

The Potential of Educational Technologists to Contribute to the  
Development of a Better Life for Society

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## ABSTRACT

### THE POTENTIAL OF EDUCATIONAL TECHNOLOGISTS TO CONTRIBUTE TO THE DEVELOPMENT OF A BETTER LIFE FOR SOCIETY

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An analysis is made of the changing political, economic and communication contexts in which educational technologists must work today. This points to the new demands and opportunities which are facing the profession.

In a critique of contemporary education, technology, and the mass media, it is asserted that these societal mechanisms all fail to foster an adequate sense of meaning and purpose in people, one which would enable them to make a better life for themselves and others.

Two abbreviated case studies, one from Canada and one from Australia, show what can be done by educational technologists, who, because they are at the interface of formal education and the mass media, can work from both bases to help make society better.

The thesis argues that education towards rational understanding is desirable and, in particular that it is possible as a result of activities of educational technologists. Rational understanding enables people to become critically conscious of society, and oriented towards taking socially responsible action to improve it.

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## INTRODUCTION

Educational technologists through the practice of their profession act as agents of change and it can even be said that they, in common with most educators, control their clients. As human beings and agents, educational technologists have responsibilities towards those with whom and for whom they work and for the changes which result from their activities. Changes are wrought on others and on the ecosystems or complex sets of interrelationships which make up society. When acting as responsible agents, educational technologists need to consider the complexities of the human and cultural milieu in which they work:

To the extent that the environment of an agent is organised into ecosystems the important thing to understand about his actions are the effects on the influenced ecosystems.....No occasion is completely the effect of any other one occasion, but of the whole actual world of the effect-occasion, especially its own ecosystems....These ecosystems are social and social-physical (Moore, 1972, p.412.)

This thesis places educational technology in the context of a society whose socio-cultural ecosystems are rapidly changing.

Chapter 1 addresses briefly the political, economic, and communication ecosystems and some tensions which act on them individually and collectively. It highlights the changes which have recently affected the lives of human beings and which tend to provide new spheres in which educational technologists are or will be called on to work.

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These systemic complexities together with the responsibility which is incumbent upon any educator who aims to change people, demand a careful consideration of basic questions concerning technology, education, and educational technology. It is assumed that educational technologists are primarily educators so that the lengthy section on education in Chapter 2 is of interest to them and in view of the efficiency that is their hallmark, questions of values and purposes are particularly apposite to them.

Because technology is a part both of the fabric of society and the means society uses to maintain itself, it is examined before education and the mass media are analysed. Heidegger is used in the section of Chapter 2 on technology because he is a philosopher who attempts to get to the root of the matter without being prejudiced against technology. His writings underscore the immanence of technology in the human condition and his ideas provide a foil against which the work of the educational technologist can be seen in broad terms such as those suggested by Hawkrige (1981), Mitchell (1983), Scholer (1983), and others.

Chapter 2 treats education at considerable length and in general terms because it is crucial to establish the kind of education that is fitting for adults who are subject to the tensions of society mentioned in the first chapter. Adult, on-going, non-formal education is singled out because in these voluntary situations "intentionality" and the "capacity for critical awareness" are likely to be greater among adults. By suggesting that education for rational understanding is possible,

the thesis maintains the optimistic approach initiated by Heidegger but recognises that such education entails action which may run counter to majority values or even good order in society.

The mass media is considered to be the most powerful purveyor of values and these are criticised in the latter part of the second chapter after it has been shown conceptually that education for rational understanding or education towards "rational joyful-meaning making skills"(Boyd, 1983) enables people to make meaning for themselves, thereby having the possibility of going against the values of the media and forming a better society.

Freire's notions of integration, dialogue and symbolic codification are pertinent to the problem of meaninglessness. Many Canadians and Australians are in a position of powerlessness, not because of physical poverty as were the Brazilians of whom Freire wrote, but because of lack of access to a variety of value creating activities from which to choose their own system. While a number of factors contribute to this condition, some responsibility must rest with the mass media. Because educational technologists can be and are at the interface between the media and formal and informal education, some are in a position to counteract "domination THROUGH communication"(Bourdieu, 1977). Through the use of similar means of communication people can counteract domination by forming new and powerful loops to feed information back to themselves, thus enhancing self awareness and personal growth, and to decision making bodies in the community, thus obtaining a sense of meaning and involvement in society. Chapter 3 shows in case studies how the

work of educational technologists can contribute to such activities which are directed towards a "better life for society".

The burden of much of the argumentation is that there is domination and manipulation of people by the media and also by educators; all humanely concerned educators must eventually come to terms with the fact that domination is possible in all inter-personal and educational relationships but its likelihood is lessened where an atmosphere of true dialogue exists. Bourdieu and Passeron go so far as to argue that "symbolic violence" is involved:

All pedagogic action is, objectively, symbolic violence insofar as it is the imposition of a cultural arbitrary by an arbitrary power. ...Pedagogic action is the action of teaching or educating considered as a general social process, neither limited to the school nor even necessarily perceived as education (p.5) Symbolic violence is that form of domination which, transcending the opposition usually drawn between sense relations, and power relations, communication and domination, is only exerted THROUGH the communication in which it is disguised. (Bourdieu, 1977, p.237).

In order to address this problem of domination by "pedagogic action...neither limited to the school nor even necessarily perceived as education", it has been necessary to reflect on education in its widest sense and the role of educators, and to postulate that the educator enables people to attain "communicative competence"(Habermas, 1979) or the wider attribute of "co-operativity"(Boyd, 1983) without which it is impossible for them to make a better life in society. The "better life is one

where all people and especially the underprivileged, have the opportunity to develop rational understanding, to find a sense of meaning in freedom, to choose a lifestyle that does not deny the rights of others, and to determine the political and social conditions under which they live"(Thesis, p.27).

Communicative competence is fostered when educational technologists "(are) explicit about the philosophy or system of values they hold,... consider the long term results of each job for the client and for those who are being educated, and discuss these things in a dialogue of equality"(Thesis, p. 52) and both educators and educatees work within the bounds of rational understanding.

Rational meaning making is considered in the context of the commercial meaning-making of the mass media which provides a spurious meaning system designed to foster dependence and consumerism. Owing to the overwhelming ubiquity of the mass media, it is difficult for people to choose meanings and values from a variety of options. It is argued that instead of passively watching commercial television and passively accepting technocratically made decisions which affect their living conditions, people need to be actively involved in their own meaning making and in decision making which affects them.

Having as it were, conceptually mapped the country in which educational technologists operate, and having isolated and explored to some extent the prominent features of the mass media and the lack of power of ordinary people, in Chapter 3 the thesis turns to two groups of people: one group in Canada, those involved in

Challenge for Change/Societe Nouvelle and the other in Australia, some students of educational technology. These people used the media, the techniques of educational technology, and the problems of local groups to enable change for the better to take place in selected localities. The work of these groups is explained in Chapter 3; if work of this nature has been accomplished successfully on a small scale, it is argued that similar projects are within the domain of educational technology and that they will "contribute to a better life for society".

The argumentation of the thesis re-iterates examples so that the complex inter-relationships between education, technology, the media, and educational technologists are underlined and education is seen as an activity which is not confined to institutions of learning or to any one period in a person's life.

## CHAPTER 1. The Political, Economic, and Information Context

### within which Educational Technologists Must Work.

Time present and time past  
Are both perhaps present in time future,  
And time future contained in time past. (T. S. Eliot)

For much of human history change has been slow enough to be evolutionary but the exponential growth of technology has made change a dramatic and unsettling phenomenon. J. H. Milsum (1968) suggests that "absurd situations" are developing around the following foci. Population pressures on fixed resources as a result of a lowered death rate is one problem and related ones are those of aggression, ethnic strife, interpersonal fear and the threat of nuclear war. Unacceptably large and increasing differences between the affluence of the developed countries and the Third World on one hand, and a similar imbalance of wealth and power within each country need rectification. The inheritance of a non-technological age, a belief that unremitting work is good and necessary, has become inappropriate too rapidly for society to adapt; thus there are tensions and changes between the interfaces of work, leisure and education. Increasing complexity and speed of change have intensified the problem of enabling all members of society to be able easily to participate in a meaningful way so they feel part of it.

Milsum suggests that "Society get into a mood of continuous, small-scale but ubiquitous experimentation, to be carried on by all intelligent members of society. This would encourage a sense

of participation by individuals...,and would be a wonderfully fruitful way of realising the dream of 'intelligence amplification'"(Milsum, 1968, p.268). There has always been some experimentation, some of it involving educational technologists who are professional examples of the intersect between science/technology and humane education. He also suggests that more scientists and technologists need to accept responsibility for reporting to society their intelligent predictions of social effects of technological change, and humanists and social scientists need to understand general systems approaches and technological principles. Dialogue about problems and solutions in society is important but often the messages within the dialogue are distorted. When the messages are comprehensible, truthful, appropriate and honest and interchanged in an atmosphere of trust there is no distortion and one has communicative rationality oriented towards social order and consensus. The idea of communicative competence was postulated by Habermas whose ideas underly the following political view of society.

#### The Political System

Educational technologists belong to a number of the nominal systems of society and as educators, part of their task is to build or reform the systems in which they participate and to enable students to do likewise. It is useful to look briefly at some of the main systems which we can use to represent society, after which education and the mass media can be located within



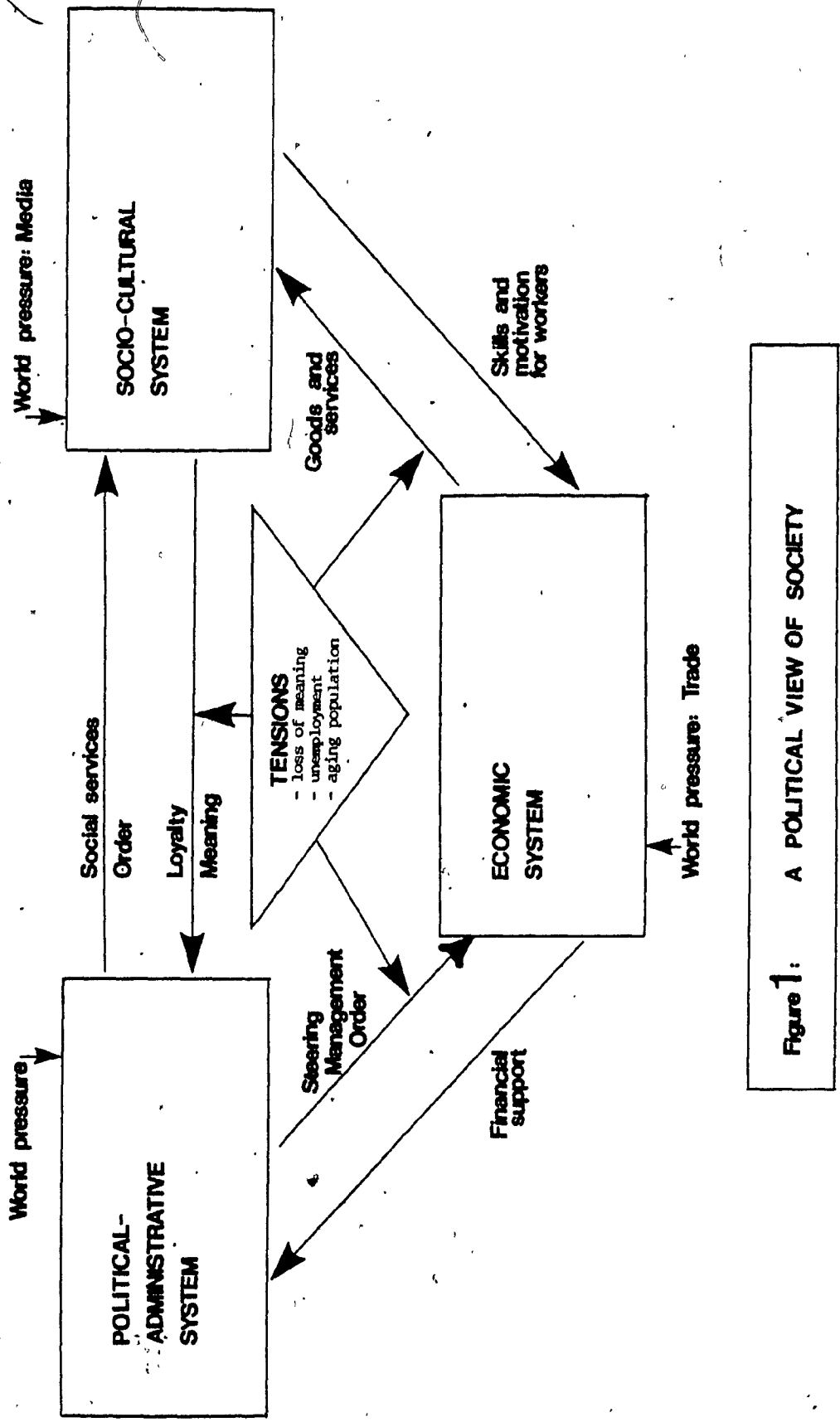


Figure 1: A POLITICAL VIEW OF SOCIETY

this general schema. Educational technology will be seen to occupy an important place.

Figure 1 represents one view of the main systems whose complex interaction makes up society. The links are seen in terms of over-simply stated exchanges: the state, the political-administrative system, receives loyalty from the socio-cultural system and financial support from the economic system; in return it gives social identity and welfare to the socio-cultural system and steersmanship, that is financial management, to the economic system; the socio-cultural system provides education, skills and motivation of workers to the economic system and receives goods and services in return. Because no country today is isolated there are pressures exerted at every point by other countries and pressures from within; these pressures which manifest themselves as tensions can be most readily seen affecting the inputs and outputs.

The education system, although partly economic, belongs to the socio-cultural system while the mass media, though in large part socio-cultural, is best thought of as part of the economic system. The basis for so categorising these activities is their PRIMARY roles: education is critically concerned with transmitting the values and skills of the culture and the media with audience size and commercial success. Because of their expertise as trainers, educational technologists have a higher profile in the political-administrative and economic systems than conventional educators and yet within traditional, formal

educational structures like universities their work clearly belongs to the socio-cultural system. The profession of educational technology is an example of the highly complex interaction that makes up the technological world.

