Media Technology Perspectives And Their Curriculum Implications for Media Education

Alice Yuet Lin Lee

Abstract: This article examines the mass media from a technological perspective. A typology is developed to (1) evaluate and analyze the social and cultural impact of media technologies; and (2) explore the curriculum implications of such an impact. The typology divides existing studies on communication technology into three type: technological determinism, determined technology and socially constructed technology. It is argued that different approaches of media education stem from different conceptualizations of the social impact of the mass media. The above three perspectives could result in three different curriculum developments in media education – inoculative, ideological and socially participative. The last approach is based on the philosophy of socially constructed technology and is considered more desirable for media teaching.

Résumé: Cet article etudie les mass-médias d'un angle technologique. Une typologie y est développée pour i) évaluer et analyser l'impact culturel et social des technologies des médias et ii) étudier sous tous ces aspects les implications curriculaires d'un tel impact. Cette typologie sépare les études actuelles sur les technologies des médias en trois catégories: celle mettant l'emphase sur le déterminisme technologique, la technologie établie - i. e. celle produite par une organisation sociale donnee - et la technologie socialement construite - i. e. en interaction avec l'organisation sociale -. Nous affirmons que les différentes approches en enseignement des médias ont à voir avec Ics différentcs conceptualisations dc l'impact social des mass-mtdias. Les trois pcrspcctivcs ci-dessus mèneraient donc à trois différents développements curriculaires en enseignement des médias que l'on appellerait respectivement: préventif, idéologique et participatif. La dernière approche est basée sur la philosophie d'une technologie socialement construite et est considérée comme la plus souhaitable pour l'enseignement des médias.

Towards the 21st Century, communication technologies have rapidly developed, resulting in a technologically advanced information age. Mass media have played an increasingly important role in people's daily lives. This article examines the mass media using a technological approach. Print, radio, television, film, video and multi-media are all regarded as technological devices that are used for the selection, transmission and reception of information. Based on this premise, a typology is developed to (1) analyze and evaluate the social and cultural impact of media technologies; and (2) explore the curriculum implication of such an impact.

The typology divides studies on communication technology into three types: technological determinism, determined technology and socially constructed technology. These three perspectives provide diverse views on the social impact of communication technology. Nevertheless, they all address mass communication as a significant social force demanding a new role in education.

The educational response to the advancement of communication technology

has been to introduce media education into the educational system. Media education is the study of theories, criticisms and debates about the mass media and is regarded as one of the effective alternatives to deal with the great impact mass communication imposes on modern people's lives (Lusted, 1991). An official definition was put forward by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1973 as follows:

> Media education is the study, learning and teaching of, and about, the modern media of communication and expression as a specific and autonomous area of knowledge within educational theory and practice, distinct from their use as aids for the teaching and learning of other areas of knowledge, such as mathematics, science and geography (IFTC, 1977, p. 3).

In the 1990s media education has already developed from a fringe concern to a global movement. Australia, Britain and Canada are the leading countries in media education. In Canada, media education has been introduced to many provinces including Alberta. British Columbia, Manitoba, Ontario, Quebec and Saskatchewan. Curriculum professionals and teachers in these provinces have formally or informally integrated media education programs into their school curricula. In this article, it is argued that the three media technological perspectives to be discussed below have different curriculum implications in any teaching of the mass media.

Technological Determinism

The first category in the typology outlined in Table 1 is technological dctcrminism, being the studies or theories attributing communication technology as the essential cause of social formation. According to this perspective, communication technology sets the conditions for social formation. It influences our cognition and sensorium, changes our social behaviour and shapes our culture. It not only affects our society but also alters our world. Moreover, this perspective argues that technology has its own internal logic of development. New technologies are discovered, by an essentially internal process of research and development, which then generate social transformation. Williams (1974, p. 13) calls this kind of argument "an immensely powerful and largely orthodox view of the nature of social change." Medium theorists like Harold Innis, Marshall McLuhan and Joshua Meyrowitz, techno-cultural pessimists such as Jacques Ellul, George Grant and Neil Postman, and many researchers of media effects basically subscribe to the view oftechnological determinism.

Medium Theory

McPhaiI and McPhail (1990) suggest that an examination of communication technology and culture should begin with the work of Canada's two most influential scholars in this area – Harold Innis and Marshall McLuhan. These two "medium theorists" advance the notion that the rules and patterns ofcommunication in society are major determining factors in our social, economic and political fabric. Their theoretical propositions are highly deterministic and, thus. Czitrom (1982. p. 147

Table 1: Typology of the Socio-Cultural Impact on Mass Communication Technologies

	Technological Determination	**Determined Technology**	**Socially Constructed Technology**
Argument	(Technology as the cause)	(Technology as an effect)	(Technology as both cause and an effect)
	• New communication technologies sets the conditions for social change • Technology has its internal logic of development	• Communication technologies are by. products of particular social formation • The development and use of technology are intentionally determined by a single social force	• Communication technology is both a cause and an effect; it is a part of the process of social formation • Technology has interactive relationship with the political, economic, social and intellectual systems. It is indluenced by these systems but wholy controled by neither of them
Selected Schools/ Authors	• Medium theorists: Innis, McLuhan, Meyrowitz • Techno - cultural pessimists: Ellul, Grant, Postman • Behavorial media effects model (eg., sex, violence): Winn	• Critical communication theory: Althusser, Enzensberger, Adorno & Horkeimer (Franfurt School) • Political economy model: Herman & Chomsky, Schiller	• Mumford • Williams • Franklin • Ungerleider & Kreiger • Tichi • Altheide • Fiske
Assumptions	Autonomous model: • Research and development of communication technologies are self. generating. The new technologies are invented as they are in an independent sphere, and then create new societies • The state has no important role to play • Communiction technologies have deterministic power • Mass media are evil • Media consumers are mindless and passive	• Dominant ideology mode: • Technology as a tool for social control. The determination on technologies is regarded as a single force which is wholly controlling and predicting • The state exercises hegemony through media • Communication technologies are tools of social control • Media consumers are mindless and passive	• Social construction model: • Technology has its own logic and characterics but its function and use are shaped by humans • Not possible for total manipulation on media technologies • The state can play positive role • Communication technology is powerful but not omnipotent
Concerns	• Decline of human values and civilization • Anomie • Moral degeneracy	• Ideological manipulation • Political fake • Commodity fetishism	• The interplay of communication technology and society • Social construction of media institutions • Cultural politics
Strengths	• Sophisticated analysis on individual medium • Raises attention to the threat of technology to culture	• Directs attention to the "intention" of abusing technology	• Calls attention to existing and developing communication institutions • Sees room for negotiating control and social reform
Limitations	• Abstracts technology from society • Ignores the "intention" behind the use of technology	• Fails to acknowledge the fact that the reality of determination is the setting of limits and the exertion of pressures within which variables social practice are profoundly affected but never necessarily controlled	• Vague about the process of negotiating control • Idealistic
Educational Implications	• Damage limitation approach • (Product. oriented) • "Damage limitation": resistance and discrimination to mass media, message and media format, or, • Accommodation for survival	• Ideological approach (Product oriented) • Ctirical interpretation of mass media messages for. "emancipation"	• Socially participative approach • (Process oriented) • Understanding and shaping process of media institutions (so that communication technology can develop in a healthy and democratic way)

characterizes their works as the "two wings of a body of knowledge that locates the formal characteristics ofcommunication media as the prime mover behind the historical process, social organizations, and changing sensory awareness."

