group. Students of print and television-based courses can discuss the material with tutors, who are often also the authors, but they lose immediacy, and lose the group interaction typical of the classroom.

The distance of the author from the idea, from the debate which would permit students to challenge it, suggests that the student should accept the "facts" as they roll off the lips of the presenter. This passivity is created by the context, either the immediate absence of the author in distance education or the effective one in the large lecture hall. This in turn suggests that knowledge is fixed, not an evolving incomplete *process*, but a stable and eternal body of truths which have to be memorized. Innis pointed to this danger in his discussion of the increasing reliance of universities on print; the problem is magnified where print and television combine, and no particular person is present to defend and explain the concepts presented. The tutor and the pedagogy of distance education struggle with this passivity. The vision of knowledge as stable, fixed, and eternal is directly opposed to a vision which encourages genuine critical thinking.

One consequence of the distance of the author from the student is that another means must be found to model the values of scholarly debate. This is done by designing assignments carefully and by presenting contrasting points of view in the materials. The response to the student from the tutor must be of high quality to ensure the student is engaged in a continuing exploration of the material. The discussion of the ideal classroom permits both the teacher and the student to "own" ideas, to defend and abandon them, to build a shared "truth" in a way hard to duplicate in other media or in large lecture hall presentations. The central goal of education, the development of intellectual skills and character, is more difficult to accomplish at a distance. It is also more difficult, perhaps, for the students to understand that the ideas are incomplete, provisional.

Television poses a particular challenge to a student, for he or she is not literate in the medium, and can assess only with difficulty the composition process. The images selected move rapidly across the screen, their rhetoric hardly noticed. Part of the process of becoming literate in print is coming to understand the structure of argument in print, and evaluate it. An educated person is expected to be able to respond critically to print, and to a lessor extent to oral argumentation. Media literacy, particularly television literacy, is not demanded.

If "formal" education is to be delivered using television, media literacy should be on the curriculum of secondary schools. Since so much informal education is acquired through television, media literacy should be on the curriculum anyway.

Another dimension of the problem is related to the loss of particular examples and cases that are part of the student's experience. As noted above, the character of knowledge is also affected by the market it is produced for. When the market is conceived of as large and culturally disparate, then a loss of cultural specificity is likely the result. Local references and examples, applications to local settings, local language, or local personalities must all be eliminated in favour of references and examples which are recognizable in the larger market. In a related vein, producing a program which can be used for a long time shifts emphasis from the immediately relevant to the general, from the specific to the general. Information or images which might date the production must be avoided.

The distance already created by the technology and the absence of the author is widened by the lack of any immediate reference to the world the presenter and the student share. By contrast, a good teacher in a small class takes the world the group shares as the object of study, it is this world that is being explained and discussed. A standard tactic of the good classroom teacher is to localize, to make relevant, the material presented. A course developed for too large an audience loses its relevance to the individuals within it, much the way the world of commercial television has little to do with the immediate experience of those who watch it.

The teaching methods of distance education are largely designed to try to ameliorate these problems by engaging the student in a kind of conversation with the text and with his or her immediate experience. Considerable effort is directed toward course design which stimulates critical relflection, which requires the student to apply knowledge in the context of his or her environment. The successfulness of distance education course design in acheiving a comparable benefit to the conversation of the classroom is difficult to evaluate. What is certainly true is that technologies which permit greater interaction between author and student improve the ability of distance educators to engage in debate, and therefor also improve the student's ability to respond to and take responsibility for ideas.

The Loss of Interactivity

There are distinctions which can be drawn between preparing people to be scholars and preparing them to be citizens, but the point of Innis's argument is that the values of scholarship are also the values that people require to sustain democracy. Innis argued that the university should have as its primary purpose the training of scholars, not because everyone becomes a professional scholar, but because everyone needs to learn the skills and habits of mind that permit a person to cope with the flood of information which we all receive through the mass media.

Teaching in the conventional university is ideally the kind of activity which Plato defended in Phaedrus when he defended the oral tradition against the incursions of print.[137] It is a kind of conversation, with the student demonstrating an understanding and the teacher selecting the response most likely to be effective in enlarging that understanding. The particular topic under discussion is less important than the way in which the discussion is conducted. The rigour of the argument, the subtlety of the interpretation -- the quality of the discourse -- is the focus of attention. Appropriate habits of mind are modelled and practised, until the student can continue on his or her own. This suggests a highly interactive process, though the interaction does not necessarily, perhaps, have to be face-to-face.