Writing in 1927, Dewey spoke of sources of tensions which are still being discussed: "declining participation in formal political events; proliferation of opinion-making through hired "publicity agents"; privileged access of big business to the state and the media; the unprecedented increase in the number, variety and cheapness of amusements; the growing role of scientific-technical expertise in state planning; and so on (Keane, 1982, p.18-19). These sources of tensions are now added to by the problems of an increasingly aging population, a marked crisis of belief or loss of meaning among many, unemployment and economic problems.

"Education has probably been oversold in the past as a social policy capable of resolving a whole range of problems"(Schuller, 1979,p.98) but in its role as "socially acceptable unemployment"(Megarry, 1979,p.13) and with the altered interaction of work, leisure, and education it seems realistically optimistic to expect that adult, ongoing education may at least contribute to overcoming these problems. Because of their professional capabilities and their roles throughout society, it is to be expected that educational technologists will play an important part in contributing solutions.

Having looked briefly at the political system from one point

of view, it is useful to examine the world of work before going on to see the system of communications in which society is immersed.

Geoffrey Hubbard (1982) describes some of the changes relating to work and education:

We can see that the traditional pattern of work is on its way out, and my hunch is that every conceivable form of alternative to full time work will be encouraged before we are through to a new stability: job sharing, mid-career study leave, sabbaticals, re-training, up-dating, and any other variant which will give respectability to not being employed.....a considerable number of people are going to want education and training which they themselves can define.....Mature, responsible adults are going to increasingly to feel that they themselves know what they want, and the technology will increasingly give them the ability to get what they want, without necessarily going through the filter or control of an institution.

It is doubtful whether a "new stability" is possible or even desirable but the "pattern of work" needs to be examined, as it is part of a context which interacts with education.

#### Analysis of the Pattern of Work

A four sector analysis of the pattern of work was proposed by the American economists, Porat and Parker at an OECD computer telecommunications conference in Paris in 1975. It divides the economy thus:

Quaternary division of labour

Primary: extractive.

Secondary: manufacturing and construction.

Tertiary: services not primarily concerned with transfer of information

Quaternary: information.

The primary sector covers agriculture, forestry, fishing, mining, quarrying and oil extraction. The secondary sector involves using skills and/techniques to make things from the products provided by the primary sector. Building and construction fits in to this sector. These sectors will always require labour.

The tertiary sector provides easily quantifiable, "hard", tangible economic services involving the processing or transfer of matter and/or energy and requires direct physical involvement of a demand-sensitive labour force.

The quaternary (information) sector provides "soft" or intangible services involving the processing of information. Education, the public service, communication and media related activities, the church, law, and parliament, the banking and insurance industries all operate "primarily through the manipulation of symbols and information" (Porat, 1977, in Jones, p.53). Employment in this sector increased up to the seventies but computer-based technology has already reduced the labour force in the area of mass information services. A graph of the four sector analysis of the Australian labour force is shown

below:

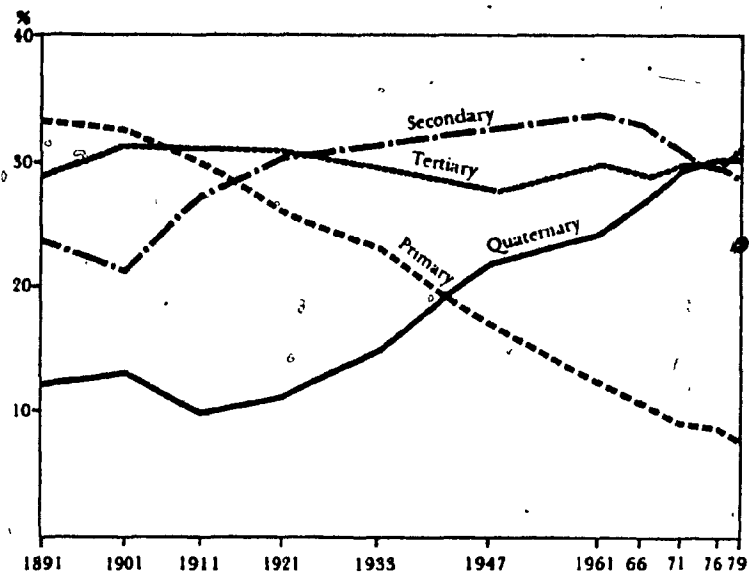


Figure 2. Four-sector analysis of the Australian labour force, 1891-1979(%) (Jones, 1983).

The four sector graph gives few useful indications for educational policy makers. Besides, planning for education towards a better society needs consideration of basic human values which are not always expressible in money terms. The quinary analysis offered by Jones gives a clearer picture of the changing nature of the work force and from it can be deduced elements of interest to educational technologists, who, according to the quotation from Hubbard will be called upon to implement new types of education as a result of these changes.

#### Quinary analysis

The first four parts of the quinary analysis approximate to that just explained. The quinary sector of the labour force includes men and women working without remuneration within the home, in unpaid community work and the home-based economic

activity of "Do-It-Yourself-ers". The chief difference between the analyses of Porat and of Jones is that the latter recognises the "value of households and work performed in them (which) would equal the entire amount paid in wages by every American corporation"(Jones, 1983,p.53) and the informal economy which emphasises "time use and life commitment rather than income".

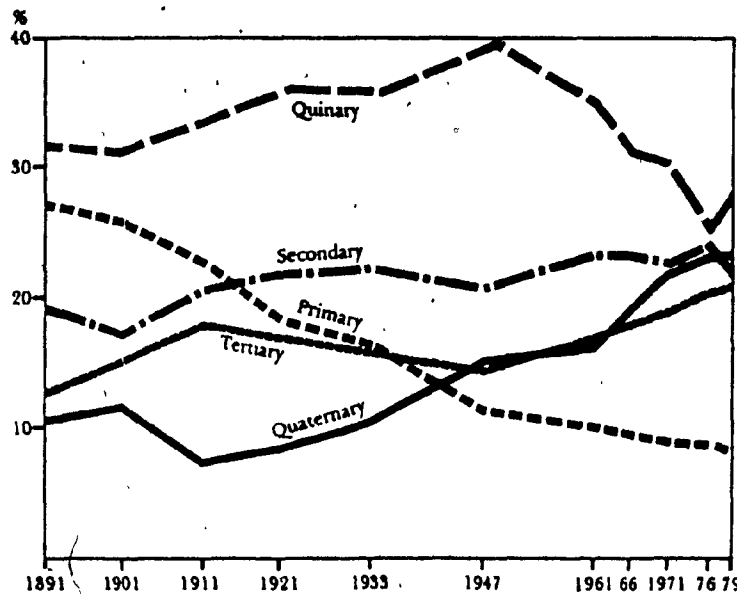


Figure 3. Five sector analysis of the Australian Labour Force, 1891-1979(%) (Jones, 1983,p.61)


For the present purpose of understanding the context in which educational technologists work, it is unfortunate that Jones did not implement his own suggestion of adding students as a specific group although they could appropriately be grouped in the quinary sector.

Reference to this graph will be made during the following discussion which indicates the future of labour in each sector and the need such people will have of on-going, adult education.

Because it is engaged in supplying the basic material needs of society labour will always be required in the extractive sector which comprises the renewable (if carefully managed) resources of agriculture, forestry, and fisheries and the non-(at the moment) renewable resources of quarrying, mining and oil extraction. The secondary sector is better called the manufacturing and construction industries and will also always require labour.

Short of a nuclear holocaust or a total energy blowout, there will continue to be people working in both these sectors but the trend towards shorter working hours will continue. As working hours per week fall, there will be longer leisure hours and workers from all levels of the workforce and all economic statuses will expect to have available lifelong self-education possibilities. The formulae for these educational opportunities have yet to be thought out but Hubbard (1982) points to the need for the users to be involved in the decision making and definition. The implication for educational technologists is clear: they need to adopt a commitment to cooperative learning.

The graphs indicate that the tertiary sector is expanding in employment possibilities and will require continuing and increasing educational services especially in the field of re-training for those whose jobs have changed. As there will be a noticeable increase in leisure time for all people, education will have to cater to a different type of public who want to further their education in non-credit bearing as well as credit bearing courses. This pressure will not be for more of the same





but will oblige professional educators and educational technologists, especially those outside the formal system, to face questions of cooperatively developed courses, of value laden content matter, and to question the societal implications of their work.

It is in the quaternary or information sector that education and educational technology are based. The increasing sophistication of clients and the pervasive influence of the commercial media industries already exert considerable pressure on education. One option for educational technologists in particular may be closer cooperation with the commercial media outlets and an alliance with public access broadcasting or the setting up of alternative uses of media. The spread of home computers and inter-active computer networks as well as further satellite communications will result in a software explosion. One can foresee an almost corporate approach on the part of educational technologists together with a highly professional product if they are to obtain space, say, on satellite facilities, while on the other hand, their role may become analogous to what Friere would call consciousness raising through the use of "small" technology (Schumacher, 1974).

The graph of the five sector analysis shows the recent growth of the quinary sector and Jones's carefully documented argument show that it will increase further (Jones, 1983, p.46-79).

In giving home services a separate section, Jones moves away

from the traditional analyses which have been based on what people do with things to earn money or contribute in income related terms to the national economy. Women's movements have long drawn attention to the unpaid, in money terms, members of society who work long hours in household tasks across the world. Many of these are satisfied not to receive an income and deem the pleasure in the task and other gratifications more rewarding than money. Never-the-less, their contributions to the national economies go unrecorded and because of the way the economy is structured and statuses defined, these men and women get scant recognition as valuable members of society.

Within the quinary sector there is also a growing number of what some sociologists have referred to as "marginals" and what others call the Do It Yourself people. It includes people from all social strata who voluntarily or less fortunately, involuntarily are not in the paid labour force. It is from this sector that one would expect small scale experiments to come. In his work Jones has legitimated and opened for discussion a phenomenon which needs addressing and by attempting to change the status of domestic work he has widened the options for many people. In other words, he has sought to follow Von Foerster's ethical imperative: "Act always so as to increase the number of choices" (1971).

#### Implications of the quinary analysis

Two of the most interesting elements of the work of Jones are that one can use it to see more clearly those members of

society who are likely to have similar problems and it gives legitimacy to non-income bearing work. Some of the implications for educational technology have been referred to in the description of the sectors of society and may be summed up as: the changing nature of the work forces, the need for a different system of attributing value, and the challenge of keeping pace with the changing needs of students and the consequent modification of the roles of the educational technologist.

The earlier brief political explanation intimated the complexity of the world and the numbers of workers in the information based industries shows the central position that information holds in today's society; it is useful to look at some connections between data, information, communications and power.

Almost everything one does generates data which is easily and cheaply stored in data bases. These are a source of conflict and embarrassment. Beer (1970) argues convincingly for rationalisation of this information into a hierarchy of data banks but recent experience with computer crime shows that his suggested legal safeguards would not be sufficient. A better solution would be to educate and encourage human beings to take part in their own future through playing the most active part possible in the information and communication process.

Information, in the sense that will be used here, is codified data. The human being generates, interprets, and codifies data through the senses and language, through music and art, through body language and affective interactions, in fact

through the processes of living. Psychologists and philosophers, historians and aesthetes have investigated the human codification of data and still we know little. Computers and other sensing devices do similar tasks and developments in artificial intelligence promise further breakthroughs in the future but it needs to be stated that somewhere along the line in the machine codification, the process involved human beings. Figure 4, The Information Process, illustrates some of the ways of expressing information so that it can be transmitted. Information technology, as the overlap of the shapes indicates, involves planning and codification as well as the hardware or machine elements. The machine parts mentioned concern computers but fibre optics, video discs, music synthesisers could equally well have been put on the diagram.

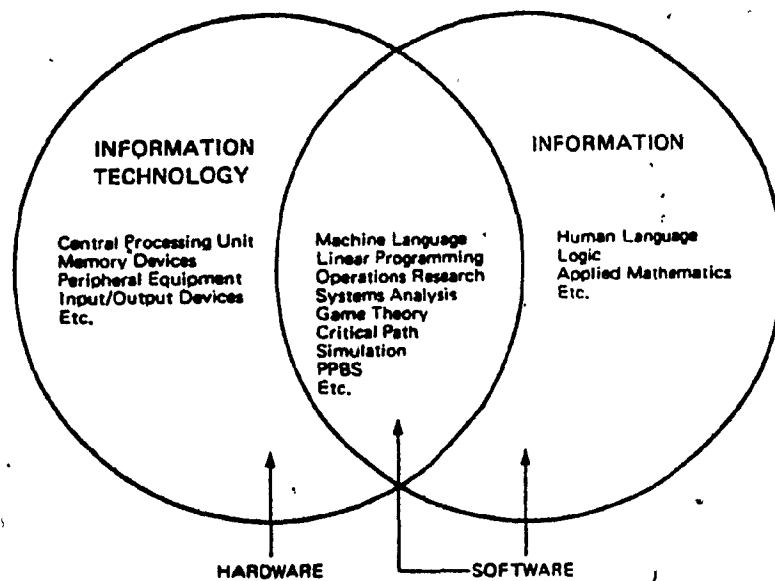


Figure 4. The Information Process (McHale, 1976, p5).

Interacting with this information process is an information transmission system which is sometimes called the mass media network. The mass media, once strictly broadcast facilities, now include telephone and computer links which gives the whole process a new capability for almost complete interactivity. Evidence for the importance of telephone and computer links can be found in the competition to gain control of facilities like Telidon, electronic mail, etc. In this diagram the term communications is used because it includes human information processing and expressing activities as well the means of sending messages to the masses, business communities and individuals.