Innis (1950, 1951) proposes that the rise and fall of civilization and the cultural changes within an individual civilization may be understood as functions of the dominant media of communication. Each epoch is distinguished by dominant forms of media that record and transform information into systems of knowledge which are in line with the institutional power structure of that society. The interaction between media form and social reality creates biases, which strongly affect the society's cultural orientation and values (Heyer & Crowley, 1991).

Marshall McLuhan shares Innis' idea that society is radically reshaped with the introduction of new media. McLuhan differs from Innis in that he was primarily concerned with the impact of media technology on human sensorium, not the relationship between communication and social structure (Czitrom, 1982). McLuhan argues that a change in the dominant medium influences which senses we use, thereby altering our world view. His famous phrase "the medium is the message" advocates that the form of the medium alters the environment, shapes society, and structures thought in a way that its content could never do. To McLuhan, the new electronic technology is organic and non-mechanical in tendency because it extends, not our eyes, but our central nervous system as a planetary venture. As Czitrom (1982, p. 177) puts it, McLuhan "elevated this metaphor into a psychological and biological principle at the centre of a rigid technological determinism."

Influenced by Innis, McLuhan (1964) advances the argument that each medium has unique effects and a grammar of its own. For example, print is a linear, quantitative and logical mode of communication which creates a "visual space." On the other hand, electronic media, particularly television, are holistic and qualitative modes of communication which create an "acoustic space" (McLuhan, 1964). Every medium creates an environment that is the message of that medium. However, the media environment is invisible to people in the way that water is invisible to fish. Therefore, he stresses the need for an urgent awareness of the media environment as a basic force shaping the modern sensibility (McLuhan, Hutchon, and McLuhan, 1977).

Meyrowitz (1985), who integrates McLuhan's (1962, 1964) works with Erving Goffman's (1959,1961,1963,1967, 1969,1971,1974,1981), puts forward a powerful theory of television. He suggests that television makes people have "no sense of place." It alters the balance between public and private space, blurs the difference of childhood and adulthood, lowers political heroes to our level, brings decline of authority and overlaps socialization spheres. The result includes the blurring of age, gender and authority distinctions. Like McLuhan, Meyrowitz is also medium-oriented. His analysis focuses on how the inherited characteristics of television exercise influence on people's perception and behaviour. Moreover, his arguments are also deterministic in tone.

Techno-Cultural Pessimism

In the discussion of technological determinism, one cannot exclude the work of the French sociologist Jacques Ellul who demonstrates that technology, which is continued to be conceptualized as the servant of man, will overthrow everything that prevents the internal logic of its development, including humanity itself (Ellul, 1964). He points out that technological society requires humankind to be contented with what it is required to like. For those who are not content, it provides distractions-escape into absorption with technically dominated media of popular culture and communication (Merton, 1964). To Ellul, communication technology is an essential component of the technological society.

Key elements of Ellul's conceptualization of the technological society are the "laws of development of technique." According to Ellul (1964) every part of a technical civilization responds to the social needs generated by technique itself. In a technological society, an autonomous technology is taking over the traditional human ends and values by becoming an end in itself. Ellul concludes that this is the real tragedy of our modern civilization which is increasingly dominated by technique. In his view, humans can find "no exit" from this mechanical civilization.

George Grant shares the lament with Ellul that humanity has been suppressed by the modern, technical order. As a Canadian, Grant is particularly upset about the lost of cultural heritage through absorption into the fully modern technical empire of the United States. Canada has long been flooded with American media products. Its cultural domain is largely conquered by the sophisticated American communication technologies. Kroker (1984, p. 15) remarks that Grant is "the most important representative in Canadian thought of the perspective of technological dependency." In the new electronic age, Grant reminds North Americans that their fate is to live as dying "gasping political fish," suffering an oxygen-starved morality and vision in the midst of the technological dynamo (p. 14). Grant is a determinist in his allegation that our future is fated to be hopeless due to the further advancement of modern technology.

Like Ellul and Grant, Postman adopts a cultural approach to examine the impact of technology and depicts a gloomy scenario. Postman (1985) demonstrates his worry that Huxley's "Brave New World" is coming into existence in America with television being the dominant medium of the century. Huxley predicts that in the technological new world, people would adore the very technologies that undo our capacities to think. According to Postman (1985), before the emergence oftelevision American culture was shaped by the printed media during the "Age of Exposition." With the advent of television American culture was remodelled, ushering in the Age of Show Business. In a culture dominated by print, he asserts, public discourse tends to be characterized by a coherent, orderly arrangement of facts and ideas. In the age of show business, people watch television, and discourse is conducted largely through visual imagery. The culture is overwhelmed by irrelevance, incoherence and impotence. Since television is entertaining, it has made entertaimnent itself the natural format for the representation of all experience.

Postman says the problem is not that television presents us with entertaining subject matter but that all subject matter is presented as entertaining. Now, all public discourse increasingly takes the form of entertainment. Politics, religion, news, athletics, education and commerce have been transformed into show business. This transformation is irreversible. The new technology changes everything.

Behavioural Model of Communication Studies

Research on mass communication has long been dominated by the "effects" approach adopted by psychologists and sociologists. Many studies conclude that the mass media condition all kinds of social behaviour. Some critics call this view the hypodermic theory, which emphasizes the powerful and determining consequences of modern communication technologies.

The behavioural approach to communication is usually concerned with the evil influences of media entertainment (Starker, 1989). These influences include the stimulation of violence, undermining of sexual morality, promotion of passivity, substitution of fantasy for reality, and promotion of materialism. Winn (1979) even describes television programs as a plug-in drug: "The essence of any serious addiction is a pursuit of pleasure, a search for a 'high' that normal life does not apply... Not unlike drugs or alcohol, the television experience allows the participants to blot out the real world and enter into a pleasurable and passive mental state" (p. 24). On the one hand, she highlights the deterministic character of the electronic media and laments the powerlessness of modern man in the face of "the abstract machine that modern society has become" (p. 271). On the other hand, she urges us to assert our wills in the face of the real and tangible machine (television set) in our homes to make sure it is not controlling us.

Assumptions and Concerns

Technological determinism is based on an autonomous model ofcommunication. This perspective has several assumptions. Firstly, it assumes that research and development of communication technologies are self-generating (Williams, 1974). The new technologies are invented, as it were, in an independent sphere. Ellul is the key supporter of this kind of proposition. Secondly, mass communication has deterministic power. As pointed out by Innis, McLuhan, Postman and other behavioural theorists, communication technology is the prime mover behind history and the most influential determinator of social behaviour. Thirdly, communication technology is assumed to be dangerous or even evil. Techno-cultural pessimists such as Ellul, Grant, Huxley and Postman see the dark side of technology, and even lnnis and McLuhan are conscious of the bias and destructive nature of modern communication media. The behaviourists even regard the mass media as agents of social diseases. Fourthly, this perspective assumes that the audience and readers are mindless, passive and powerless in front of the omnipotent media.

The major concern of this perspective is the decline of human values and civilization. It draws attention to the threat of technology to culture. Most authors listed above larnent the domination of humanity by communication technology. Even

McLuhan who is excited by the new electronic media warns us of the confusion brought which accompanies the new media environment. Furthermore, these authors have moral panic resulting from most of the new communication technologies.

Determined Technology

The determined technology perspective takes communication technology as an effect (Williams, 1974), a by-product of particular social formation. This perspective emphasizes other causal factors in social change. The development and use of technology are determined by other social forces such as economic production or political development. Very often, communication technologies are considered merely tools of the dominant social group. This view of determined technology (Herman & Chomsky, 1988; Schiller, 1989) is represented by the Frankfurt School (Adorno, 1990; Adorno & Horkheimer, 1977; Marcuse, 1964), dominant ideology theorists and political economists.