The purpose of this kind of teaching is not to answer all the questions but to learn, as Innis suggested, to ask them properly. For Innis, the purpose of teaching was to give people the skills they needed to distinguish good information from bad, to determine what kind of information they needed, to use information to solve problems. This kind of knowledge, he argued, was the product of an historical perspective, and training in the values of good scholarship. He models his vision of scholarship and teaching on the Greek model. Innis was convinced that these values and skills are best taught face-to-face; that they are skills which grow from discussion and debate.

It is argued that the habits of mind necessary for good scholarly work, and good general reasoning, can be learned from books, or from tutors, or from television

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137. Plato, "Phaedrus." Edith Hamilton and Huntingdon Cairns, eds. *Plato: Collected Dialogues.* (Princeton, New Jersey: Princeton University Press, 1961) pp. 520-524.

programs. The absence of the ability to challenge ideas as they are presented, to debate them, can be compensated for by providing the student with several alternative ways of looking at a subject, and a tutor to discuss the perspectives with, and assignments which stimulate a critical approach.

The level of interaction provided by the oral tradition can be created in part by comments on papers, and conversations with tutors, but the lack of connection with the "author" makes this interaction more difficult, and the relative non-interactivity of print and television makes it slow and cumbersome. In the classroom situation, interactivity is present not just between teacher and student and also between student and student. One dimension of learning, as Innis understood it, is that it is a communal process, where the knowledge or contribution of one person is extended by the contribution of another, and the result is that both know more than they did in the beginning.

Where the technology is organized, however, on a mass media model, where the author of the idea and the student attempting to understand it are not connected in a dialogue, they are more likely to be separated by technology rather than linked by it. The process of building knowledge within a group requires interactivity between students, not just individually, but as a collective. Audio-conferencing offers some of these advantages, and other interactive technologies recreate a kind of oral tradition among students who cannot meet together. The development of these technologies offers great advantages to the distance educator.

Alfred North Whitehead, in a collection of essays published in 1929, observed that:

> So far as the imparting of information is concerned, no university has had any justification for existence since the popularization of printing in the fifteenth century...the university imparts information, but it imparts it imaginatively. At least, this is the function which it should perform for society. A university which fails in this respect has no reason for existence. This atmosphere of excitement, arising from imaginative consideration, transforms knowledge. A fact is no longer a bare fact; it is invested with all its possibilities. It is no longer a burden on the memory; it is

> energizing as the poet of our dreams, and as the architect of our purposes.[138]

Whitehead, like Innis, points to the humanity of student and teacher, and their need to share the very human experience of creation and discovery, both of social and moral knowledge. When Innis pleads for the preservation of the oral tradition, he is not simply pointing to the reorganization of the education system which results from space-binding media, but also to the fact that human beings tend to emulate those they admire, and adopt their values.

Aside from the question of the kinds of reasoning skills which can be taught, we must consider the kinds of values which can be taught. Traditionally, faculty at universities have been expected to be models of what they teach. Scholarly habits of mind have been considered virtues in a general social sense. Tolerance, respect for truth, hard work, persistence, attention to detail, and courage are habits but also values. A goal of the university, Innis suggests, is to help create these values in society, for they sustain a democratic culture. The link between research and teaching assumes that those who create knowledge are in the best position to share that creative process with others, and the best equipped to share the values which inspired the process in the first place. In practise, of course, examples abound of researchers who cannot teach, or teach well enough to share the creative process with students.

There is no question, despite the inadequacies of media effects studies, that people learn values from print and television. Do these media teach the same kinds of values as face-to-face interaction does? The question is difficult at several levels. Surely the answer depends on the content of the message as well as how it is conveyed. Also, the three media are difficult to compare on such a specific question. What students see on television, or in a book, however, is a product, not a process. In the classroom, the process of creation is evident in a way difficult to convey to the distance student. Again, the kind of interactivity which characterizes the oral tradition would permit the student to

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138. Alfred North Whitehead, *The Aims of Education and Other Essays,* first published in 1929 (New York: The Free Press, 1967) cited in James J. Zigerell, "Current Developments in Telecommunications in Two-Year Post-Secondary Institutions." *Television in Community and Junior Colleges: An Overview and Guidelines* (Syracuse University, New York: ERIC Clearinghouse on Information Resources, 1980) pp. 19-20

build, with the teacher and with other students, a common understanding of an issue, and the values which should inform that process would be clearer.