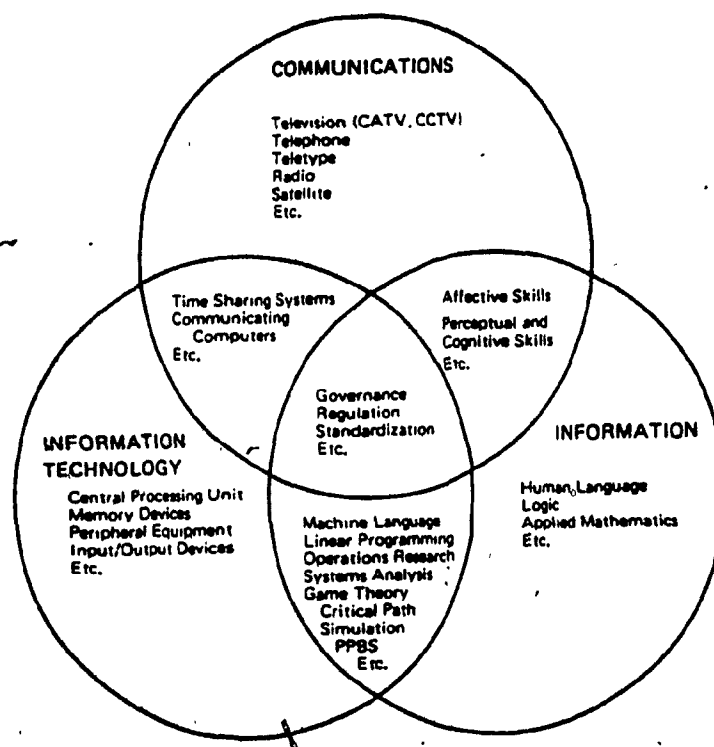


Figure 5. The Interaction of Information and Communication

(McHale, p.13).

The impacts of this configuration are so wide-reaching that they are to human beings what water is to fish. A new phrase, The Informatics Atmosphere may sum up the ubiquity of accessible information and emphasise the futility of disregarding it as so much of contemporary education does.

The educational technologist is the one professional whose own education and training fits him or her to work not only within this atmosphere but to use aspects of it in the service of education. The diagram can also be viewed as an expression of the activities in which one would expect to find educational technologists, thus indicating the centrality of educational technology. Expertise in the use of all of the tools and all of the processes, together with others that do not appear, is part of the sphere of educational technology. That part of the diagram which is relevant to this thesis comes chiefly from the communications sphere and concerns educational skills and interpersonal communication, hardware usage, and an attempt at governance from the popular level.

Since educational technologists have such a central place in the information atmosphere, they should be able to use that position in the interests of building a better society where people are not overwhelmed or alienated by information but enabled to use it creatively.

## CHAPTER 2

Educational technology oriented towards a better life for  
society

"There is no reality except in action" (Sartre)

"Every action aims for a good" (Aquinas)

### Introduction

The changes which have taken place to form the information society should have profoundly altered formal education. It seems that they have not done so. An attempt is made in this chapter to suggest a modified definition of education and explore what roles educational technologists would play in this true education--EDUCATION--and in society. The interrelationships between technology, education, educational technology, and the mass media are considered from the viewpoint of education for values, meaning and action.

## TECHNOLOGY

### Technology in general

Technology is often considered to apply only to the machine or electronic components of our society but it also includes rational planning and management techniques.

### Technology in essence

Technology is said to be "a complex of contrivances"

(Heidegger, 1977, p.288) designed to achieve ends but in looking at the essence of technology, Heidegger points out that:

Technology is no mere means ... Techne ... is the name not only for the activities and skills of the craftsmen, but also for the arts of the mind and the fine arts. Techne belongs to bringing forth, to poiesis; it is something poetic. ... Techne is linked with the word episteme. Both words mean to be entirely at home in something, to understand and be expert in it. ... Techne is a mode of aletheuein (truth) ... a mode of revealing (Heidegger, 1977, p.294).

In essence, technology is far more than machines and systems. It is the total system, of means and ends, aims and objectives, and includes the necessity of complete control over nature and also over mankind which is part of the "revealing" and "enframing". It is the total "ordering of the orderable" towards "the maximum yield at the minimum expense" that is the essence of technology. Leaving the essence of technology to one side for the moment, in practical terms technology becomes the rational allocation of "human, material, and fiscal resources" (cf. Mitchell, 1975).

By extending the idea of technology to encompass the very notion of "being in the world", Heidegger pushes its meaning further than normal. In doing so he underlines the impossibility of escape from technology and the responsibility that rests on human beings and especially educational technologists; to try to monitor its development and through public education to make people aware of what they seem to intuit about it. It is this "intuitive opposition" that Scholer suggests can be overcome by a "little



'education' or information". A conversion of the public to technology is not sufficient; people need to recognise that some means of influencing the technological system is possible.

The ubiquity of technology tends to reduce personal participation in political, economic and social decision making but it is possible to use, not only a letter but also other means of ensuring local input to decision making. It is one function of educators and especially educational technologists to enable people to influence their own living conditions. In the context of education people can influence the educational processes, one of the chief of which is the mass media. It is to television, in particular commercial television, and videototechnology that this thesis will be addressed. It will assert that educational technologists can enable people to increase their control of television technology or to find alternative ways of using it in a creative and educationally valid fashion.

In the broad context of the technological world where the means to short term ends receive much emphasis, educational technologists need to evaluate the ends for which they work and the value systems on which these ends are based. A number of practising educational technologists (Boyd (1976, 1979, 1982, 1983), Harris and Bailey (1982), Hawkrige (1976, 1981), Mansfield and Nunan (1978), Megarry (1979), Mitchell (papers spanning, 1973-1983), Rowntree (1981), Scholer (1983), have indicated the need for such philosophical considerations. When technology is considered in Heideggerian terms, as "a mode of truth, of revealing", it becomes

obvious that the "best way of proceeding" in any enterprise which is part of the technological process is to balance carefully a number of normative and operational considerations within as wide a context as possible. (Mansfield and Nunan 1978). Educational technology, then, requires a balance of operational and normative considerations and it needs to be placed in the context of education in general, of the mass media, and of the world in general.

Technology and a better life.

Even in the face of public misgivings, 'technology' is still a wonder word that holds the promise of solving the problems of the world; it could indeed feed the starving and reduce the inequalities of access to power. As Stafford Beer remarks, "Technology makes mankind as a whole unimaginably wealthy" (1978), but on the other hand it has been suggested that:

The marvels of the technological era have not immediately been translated into corresponding levels of human well-being. While rigor and rational lucidity reap unprecedented triumphs in scientific enquiry, the domain of private and public action tends to be relegated either to the force of habit or to blind impulse and arbitrary bias. Divorced from the matrix of human purpose, science and technology seem to flood society with a knowledge which is not worth knowing while practical pursuits are adrift without intelligible standards (Dallmayr, 1972, p.79)

Neither the "force of habit nor "arbitrary bias" mentioned by Dallmayr (1972), nor the "bad faith" (Sartre, 1957) which Sartre saw as a source of much human action would suggest that technological

means will be directed towards a better life, yet since those comments were written there have been some changes. One of the hopeful things that one can see in reading about and speaking with educational technologists is the high level of concern which they exhibit that their work and profession in general should contribute to a better way of living. In the words of Scholer:

We believe that discussion about the "neutrality" of technology ought to be addressed in much more fundamental terms. In as much as educational technology must be a step along the way to a "better" life, it is necessary to define what we mean by "better" (Scholer, 1983, p.168).

A better life is one where all people and especially the underprivileged, have the opportunity to develop rational understanding, to find a sense of self and meaning in freedom, to choose a life style that does not deny the rights of others, and to determine the political and social conditions under which they live. Beer (Renascence, 1979) referred to such a life as "eudemony--well-being for humanity". Inherent in this ideal is the notion that the influence currently vested in the controllers of the mass media should be able to be challenged by the use of similar means by the general public.

#### EDUCATION

The price of freedom is eternal vigilance.

Education in general.

It has been argued (Jones, 1982, McLuhan, 1964, Illich, 1971)

that most learning takes place outside school; language, physical co-ordination, social relations are learnt relatively naturally, whereas writing, history, and poetry are so badly taught that formal education prevents learning in such subjects. Formal education provides most people with basic skills and a few people with the credentials needed to obtain jobs of high status, income and personal satisfaction. Formal education has been education of the masses on behalf of the dominant ideology since compulsory education was introduced in the 1870's. After more than a century of centrally organised education, whatever charism arises to implement changes is all too quickly bureaucratised although education as we know it will probably continue to provide basic skills and credentials until the possibilities of the interactive new technologies replace it or until it actually withers away.

Television, and more recently video and computer games, provide a high level of sensory stimulation that can result in learning; that is, they have the potential to improve education. With very few exceptions, they do not. It is probably not a matter of money alone that prevents emphasis on the development of imaginative and genuinely educative television, video, and computer programs. The distinction needs to be drawn here between instructional and educational programs. Instructional programs which are carefully worked out procedural steps towards some identifiable end are often satisfactorily used in training and as a part of education but programs that extend and challenge people intellectually, emotionally, and aesthetically are rare.

Some of the exciting things being accomplished in education are coming from outside the institutional structures and are initiated by industry. For this reason, among others, I want to emphasise adult, non-formal, on-going education as the focus for this thesis. A working definition of education is needed but because of the technological nature of the world and because "technological efficiency" rests on a rational base, the ideas of rationalism and rationality first need clarification.

### Rationalism

In the popular mind rationalism is thought of solely as a rejection of some religious beliefs because they are without rational foundation. (Flew, 1979). Writing in the thirteenth century, Thomas Aquinas argued cogently that almost all religious beliefs were attainable by reason; the exceptions were some revealed doctrines such as the Trinity, and the Christian requirement to love one's enemies. Thus, Aquinas was a philosophical rationalist who argued strongly for the separation of philosophy and theology. (The angels on the pin-head is a theological not a philosophical problem). A Dictionary of Philosophy states the following:

Doctrinaire rationalism (Descartes, Leibnitz) is said to hold: (a) that it is possible to obtain by reason alone a knowledge of the nature of what exists; (b) that knowledge forms a single system, which, (c) is deductive in character; (d) and can explain (in principle) everything. Modern rational philosophers tend to agree that knowledge forms a single system which can, in principle,

explain everything. (Flew, 1979, p.278).

If one considers rationality as the antithesis of non rationality it is possible to allow the rational being to have irrational moments and also to have needs and qualities that are acceptable and might not yet be explained rationally. In other words, one allows for aesthetic and emotional activities and interpersonal relationships. To accommodate this somewhat broader view of reason, the term "rational understanding" (Crittenden, 1981) is used when the goals of education are considered.

#### Rational Understanding

This is important because in the literature relating to educational technology much emphasis is laid on rationalism and rationality as its extension. Rational understanding is a much richer term and if taken in its fullest meaning humanists need find no fault with a rational education. Human beings are not disembodied faculties of reason. Rational understanding, while rooted in reason, extends to the emotions and imagination, to the appreciation of aesthetic form and the exercise of moral and other practical judgments; it embraces a grasp of principles underlying the relationships between parts, and parts and wholes, and engenders a sympathetic awareness of persons and/or situations (Crittenden, 1981). This terminology takes cognisance of the fact that education is an enterprise involving the whole person and thus not completely able to be objectified; personal, qualitative, and

contextual value judgments are important. Some educational technologists, strongly influenced by behaviourism, would find discussion of "whole person" and rational understanding quite foreign while others, some from a humanities background, will find the seeming vagueness quite comfortable. Yet others will be on the continuum between these two poles but all need to consider qualitative and contextual problems.

#### Education versus socialisation

##### Intention

While education is normally considered as part of the process of socialisation, it is not merely socialisation. There is an element of intent that is present in the process of education which separates it from socialisation. Within schools and formal education structures it is often the intention of a parent that a child be educated rather than the intention of the child who must be "won over" by having its interest aroused. The problem of intention is real for unless one examines it, one is left including in education all mass dispersions of messages whereas they may be propaganda, instruction (government instructions in time of nuclear disaster), information, or entertainment. The intention of the recipient is a matter of how the decision to undertake and participate in an educative act, i.e., one which the person sees as conducive to growth, is taken.

This means that there can be no education by stealth and whatever else subliminal messages may do to people, they do not

educate them. When considering on-going education this intentionality is important for one of its implications is that people need to have a variety of options open to them. Intention from the point of view of the sender of the message is more problematic; it is likely that the makers of much of the material on television screens have no intention of educating, informing or even entertaining in any positive way. The programming is merely there to attract an audience and thereby sell time to advertisers. For the most part, in spite of government charter, commercial television has no intentional role in educating the public. It is possible that if educational technologists were to become part of the team making commercial programs there could be better programming which would still attract large audiences and be profitable.

#### Conformity

In its duty to develop the critical faculties, education runs counter to normal socialisation. It is judgment and possible action against the norms of society that potentially separates education from socialisation. It is quite proper for a person to engage in peaceful civil disobedience as a result of educated and careful judgment, but the process of socialisation would render this rare. In fact, when one looks at the role that conventional education plays in strengthening those who have power and material possessions against those who have not, it is obvious that the socialisation programme is strong and education weak, or that



education is taken as individual improvement and social responsibility is not considered or acted upon. This is particularly true of formal education. Writing of France and in 1967, Aranguren says:

Education (is) the transmission of behaviour-patterns. These are based on cultural or moral values, recognised as such by society... We are here faced with a question of principle, to be decided according to which is valued most highly, technological-economic productivity or real and effective democracy (Aranguren, 1967, p.168-9).

There is little doubt that while democracy may be part of the hidden curriculum (See Dreeben, 1968), technological-economic productivity is the acknowledged goal of the system. An orderly public is necessary for such productivity and therefore conformity is an overwhelming value. Informal education which comes in large part from the media is also heavily weighted towards conformity. It is a concern that conformity as a value needs to be challenged that has suggested a re-definition of education. An historical analogy could be drawn between the present situation and the decline of scholasticism and the medieval universities at the time of the Renaissance. Universities regained their importance only in the nineteenth century with the new universities, University of Berlin and University College in London. The learned societies and academies of the seventeenth and eighteenth centuries may have their counterparts in the computer users groups, networks, and videototechnology of today.

## Meaning

If it is to be of maximum benefit, education must provide the student with the opportunity to develop a sense of meaning both on a personal and affiliative group (Boyd, 1983) level. Personal meaning because it involves the whole person, what has been referred to here as "rational understanding" is fostered by a study of and response to art and by an appreciation of nature. Even an appreciation of nature is within the direct ambience of educational technology (Manus, 1979) but Suzanne Langer argues convincingly that art, and science, mathematics, and logic all involve the "abstractive process" but differ in the attribute of "generalization".