Critical Communication Theory

Critical communication theory views communication technology as a by-product of the capitalist economic force and social struggle. For example, according to Althusser (1971) communication (press, radio and television) is regarded as one kind of the hegemonic tools of the capitalist ruling class. Althusser divides the concept of state into Repressive State Apparatus (RSA) and Ideological State Apparatuses (ISAs). The RSA is composed of the legal system, the police, the army, the government and administration whereas the ISAs consist of communication, religious, educational and political institutions as well as trade unions and families. Since no ruling class can rule by means of force alone, the state has to exercise its hegemony through the ISAs (Blackledge & Hunt, 1985). With the sophisticated development of communication technology, mass media are considered as one of the most powerful ideological agents in modern society.

From a critical theory viewpoint, the function of the media is to produce the appropriate consciousness or ideology in the majority of people to ensure the reproduction of what is essentially an exploitative system of social relations (Jhally, 1989). Enzensberger (1974) coins the phrase "consciousness industry" to describe the media, which are theorized to produce a form of consciousness in the audience that benefits the class that controls both the media and the production industry.

A particular coherent body of thought dealing with the ideological effects of mass media is that of the Frankfurt School (Schroder & Skovmand, 1992). Mass media are labelled as "cultural industry" (Adorno, 1990; Adorno & Horkheimer, 1977). Adorno and Horkheimer, the two major figures in the Frankfurt School, argue that under capitalism the profit motive is transferred to cultural forums in that more and more artistic products are turned into a commodity, marketable and interchangeable like industrial products. Their criticism of the cultural industry (mass media) can be summarized as follows:

(1) *The promotion of commercial values.* The industrialization of culture places culture under the same laws ofeconomic production as in other commercial spheres.

Other Frankfurt School theorists have further elaborated on how the mass media encourage consumption of other products through advertising. Media programs promote values such as the lifestyles of the wealthy, matching the selling messages of the advertisements.

(2) Consciousness manipulation. Cultural products are regarded as carriers of ideology which are purely manipulative and debasing. People who consume and enjoy them either will be debased by these activities or are living in a permanent false consciousness. Hence, the Frankfurt School considers these products to be "the opium of the people" and the consumers "cultural dupes."

(3) Mindparalysis. Since the rise of the mass media as capitalistic enterprises has resulted in the standardization of cultural forms, this process has in turn atrophied the capacity of the individual to think, reflect on the world, and act in a critical and autonomous way.

Political Economy Model of Communication Studies

Although Herman and Chomsky (1988) are not orthodox Marxists, they are critical of the ideological function of the mass media. They put forward a propaganda model to accuse the American mass media of "manufacturing consent." To them, the emphasis, selection of content, premises and general agenda of news production are highly functional for established power, responsive to the needs of the government and major power groups. The powerful decide what the general public is allowed to see, hear and think about, managing public opinion through regular propaganda campaigns.

Adopting a "free market analysis," Herman and Chomsky (1988) argue that the performance of the media is largely an outcome of market forces. Most biased choices in the media arise from the pre-selection of right-thinking people, internalized preconceptions and the constraints of ownership, organization, market and political power. Censorship is basically self-censorship, by reporters and commentators who adjust to the realities of source and media organizational requirements.

Schiller (1989) follows a similar line of interpretation of the mass media. However, his accusation points directly to the business corporations. He advocates that in the last 50 years, the corporate sector in the American economy has widened its economic, political and cultural role in domestic and international activities. The major concern he raises is the corporate control of cultural activities. To Schiller, modern technology has been designed, produced and employed by the same corporations. The new communication technologies create a "market ideological atmosphere." The cultural industries become an integral component of the market economy and their sales messages invade public, private and personal space. It is important to investigate the connection between corporate power and the utilization of new communication technologies if freedom of expression and democratic politics are still goals to pursue.

Assumptions and Concerns

The view of determined technology focuses on dominant ideology in examining

communication. It argues that communication technology is used for reproducing dominant ideology, supporting the social order which favours the dominant social group. This argument is based on several assumptions, the major one being that the development and use of communication technology is determined by a single force, wholly controlling and predicting. As analyzed by Adorno and Horkheimer (1977), the determining force is industrialization. The culture industry is the product of the industrialization of culture. To Althusser (1971) and Enzensberger (1974), the determining force is the capitalist economic structure which is based on class exploitation. Communication technology is a tool for social control and state hegemony. To Schiller (1989) and Herman and Chomsky (1988), the determining factor is the market force.

New communication technologies are also assumed to be tools of oppression. The mass media provide cultural opiates and exercise consciousness manipulation while the state is theorized to have the same interests as Big Capital. Together they form the ruling class and exercise hegemony through the mass media. The audience are then assumed to be brainwashed cultural consumers. Since they are innocent and passive, ideological content is projected directly into their minds.

This perspective is primarily concerned with the manipulating power of the mass media. Political fakery and commodity fetishism are regarded as the two major negative consequences of mass communications, always giving rise to controversial debate. Scholars holding the view of determined technology wonder whether people are still capable of cultivating a critical and responsible attitude and whether independent individuals can exercise reasoned judgments in modem society.

This perspective directs our attention to the possible abuse of communication technology by particular social groups. It also illustrates that technology is not self-generating but its development is directed by social intention. However, it seems that this perspective overemphasizes the "intention" behind the social use of communication technology and falls into the trap of another form of determinism. Like technological determinism, the notion of determined technology is one sided, a singular version of the human process. Certainly, the political economy of a capitalist society and the corporate market force are important social factors. However, by no means are they the only controlling and predicting set of causes for technological development. As Williams (1974) puts it, some determining factors set limits and exert pressure on social practice (including the social use of communication technology), but they are never wholly manipulative.

Furthermore, other assumptions of this perspective are questionable. For example, on the one hand it overemphasizes the debasing function of the mass media and fails to explore the positive roles the mass media may play in modern societies. On the other hand it underestimates the autonomy of the media consumers. Recent audience research indicates that media consumers are active and selective (McQuail, 1994; O'Sullivan, Dutton, & Rayner, 1994). It is not appropriate to assume that a particular cultural product will have any one given effect, having been received and appropriated by a wide range of individuals in the course of vastly differing daily lives.

Socially Constructed Technology

In contrast to technological determinism and determined technology, the socially constructed technology perspective argues that communication technology is both a cause and effect. It is, in fact, part of the process of social formation. This perspective is against the view which alleges that technology develops autonomously. It suggests that technology develops according to human choice. It also objects to the notion that technology is wholly controlled by some particular social forces. Technology has an interactive relationship with the political, economic, social and cultural systems. Technology is affected and constrained by these systems but it also exercises influence on them. A number of scholars from the fields of social science and cultural studies, including Lewis Mumford, Raymond Williams, Ursula Franklin, David Altheide and Cecelia Tichi, hold the view of socially constructed technology.

Technological Development by Human Choice

Mumford (1934) points out that technology has affected not only our conceptions of space and time but also of human relations and institutions. For example, the telescope challenged the theological world. As the earth was known to move in relation to the sun, so the position of man in relation to God moved as well. Although Mumford sees the significant role technology plays in the development of human civilization, he rejects any deterministic analysis of technology. He stresses that "technics and civilization as a whole are the result of human choices, aptitudes and strivings... No matter how completely technics relies upon the objective procedures of the sciences, it does not form an independent system" (Mumford, 1934, p. 6). In his view, the machine itself makes no demands and holds out no promises; it is the human spirit that makes demands and keeps promises. He proposes that in order to reconquer the machine and subdue it to human purposes, one must understand and assimilate it. He is optimistic about the outcome and concludes that "nothing is impossible" (p. 435).

