Interactive Cable Communication Services: The Duplex Society Problem

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*T*here has been a long concern over the consequences of communication. The first record of concern about the rules and effects of communication began with the Greeks, Aristotle, Isocrates, Plato, followed by Roman scholars, Quintilian and Cicero. According to Issac Asimov, writing was the catalyst for the second major advance in communication. The Gutenberg printing presses ushered in the third revolution, with McLuhan speculating upon the role of this revolution and its consequences on societies. The fourth and current revolution an electronic one. It is being supported by solid-state electronics, mini-computers, cable systems, VDT's satellites and a host of allied technology. Yet, the concern with this fourth revolution is moving from the awesome feats of the hardware and the technology to its human and societal consequences. Porat states that industrialized societies have now shifted to an information based economy. *"By 1970, close to half the U.S. workforce was classified as 'information workers,' holding a job where the production, processing or distribution of symbols is the main activity. This group of workers earned over 53 percent of all labour income."(1)* This paper deals with some of the emerging sociological problems that unequal access to information systems may bring about.

Unequal access to information system may bring problems

Within the discipline of sociology, there are various theoretical perspectives. For example, there is the conservative position of LeBon, who wrote about the debasing of aesthetic standards, the enthronement of mediocrity, and the inordinate power that lower levels of society would acquire. This may be contrasted with the more liberal sociology of Charles Cooley, who saw mass media playing the role of elevating the masses to a more meaningful and constructive role within the social system. In addition, there is the articulate anti-establishment philosophy of C. Wright Mills, who perceived the mass media as being a tool of the power-elite to be used to pacify, control and mislead the masses.

A quantum leap in the sociological and psychological concern about mass communication consequences was achieved at mid-century with the introduction of television. Social scientists began working with various theoretical models (Lasswell, 1948; Shannon and Weaver, 1949; Schramm, 1954; Westley and MacLean, 1957; DeFleur, 1970; McPhail, 1976) in order to graphically represent the processes and effects of mass communication systems. Most of these models attempted to explain the relationship between the communication software and its ultimate effect on the audience.

Extensive summaries (Klapper, 1960; Larson, 1964; and Weise, 1969) have illustrated that the issue of the consequences of communication technologies is a complex, multi-dimensional phenomenon, which is not suited for simplistic linear modelling. Rather, a series of mediating or interviewing variables such as selective perception, reference group affiliation, personality, opinion leadership, level of education, and utility of the message, act as filters or gatekeepers between the audience and the mass medium.

This recognition of the complexity of both interpersonal and mass communication behaviour has resulted in increasing interest in attitude change and measurement. **As the range of persons with whom one may communicate expands, the consequences of any single communication act becomes less predictable and less influential.** As a result, as the social-science interest increased, so did the complexity of the measurement task.

Does TV passivity creates apathy that shatters democracy?

More specifically, television's advent at mid-century intensified the debate over the political, societal, and psychological effects of communication technologies. Probably the most common attack has been based on the theme that television converts populations into passive audiences, well represented by writings in Rosenberg and White's (1957) book, Mass Culture. The human consequences of such passivity are apathy, easy gaining of compliance, which are, in effect, a shattering of a democratic system based on full citizen participation. The continual one-way mode was viewed as creating a narcotized audience lacking critical skills, lacking ability to feed-back, and lacking ability to interact with the medium in a personally or socially meaningful way. Following this theoretical attack, the issue of violence on television has for a decade dominated both the public and researchers attention.

With the advent of cablecasting and its multichannel

capacity, the community channel was seen as a way to make available inexpensive "airtime" to non-professional groups and individuals. Special interest programs and community based shows via cable channel space were heralded as the new "mini-comm" hope. Recent experiments in Columbus, Ohio provide viewers with a feedback device to rate and to remove shows in real time.

Optimism for interactive cable is reflected in Instant World, an extensive report based on an analytic and systematic study of telecommunications by the Canadian Department of Communications.