The forms abstracted in art are not those of rational discourse, which serve us to symbolize public "fact", but complex forms capable of symbolizing the dynamics of subjective experience, the pattern of vitality, sentience, feeling, and emotion. ... Although art and science spring from the same root, namely, the impulse to symbolic expression... they separate practically at the beginning (Langer, 1957, p.176,77).

In its effort to attain and measure efficiency, education has become almost wholly a technology in the narrow sense of being an efficient means to a narrow, well defined but not necessarily thoroughly thought through end. If however, it were to tap the artistic and symbolic elements of living, the importance of worthwhile values may be highlighted and a sense of meaning engendered. The evidence of high suicide rates and self-stated pointlessness of so many lives indicate a lack of a sense of

meaning and show that conventional, secular education fails in this objective. The contribution made to life-meaning by the mass media is for many people negative rather than positive in that there is gradual erosion of sensibilities through constant subjection of the readers and viewers to banal, pointless, violent, and perverted values.

#### Critical awareness.

The development of critically aware, outspoken persons oriented to action should be one of the aims of publically funded education. Crittenden argues that "the continual critical reform of the traditions of rational inquiry is itself a tradition ...(which) does not exist independently, but is a way of engaging in any of the particular traditions" (1981, p.119). It is difficult to see this tradition being followed when educators such as Holt and Goodman and informed observation attest to the view that "schools not only fail to educate but even prevent real education from occurring"(Goodman, 1956,p.26). Critically aware persons oriented to action seem to be the aim of a curriculum mentioned by Crittenden: "The distinctive role of the secondary school is to provide a systematic introduction to the major modes of thought ... for an intelligent participation in the critical and reflective domains of culture"(1981, p.134). In general terms few people seem to be educated in this way. Education through the media is even more destructive of critical awareness than the formal system. Television seems to reduce every topic to the lowest common

denominator of viewer intelligence and to assume that gratuitous sex and violence will sell any goods. In the absence of grounded values in the general public, it fulfills its commercial purpose.

#### Education redefined: EDUCATION

The education of an individual consists in his or her growth in rational (intellect, emotion, imagination, and will), aesthetic, political, moral, and spiritual faculties together with a growth in the ability to relate at an appropriate level to other persons, including those of quite different backgrounds and cultures. This growth implies the ability to interpret, appreciate, and critically discriminate in a broad range of human affairs, and to maintain a careful balance between the functioning of the individual with his or her personal goals, and the good of the group or groups upon which those goals and actions impinge. Along with the family, the media, the Church, and the neighbourhood, education is part of the socialising process. EDUCATION, (critical, reflective, creative, participative education) however, allows and requires a person to assess the socialising agents and commit himself or herself to activities in accord with his or her rationally made assessment which considers the good of the community as well as that of the individual. Community here refers to the small group to which a person belongs and the larger groups upon which this impinges. EDUCATION enables a person to live in a state of carefully executed judgments, ongoing EDUCATION results in the authentic person who decides rather than follows the crowd. (See Heidegger, 1962,

Kauffman 1956).

EDUCATION for meaning and critical awareness.

Where is the wisdom we have lost in knowledge?  
Where is the knowledge we have lost in information? (T.S.Eliot, The Rock, 1934).

The desire for gurus, for group experiences, for the new and untried, together with high suicide rates especially among the young may be interpreted as a search for meaning in this age of information and unwisdom. Few people articulate such a need, some find it in conforming, others in rebelling but it seems that the operational approach to education has resulted in emphasis being given to practical matters rather than to a search for meaning. Fromm expresses the general human need for meaning thus:

Precisely because man has awareness and imagination, and because he has the potential of freedom, ... , seeking for meaning beyond utilitarian work (is) inherent in (his) existence (Fromm, 1971, p.71,72).

From an educational point of view, Oakeshott(1972) emphasises the place that meanings occupy in human life and argues that meanings are not innate or acquired through maturation but come as a result of learning. He interprets education as the "deliberate process of entering actively into 'the inheritance of human understandings, modes of thinking, feeling and imagination'(p.24)"(Crittenden, 1981,p.159).

An operational approach in education treats knowledge as

something to be "transferred and deposited in the students" (Freire, 1974, p.100), or as a set of behaviors to be demonstrated. These might be called the 'know what' and the 'know how' objectives. Both students and educators use this static model of knowledge and education as was bemoaned by Norbert Weiner thus:

What sometimes enrages me and always disappoints me is the preference of great schools of learning for the derivative as opposed to the original, for the conventional and thin which can be duplicated in many copies rather than the powerful, and for arid correctness and limitation of scope and method rather than for universal newness and beauty, wherever it may be seen (Weiner, 1967, p.181.).

While Weiner was complaining of the lack of content and of new substance to scholarship and communication in general, he was in general agreement that this narrow view of education fails to recognise that confrontation with the world and that reflection on this experience is the source of true knowledge. True knowledge cannot be a list of facts or even a systems consideration unless both those things allow for the knower to be a recognised part of the system. Conventional views of knowledge assume neutrality whereas real knowledge cannot escape being a partisan and passionate search for meaning by a fully human person interacting with a variable environment.

Paulo Freire has used the terms integrative education and education for critical consciousness to describe the kind of education that will enable persons and groups to seek knowledge

and meaning.

Knowing, whatever its level, is not the act by which a Subject transformed into an object docilely and passively accepts the contents others give or impose on him or her. Knowledge, on the contrary, necessitates the curious presence on Subjects confronted with the world. It requires their transforming action on reality. It demands a constant searching. It implies invention and re-invention. It claims from each person a critical reflection on the very act of knowing. ... The only person who really learns is s/he who appropriates what is learned, who apprehends and thereby re-invents that learning; s/he who is able to apply the appropriated learning to concrete existential situations (Freire, 1974, p.101)

It is in the "invention and re-invention" and the application of the knowing to a practical action that knowledge becomes meaning. The "concrete existential situations" and the whole learning experience need to be shared by "educator and educatee" in dialogue so that both come to NEW understanding and NEW possibilities for acting on the understanding. Unless there is this shared dialogue and readiness for action, as well as action itself, educators "merely extend elaborated 'knowledge' to those who do not possess it, (and) kill in them the critical capacity for possessing it"(Freire, 1974, p.101). This is most obvious in adult education but is important throughout the whole life span because the search for meaning is, unless killed, part of the human condition. (See G. A. Kelly, 1963).

Knowing and acting

The joining of knowing and acting has been neglected in the educational structures designed for mass education and the

insistence of philosophers such as Aristotle and Aquinas on the necessity, because of the nature of man, of considering them together as the outcome of education has been forgotten. The lack of the ability to act on knowledge engenders a feeling of futility and resentment which is spoken of as alienation and experienced as powerlessness. (McAllister, 1981p.32) Conventional knowing about and knowing how to, what Freire calls "awareness of contents" and "technical information", are related to extension, to sending out messages without the involvement of sender and receiver in dialogue, and to problem solving rather than "problematization" of the natural, cultural and historical reality in which a person lives. Problem solving reduces reality to those parts which are amenable to solution while problematization associates an entire populace in codifying reality into meaningful symbols of their own making which can generate critical consciousness and empower people to alter their relations with nature and social forces. Freire, in a seminar in Australia in 1974 showed that his approach could be used in that country to provide an adult education that aimed at active and critical consciousness in the context of Christian renewal towards a just society.

#### The Contribution of Freire

The points from Freire's works which are of most value to educational technologists desirous of contributing to a better society are the importance of integration as distinct from adaptation, dialogue as opposed to extension, and the



codification of reality into symbols that are shared by educator and educatee

#### Integration

"Integration results from the capacity to adjust oneself to reality PLUS the critical capacity to make choices and to transform that reality"(Freire,1974,p.4).

The merely adapted person has lost the ability to choose by accepting the imposition of choices from outside or through relinquishing the right to have choices: he or she has "adapted, adjusted", or accommodated. The notion of accommodation can be applied to the lack of willingness of people to become involved in and committed to choice on a political level: the non-critical acceptance of media made images of politicians and policies; on a social level in the non-critical acceptance of the media made value of consumerism; on an educational level in the lack of encouragement of critical thinking and formulation of alternative futures. It may be argued that most people are content in their non-choices and "inert ideas-that is to say ideas that are merely received into the mind without being utilised, or tested, or thrown into fresh combinations"(Whitehead, 1967, p.1-2). There is evidence of a crisis of meaning, of boredom and disaffiliation from society, in the unparalleled suicide rate in westernised countries and it could be argued that lack of real choices contributes to such alienation. The Gamma Report in Canada, and similar studies elsewhere, have indicated that people want to learn to find their satisfactions in non-material experiences and

to appreciate human values more than material values (Jones, 1983, p.230). These surveys suggest that meaninglessness is indeed recognised.

#### Dialogue

Dialogue has already been given token acceptance in our educational system but it is absolutely absent as an organising feature of our society, and of our educational bureaucracy. Freire points out that its absence constitutes manipulation and massification, dehumanization and alienation. If dialogue were genuine, humanism with commitment to "the constant transformation of reality" (Freire, 1974) would result, choices would be real and acted upon, and authentic rather than inauthentic human beings would result.

Since the mass media is capable of being one of the channels of education, it is fitting to suggest that there be some dialogue with media interests. Educational technologists, with their skills in planning, production, and hopefully animating or catalysing, may be able to obtain air-time for genuinely educative programs. Since this has been difficult in the past and there is no reason to expect miracles, an alternative concept of the media, notably videototechnology, could be used to provide the dialogue which will enable people to take part in their own INTEGRATIVE EDUCATION. One pattern of such an activity was set up in the Challenge for Change project.

#### Symbolic codification

Symbolic codification is the aspect to which least attention

has been paid. To some extent educators check that the linguistic code they use is shared by the students but this falls far short of the cooperative exercise of forming codes envisaged by Freire. Visual codes and myth which tap the emotional life of people are much more potent than words (See Douglas, 1970) and without going into detail about it, one could say that the mass media provide our society with the version of symbolic codification that best serves commercial interests. In doing so they make choice in this society largely illusory because it is subjected to the strong expectations of others. It can be argued that there is a possibility of escaping the influence of the media by turning off the switch; this may be a choice for some highly educated or independent individuals but for a variety of reasons it is not one open to the general public. The greater proportion of people fit the following:

Excluded from the sphere of decisions being made by fewer and fewer people, man is maneuvered by the mass media to the point where he believes nothing he has not heard on the radio, seen on television, or read in the newspapers. He comes to accept mythical explanations of his reality. (Freire, 1974, p.34; See also C. Wright Mills, 1956)

By using "facts", encoding them in different forms, and disseminating the fact/form package, the media create symbolic images. "The creators of these symbolic images exercise quite extraordinary powers over the imaginations of men and the course of events" (Boulding, 1969, p.110). These symbolic images can be compared with the anthropological definition of myth. It is when

"anthropological myth" is considered in the structuralist sense that the power of the symbolic-image-forming-mass media becomes obvious. Gardner explains myth thus:

Myths ... deal with problems of human existence which seem insoluble; they embody and express such dilemmas in a coherently structured form, and so serve to render them intelligible. Through their structural similarity to given "real world" situations, myths establish a point of repose or equilibrium at which men can come to grips with the crucial components of the problem, and become aware of the "fix" they are in. Thus a myth is both intellectually satisfying and socially solidifying (Gardner, 1976, p.148).

Few people would admit to finding the symbolic images (myths) supplied by the media "intellectually satisfying" but the number of hours spent by the public in contact with the images almost guarantee an effect. "The highest concern of all mythologies ... (is) persuading people to identify themselves not with their own interests, intuitions, or modes of experience, but with archetypes of behavior and systems of sentiment developed and maintained in the public domain"(Campbell,1972, p.163). When television is considered as symbolic image or "myth", the soap operas and quizz shows as well as the advertisements become the "systems of sentiment" to be identified with. The consumer society is thus legitimated. Freire's insistence on the cooperative formulation of a symbolic codification can be understood when its power is realised. People need an opportunity to participate in real and informed discussion through the use of the same media that has expressed the unsatisfactory symbolic

code. The code may be, and often is, unsatisfactory because of the banal or harmful values it enshrines, but its chief claim to dishonour is that it has not been worked out co-operatively.

While it is manifestly impossible for a whole population to form an integrative education network such as was suggested for Brazil, it is quite feasible that with the help of a catalyst, an educational technologist, certain sections of Western societies could form educative groups. Such groupings, called by Boyd (1982) affiliative groups and lifestyle networks, would come initially from the thirty percent (Jones, 1983, p.61) of people who make up the quinary sector of the population and those engaged in the quaternary or symbol manipulating sector. The innovative ex-BBC television director Peter Watkins who because of his avowed educational aims could be called an educational technologist, is involved in such an enterprise. He is making an anti-nuclear film for release to television and cinema theatres and for use at public meetings. One of the new features of his project is the method being used to prepare the family sequences:

Unlike the customary method within the cinema and TV, there will be no formalised script written at the outset. The process of the program will grow, organically, to integrate the ideas and knowledge of many people in different parts of the world. The actual family scenes will be based on the feelings and reactions of each family, not upon a centralised script written beforehand by a script-writer or by the director. In this way too the film will challenge the highly structured techniques of the mass media, which use the professional filter-process to screen out the opinions and sentiments of ordinary people (Peter

Watkins, personal communication, November 6, 1983).

In this project we have an example of symbolic codification undertaken on a world scale and animated, planned and "produced", i.e., money raised by, an educational technologist. The work of Watkins fits the definition of education being used here and falls well within the activities of the discernible technologist (Mitchell, 1981).

#### EDUCATION and the educator

The most serious problem of defining education as EDUCATION, as education for critical consciousness or as integrative education lies in delineating the role of the educator and consequently of the educational technologist. It has been argued here that education is the responsibility of the person seeking it and stated that there is no education without intention. Under these circumstances the educator has the function of providing the means for the educatee to obtain these growthful experiences. This approach is used by skilfull teachers in primary and secondary schools but can hardly be said to be widespread. It is a far more demanding goal to be worked towards than the familiar behavioural objectives, although it does not preclude such objectives. The educator is required to be a catalyst for the activities of the learner, an animator to encourage the learner to overcome problems of inertia, and above all a communicator who does not only send messages but noise free messages that actually engage the learner in dialogue.