Like Mumford, Williams (1974) opposes technological determinism. He is particularly critical of McLuhan, saying that in McLuhan's work "all media operations are in effect desocialized; they are simply physical events in an abstracted sensorium" (Williams, 1974, p. 127). Williams calls attention to the social context within which technology develops. He argues that throughout history communication technologies have been shaped by changing political and economic forces. Famous for his idea of "long revolution" (political, economic and cultural revolutions), he points out that the development of communication technologies is a significant part of any cultural revolution and that democratic, industrial and technological revolutions cannot be separate processes (Williams, 1961). They grow together and influence one another. Furthermore, Williams (1976) highlights the importance that different societies and cultures will develop different communication systems. For example, the US broadcasting system is much more commercial-oriented than the British

one. He lists four kinds of communication systems, namely authoritarian, paternal, commercial and democratic, to illustrate different societies pursuing their technological aims in different ways.

While suggesting that technological determinism should be rejected, Williams (1974) warns not to substitute it with the notion of a determined technology. It is true that most technical development is in the hands of corporations which express the contemporary interlock of military, political and commercial intentions. The limits and pressures on the use oftechnology are real and powerful but they cannot be totally controlling. To Williams, technology is malleable and socially constructed. People should develop their capacity and power to direct their own lives by creating democratic media institutions. This goal is difficult to attain but society should engage in "a continually renewable social action and struggle" (Williams, 1974, p. 134).

In line with the view of Mumford and Williams, Franklin (1990) maintains that technology is not preordained. For her, there are choices to be made and she sees "no reason why our technologies could not be more participatory and less expert-driven" (Franklin, 1990, p. 1 15). In her view, within a very short historical period, communication technology has greatly changed the perceptions of space and time. The imaging technology has given emphasis to the far instead of the near, and to the abnormal instead of the normal. The images create pseudorealities which in turn lead to a pseudocommunity. Moreover, she is concerned that these technologies have no room for reciprocity, a response to a given situation. She worries that the production of pseudorealities and the elimination of reciprocity will diminish the sense of common humanity. In order to make "the real world oftechnology" become "a globally liveable habitat," she insists on reintroducing human justice to the technological decision making process. For her, "the crisis oftechnology is actually a crisis of governance" (p. 120). The development and use of technologies should be bound by a social contact, based on social equality, fairness and justice.

Interlocking Relationship between Technology and Other Social Systems

Similar to Williams's analysis, Ungerleider and Krieger (1985) put emphasis on the interlocking relationship between media and other social sectors. They put forward an analytical framework to illustrate how in every society the five systems (technological, political, economic, social and intellectual) are interconnected. They argue that "changes in one system of activity influence changes in the other systems" (p. 12) and point out that television led to changes in all other areas of society, but at the same time its development was impacted on the other four systems. In other words, television is both a cause and effect of the social formation of our modern world.

Tichi is also interested in the interplay between television and society. She examines the social construction of television in America and her study basically tells a story of the cultural assimilation of a technology. She argues that "no matter how strikingly new a technology (e.g., television) may be, once introduced into

society, it becomes deeply enmeshed in long term cultural traditions and conflicts" (Tichi, 1991, p. 7). Based on her study of some 40 years of advertisements, cartoon humour, art, journalism, memoir and fiction, she reveals how American social attitudes constitute the television enviromnent as well as the deep involvement of television in national values including American individualism, domesticity and patriotism.

Altheide and Snow (1979), on the other hand, are concerned with the impact of media perspectives on other domains of social life. They propose that the media, as a social force in society, are a form of communication with a particular logic their own. They call it the "media logic," which is the way media present and transmit information. They argue that mass media have risen to a dominant position in the institutional network of society primarily because various institutions follow a media logic in the definition and solution of problems. This process has resulted in the construction of a media culture which emerges from acting through specific media formats. For example, the politicians and others who are covered by the media use the same criteria the journalists do, and often more skilfully. The political campaign is then built from standard communication procedures and formats (Altheide & Snow, 1991). To Altheide and Snow, it is not a case of media dictating terms to the rest of society, but an interaction between organized institutional behaviour and media.

Active Audience Theory

As mentioned above, many authors point out that the development of communication technology, to a certain extent, is affected or constrained by other social institutions. In addition to this, active audience research in recent years has shown the power of communication technology, such as television, is also limited by its audience (Ang, 1995; Fiske, 1987). Related studies have traced differences among viewers, modes of viewing and meanings or pleasures produced. For example, television viewers are regarded as social subjects who have a history and live in a particular social formation (a mix of class, gender, age, religion, etc.). Based on its social position, the audience generates negotiated readings of the text. The media message is not solely in the text, but can be changed or worked on by the audience as they make their own interpretation of a program (Fiske, 1987).

Assumptions and Concerns

The perspective of socially constructed technology sees the use of communication technology as negotiable. It rests on several assumptions. First, technology has its own logic and characteristics but its function and use are directed by humans. Second, it is not possible for a particular social group to gain total control of media technologies. Third, communication technology is viewed as powerful but not omnipotent. In many ways communications are shaped and influenced by the social and cultural environment. People would not accept mass media misinformation directly and uncritically.

This perspective emphasizes the interplay between communication technology

and society and its major concern is the social construction of media institutions. In other words, its primary focus is how cultural politics develops to establish a desirable communication system. For example, Williams (1976, p. 133) suggests that we should develop a "democratic communication system" by reforming the present media institutions. This system should insist that all people have the right to offer and receive what they choose. It is against authoritarian control of what can be said, and against paternal control of what ought to be said. It is also against commercial control of what can profitably be said because that also can be a tyranny.

This perspective draws attention to the existing and developing communication institutions. It sees room for negotiating control and social reform. Unlike the pessimistic views oftechnological determinism and determined technology, it has faith in human capability to conquer and manage new communication technologies such as television, video and multi-media. With regard to popular culture, this perspective is not authoritative like that of the technological determinists or elitist like that of the determined technologists. It respects popular culture disseminated through the mass media. For example, Williams (1976, p. 115) opposes the distinction between high culture and low culture. However, he warns that those excessively violent programs should not be counted as "popular culture" but "synthetic culture" or "anti-culture."

The Changing Concept of Literacy

The three perspectives have different theoretical assumptions and concerns, and therefore provide diverse views on the social impact of communication technology. Nevertheless, they all address mass communication as a significant social force and have implications on the following social phenomena: (1) high rate of media consumption; (2) mediation of contemporary culture; and (3) electronic and digital mode of communication. These phenomena, in turn, demand a new look at the concept of literacy.

High Rate of Media Consumption

In the information society, a great deal of information is made available to the people through advanced communication technologies. Receiving information becomes one of the most common experiences (Jarvis, 1985) as we are bombarded by numerous mass media images every day. The new communication technologies are not only vehicles of communication but also substitutes for the family and even school in becoming a major socialization agent. For example, an average Canadian student spends 23 hours a week watching television, which means children spend more time in front of the box than they spend in classroom (O'Brien, 1989). Television, together with other mass media, becomes an "invisible curriculum" alongside the ordinary school curriculum (Lee, 1997). As mass media assume a teaching role, more and more children now learn by television.