Multi-channel cable promises interaction

Some of the new products of new telecommunications technology--multichannel cable systems, home video-cassettes-- have, within themselves, at least the promise of transforming broadcasting, which is now a one-way medium that treats viewers as largely passive homogeneous groups, into an interactive medium, more and more people will then be able to decide for themselves what they want to watch, and, still more importantly, to originate programs themselves. Thus, the electronic mass media will perhaps be transformed into more individualized kinds of media.(2)

Yet, cable television has not resulted in local programming and increased citizen participation on a large scale. Although Canada is the most cabled nation in the world, both owners and regulators have failed to expand the unique features of cable.

Rather than concentrating on why cable has not opened up significant areas for meaningful involvement, this paper is more concerned with the fate of future interactive cable communication systems. To a large extent, the impact of two-way cable will be a result of the imagination and the resources committed to the development of software which utilizes the inherent advantages of bi-directional cable technology.

With the Federal Communication Commission ruling of March, 1972 requiring all future U.S. cable systems to be technically capable of two-way transmission, plus the increasing involvement of civic governments about where cable may take subscribers, a new era of experimentation is emerging.

The following cities have been involved in some type of two-way cable demonstrations: Reston, Virginia; El Sequento, California; Orlando, Florida; Irvin, Texas; and Jonathan,

Minnesota. In addition, Japan is actively promoting interactive cable experimentation to find a mode of delivering the daily newspaper electronically.

Interactive cable is not simply an extension of one-way cable, just as one-way cable is not simply an extension of the broadcasting spectrum. A significant point concerns the confusion of broadcasting services and communication services offered via cable. Cable originated as a medium that could deliver a clear picture to areas experiencing microwave interference. With colour television cable transmission was considerably superior to microwave delivery. The broadcasting industry, therefore, became actively involved, as a pressure group, whenever regulations concerning cable were discussed. Since there was little software other than the offerings of the major networks and since citizens groups were financially and organizably inferior to the networks, such industry control was unchallenged. Cable grew as a re-broadcasting service rather than a new or alternative system to traditional means of broadcasting. Now that interactive potential has realized, where cable communication services with broadcasting being only a sub-set of the total service, it is important that interactive cable be allowed to develop without constraints imposed by broadcasting giants with a vested interest in traditional systems. The British experiments with Ceefax, Viewdata, and Oracle are examples of innovative use of cable as a marketing medium.

As interactive potential develops, broadcasting is only one of many

The source of increasing interest in interactive TV stems from its potential for performing functions and delivering services that cannot be provided in the context of one-way communications. These include: wider and better access to education; health services; direct access to a wide range of information through a computerized data base, delivery of specialized visual material to the home at subscriber's request; facsimile print-out in the home; and greater participation of urban populations in civic life through polling, and direct community involvement interaction with political leaders.

The long-run social impact of interactive cable communication services lends itself to varying scenarios. The minimum situation is where such services will not have any appreciable impact on the status quo. Where the evolution of the services plus the multitude of competing activities that humans pursue is of such a nature as to render interactive cable as an insignificant technological innovation.

A more probable scenario is a system evolving which will bring people to a closer realization of participation and representation. Part of the total available cable channels will be allocated to specialized services which will individualize communications--and thus permit more influence on decisions affecting individuals--as well as retaining entertainment broadcasting for the mass audiences, though the ultimate mass may be fractured due to fragmentation effects (or delayed broadcasting via recording units in the home).

With interactive cable, the living environment may become more meaningful. With portions of work and education being performed at home via interactive cable, a re-definition of home life and activities may evolve in parallel.

Rising expectation in decision-making may create alienation

Three potential dysfunctions of interactive cable have to be recognized at the beginning of this innovative technology system. The first problem is that alienation may increase. Participation in decision-making e.g. polls, will increase expectations for action, but if no action results the syndrome of apathy and frustration may be reinforced rather than alleviated. The second problem is that long-run problem of man interacting with machines, in this case communication technology, is at the cost of reducing interpersonal human communications. Too much machine mediated communications could result in a subsequent loss of social communication skills, and perhaps more significantly, a loss in the perception of human interaction being a meaningful and rewarding activity.

The third potential dysfunction requires substantial explanation. Interactive cable requires software, computers for storage, and eventually satellites for widespread distribution.