A further problem for this kind of educator is that of knowing whether the enterprise is proceeding satisfactorily, that is, evaluation. At some stages conventional quantitative evaluation is appropriate but additional evaluative procedures of the qualitative kind such as those used in some of the social sciences and those contained in David Hamilton's useful collection of articles: "Beyond the Numbers Game"(1977). Within the literature pertaining to educational technology, Harris and Bailey (1982) have suggested broadening the bases of evaluation.

Looking at EDUCATION in the way suggested here and in the context of society raises a variety of problems most of which apply equally to formal, non-formal education, and educational technology. Some of these problems are: the balance of power, the focus of responsibility, the choice of content, the location and type of services, funding, the relationship between education and ideology, and the co-ordination and balancing of all the resources. Decisions on these matters and others need to be made in a cooperative fashion which is in conflict with our present technological world pervaded by technocratic decision making. It is in the context of rationally systematising these factors which influence public education of all types that the educational technologist can influence society:

Educational technology is an area of study and practice concerned with all aspects of the organisation of educational systems and subsystems whereby resources— human, material, electro-mechanical, money, and knowledge— are allocated to achieve specified and potentially replicable educational outcomes. (Mitchell, 1981)

EDUCATION demands a fresh approach to educational technology and the roles of the educational technologist but before indicating these it is useful to examine the picture of educational technology presented in recent literature.

#### EDUCATIONAL TECHNOLOGY

##### General remarks

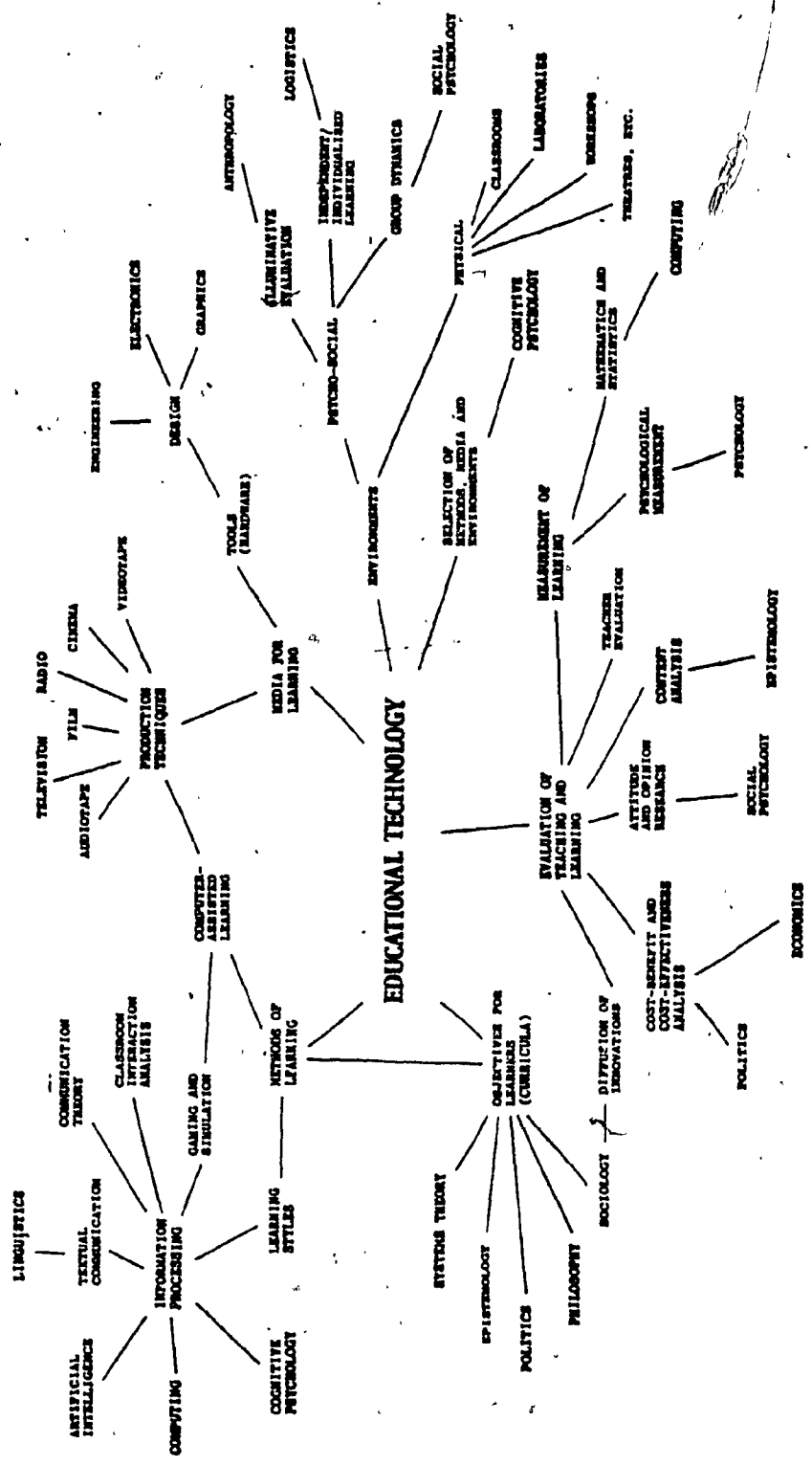
It is almost impossible to find a section of educational theory that does not by implication involve educational technology; this holds for the past as well as the present. Aquinas (d.1274), Comenius (d.1670), Froebel (d.1852), and Montessori (d.1952) were outstanding educationists who, though never referred to as educational technologists earned a place in the history of the discipline because of the 'rationally' planned means they used to reach valued educational objectives. They also allowed for irrational elements like play and aesthetics in their plans and Aquinas and Montessori at least encouraged critical reflection on the learning process and to some extent on the content.

Except for operationalized evaluation of efficiency and effectiveness and a concern to improve the results of learning activities for individuals, there is little that all educational technologists claim in common. Though many work in a systems framework, there is only recent evidence that educational technologists are taking stock and applying critical reflection and/or critical theory to their work. The difficult question



whether it is possible for people within a system to reflect on and change that system is one that must arise for every user of a systemic approach. Because of that conceptual difficulty, I want to assert only that educational technologists can and should apply critical theory/practice and principles not to the whole of educational technology but to that part of it which they practice. It is here argued that the mass media requires such critical theory/practice applied to it. It can be seen from Figure 6, The Hawkrige Concept Map, that production techniques for what are often called the mass media are part of the domain of educational technology although it is doubtful if many in the mass media field think of or refer to themselves as educational technologists.

As this diagram includes only educational technologists, it can be said that there is a body of technical production experts who share the expertise of those who work in the commercial media. It can also be assumed that many others in the educational technology network share these same skills together many specifically educational ones. A further assumption is being made in this thesis: the ideal educational technologist is concerned with working towards a better society and many actually work towards this end. (If that assumption is unfounded at the present time, then there is always the hope that in the future it may become a reality).



An educational technology map

Figure 6. The Hawkrige Educational Technology Map

In working towards human well-being defined as critical and powerful participation in the creation of social and political conditions, educational technologists will need to note the ubiquity and importance of the media. They will emphasise humane values and enable "skilled amateurs (to cut) across the boundaries of bureaucracies" (Boyd, 1983) which select and slant the form and content of the media. In doing these things, educational technologists get beyond the effectiveness and efficiency approach of delivering educational packages and actually use educational technology as a means of contributing to a better way of living.

#### Towards a Better Life

##### Educational technologists for rational understanding

An educational technologist is one who through the management of dynamic systems and selection of elements within those systems and working in consultation with clients is able to provide opportunities for their growth in rational understanding. To act in such a manner requires idealism, a deep concern for humanity, and a philosophy which sees the profession and its underlying values in wide terms. One such broad concept of technology and of education has been indicated. It is the central

assertion of this thesis that:

An educational technologist who is able to be explicit about the philosophy or system of values held, who considers the long term results of each job for the client and for those being educated, and who discusses these things in a dialogue of equality can have a great influence on education and impact on the quality of life in today's world.

This assertion will be supported by actual examples of programmes and projects in which educational technologists have been explicit about philosophy, considered long term results, worked in genuine dialogue and as a result of these things, have influenced education and changed the quality of life in those cases.

While educational technologists of this calibre have been practising throughout the timespan of the profession, the emphasis in this statement is sufficiently different to refer to modified roles for EDUCATIONAL technologists.

Modified roles for Educational technologists

Various roles for educational technologists have been suggested from time to time in journal articles and at conferences.

It has been said that:

Educational technology can, furthermore, only be used within polyvalent teams, bringing together specialists in the media, in assessment, and in theoretical models. More clearly disassociated roles are attained and specialists in the

discipline being taught find their relative weight being diminished. Furthermore these teams, ... acquire very strong positions (Jadot, 1972, p.60).

This statement indicates the potential or actual power that educational technologists wield in places of formal education like the Open University in the United Kingdom and at Deakin University in Australia. The University of New South Wales in Australia uses a similar system to offer adult, on-going education which is not tied to formal qualifications. In the context of on-going, informal, adult education towards critical consciousness or rational understanding there is a glaring inadequacy. Serving on that team there needs to be one or more representative of the client body, the students or learners. Jadot continues:

Educational technology, ..., cannot be divorced from thought concerning aims and purposes if it is to avoid inevitably contributing towards dehumanisation and the reinforcement of conformism (Jadot, 1972, p.60).

EDUCATIONAL technologists will need to accompany their thoughts concerning aims and purposes to the long range effects of projects not only on those they work with but on society itself. By discussion with those with whom they work integration rather than adaption will be effected; educators and educatees will enable "adjustment to reality and critical capacity to transform that reality" (Freire, 1974) if necessary. EDUCATIONAL technologists thus are required to be catalysts and animators in the same way that educators are. To do this effectively they need to be good

communicators both interpersonally and through whatever medium they are required to work. If an artifact ensues as a result of the teamwork, the educational technologist would normally have suggested the means of distribution. If the program is a television one, it can be distributed either through the regular broadcast channels or by alternate means. Working as part of a team, the educational technologist emphasises the process as well as the product and it is the process that is such a powerful educational tool.

#### Roles and aesthetic values

The categorisation of educational technologists as animators, catalysts, and communicators arises from the definition of EDUCATION as enabling rational understanding (op.cit.p.30). It is a modification of attitude rather than of role and there is no necessary conflict between these terms and the thirty or so that Mitchell (1981) groups under the headings of learning consultant, producer and evaluator of materials, manager of resources and analyst/planner. He refers to the four integrated macro-roles of the discernible educational technologist and spells out the interdependent "skills and knowledge from science and technology" that need to be rooted in educational theory and philosophy. In that article no specific mention is made of the value that aesthetic and emotionally oriented components can have. If, for instance, an educational technologist acting as a television producer or director wants to induce change in viewers, more than the skills conventionally called scientific and technological are

required. For maximum impact, the viewer needs to be reached not only at the intellectual but also the emotional and aesthetic levels; only in this way will rational understanding be facilitated.

#### Process and ideology

Rational understanding with its multi-faceted emphasis on the whole person not only demands that aesthetic and ethical values be considered but also leads to an emphasis on process. In their reliance on mainstream educational psychology, educational technologists have seen process largely in terms of psychology. Process has been stated in learning theory terms like cognitive dissonances and black boxes but process itself is much broader; it looks at the dialogue between the learner and the materials and emphasises the cooperative nature of learning (Pask 1967, Thomas & Harri-Augstein, 1978). It postulates that the learner intends to learn, is changed by the content and by the medium, (cf. McLuhan) and can change both or at least has an investment in changing them. Process looks also at ideology. As Bernstein says, the process of selecting, organising and transmitting knowledge is at the very core of educational and social inequality (Bernstein, 1971).

One of the most potent instrumentalities today which selects and transmits almost all the knowledge that is available about the world and society is the mass media. If one looks only at the news and overlooks the arguments about violence and the values present in the soap operas, it is impossible not to agree with Stuart Hall when he writes that "the steady and unexamined play of attitudes

which, via the mediating structure of professionally defined news values, inclines all the media towards the status quo" (Hall, 1970, p.1056). Other writers consider that the mass media help members of society to make meaning of their lives (McQuail, 1983, p.131) and one can claim that in the absence of traditional family and church groupings, this meaning-making is the single most powerful factor in the lives of ordinary people.

Educational technologists and the mass media.

It is difficult to deny the importance of the mass media in selecting and organising views of the world. These views are then transmitted to the public which has at the moment little hope of forming a feedback loop with sufficient variety to affect the media system or the social system. This is where the educational technologist, ideally educated and endowed with the ideals and skills mentioned above, can contribute to a better world. The mass media needs a critical theory and critical practice such as that called for by Habermas:

In industrially advanced societies, research, technology, production, and administration have coalesced into a system ... in which they are functionally interdependent. ... The more the growth and change of society are determined by the most extreme rationality of the process of research, subject to division of labour, the less rooted is this civilisation, now rendered scientific, in the knowledge and conscience of its citizens. In this discrepancy, scientifically guided techniques and those of decision theory - and ultimately even cybernetically controlled techniques - encounter a limitation they cannot overcome; this can only be altered by a change in



the state of consciousness itself, by the practical effect of a theory which ... advances the interest of reason in human adulthood, in the autonomy of action and in liberation from dogmatism (Habermas, 1974, pp.255-6).

It is suggested that the words "industrially advanced societies" could be replaced by "mass media oligarchies" without any further change having to be made in the statement. There seems to be no other group of professionals in society who have the skills, the training, the facilities that educational technologists have. Can those of the profession who are interested prove that a "technical" allied with a "practical" and an "emancipatory interest" provide the action that is required to make the best use of the media? In doing so they would "advance the interest of reason" and encourage an age of communicative competence where individuals and mutual interest groups have access to decision making. Such a quiet revolution would do much to further the formation of a humane society.

#### CONTEXT OF THE MASS MEDIA

##### General Remarks

The following remarks refer to Australian conditions where cable television although under discussion, will probably not be a reality for some time. The domestic satellite will provide television and telephone services to the fifteen hundred or so outback households which at present depend on two way radio.