Mediation of the Culture

Unlike the ages of oral and print societies, in modern society a lot of information

a person gets is not first hand. It is mediated by all kinds of communication technologies and the information received is thus loaded with certain values and ideologies. In this "processed world," culture is gradually shaped by these communication technologies. Thompson (1990) puts forward the idea of "mediazation of the culture" which refers to this general process of symbolic forms becoming increasingly reliant on the technical and institutional apparatuses of the communication industries. As outlined before, Innis (1950, 195 1) and McLuhan (1962, 1964) already demonstrate communication technology as a shaper of culture. Schiller (1989) and Herman and Chomsky (1988) charge the filtering function of mass media as the hindrance of public free expression which damages the democratic process. Williams (1961, 1974, 1976) is concerned about the institutional mediation of cultural production. Other authors also point out that new communication technologies have been transforming social behaviour and reshaping the cultural landscape. Therefore, the mediation of culture is one of the social phenomena of most concern in the modern world.

The traditional concept of literacy (reading and writing) has the goal of helping people make sense of their world so that they can function efficiently in it. In other words, literacy is used to interpret the world. Since the world is now being shaped by the new communication technologies, there is naturally a need to expand literacy to include technological media in order to better understand social and cultural formation. According to Agostino (1991, p. 26) "there will be a growing demand for literate people... who can fully understand and to be able to harness the impact of an ever changing technology."

Electronic and Digital Modes of Communication

Western industrial countries have already entered the information age. Print is no longer the most preferred mode of communication (Agostino, 1991). It has now been joined by the visual media (e.g., television, film, video and laser disc) as the keepers and conveyors of our culture. In fact, television and the computer are now replacing print as the most influential communication media in our everyday life. As discussed before, both Innis and McLuhan point out that every communication medium has its own unique characteristics and impact. For example, print is a linear and logical mode of communication while television is a holistic mode of communication. Since the new modes of communication (e.g., television, video and multi-media) have different grammar and logic, a literate person in a modern world naturally needs to learn not only traditional language, but also visual and digital language in order to communicate effectively.

Therefore, there is a need to redefine a literate person in today's world. The traditional view of literacy as being skilled in reading and writing is no longer sufficient for people who live in a more technologically sophisticated world-a world requiring an understanding of symbols, message carriers and nonverbal communication channels (Ely, 1984). The concept of literacy should then be broadened to include media literacy and computer literacy. In other words, education has to play a new

role in promoting media literacy or "infomedia literacy", which might be characterized as being literate in information and media technology (Lee, 1997). According to Lee (1997) media literacy is a life skill which has several components. The first component is a critical awareness of the impact of mass media. The second is an understanding of the media as to how, why and for whom the media is constructed. The third is the ability to conduct critical analysis. The fourth is proficiency in using the media for self-expression. The fifth is the ability to learn through the media by making broader analysis of the social, economic, political and media structures of society so that responsible citizenship can be developed. Media literacy also incorporates the concept of media appreciation and enjoyment.

As media censorship infringes on freedom of expression, media education may be an effective tool in moderating the impact mass media have on most people's lives. Media education here is defined as the study of the mass media with the primary aim to develop media literacy. It is either a formal or informal curriculum in the educational system.

Curriculum Implications of Media's Social Impact

As the influence of the mass media intensifies and the concept of literacy changes, the demand for media education grows. In the 1990s there is no need to argue whether or not media education should be a part of the school curriculum. Rather the controversy lies in how to deliver media education. It is the author's view that different approaches to media education stem from differing conceptualizations of the mass media's social impact. The three media technology perspectives discussed above have varied theoretical assumptions and social concerns and thus they offer distinctly different curriculum directions for media education.

Media Education for "Damage Limitation"

Most technological determinists have a negative and pessimistic view of communication technology. Even McLuhan repeatedly refers to the "numbness," "trance," "subliminal state," "somnambulism" and "narcosis" induced by the new electronic media (Czitrom, 1982). Technological determinists either deny there is a role for education to play or enthusiastically adopt a damage limitation approach to media education.

Pessimists like Ellul and Grant see no way out of the technological society. For them there is little education can do to reverse the tragedy of technological domination. However, for some other technological determinists, they rely on education to counter negative media effects. For example, McLuhan argues the electronic media constitute a total and near instantaneous transformation of culture, values and attitudes. This upheaval generates great pain and identity loss, ameliorated only through a conscious awareness of its dynamics. In his view, if we understand the revolutionary transformations caused by the new media, we can anticipate and control them. But continue our self induced subliminal trance, we will be their slaves (Playboy Interview, 1989). Thus, he wrote a media education textbook

(McLuhan, Hutchon, & McLuhan, 1977) to help students understand the media environments that surround them and the effects of these environments upon society. His notion of media education is in fact a kind of anomie control for surviving the new communication era.

Postman (1979) regards television as the first curriculum and school as the second. He advocates media education which he defines as "the discovery of how our thought and behaviour are controlled by our communication technology" (p. 192). Media education is proposed by him to balance the negative cultural effect of the mass media, particularly television. Postman was especially influential in promoting the inclusion of media education in the school subject of English in the 1970s and 1980s in both Canada and the United States. For those who are concerned with how the mass media exercise negative influence (such as television programs with sex and violence) on human behaviour, they see a need for resistance or discrimination in accepting the offerings of the mass media. Buckingham (199 1) calls this phenomenon moral panic.

Media educators who follow the assumptions and concerns of technological determinism will naturally have a negative view of media effects. Their notion of media education is the "counter-evil" type. Their justification for media education is to limit the damage mass media impose on the society. They also emphasize the need to protect young people by arousing their awareness of the potential danger of media influence, or to help them get out from the anomie created by the new media. Therefore, some media educators name it the inoculative approach of media education (Masterman, 1993).

Media educators who adopt the damage limitation approach share the same concern of many in society, particularly teachers and parents, about the negative effects of the mass media. In this sense, media education of damage limitation approach is fulfilling a public demand to protect school children. The damage limitation approach serves to arouse awareness of the negative influences which may undermine traditional values or damage the culture. Moreover, media education of this type is target-driven (e.g., violent media programs become targets of criticism), with a very concrete goal in mind. However, these media programs fail to provide a balanced view on the impact of mass media and they do not quite match the media experiences and feelings of the young people who obtain great enjoyment from media consumption in everyday life.

The damage limitation argument has many inadequacies. First, it assumes mass media are evil in nature. Behaviourists even regard the mass media, television in particular, as agents of social disease. But the mass media also have positive functions. Overemphasizing the negative side of the media turn them into scapegoats of social and cultural problems. It creates a misleading perception that if there are no violent programs on television the crime rate will drop. Secondly, it assumes that audiences and readers are passive and powerless in front of the omnipotent media. Youngsters are especially viewed as innocent and they need protection from bad influences. However, some studies have revealed that media consumers are not

sheets of blank papers allowing the media to imprint values directly onto their minds. They can be both active and selective.

Thirdly, the role of education in this approach is social control and media education is paternalistic in nature. Fourthly, media educators adopting this approach are elitist and their attitude towards popular culture is unfriendly. Fifthly, media education from this approach is basically product-oriented. The emphasis is on the media product itself, including its content and form. It focuses on the resistance and discrimination of media message, or raises awareness of the influence caused by certain media format. It teaches students to analyze and criticize the media text or media code but not the social context which produces it.