Finally, the notion of public service is redefined at OLA. OLA exists to provide educational opportunities to those who cannot or don't want to attend regular institutions, to instruct students at a distance. Its mission is basically to plan and coordinate the development of open learning in B.C., and to develop and manage electronic networks for this purpose. OLA had over twenty thousand course registrations in the 1989/1990 academic year, and enrollments rise every year.[139]

The kind of public service outlined by Doug Shales is different from the kind of public service offered here -- though, again, if OLA remains a complementary service, designed to extend the offerings of the conventional institutions beyond their walls, the public can receive an alternative and enhanced service rather than a diminished one. However, the fact that OLA offers degrees, it might be argued, is inconsistent with the notion of complementary service, for a degree suggests that the institution offering it satisfies the definition of a university. If it exists to help conventional universities extend their offerings to students seeking open learning opportunities, then why does OLA offer degrees? Alternatively, why doesn't OLA look more like a university, and provide the kind of public service that conventional institutions are expected to provide? The service appears more alternative than complementary.

These questions are not raised to suggest that all the constraints on OLA's economic base and political history should be ignored, or the job they do serving of serving students underestimated, but to point to the fact that we now have in B.C. an institution which is called a university, but is actually quite different from universities as they are usually understood. It has different purposes. OLA does not claim to do many of the things the conventional institutions do, so cannot be faulted for overstating or misrepresenting their role in the post-secondary system.

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139. Dr. Alan Davis, Director of Science and Humanities, Open Learning Agency, personal communication, July 24, 1990.

Innovation and Dissent

Both Williams and Innis, in different ways, say that innovation, or the creation of new knowledge, depends on the ability of the scholar to distance him or herself from dominant social relations. Innis felt that the primary role of the university administration was to protect the scholar from outside interference, and the primary task of the scholar to come to an understanding of the biases of the time in order to achieve some freedom from them. Williams, in a similar vein, suggests that a condition for innovation is distance from dominant social relations, including the government. Both he and Innis would argue for significant faculty control of academic institutions.

Both writers also note that control of the means of production and distribution are central to the possibility of innovation, for to create change, innovation must be communicated to others. Cultural producers, a category within which Williams includes academics and students, must control their own institutions, and possess the means to communicate their work. This, for Williams, means they must have the right to both send and receive.

The social value of innovation would seem indisputable, yet not all people see its value, particularly when it comes to political dissent. Governments more concerned with the immediate possibilities of re-election than with the long term well-being of society are quick to suggest that scholars stick to teaching and leave political comment to others. Yet this role, for many reasons, is crucial to a democratic society. Is there an alternative to the university as a major site for independent research?

A common belief in modern society is that private industry will solve social problems. The idea is that if industry is left to pursue its way unfettered, self interest will ensure that the needs of society are met too. To some extent, in the production of consumer goods especially, this occurs. The task of private industry is not to solve problems of justice and equality, however. The task of industry is to make money. Nor is the task of industry the improvement of the quality of life, unless money can be made in the process. A society must sustain an independent and active community of scholars to both address these kinds of questions and teach others how to do so.

What is likely to be the contribution of distance education institutions to the creation of the critical dissent which democracy requires? It is here, perhaps, that the most difficult questions need to be asked about how OLA is organized. The diminished role of the scholar has already been considered, as well as the purposes the institution can serve well. The system as it currently exists in B.C. does not satisfy some basic characteristics of the democratic communication system which Williams poses as the ideal. It is generally one-way in terms of the imparting of information, so students are usually receivers and rarely senders. The system lacks sufficient interaction and reciprocation to create a genuine community of interest.

Although OLA poses little threat to established academic communities in BC, and in fact extends their reach beyond the university walls, there is some cause for concern if OLA is seen as a model for the education system of the future without adequate consideration being given to the fact that the research and faculty support infrastructure is provided elsewhere. That infrastructure must be provided, and a complete description of OLA as an alternative organization of education must go beyond the organization chart to look at how the conventional institutions support research functions which are essential to OLA's existence. The model for the education system of the future must include the academic communities of the conventional institutions, although other dimensions of those institutions change.

It might be argued that other cultural industries provide adequate opportunities for independent research and critical comment. Unemployed academics should become writers and artists, film producers and journalists, and make their statement about society without being subsidized by the tax-payer. The rather popular vision of academic research as a frill the taxpayer can ill afford lies behind this perspective, for it is obvious that the kind of research which is done by responsible scholars has little or no entertainment value. Suggesting it should be commodified and marketed within the highly commercial sphere of the cultural industries mocks the whole enterprise of scholarship.