##### a. Regulation

The media industry, traditionally seen in terms of radio,

television, newspapers and magazines, has been extended in the last decade by the addition of the computer and video game business, and will grow further as the new technologies become more commonplace. Government regulation nominally controls the historical media, it remains to see whether any control is exercised over the computer based industry. Television and radio licences are granted on the grounds that the programs inform, entertain, and to a lesser extent educate the public; the charter of the Australian Broadcasting Commission entrusts to it the further task of catering to minorities. Whatever the influence of regulation, it can hardly be denied that all communication industries including those supplying electronic games either create or reflect a complex system of beliefs and values about life and society. As Henry Mayer writes:

Any medium is not a passive channel but an active shaper. It mobilises, depresses, reinforces, and legitimises. It deeply influences attitudes toward the system we live under and whether that system needs changing ... Thus we can always ask; why has this rather than that selection been made, whose interests does this rather than that selection promote or bypass or downgrade? To discuss the media seriously is to raise questions of that kind. (Mayer, 1976, p.169)

b. Ownership

One could expect that the media generally would reflect diverse values present in a society and the fact that they do not is often blamed on the monopoly that a few companies hold over Australian media. The main companies are The Herald and Weekly Times (Murdoch family), John Fairfax Limited (Fairfax family) and

Consolidated Press Holdings (Packer family) and they control newspapers, magazines and through membership of company boards, most of the radio and television stations. Having formed a consortium, they are now negotiating for control of the domestic satellite. Occasionally, and especially in times of national stress like in the dismissal of the Whitlam Labour Government by the Governor General and election times, some outcry is made about the media monopoly, but it is generally disregarded. Since the amount of control exercised by the owners is subject to controversy, and the industry with its local and international connections an extremely complex one, complaint about ownership is somewhat naive. It is the monumental system of "research, technology, production, and administration....(together with)....the most extreme rationality....(not) rooted in the knowledge and conscience of the citizens" (Habermas, 1974) that is of more consequence for the good of society than mere concentration of ownership. Except for a letter of praise or blame to the station or to a nameless bureaucrat on the Australian Broadcasting Tribunal, the public has little say in what the media produce.

#### c. Values

The ratings which measure the number of people watching or listening and thus the potential effectiveness of advertising sales, control the programming. As the industry trade journal, B & T Weekly, says: "We can deliver more housewives between 2 p.m. and 4 p.m. than ... Channel x" (Quoted in Rosenbloom, 1978,

p.15). In this example of blatant manipulation of "housewives", the commercial media is conducting a "surreptitious slave trade" and whilst professional journalists and program makers are "theoretically searching for truth, imparting knowledge and widening worthwhile human experience"(Ashbolt, in Wheelright and Buckley, 1975, p186), the industry is encouraging unquestioning acceptance of values which work towards commercial success. The most obvious value is consumerism. While the Australian Broadcasting Commission does not depend on ratings in the same way as the commercial stations, it too has its constraints and the following remarks are perhaps to a lesser extent, pertinent to it too.

Beneath the arch of consumerism the following trends are obvious:

- (a) There is emphasis on achievement and growth; the heroes and heroines are successful sports stars, actresses, etc and the "little Aussie battler" is rarely seen in spite of the tradition that the nation is made up of little battlers.
- (b) There is focus on crime and accidents without any discussion of the factors which contribute to these statistics.
- (c) There is a focus on white collar, middle class images. It has been suggested that the only way for a working class man to get into the news is for him to become a successful jockey or horse trainer, to suffer a catastrophe, or to commit a rape. (Connell, 1977, p.197). A working class woman has even more difficulty.

- (d) There is trivialisation of social, political or economic alternatives. The debate on women's issues is usually reduced to, should the woman's place be in the home?
- (e) There is focus on and glorification of violence so that people see it in terms of "baddies and goodies" rather than something that sickly pervades every walk of life.
- (f) There is denigration of protesters of any type either by holding them up to ridicule or by presenting them as threats to society. Strikers are particularly poorly reported with few if any references being made to the justice or otherwise of the strike. (A notable exception to this was the treatment of the 1972 oilworkers' strike)

In general, the media reflect a homogeneous, male dominated, middle class society and show neither blue collar workers nor any dissident views. Although almost 25% of the Australian population are not Anglo-Celtic and white, one would never infer this from the media. There is no expression of variety of points of view or attitudes and yet within the society there are such differences.

#### Media Research

Among the theories underlying research concerning the mass media are the following. Mass society theory suggests that the media offer a view of the world which allows the public to be manipulated but also satisfies its needs. According to one writer, "Between consciousness and existence stand communications, which influence such consciousness as men have of

their existence" (C. Wright Mills, 1951, p.333). Generally speaking a Marxist approach tries to unravel the complex mechanisms by which the production, distribution and consumption of ideological content is managed without state intervention, while the Frankfurt School emphasised the media as preventing to change. Other approaches are summarised in the following statement: "The political-economic approach attends to the institutional causes, hegemonic theory to the message, while the culturalist approach attends both to the message and to the public, seeking, by a sensitive and critically-directed understanding of the real experience of people, to account for patterns of choice amongst media "(McQuail, 1983, p.63).

Regardless of theoretical orientation, there are issues that need to be addressed by educational technologists who want to work towards a better society.

#### Media and the educational technologist

Theoretical frameworks need to be studied by educational technologists as part of their commitment to a better society but in common with other social sciences, media theory deals with human experience that is difficult to reduce to a formula. As McQuail says,

"Media theory suffers the dual disadvantage of being often at odds with the creative practitioner and having made little progress towards a 'science of mass communication', in the sense of a body of dependable propositions that could be used for more effective media operation (1983, p.216).

Perhaps it is the lack of a dependable scientific base that has

militated against the participation of educational technologists in mass media theoretical work but their involvement as "creative practitioners" is to be desired.

Some practical questions of interest to educational technologists are:

Is there need to protect individuals and institutions in society from the media?

Should the media be used to attain positive social goals and the public good?

Implied in the foregoing discussions is an affirmative answer to the need for protection of individuals, not through censorship but through ongoing education towards rational understanding. It is suggested that the media should be used to attain the positive goal of education for all. The acceptance of Freire's model of integrative education requires that the use of the media be not a top-down process and educational technologists are ideally situated to be the catalysts for such use.

Educational research with regard to the top-down use of media has been disappointing:

Research on media and technology in education appears in many forms and styles. However its yield in terms of understanding media, guiding their utilisation, or improving education ... is quite disappointing ... The research became highly specific, neat, even sterile to a degree. (Salomon and Clark, 1978, p.115)

The narrow "which medium is best" research referred to by Salomon and Clark is important to the educational technologist in

mobilising the resources (Mitchell, 1981) but if we consider the educational technologist as involved in enabling rational understanding to develop, and therefore aiming to engage the heart as well as the mind, then the wider questions of the values present in the mass media arise.

Anecdotal evidence in many Australian secondary school courses in the critical assessment of the media suggests that having students write newspapers, make radio and video programs is a very powerful educational tool. One high school teacher claims that a serious litter problem was solved through student made and distributed video programs. This grass roots action in which the educator is an animator rather than expert could be a model for ongoing education where educational technologists have the skills needed to encourage learners who so wish to take up topics in which they have an interest and which aim at some result that is generally beneficial to society.

Underlying these remarks is an assumption that a comparison can be drawn between the media and tools. The tools used to send messages "from the top-down" structure of the media, can also be used in a different way to send messages from the grass roots in two directions, upwards, as it were, to various centres of decision making and horizontally to awake awareness among local communities. In each of these notions true education occurs in the process of thinking and acting--surely the task of the educational technologist is to enable it. Here conventional mass media has been the focus of discussion but the same remarks could



be applied to the computer industry, only educational technologists could be imaginative enough to prevent the top-down monopoly which developed in the earlier mass media.

A systems problem: unamenable mass media

Prevailing social trends and basic human values were cited by members of the Chicago School as the distinguishing characteristics of critical research in contrast to administrative research which rested on empirical investigation of audiences, publics, authority figures and such variables. The critical research foci are those around which Ellul built his dialectic and his somewhat pessimistic view of the mass media. He never discussed media apart from religion, education, human relations and politics to mention but a few of the facets of his discussions and for this reason is not a well known critic of the it. He endeavoured to comment on it as a sub-system of society and with systems logic was unable to see change as likely. Because his criticism is set within the technological imperative and because educational technology fits into the same scenario, his ideas are important. In defining "la technique ... as the totality of methods ... having absolute efficiency in every field of human knowledge" (Ellul, 1964, p.xxv), he disallows any dialectical reality except from outside the system. Family systems-theory psychotherapy as outlined in Watzlawick (1967) also stresses the need for something from outside the system to supply requisite variety. The media system needs input from

outside its own system and because educational technologists are sometimes in the system and sometimes on the outside they can provide the variety.

It must be admitted that Ellul was referring to society as a whole (where critical comment could come only from marginals and those with a transcendant view), but the mass media as it co-exists with government and commerce today could be considered in the same terms as society as a whole. This observation was made earlier when Habermas's characterisation of bureaucratised and technocratised society was considered to apply to the media. In its use of technique, in its technocratic decision structures it is similar to the state political and administrative system. Even if power were to be crudely measured by the amount of money spent by the television industry or the number of hours spent by the public watching television, it is an enormously powerful force in society. Because to date it has used the public domain, the air waves, and been charged by government with education, its educative function should be open to review and criticism. The task of educational technologists is EDUCATION so it is fitting that they should be involved in the media. From a position that is marginal, they could have some influence on present programs but it is likely that their main source of public influence will be from outside the system. Within the system they MAY provide the transcendant view referred to by Ellul.

Educational technologists as change agents

If it is to be argued that educational technologists can

have "impact on the quality of life" (op.cit.p.52), the question must be raised, in what direction and in whose interests? If there are changes needed and educational technologists are willing to be a catalysts, then the role of change agent is added to the repertoires. The direction of change is towards communicative competence and rational discourse. The process used actually encompasses the change so that there is a welcome for any person to contribute to the process by being an active part of the system. There are ethical considerations that will be addressed later but for change to be lasting there must be congruence between the agent, the client, and the situation. It is not possible to make blanket, pontifical statements. One problem that any change agent faces is a lack of resources. Are there resources currently available for educational technologists?

The answer is that there are three types of resources.

The first resource, the educational technologist, has already been discussed at some length.

The second resource is the number of disenchanted and alienated people in society who can be grouped as follows.

- (a) Eleven percent of the population is unemployed and about thirty percent are in the un- and under-paid quinary sector. Unemployment may leave people feeling bewildered and rejected and in need of self-validating, on-going integrative education. Some of those in non-paid work are living "alternative life styles" and are already searching for a way

to counter the values reflected in the mass media. Educational technologists could bring skills and equipment to both groups. This would require a view of adult education based on enabling rather than efficiency.

(b) Some of the young (and older people) in tertiary institutions of learning, are critical of the materialistic values in the culture and in the media. These people form a core who would be open to making "different" media programs.

(c) The marginals of our societies have no voices. From a systems viewpoint of society this may be desirable but when such groups as the Indians in Labrador and the Aborigines in Australia are both powerless and patronised in a democracy, questions need to be asked. Some access to the media for both horizontal conscientizing communication and bottom-up communication to decision making instrumentalities is important for these people. This applies to all minority groups. Technically speaking, Community radio and television licences both here and in Australia are given on condition that facilities are made available to ethnic groups.

Discussion with some ethnic groups here has indicated that a studio is available for only four hours to make a three hour program. As such activities fall within the ambit of EDUCATION, educational technologists could work to improve the public access to community radio and television.

(d) The peace workers are a group who have reasonably successfully obtained some media coverage for their activities

but it is almost impossible to find facts about or to publish what is known about the true nature of the activities of the military and the arms build-up. Good investigative reporting is rare on television and although it may be considered only peripherally educational, it is an area where educational technologists because of their grasp of the technological process, could be invaluable.

(e) There are groups mentioned by Ferguson (1980) and movements referred to by Capra (1983) whose presence the public is unaware of. Some of these people may be willing in the interests of making a better society, to publicise their ideals. In so doing alternatives are shown to be possible. In this way the "consensus power" of the media can be curbed. Consensus power is explained by Noelle-Neumann, "the media are powerful because their consensus offers no choice from which to select; their ubiquity -especially of television- makes their influence inescapable" (Katz and Szecsco, 1981, p.268). There are other groups but these examples illustrate the point.

The third resource is equipment and facilities.

The following remarks apply to the states of Victoria, South Australia and New South Wales in Australia but similar facilities are probably available elsewhere

In 1974 the Film and Television Board of the Australian Council for the Arts and the Departments of Urban and Regional Development in Sydney and Melbourne set up Community Video Access Centres so that "people and publics disenfranchised by the

established media"(Turtle Report, 1974,p.1) could tell their own stories. These centres still provide an important resource for those in the "deprived Western suburbs". They have worked well without the continuing presence of educational technologists although as will be seen in the Latrobe University Project, educational technologists do assist from time to time.

Between 1972 and 1978 large government grants were made to tertiary institutions to set up small but often sophisticated production studios throughout the country. A committee of educational technologists representing these institutions is presently investigating how the facilities can be used to better advantage, for example extending the hours to enable community groups to use them.

Later funding of similar studios for secondary schools was contingent on their being available for community use.

Present government funding is for the Technical and Further Education sector whose very name infers ongoing education. The funds are being directed towards the use of facilities rather than the provision of further hardware.(Brown and Kenworthy, 1980)

Equipment and facilities are certainly available in widely dispersed geographical areas in these states but they all need expertise and facilitators.

Some objections

Educational technologists who espouse individual liberty, who understand the problems of the technocratic society, who have

the expertise in media production are able to perform these services to society and thereby act on what Scholer referred to as enabling a "better society"

An objection may well be: this is not education. If the foregoing outlines of education have been agreed to, and if it is understood that the focus of activities suggested are on adult, or on-going education, it is difficult to justify exclusion of such activities on educational grounds. A further difficulty could be raised: this is not the traditional work of educational technologists. There is no other group of educators who have the skills required, and as Mitchell (1981) has pointed out, people who do the work of educational technologists are acting as such even if that title is not used.