Media Education for Emancipation

In the late 1970s media teachers began to link their teaching with a number of structuralist ideas, particularly in the area of semiotics and ideology (Masterman, 1993). The ideological approach of media education is based on a view of determined technology. It adopts the arguments from critical communication theorists and political economists to place questions of politics and power at its centre. Masterman's media education theory is a prime example. One major reason he argues for offering media education is "the ideological importance of the media, and their influence as consciousness industries" (Masterman, 1985, p. 2). In his view, mass media, as consciousness industries, provide not simply information about the world, but ways of seeing and understanding it. He cites the example of television whose principal function is to convey the dominant ideology of society (Masterman, 1992). He argues that those people who control and work in the media do not simply have the power to set agendas, provide explanations and construct their own versions of events. They also provide myth. Therefore, the objectives of media education are "demystilicatory and critical" (Masterman, 198.5, p. 9). It is important for students to achieve "critical autonomy" (Masterman, 1992, p. 102).

Masterman's works (1980, 1985) were very influential among media educators in the 1980s in Britain (Buckingham, 1994). Many British media teachers followed the approach suggested by Masterman. Buckingham points out that at that time the aim of media education was the development ofcritical consciousness. Through critical analysis, media education was said to be able to "empower students, and liberate them from the ideologies which the media are assumed to impose upon them" (Buckingham, 1993a, p. 142).

Under the great influence of Masterman, the Ontario media education program in Canada also started an ideologically-oriented program. In recent years, Ontario media educators have moved from an ideological approach to a more audience-oriented approach of media analysis. Influenced by cultural studies and Buckingham's media education philosophy, in the 1990's media educators in Ontario emphasize the importance of how audiences' social positions and subjectivity influence media interpretation. They also regard it as important to examine the pleasure audiences gain from their media consumption. However, in the the

basic concern of the Ontario media education program was to resist media manipulation and maintain students' critical autonomy. A study of Ontario media education textbooks in the 1980s indicates that these texts were very much in line with the Frankfurt School's critical perspective of media analysis (Lee, 1994). According to Ontario's *Media Literacy Resource Guide,* a media literate student "should be able to make conscious critical assessments of the media, to maintain a critical distance on popular culture, and to resist manipulation" (Ministry of Education, Ontario, 1989). The ultimate goal of media education was to "transform the citizenry into informed and empowered recipients of the media forces that impinge upon almost every aspect of their lives" (Carson, 1989, p. 35).

As can be argued, media educators who hold the view of determined technology regard media products as ideological constructs, manipulative in nature. They argue that it is necessary to assist young people to "deconstruct" media messages and to resist manipulation in order to obtain critical autonomy. Theirjustification of media education is for emancipation. The arguments of this ideological approach do have some strengths and they clearly indicate that the media construct reality. The mass media have commercial, social and political implications. However, these arguments take mass media as tool of the powerful, thereby overemphasizing the ideological manipulation aspect of the media.

recent years, in Britain the ideological approach has been under criticism. David Buckingham is representative of those who reject most of the premises of the critical ideological approach of media education. Buckingham cites Grossberg (1987) saying that the term "critical" reflects "a dangerous kind of arrogance" and "a considerable degree of elitism" (Buckingham, 1993a, p. 142). The arguments of the ideological approach are regarded as elitist with a natural bias against popular taste. Buckingham also points out that the critical pedagogy of media education tends to "rest on the assumption that students are inherently uncritical, and that it is the teacher's job to make them critical" (Buckingham, 1993a, p. 143). For Buckingham, the notion of demystification "implies that students are mystified" and this approach "underestimates the extent and the diversity of children's existing knowledge about the media" (p. 143). He criticizes this approach for neglecting students' aesthetic pleasure and emotional engagement with media. It problematically "recognizes pleasure as a form of deception" (p. 143).

Different from the interpretative tradition which focuses on textual or format analysis, the ideological approach to media education is concerned more with the social context which produces the text. It discusses the social, economic, political, organizational and professional determinants and influences on the production of the media communication (Alvarodo & Boyd. Barrett, 1992; Masterman, 1985). However, this type of media education is also product-oriented. The focus of analysis is still limited to the media product which is supposed to be deconstructed and taken apart.

Media Education for Social Participation

From the view of socially constructed technology, the use of communication

technology is socially negotiable. Altheide and Snow's (1979) analysis has already shown that many social institutions adopt "media logic" to make use of mass media in order to meet their own ends. Ericson (1989) called this process "negotiating control."

Since communication technologies are socially constructed and their use is negotiable, education has a meaningful role to play. Proper media education can constructively lead to better use of these technologies. Media education programs developed from this perspective would naturally put emphasis on the understanding of and participation in the shaping process of communication systems, to foster the healthy and democratic development of communication technology. So far, not many media education programs are based on the philosophy of socially constructed technology.

Williams (1976) argues that technological developments in communication should not be stopped but be redirected through education. In his view, the growth of large scale communication organizations is a major human gain, far outweighing the difficulties and confusion it has brought about. Such liberal and positive views on technological development have great implications for media education. Media education should not put too much emphasis on discriminating or deconstructing media messages. Rather it should help students establish a partnership with the mass media to build a better society.

The emergence of new communication technology (such as television, video and multimedia) leads to great sociocultural changes. With the stress of change there is a great deal of confusion. Under such circumstances there is a need for media education to provide guidance for personal response and choice. But this is not enough. At the same time, institutions should be changed and legislations amended to ensure that the media industry is responsible to society (Williams, 1974). The direction for media education, therefore, is to develop the students' ability in and awareness of participating in the construction of a democratic media system. In the information age, *students should learn to understand the media, use the media and influence the media* These three aspects are essential components of a media education program adopting the socially participative approach.

Firstly, to understand the media, the students should be armed with analytical skills which make them competent media critics. Apart from developing students' critical analysis of media representation and ideology, media education should include the teaching of media institutions. Media curriculum should familiarize students with the history, structure and operation of the media industry. It should also provide students a better understanding of the social context in which the mass media exercise influence. Students are expected to know not only what is wrong with the media messages, but also what is wrong with their media institutions. Discussions are encouraged to seek solutions.

Secondly, a media education curriculum should put more emphasis on media production. Both the damage limitation approach to mediaeducation and ideological approach pay very little attention to helping students become competent in media

production. Their primary objectives are to train students in discriminating and criticizing media messages. Low priority is given to teaching students how to use the media to express their cultural experience. This negligence has already drawn attention from international media educators. Bazalgette, Bevort and Savino (1992, p. xi) clearly point out, "Understanding media messages is not enough: we have to know how to use them appropriately." For them, media teachers should not only equip students with the capacity to understand and analyze media, but also develop their ability to deploy the media expressively. Buckingham (1993b, p. 297) also strongly proposes that the concept of media literacy should consider children's own media production as well as their use and interpretation of existing media. He would like to "look at children as 'writers' of media rather than just as 'readers'." Good mastery of media languages and production skills is therefore an important element of media literacy. Armed with sophisticated production knowledge, they are then capable of expressing themselves through the media. Only when they "speak" effectively through modern communication technology can they fully enjoy the rights of freedom of speech.

Thirdly, in addition to training students to become competent media users and producers, the socially participative approach to media education aims at enabling students to enjoy democratic participation in the existing media system. Special emphasis is placed on showing students the way to monitor the media and voice their opinions through the media. Few students have the opportunity to learn from their media education courses how to make use of the existing mass media to air their views and how to take part in shaping the public discourse in the mass media. As we approach the 21 st century, as communication technologies further develop, there is evidence of new social inequalities between the "media rich" and the "media poor." The media rich have easy access to the media and have the power to define the public discourse, while the media poor have little access to the media and its view can hardly be heard in the existing media system (Masterman, 1994). Media education programs should address the issue of narrowing the gap between the media rich and the media poor, It is possible for ordinary people, most of them belonging to the category of the media poor, to gain more access to media if they are equipped with better and more relevant media knowledge and strategic instructions. In Canada, MediaWatch, a feminist media concern group, seems to be promoting media literacy of this sort. This organization not only alerts citizens to the abuse of women in the media and educates them about proper gender representation, but also suggests channels of complaint and provides strategies to fight for gender equity in the media. For example, in its bulletin, it provides the names of contact persons and addresses of the advertising production companies so that citizens can protest against TV commercials which reduce women to sexualized parts. Media teachers may take this example as a reference when they plan their media education courses aiming to take social action in improving their media institutions.