A substantial boost to cable desirability and penetration will be realized if interconnected with a domestic satellite, such as Anik. Herb Jacobs, chairman, TELECOM Associates, in a study of Hughes Aircraft Company (an applicant for the U.S. domestic satellite franchise) forecasted that:

...the public is willing to pay 50 cents a week--over and above the normal monthly charge for cable--to receive extra services on eight channels. Once the satellite service reaches 20 million cable subscribers, it will bring in nearly $500 million a year, apart from whatever advertising

may be generated. The channels would be dedicated: one for children's programs, one for public affairs, one for "enrichment" (everything from spiritual values to foreign languages to fashion), one for "enlightment" (essentially hobbies and household hints), two for a variety of cultural programs, one for vocational training, and one for radio-- 50 stations on one band.(3)

The societal consequences of such a future cable system are substantial. The more evident sociological issue is the concept of socialization and the role that such an interactive system will play as individuals are acculturated into their social systems. Since individuals are a product of their environment and since an operational interactive cable communications system would be a significant contributor to this environment, the types of individuals resulting may differ in systematic ways from individuals who do not have access to sophisticated interactive systems. Of course, this may be of little consequence since societies have always had diversity; yet to build two fairly distinct societies--due to differing socialization processes (medium) and materials (message) on the basis of availability or not of interactive cable systems-- may strain the fundamental consensus required in order to keep the social fabric intact. Consider the following two examples. The one is a child raised in an urban area with a two-way cable system in the home. At age three not only does he or she know the alphabet and numerical system, but, using the keyboard, can perform writing and arithmetic drills. At age four a hobby requiring instruction and advice is learned through CAI participation, and at age five the child can perform algebra and has acquired a second language as well as a fundamental awareness of how technology, as exemplified by the key-board-television receiver-satellite-cable-computer connection, is the key to learning. Virtually a two-way Sesame Street.

Two-way Sesame can produce brave new world of alphas and gammas

The other child is raised in a remote area (or, just as likely, in an urban area but within a family lacking financial resources). This child receives one-way programs from the major networks and builds a reality on the basis of limited choice, as compared with the potential 80 channels of his or her counterpart. Language and math skills are developed vicariously and slowly, in comparison. By the time the child is ready to enter school it has progressed to the same level as its 19th century counterpart. To the child, print and books are the basis of knowledge and multi-media or computer assisted instruction are an unknown phenomena.

Again on an individual level this is not a scenario that differs much from the relative differences in education today. Yet, if 50 percent of a nation's young in the future are socialized in a high technology interactive mode where the accumulation of cognitive skills has proceeded at both an individualized and rapid pace, and the other 50 percent are socialized in an education environment reminiscent of the 1930's and 40's (with a teacher in front of a large classroom) - then will both groups, upon graduation, have equal knowledge, opportunities, skills, and expectations concerning their roles in society? Or will their values, norms, and attitudes differ both quantitatively and qualitatively so that their "mental sets" about both society and their impact upon it are inherently different?

The point here is not to debate the merits of traditional systems versus futuristic systems, but rather to draw attention to the long run social consequences of funneling individuals through learning systems that are substantially different in design, and therefore, likely to produce symbolic environments which are substantially different. The question is whether these differences are of such a magnitude as to allow consensus and equivalent access to the benefits of society, or whether the magnitude will be so vast as to create a "duplex society" with one group systematically at an advantage over the other.

In conclusion, this last point of creating a "duplex society" merits further theoretical and, hopefully, empirical clarification. With vast sums having been allocated toward the development of the communication hardware, perhaps now both funds and research time should be devoted to the even more crucial questions of the software and the societal and individual effects of the continual innovations from the communications field.

NOTES

1. Marc Uri Porat, "Global Implications of the Information Society," *Journal of Communication,* 28, (Winter, 1978) p. 70.

2. *Instant World,* (Ottawa: Information Canada, 1971), p. 20.

3. "What Hughes Might Be Able To Do With Its Satellite", *Broadcasting,* September 25, 1972, p. 45.