A further objection may be that people are not interested. That was NOT the experience of people working on the Challenge for Change program of the National Film Board of Canada nor of the students at La Trobe University in Melbourne, Australia when they approached social problems through making videotapes. Peter Watkins whose "The War Game", although financed by the BBC was banned by that body, is finding much world-wide interest in a new and challenging concept for an anti-nuclear war film. He is even (with difficulty) finding enough money. That the bureaucracies in various countries were afraid of showing "the War Game" should alert people to the need for alternative sources of information.

A still further objection is that there is no money. As Beer points out, money or lack of it is a constraint on HOW MUCH can

be done, it is NOT a criterion as to what should be attempted.

These objections will be addressed in the descriptive accounts of two case studies: the Challenge for Change program of the National Film Board of Canada and a project undertaken by Latrobe University School of Education, Melbourne, Australia .



### CHAPTER 3 CASE STUDIES

Activity of educational technologists outside formal educational structures.

In the process of establishing an identity for the profession leading educational technologists in every continent have defined the activities of the practitioners in increasingly broad terms. Hawkrige (1981) summarises their roles in the map reproduced here as Figure 6 (Thesis, p.50). Most of the discussions revolve around institutional implementation of such activities, however Chapter 1 of this thesis suggested that radical changes in society mean that we are likely to need the services of educational technologists outside conventional educational institutions. Part of the motivation for including such a section was a reading of much literature on non-formal education (cf Cropley and Dave, 1978; Husen, 1974; Schuller and Megarry, 1979,) and the belief that the society of the 'eighties is so basically different from foregoing ages that traditional educational institutions will if not "wither away" lose their impact on society. In a challenging paper, "Emerging Communications Technology in Canada: the Challenge to Conventional Educational Systems", Dicks and Coldevin argue that:

Conventional education is regarded as not being greatly influenced by emerging technologies but non-formal education will keep in close step with developing technologies and function as the primary backdrop for an information society....The real crucible of informal education will continue to be the mass media....There is more to education

than a strict adherence to the university model can offer....Changes in educational systems are expected to occur in converse relation to their degree of 'formalness'(Dicks and Coldevin, 1980, pp.211-215).

The ideas mentioned in the above paper and the literature on lifelong education, together with experience in non-formal community education crystallised my own judgment that a valuable service which educational technologists can offer to society consists in activity outside the formal "educational institutions (which) are seen by people as powerful colonising agencies"(Fordham et al, 1979). The case studies referred to in this chapter are an example of the use of educational technology techniques in such situations. That they are activities of educational technologists rests on an extension of Mitchell's definition of the discernible educational technologist. Following from the extension of this definition it is argued in the following paragraphs that the the film-makers, as distinct from the civil servants who as far as can be ascertained allowed remarkable freedom to those in the field, applied systemic principles to their activities which fell well within the definition of education as defined in this thesis.

Educational technologists as practitioners engaged in education for  
rational understanding

The practice of educational technology demands a new kind of educator who will be able to deal with dynamic systems in all branches of education, both formal and informal. So invariably we shall see human resources development planning, educational

planning, management science, curriculum and instruction, communications, and research, development and dissemination activities, all merging within this trans-disciplinary field....It concern(s) the optimal organization of personal and cultural development (Mitchell, 1981, p.18).

The educational technologists in the two case studies to be described were concerned with "planning, human resources development, communications, and dissemination activities" in such a way that function did not become purpose. In fact their roles were transitory, and in the Melbourne case deliberately planned to be so. The problematization process in the Fogo Islands which was part of the Fogo Island Film and Community Development Project enabled Low to say: We did not create processes, we intensified them. When we arrived Fogo was on the verge of action in a number of areas... By communication the action trends and by exposing the problems, the consensus for action was enlarged and intensified"(Taylor & Van Every-Taylor, 1973,p.69). In this case Low was working as an educational technologist combining communications, management science, and dissemination of information with the development of human resources.

#### CASE STUDY 1: CHALLENGE FOR CHANGE/SOCIETE NOUVELLE

"We finally had fishermen talking to Cabinet Ministers" (Gwyn, 1972, p.6)

Concept of Challenge for Change/Societe Nouvelle

The Challenge for Change/Societe Nouvelle (CC/SN) project of the National Film Board of Canada and seven government departments

(Agriculture, Central Mortgage and Housing, Health and Welfare, Indian Affairs and Northern Development, Labor, Regional Economic Expansion, and Secretary of State) which by 1970 had imitators all over the world, was a means of enacting the government's "commitment to the principles of cultural democratisation and cultural regionalisation" (Jones, 1976, p.270). The project involved making films and videotapes

- a. for departments and the general public explaining a problem
- b. for social workers and change agents exploring a problem
- c. of activities among the poor

with emphasis firmly on working WITH the clients rather than on behalf of them.

As befits such a daring idea of "government sponsored subversion" (Watson, 1970, p.7) there have been many evaluative studies from within the National Film Board itself and from government, independent, and academic sources. These point out the variety and complexity of the projects, some of the difficulties and possible future directions and by implication, underline the amount of human energy and idealism that went into the programs. One study, Taylor and Van-Every Taylor, (1973), emphasises the experimental value of CC/SN, and videototechnology above film although the latter is not neglected. Because of video's widespread use in educational settings and the number of educational technologists who are also videotecnologists, this account relies to a large extent on the Taylor study. In commenting on the CC/SN project, it is important to remember that it was undertaken in a

specific historical context: portable video-tape recorders were new, community television was beginning, and the economic climate was more conducive to social and educational experimentation than it is now in 1984.

### CC/SN as Educational Technology

#### Objectives

An overall objective of the project was to encourage experimental approaches to the use of film and television in fostering social change through "involving citizens in the production process - choosing their own subject areas, controlling the editorial process, and determining who should see the film.... The intention (was) to function as an initiator, an inspiration, a catalyst, 'a spark plug for process rather than a creator of product'"(CC/SN Brief to CRTC, 1971, p1-2).

From the list of projects undertaken by CC/SN between 1969 and 1972 (See Appendix A), Drumheller, Normandin, Roosevelt Park, Thunder Bay, Winnipeg Community TV and Videographe will be mentioned here because they have notable videotechnology components and were directly connected with educational institutions.

#### Videotechnology

Videotechnology has advanced greatly since the early seventies so that one can now use fully portable three quarter inch cassette machines to provide broadcast-quality tapes. The new half inch VHS or Betamax systems together with electronically sophisticated but

user-simple cameras, microphones, and editing suites can also provide high quality tape. Such developments were unknown in 1970 when the advent of community television stations encouraged community participation (Normandin, Thunder Bay, Winnipeg) for a brief time, until the community stations became "commercial" as happened in November when the C.R.T.C. approved the Maclean-Hunter application for ownership of the Thunder Bay cable system. The gradual commercialisation of the community cable stations suggests that activities like those of CC/SN need to be frequently repeated if the community label is to be meaningful.

Videotechnology in the hands of people who become competent in its use suggests videotechnologists; videotechnologists in the service of education could be called educational videotechnologists but since that is not a common title and anything done by such a person would normally be undertaken by an educational technologist, then one can refer to the part that educational technologists played in the CC/SN video projects. Apart from this purely logical connection between video- and educational technology, there is the fact that in the CC/SN projects mentioned here there were notable, systematised educational aims.

#### Systematic approach

A systems or at least, a systematic approach, to educational problems characterises most educational technologists; the CC/SN project follows this pattern. The philosophy behind and aims of each program were made explicit, the search for problems was

carefully documented, the method of procedure and roles of participants planned and stated, every stage was monitored so that there was formative evaluation throughout each project and at the end some summative evaluation based on a little empirical evidence, was undertaken. If education for critical consciousness is acknowledged as an appropriate goal for educational technologists, then these CC/SN projects undertaken by systematic methods, seem to be examples of educational technology at work. An list of key questions considered before project proposals were approved (Appendix B) and a table of the types of formative evaluation used (Appendix C) are included.

#### Association with educational institutions

It is still useful to note that all the programs mentioned here had links with formal education, as the following table shows:

Project	Educational connection
Drumheller	University of Calgary, School of Continuing Education
Normandin	Quebec Government, TEVEC adult education program
Roosevelt Park	University of Winnipeg
Winnipeg	University of Winnipeg
Thunder Bay	Lakehead University, Confederation College, Hammarskjold High School
Videographe	Quebec Government on behalf of schools, colleges, and community education groups

These links with formal education varied in type and in the light of previous discussion it is interesting to note that the connection in the Thunder Bay case was the use of non-commercial studios belonging to the institutions named. This constitutes a further piece of evidence to suggest that these projects were those of educational technologists even though that term was not, as far as can be ascertained, used.

#### CC/SN as education

Even if CC/SN set out its objectives clearly, used videototechnology and a systematic approach to the work, and were associated with education, was CC/SN really a work of education? It could have been an excuse for film-makers to make films or for bureaucrats to extend their empires. If education towards rational understanding is taken as a benchmark and comments from or about those actually involved are used it can be concluded that there was the intention of education and indeed that education did eventuate as a result of the intervention of individuals from the National Film Board acting as educational technologists.

Even in the small sample of projects under consideration here the activity of CC/SN personnel varied; an indication of the breadth of conception of the program and that they met the needs of each project. Training in VTR was given at different levels:

- (a) Citizen education about the medium to enable people to see its possibilities and to handle the equipment. Hundreds of people were



involved in this type of training at Roosevelt Park, Normandin, Thunder Bay, Winnipeg, and Drumheller.

(b) Development of a cadre of trained local people to produce programs for cable diffusion and to be involved in training others at level (a).

Tasker was responsible for these duties at Thunder Bay and a measure of his success might be the number of his trainees who continued to be involved in video. A better indication in terms of integrative education is that "While film ideas (he also trained in filmmaking) were generated by the students, the VTR tapes were initiated by the various community groups" (Taylor and Van Every-Taylor, 1973, p.104).

Robert Forget claimed that the objective of the Videographe was not training but his carefully oriented program prompted the following comment: "Forget's protestation that he is not pre-occupied with training should be taken with some reserve. Skill in establishing context is often a most effective means to education" (T. & VET, p.107).

The roles of the CC/SN can be expressed as support in production, in animation, and in administration of the projects seen to be valuable by the local communities. As far as administration is concerned, "the strategy of leaving major tasks of organisation to outside groups (outside CC/SN) and maintaining a basically service role has been respected" (T. & V E T, p.119). In fact in support of this principle, Henaut did not intervene in Drumheller when her professional experience would have been

valuable because the worker in the field did not ask her to. In placing the responsibility where it belonged, she was acting as an educator rather than a film maker whose primary concern would have been for the quality of the product.

The animation process in the context of CC/SN involved working with people in order to encourage them to express through videotape their perceptions of their world and to respond to videotape and express verbally their problems and opinions. "Colin Low, and Leonard Forest are superb exemplars ... (having) animation skills of a high order, resembling those of a teacher...combined with a profound understanding of people" (T. & VET, p.116). Tasker, Forget, Henaut, Low and Forest acted as if they were educators so it seems logical to say that they were involved in education.

The supporting rather than producing role (and consequently, the educative function) of CC/SN can be summed up in this quotation from Karsh: "The danger is to view this undertaking in a journalistic media manner,... caution required us to refrain from putting together edited tapes merely to appear busy" (T. & VET, p.114). Here was a filmmaker and public servant speaking according to a role which was NOT that of a media journalist and NOT that of the much maligned bureaucrat. He does not speak NECESSARILY as an educator, but sounds like one.

All in all, CC/SN was not a bureaucratic exercise but involved enabling people to seek, through an educative process, to better their own lives.

### Results of CC/SN involvement in local areas.

In spite of ongoing monitoring there were formal evaluation procedures attempted in only four of the projects here mentioned so conclusions are somewhat sketchily formed.

Taylor and Van-Every Taylor cluster the results of these projects around three topics: the depth of immediate community impact for the measuring of which they found no satisfactory instruments; the quality of the productions which varied considerably; and the long-term effects in terms of social change. The results cannot be generalised on any one topic. It is possible that an investigation into the educative value as seen through the eyes of the participants would yield some evidence that would support this thesis. It is of some interest that the Drumheller, Normandin, and Videograph projects seemed to have ongoing activities attached to them. The Videographe "demonstrated that an effective community production-diffusion unit can be set up....while in Drumheller, and more particularly in Normandin...people used television as a mirror...and we lack sufficient evidence to indicate to what extent...the use of communication for social change resulted from these interventions"(Taylor and Van Every-Taylor, 1973,p.145).

### Influence of CC/SN in general

Given the difficulty in measuring social change and the experimental nature of the projects referred to, it is not out of place to speculate that even "using a mirror" is conducive to seeing oneself in context and that educationally speaking, this

would have had some benefit even if the benefit has not been measured. Other projects in the CC/SN armoury had some dramatic effects. Probably the best known is the Fogo Island Project which actually brought about a change in government policy towards the resettlement of the fishermen of that area. In the words of the Toronto Globe and Mail: "the government scrapped the relocation plan, and in its stead provided assistance and encouragement to the islanders to start a fishing co-operative and marketing board" (Globe and Mail, 27th Dec., '72). In 1976 Colin Low was able to say: "Fogo Island ...had one of its best years... Its battle helped bring about the two hundred mile limit". It would be naive to suggest that the presence of the animators/film-makers (educational technologists) alone brought about change but the evidence is strong that they contributed towards a "better" society.

Beyond the actual projects, CC/SN had continuing impact on educational programs as far away as Australia and the next case study is an example of a project which derived its spirit from the Canadian experiment.

#### CASE STUDY 2: LATROBE UNIVERSITY BACHELOR OF EDUCATION PROGRAM,

1974

"They treat you like a cattle" (Interviewee, August, 1974).

#### Bachelor of Education Program

A course for an Australian Bachelor of Education program in 1974 was a graduate program to which one was admitted only after

completion of a normal Bachelor of Arts, Science or other suitable degree. There was and is still no similar educational technology degree. The Bachelor of Education at Latrobe University was an innovative program in which one could combine practical experience in media production and community education with a rigorous theoretical academic program. The television production courses were taken by a full time academic who had been one of the best directors with the Australian Broadcasting Commission and the philosophy of the faculty was one of community service and intellectual integration between courses and between the university and surrounding society. As an indicator of the educational climate one could point to the visit of Paulo Freire who took seminars in the School of Education during that year.