"It is noteworthy that the socially participative approach adopts many premises

of the audience reception theory and cultural studies. It highlights the importance of how the audiences' difference social positions influence the way they understand, use and influence the media. This approach also recognizes the importance of audiences' aesthetic pleasure gained from the media."

The strength of the socially participative approach is that it draws attention to the existing and developing communication institutions. Unlike the pessimistic views offered by other approaches, it has faith in the human ability to conquer and manage any new communication technologies. It calls for energetic social action to monitor and improve communication development. With regard to popular culture, this perspective is not paternalistic like the damage limitation approach or elitist like the ideological approach. It respects popular culture and does not have one sided, negative appraisal of the media.

However, this perspective seems to have built its optimism on idealism. More research has to be conducted to explore the actual process of negotiating control and new curriculum resources have to be developed. Since the communication system is closely connected to other social systems, reform of media institutions requires the synchronization of other social reforms as well. More discussion is needed on this significant aspect.

Current media literacy training generates personal response to media messages, such as, accept/reject the values or enjoy/despise the aesthetic quality, rather than urging social participation in media institution building. This author has no objection to training students as critical viewers but suggests that media education should go further. Media education should not only help students seek personal emancipation from media manipulation but also encourage students to shape communication institutions through collective means so that these institutions can better serve society. The argument of social participation of media education is in line with this view. Hence, despite its limitations, it provides the strongerjustification for media education.

Conclusion and Discussion

Communication technologies are more than pieces of machinery. They shape perceptions and values, transforming society and culture. There is no need to debate the immense power of modern communication technologies. The real concern is in determining the way these technologies exercise influence. Technological determinists argue that communication technologies have their innate characteristics and they run on their own. From a determined technology viewpoint, communication technologies are tools used by powerful groups to impose influence. The socially constructed technology perspective, however, points out that media technologies influence other social systems as other systems influence them.

In the author's view, the perspective of socially constructed technology is preferable because only this perspective puts communication technology back to an interactive social and cultural context for scrutiny. It rejects the deterministic view and restores the role of human agency in the technological developmental process. This perspective also provides the stronger claim for media education as

it offers a new agenda to follow. As communication technology is contextualized in its social and cultural environment, the new role of media education is to enable students to become aware of their social responsibility of better understanding, using, influencing and reforming their media institutions. Therefore, unlike the other two approaches which are product-oriented, this approach to media education is process-oriented. Through the social participation process, it is hoped that communication technologies once again serve human purposes instead of running out of human control.

Many people may hold the view that the three media education curriculum approaches are evolutionary paradigms. Masterman points out that the inoculative paradigm is the earliest. "The current practice (the ideological approach)," writes he, "has evolved out of earlier, less satisfactory paradigms of media education" (Masterman, 1993, p. 5). Since the approach of social participation is considered here the best way to teach the media curriculum, some people may regard it as a paradigm evolving from the other two.

Evolution implies that the new paradigm replaces the old. However, it is argued here that these various approaches to media education do not correspond to any evolutionary stages. They do not "evolve" one after the other but stem from different assumptions and concerns about mass media impact. Before the 1980s, more people might have adopted the inoculative approach but now many media educators think otherwise. However, in the 1990s, both the inoculative approach and ideological approach are still being used. An example is the public concern for media sex and violence. This concern always encourages and justifies the inoculative approach of media teaching. And needless to say, the ideological approach of media education program is still the most popular model. As long as there are media educators giving some credence to the assumptions of technological determinism and determined technology, the inoculative and ideological media education curricula will still exist.

Therefore, media educators are encouraged to reflect upon the assumptions they have made about the media when they conduct their media courses and the social objectives they want to attain through media education. Some may not be aware that they are making assumptions about technological determinism or determined technology, and are thereby adopting a damage limitation or ideological approach to media education. If they are still holding the determinist assumptions of the media, they are encouraged to consider the socially constructed technology perspective and adopt the socially participative approach to media education. In any postindustrial society, social conflicts have shifted from the political ground to the cultural ground (Melucci, 1985, 1994; Offe, 1985). Touraine (1985, p. 774) points out that the central conflict in postindustrial society is to "deal less with labour and economic problems because the domination which is challenged controls not only 'means of production' but the production of symbolic goods, that is, of information and images, of culture itself." The problem we face today is not a political crisis but a crisis of cultural democracy. Therefore, it is not good enough

for media education in the 2 1 st century to simply promote critical media awareness and consumption. Media education should set its goal on fostering cultural democracy through teaching students to actively participate in the building of a better media system.

References

Adorno, T., & Horkheimer, M. (1977). The culture industry: Enlightenment as mass deception. In M. Gurevitch, J. Curran & J. Woolacott (Eds.), Mass *communication and society* (pp. 347 - 383). London: Edward Arnold.

Adorno, T. *(1990). The culture industry: Selected essays on mass culture* (J. M. Bernstein, Ed.). London: Routledge.

Agostino, A. (1991). The Essence of literacy: Moving behind reading and writing. *Canadian School Executive. 11(6), 25-26.*

Altheide, D. L., & Snow, R. P. (1979). *Media logic.* Beverly Hills, CA: Sage.

Altheide, D. L., & Snow, R. P. (1991). *Media worlds in the postjournalism era.* New York: Aldine De Gruyter.

Althusser, L. (1971). *Lenin, philosophy and other* essays. London: New Left Books.

Alvarado, M., & Boyd. Barrett, *0.* (1992). *Media education; An introduction* London: British Film Institute.

Ang, I. (1995). The nature of the audience. In J. Downing, A. Mohammadi & A. Sreberny. Mohammadi (Eds.), *Questioning the media: A critical introduction* (pp. 207-220). Thousand Oaks: Sage Publications.

Bazalgette, C., Bevort, E. & Savino, J. (1992). General introduction. In C. Bazalgetter, E. Bevort, & J. Savino (Eds.), *New directions: Media education worldwide* (pp. xi-xiii). London/Paris: British Film Institute/CLEMI.

Blackledge, D., & Hunt, B. (1985). *Sociological interpretations of education.* London: Croom Helm.

Buckingham, D. (1991). Teaching about the media. In D. Lusted (Ed.), *The media studies book: A guide for teachers* (pp. 12 - 35). London: Routledge.

Buckingham, D. (1993a). Going critical: The limits of media literacy. *Australian Journal of Education, 37(2),* 142- 152.

Buckingham, D. (1993b). *Children talking television: The making of television literacy.* London: Falmer Press.

Buckingham, D. (1994). Buckingham responds to Masterman. *Mediacy, 16(3),* p. 3.

Carson, W. (1989). Bellwether Barry. *Education Forum, 5(4), 30-35.*

Czitrom, D. J. (1982). *Media and the American mind: From Morse to McLuhan.* Chapel Hill, NC: University of North Carolina Press.

Ellul, J. (1964). *The technological society.* New York: Vintage Books.

Ely, D. P. (1984). The two worlds of today's learners. In Z. Morsy (Ed.), *Media education* (pp. 97-l 10). Paris: UNESCO.