Information in the modern world is a commodity, particularly the information needed to perform specialized tasks. Information can be packaged and sold, and private industry, here as always, has been quick to spot the opportunity. Only scholarship which suits the interests of the private producers is of value to

them, however. In the long term, private enterprise cannot support scholarship which suits a broader social purpose. If, however, distance education comes to rely on the private sector for course materials, then the purposes of the universities wil be undermined.

Conclusions

In this thesis, I have argued that Harold Innis, and to a lesser extent, Raymond Williams, provide an adequate theoretical perspective within which the evolution of a distance education institution can be analyzed and the social implications of this evolution understood. Innis offers not only an analysis of the key relationship between culture and technology in general, but some important insights into the role of technology in education in particular.

Using Innis's communication theory, I have outlined how distance education based on print and television reverses the space/time dynamics of education. Control in the traditional system rests in hands of a decentralized multiplicity of academic communities. The oral tradition survives, sustaining a tradition of scholarly enquiry.

OLA, in abandoning the oral tradition in favour of print and television, is able to serve students over great distances, and provide access to the system for students currently without it. It has created the possibility of more flexibility and responsiveness in the system, more student-initiated learning. However, the loss of the oral tradition has resulted in the loss of the interactivity and personal connection the tradition offers, and the loss of community.

The shift to print and television has also made possible, though not demanded, an organization which satisfies some, but not all of the purposes of a conventional institution. OLA represents a dramatically different organization of education, a significant shift in what the purposes of education are understood to be. It is an emerging monopoly of knowledge in the sense that it challenges an existing monopoly, and in the sense that control over production, distribution and the definition of knowledge are redistributed. This challenge emerges in response to the rigidity of the existing system, and its failure to adequately respond to the needs of students. It is made possible by the

existence of new technologies which lie beyond the control of the existing monopolies.

Innis's thought on the nature of technological and social change provided a means to examine the character of the emerging alternative. His thought on education in general is perhaps less useful, for he failed to anticipate alternative uses and models of radio, print and television, arguing a kind of technological determinism which in the end proved too simplistic. Also, he could not be aware of the new interactive technologies, or of the demands which the education system would be required to meet.

Will new technologies, when they become more widely available, meet the need for an active and healthy scholarly community, and at the same time meet the need for open and flexible learning opportunities for students? In order for the system to use the new possiblities effectively, scholars become clearer about what purposes they want education to serve. As all good educators are aware, education is more than simply delivering information and evaluating how well students have absorbed it. Most distance educators are probably more aware than most classroom based teachers of the need to develop a conversation between teacher and student, and supportive climate for student learning. They, together with people working with new instructional technologies within conventional institutions, face the challenge of formulating the principles which will indirectly guide the development of educational technologies within the private sector.

As Williams suggests, the new technologies should satisfy some basic conditions: equality, reciprocity, freedom from interference, control by producers over both access to literacy and the means of production. All participants must be able to both send and receive, to whomever, whenever, they wish.

The problem of access to the post-secondary system will not go away, so more attention must be paid by those not familar with new technologies to how distance technologies evolve. More and more people expect to be educated; universal post-secondary access has become the ideal. They have to be accommodated, and the traditional structures and practices of the university need to be examined to see if there are not ways to combine general education

and employment preparation more creatively and efficiently. We will likely never return to the days when a student had to go to a traditional university for a period of time in order to get an education. Many will go, though probably only those able to afford the high cost. For most of the population, though, post-secondary education will likely consist of some form of distance education combined with some face-to-face education, provided by more than one institution.

The implications of setting William's conditions for democratic communication systems as an ideal for distance education are profound. Students should have the ability to send, and not just receive, so the system must be reciprocal. They should be able to send on the same basis anyone else with access to the system can send, to anyone about anything. The same is true for scholars, who should be able to offer courses whether or not another similar course is offered elsewhere. Diversity is the ideal, not uniformity, and students should have choices about who to study with as well as what to study. Further, the ideal communication system must be producer-controlled, and autonomous from either commercial interests or government. Access must be universal, so literacy is also an issue. If special skills are needed to use or compose for a technology, then they should be made universally available.

The suggestion is to work toward more involvement with distance education rather than less. OLA has invested considerable time and effort in distance education strategies, and will be a very important resource for universities seeking further involvement, especially if OLA persists in recent initiatives to develop interactive technologies. In the conventional institutions, a renewed commitment to teaching, and a renewed understanding of the basic purpose of post-secondary education, will ensure that the development of new technologies serves goals consistent with the development of a more democratic and stable society.

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