#### Educational technologists

Students who so wished could select such studies that they really became educational technologists in the wider sense of that term. Among those who did were a group of thirty who took a full year intensive television theory and production course.

#### Educational technologists as integrative educators

After a half year of studio production experience television students were sent in groups to produce a twenty minute program of broadcast quality on a socially relevant theme. One group had been working with the Diamond Valley Learning Centre which was a new on-going, non-formal education centre. There, university students

acted as facilitators and animators for it was considered important that the drop-ins to the centre took responsibility for their own education. Many of the learners were housewives from a large low-income housing estate who needed a great deal of self-validation. In discussions with these women it became apparent that one of their problems was the difficulty of obtaining satisfactory medical attention; describing her experiences at doctors' offices, one woman said, "They treat you like a cattle". With much trepidation the women and the students set out to make a video program exploring this problem.

#### Objectives

The aims were to use video as a mirror so that the shy members of the group could identify with the stories told and contribute their own experiences; as a tool to raise the awareness of the women themselves, society in general and particularly, the Australian Medical Association; and as a springboard for some action.

#### Activities

The taping of the program was undertaken not only at the Centre but in two large shopping centres, one in the working class Housing Commission area and one in an upper middle class neighbouring suburb. It seemed important that the women discover that not only poor people faced this problem; it was common to all women who had to go to unsympathetic, perhaps overworked, male

doctors. It is a matter of fact that no women interviewed who went to women doctors had the same kind of unaccepting treatment; statistically this is not unexpected but it was unexpected to find general agreement that the nurses were felt to be more sympathetic by far than the doctors.

The students, the educational technologists, did all the planning, the taping at the shopping centres, trained the women to use the Sony half-inch reel to reel video machine, camera and microphone, edited the tape and took responsibility for its distribution.

#### Evaluation

Evaluation was on-going and qualitative rather than quantitative. The use of videotape as a mirror was easily evaluated and as an educational experience for all concerned was an unqualified success. Its use as a tool to bring the experiences of other women to the centre was also successful; it was a powerful consciousness raiser and one that changed the attitude of many concerned with the project. As a springboard for further action in the wider community there was less success although some of the women attended a Video Access Centre and used videotape for their own purposes.

#### Distribution

The distribution of the tape ran into problems. Two commercial stations had agreed to accept the tape for possible broadcast but

when completed it was not "suitable". One cannot avoid wondering if the topic was unpalatable but the station personnel were able quite justly to say that the technical quality was not good enough. The educational technologists then had to find other methods of distribution. Some of these had already been planned: copies were sent to other learning centres, to various women's groups, and in exchange for the use of the video equipment at the Video Access Centre, a copy was placed in the collection there. This was still unsatisfactory to the women and to the students so the tapes were shown in the shopping centre malls several times in the following weeks where they generated a good deal of discussion.

#### Results of the Latrobe School of Education Project

In terms of contributing to a better society the five groups of trainee educational technologists who worked on similar projects (one within a goal) did little that was measurable except to show that such projects were worthwhile. In terms of educating all those involved, it was seen that videotextology even in its primitive 1974 form, was a powerful agent because both the process and the product contributed to the result. Educational technologists of the type who aim towards integrative education would believe that even such small and isolated examples of true education help towards a better society. Lest it be argued that these cases can be dismissed because they were isolated examples it is important to realise that in the model of EDUCATION suggested earlier, the learning is done by the educatee. The educator's task is to provide the opportunity



in an atmosphere of equality, (as domination-free as possible) for the learning to take place. In fact, the successful educator is the one who makes him- or her-self dispensable.

#### GENERAL DISCUSSION AND UPDATE OF THE CASE STUDIES

The CC/SN example was a much more sophisticated example of educational technology at work than the Latrobe University project which could be considered as the equivalent of making and sharing out one of the Videographe tapes. Literature about Challenge for Change was set reading matter for the television course so it could be said that the Latrobe project was derived from Challenge for Change. In both cases educational technologists were quite "explicit about the philosophies" which motivated them, "considered the long term results for the clients", and worked "in a dialogue of equality" to articulate the problems and plan at least semi-solutions. As was pointed out in discussing the CC/SN evaluation, the measurement of social change is difficult and unless one has faith in complex psychological pre-and post-testing, the complete measurement of personal change is even more difficult. Establishing a cause-effect relationship between the interventions and subsequent activities of the clients is impossible. When education is considered as integrative education, the people engaged in these projects learnt many things and in broad terms it can be said that the educational technologists "influenced the education and quality of life" of the people in the studies.

### Technical developments

Mention has been made to the technical problems of the video equipment which though simple enough to use, did not deliver broadcast quality tapes. To point only to the technical improvement in portable equipment tends to raise false hopes. Studio equipment has also become much more sophisticated and electronic means allow many types of "sources" to be "married" so that acceptable broadcast tapes can be made. The technological means require human activation and it will always be difficult to obtain regular program time for non-systemically generated material.

### Mass media as distribution agent.

The mass media as a vehicle for independently produced, "non-commercial" material is problematic; there are constraints that arise from the nature, structure and aims of the industry. Broadcast tapes need to be of high quality and with the right mix on the educational technologists' teams it may be possible to meet this requirement. Programming constraints require that an audience be maintained and this is done by careful attention to providing lead-ins and lead-outs. Closely associated with this is the length, the pacing and timing of the program. These may be quite different from the needs of the program produced as a result of an educational and/or consciousness-raising process. A further constraint upon the commercial broadcasters is advertising which demands that editing of the original tape allows places for spot advertisements. These are problems over and above those that might

be posed by the content of programs and point to the unsuitability of commercial channels for the type of material being considered. It is possible that an occasional short program or segment of a current affairs slot could be filled by specifically educational programs made by non-professionals.

#### Alternative distribution

In the early seventies there seemed to be no way to ensure distribution of such educational programs as were made by community action groups. Both the equipment and the people patterns have changed. In Canada there are 300,000 video cassette recorders in private homes, in Australia the penetration into homes by such machines has astounded the importers and left them at times without sufficient stock. Off-campus formal studies at Deakin University in Australia capitalise on this household equipment together with home computers for their courses. It does not take much imagination to suggest that the distribution problems faced in the case studies might be ameliorated through the home video system.

The home video system together with off-hours broadcasting even via satellite, and personal computer networking make an immensely powerful tool for education but it will only be as good as the software available. Throughout this thesis it is argued that student involvement in making software as well as in the use of it in the instructive mode is essential.

The problem of distribution that arose in both case studies is one that is particularly important only if one considers the production of a tape and its dissemination as essential. Both

education and technology are processes and it is in the doing that the effect occurs; the end product is almost merely a by-product. Given the orientation towards products that pervades our society, it is difficult to remember the primacy of process in education. The product of one process may become the catalyst for another and it is chiefly in this context that the products need to be distributed.

#### Afterword

Dorothy Henaut was interviewed after the writing of Chapter 3 was completed. She spoke of CC/SN "seeding ideas", of thousands who knew that the CC/SN was a place to obtain assistance for social change, of being visited by people from the continent of Africa, and of spending a year in Australia (1975) just after the facilities used in Case Study 2 were made available by the government. She spoke of the successes, some of which are referred to.

When asked whether she might have been educating people she replied "We did not use that word". She seemed to think that CC/SN did a job that had to be done at that time and in different circumstances, something different will be found by people who have a social conscience. It would appear to me that for those who are able, a computer language/software Challenge for Change/Societe

Nouvelle might be worthwhile. The markets are being flooded with non-worthwhile programs which have deleterious effects on the desire people may have for more challenging and rewarding games and programs.

## CONCLUSIONS

The case studies illustrated that educational technologists or persons acting in that capacity have, at times, had significant influence on society and government by bringing public attention to groups of people who would otherwise be unable to present their cases. In exploring their own stated problems through videotape, these people educated themselves and their neighbours; the process was as important as the videotapes produced.

In enabling this type of integrative education to take place, we have seen that educational technologists do not need to assume new roles so much as to take on new attitudes: those of non-dominating rational discussion towards worthwhile ends; willingness to discuss 'real' issues and ability to take action towards well-thought-out ends which might be controversial. This type of activity was successful in the case studies; it fits the roles spelled out in the discernible educational technologist and contributes to a better society.

Because of the importance of cultural differences, it was argued that "an educational technologist....can have a great influence on education and an impact on the quality of life" (Thesis, p.52) regardless of what socio-political or economic milieu in which he or she works; when however, the quality of life in Canada and Australia is considered, a "better society" is defined in terms that apply to those societies, namely: "A better life is one where all people and especially the underprivileged,

have the opportunity to develop rational understanding, to find a sense of self and meaning in freedom, to choose a life-style that does not deny the rights of others, and to determine the political and social conditions under which they live"(Thesis, p.27).

The changes wrought by educators and educational technologists refer to one or other of these factors or, under ideal circumstances to many factors at once. The Latrobe University case study showed that even the trainee educational technologists were able to assist the women to "develop rational understanding and find a sense of self and meaning in a freedom" which permitted the latter to demand get better medical facilities. The CC/SN initiative in the Fogo Islands allowed the Islanders to choose (at least, for fifteen further years) to continue as fishermen when previously the government had planned to close the fishery and relocate the fishing families.

A problem of logic arises when the case study method is used as illustrative of an argument; such an argument can never be "proven" according to the irrefutability principle(Popper, 1959). All that can be logically stated is that certain activities were undertaken under certain circumstances and a beneficial result ensued. This showed that the assertion that educational technologists can contribute to a better life for society is at least often possible if not always necessarily the case. Further research needs to be done to uncover the factors which made some community education projects more successful than

others so that new problems approached in similar ways might be efficiently and effectively solved. Further research into the social animation uses and effects of videototechnology should provide significant insights into the planning that educational technologists will have to provide for society to make the best use of electronic education and entertainment facilities in the home.

In addressing the problem of meaning and the media in our society, the qualitative analysis of "values" broadcast by the media could be potentially refuted or as is more likely, corroborated, by an empirical content analysis.

What does become clear in this section is the difference of approach between professional media researchers and educational technologists: the latter have as their purpose the growth of the clients and as part of that process, clients should be involved at all stages. The involvement includes actually using equipment and having as immediate access as possible to the results of videotaping or data analysis. This was clearly the case in all phases of the CC/SN projects reported here, and justifies in yet another way the term educational technologist being used for this sort of film-maker. People wishing to act as educational technologists differ from communications studies experts and media analysts in that their dedication is to the immediate human needs of the learners and others with whom and on behalf of whom they make access to media possible.

In the absence of a large publicly documented empirical



base, the argumentation of this thesis rests upon a few well respected published definitions of approaches to education and educational technology.(cf.Crittenden, 1981; Hawkrige, 1981; Mitchell, 1983).

For true education to take place, the educatee must "intend" to be educated and in some ways this ensures that the process towards rational understanding and a sense of self has already begun in the individual and the educational technologist is merely the ENABLER who assists and furthers the process. If educational technologists in general were to take this attitude to education much more study and thought would have to be given to the ends of educational technology, not just the effective and efficient means. Should this view prevail more widely, educational technologists would certainly contribute to a better life for society.

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## Video Projects undertaken by CC/SN, 1969-1972

Societe Nouvelle: Normandin

Les Mines d'Or

Bobozarts

Videographe

Challenge for Change: Drumheller

VTR St. Jacques

Video Training

Winnipeg Community TV/Roosevelt Park

Thunder Bay

Vancouver Metro Media/Inner City Service

Project

Parallel Institute (Montreal)

Carota Project (Ottawa/Hull)

MOVE (Halifax)

Saint John, N.B.

Moose Jaw

Blackhead Road (Nfld)

National Conference on Social Welfare

Peace TV

Forward House

Indian Friendship Centre (Winnipeg)

Community Media Counsellors

(Taylor and Van Every-Taylor, Appendix D)

**Key Questions Concerning Project Proposals**

1. Statement of problem: identification of need
  - with respect to social change.
  - with respect to communication
2. Situational imperatives
  - resources (of personnel, animation, production, training; other)
  - constraints (legal; organizational; political; etc)
3. Objectives (practical and experimental)
  - technical
  - communicational
  - organizational
4. Steps of operationalisation
  - Time schedule
  - Funding
  - Hardware required
  - Plan of work
  - Staffing
5. Evaluative procedure

(Taylor & Van Every-Taylor, p.177)

EVALUATION PROCEDURES EMPLOYED BY NFB

BY LOCAL GROUP

PROJECT	WRITTEN REPORTS	VERBAL CRITIQUE	DISCUSSION GROUP	OTHER	WRITTEN REPORTS	VERBAL CRITIQUE	DISCUSSION GROUP	OTHER
DUMFRIES	YES (Karch)	Karch in Montreal for training Hennaut in Drum- heller	NO	Screenings of tapes Views throughout valley	NO	University of Calgary with Karch	Rosedale Group	Tapes--Youth, East Coulee, M.A. Social Work thesis by David Baxter
MONMOUTH	YES	YES	YES			YES	YES	Quebec Department of Education (Freublay & Landry) Visiting Journalists and academic reports
THUNDER BAY	YES (Tasker) & (Burnett)	YES	NO	Mayor reports to members of Interdepartmental Committee	Hydar reports re: public interest	Constant	Constant	Causes of public response re: Community TV proposal Interviews/telephone/training re-runs
ROOSEVELT PARK	YES	Hennaut talked to Bushford re: CC/SN philosophy	NO	-Film not completed	YES	NO	YES IUS, not CC/SN	
WINNIPEG	YES (Burnett) Hannah (Farrell)	YES re: production & use of volunteers	YES Technical re: production techniques	"Please Adjust Your Set"	YES IUS report: An Experiment in Community Communication	NO	NO	Hennaut screened "Please Adjust Your Set" in spring '72 for Corporation (Ug.)
VIDÉOGRAPHE	Liaison Committee December '71	YES	YES	L. Forget Deleg. of Comité de programmation NFB	YES	YES	YES Comité de programmation	