Enzensberger, H. M. (1974). *The consciousness industry: On literature, politics and the media.* New York: Seabury Press.

Ericson, R. (1989). *Negotiating control: A study of news sources.* Milton Keynes: Open University Press.

Fiske, J. (1987). *Television culture.* London: Methuen.

Franklin, U. (1990). The real world of technology. Concord, Ontario: Anansi.

Goffman, E. (1959). *The presentation of self in everyday life.* New York: Anchor.

Goffman, E. *(1961). Encounters: Two studies in the sociology of interaction.* Indianapolis: Bobbs. Merrill.

Goffman, E. *(1963). Behavior in public places: Notes on the social organization of gatherings. New* York: Free Press.

Goffman, E. *(1967). Interaction Ritual.* New York: Anchor.

Goffman, E. *(1969). Strategic interaction.* Philadelphia: University of Pennsylvania Press.

Goffman, E. (1971). *Relation in public: Microstudies of the public order. New* York: Basic Books.

Goffman, E. (1974). *Frame analysis: An essay on the organization experience.* New York: Harper & Row.

Goffman, E. (198 1). *Forms of Talk.* Philadelphia: University of Pennsylvania Press.

Grossberg, L. (1987). Critical theory and the politics of empirical research. In M. Gurevitch & M. Levy (Eds.), *Mass communication review yearbook 6* (pp. 86 - 106). Beverly Hills, CA: Sage.

Herman, E. S., & Chomsky, *N. (1988). Manufacturing consent: The political economy of the mass media.* New York: Pantheon.

Heyer, P., & Crowley, D. (1991). Introduction. In H. A. Innis, *The bias of communication* (pp. ix - xxvi). Toronto: University of Toronto Press.

IFTC. (International Film and Television Council) (1977). Preface. In International Film and Television Council (Ed.), *Media studies in education* (p. 3). Paris: UNESCO.

Innis, H. A. (1950). *Empire and communications.* Oxford: Oxford University Press.

Innis, H. A. (195 1). *The bias of communication.* Toronto: University of Toronto Press.

Jarvis, P. (1985). Thinking in an information society: A sociological analysis. *Lifelong Learning, 8(6), 11-24.*

Jhally, S. (1989). The political economy of culture. In I. Angus & S. Jhally (Eds.), *Cultural politics in contemporary America* (pp. 65-81). New York: Routledge.

Kroker, A. (1984). *Technology and the Canadian mind: Innis/McLuhan/Grant.* Montreal: New World Perspectives.

Lee, A. Y. L. (1994, June). *Ideology in Ontario media studies textbooks: Mass media as mass deception.* Paper presented at the Conference of Canadian Association of Foundations of Education, CSSE, Calgary.

Lee, A. *Y.* L. (1997). *Legitimating media education: From social movement to the formation of a new social curriculum.* Unpublished doctoral dissertation,

University of British Columbia, Vancouver.

Lusted, D. (1991). Introduction. In D. Lusted (Ed.), *The media studies book: A guide for teachers* (pp. l-l 1). London: Comedia Book.

Marcuse, H. (1964). *One dimensional man: Studies in the ideology of advanced industrial society.* Boston: Beacon Press.

Masterman, L. (1980). *Teaching about television.* London: MacMillan.

Masterman, L. (1985). *Teaching the media.* London: Comedia.

Masterman, L. (1992). A distinctive mode of enquiry: Towards critical autonomy. In M. Alvarado & O. Boyd. Barrett (Eds.) *Media education: An introduction* (pp. 102. 103). I.ondon: British Film Institute.

Masterman, L. (1993). The media education revolution. *Canadian Journal of Educational Communication, 22(l),* 5- 14.

Masterman, L. (1994). Media education and its future. In C. J. Hamelink & O. Linne (Eds.), Mass communication research: On problems and politics (pp. 309-322). Norwood, NJ: Ablex.

McLuhan, M. (1962). *The Gutenberg galaxy: The making of typographic man.* Toronto: University of Toronto Press.

McLuhan, M. *(1964). Understanding media: The extensions of man. New* York: Mentor.

McLuhan, M., Hutchon, K., & McLuhan, E. (1977). *City as classroom. Understanding language and media.* Agincourt: The Book Society of Canada Ltd.

McPhail, T. L., & McPhail, B. M. (1990). *Communication: The Canadian experience.* Toronto: Copp Clark Pitman Ltd.

McQuaiI, D. (1994). *Mass communication theory: An introduction.* London: Sage.

Melucci, A. (1985). The symbolic challenge of contemporary movements. *Social Research, 52(4), 789-816.*

Melucci, A. (1994). A strange kind of newness: What' new in new social movements? in E. Larana, H. Johnson, & J. Gusfield (Eds.), New *social movements.. From ideology to identity* (pp. 10 1- 130). Philadelphia: Temple University Press.

Merton, R. K. (1964). Forward. In J. Ellul *The technological society* (pp. v. viii). New York: Vintage Books.

Meyrowitz, J. (1985). *MO sense of place: The impact of electronic media on social behavior.* New York: Oxford University Press.

Ministry of Education, Ontario. *(1989). Media literacy resource guide.* Toronto: Queen's Printer for Ontario.

Mumford, L. (1934). *Technics and civilization.* New York: Harcourt, Brace & World.

O'Brien, L. (1989). Media and values: The importance of media literacy in our Catholic school. *Reporter, 14(5), 43-44.*

Offe, C. (1985). New social movements: Challenging the boundaries of institutional

politics. *Social Research, 52(4),* 817-868.

O'Sullivan, T., Dutton, B., & Rayner, P. (1994). *Studying the media: An introduction.* London: Arnold.

Playboy interview with Marshall McLuhan: A candid conversation with the high priest of popcult and metaphysician of the media. Reprinted in *Canadian Journal of Communication,* 14(Special Issue), 101-137.

Postman, *N.* (1979). *Teaching as a conserving activity.* New York: Delacorte Press.

Postman, *N.* (1985). *Amusing ourselves to death: Public discourse in the age of show business.* New York: Penguin Books.

Schiller, H. (1989). *Culture inc.: The corporate takeover of public expression.* New York: Oxford University Press.

Schroder, K. C., & Skovmand, M. (1992). Introduction. In M. Skovmand & K. C. Schroder (Eds.), *Media cultures: Reappraising transnational media* (pp. 1-14). London: Routledge.

Starker, *S.* (1989). *Evil influences: Crusades against the mass media. New* Brunswick: Transaction Publishers.

Thompson, J. B. (1990). *Ideology and modern culture.* Stanford: Stanford University Press.

Tichi, *C.* (1991). *Electronic hearth: Creating an American television culture.* New York: Oxford University Press.

Touraine, A. (1985). An introduction to the study of social movements. *Social Research, 52(4), 749-788.*

Ungerleider, C. S., & Krieger, E. (1985). *Television andsociety: An investigative approach.* Toronto: Irwin.

Williams, R. (1961). *The long revolution.* Westport: Greenwood Press.

Williams, R. (1974). *Television: Technology andculturalform.* London: Fontana.

Williams, R. *(1976). Communications.* New York: Penguin Books.

Winn, M. (1985). *The plug-in drug* (Rev. ed.). New York: Penguin Books.

A UTHOR

Alice Yuet Lin Lee is an Assistant Professor, Department of Journalism, Hong Kong Baptist University. Warden's Residence, Postgraduate Hall Complex, Chinese University of Hong Kong, Shatin, N.T., Hong Kong; E-mail: b068759@mailserv.cuhk.hk