

Wiring Megalopolis: Two Scenarios

by Mark Hinshaw

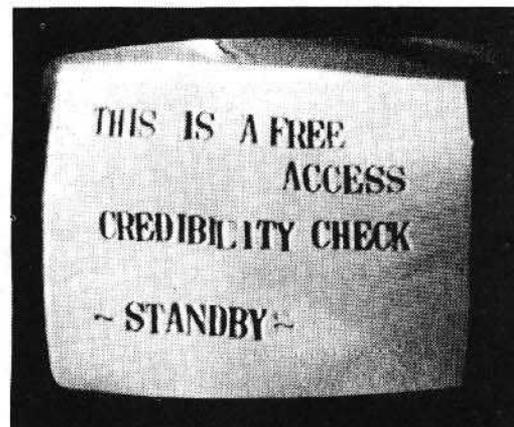


It is becoming increasingly evident that we are in the midst of a tremendous societal transformation. Students of social change have begun in recent years to examine its form and substance and to make predictions as to its consequences for human existence. In an effort to give it an appropriate historical identity, scholars have christened this systemic transformation out of the industrial era variously as the arrival of post-industrialism, the coming of a super-industrial age (Toffler, 1970), the Age of Discontinuity (Drucker, 1968), the dawning of a Universal Civilization (Ribiera, 1968), the evolution of Consciousness III (Reich, 1971), and emergence of the Technetronic Age (Brzezinski, 1970). At least two authors have identified this social phenomenon as revolving primarily around the invention, use, and proliferation of new communications technologies and processes. Robert Theobald (1970) maintains that we are entering into nothing less than a full-blown Communications Era, while L. Clark Stevens (1970) applies the title of Electronic Social Transformation.

In the area of urban affairs and planning few attempts beyond those of Richard Meier and Melvin Webber have been made to analyze the impact of communications on urban change. Among the myriad of conferences, symposia, books, and journals examining current and future urban development, planners have given virtually no recognition to the consequences of communications for alternative urban life styles. As Jerome Aumente (1971) has noted: "Professional planners who should know better persist today in conventional predictions of future land use and population movement without sufficiently examining the new set of communication variables that turn their predictions topsy-turvy." Indeed many planners may well feel that communications technology will have little or no effect upon urban development. Virtually any recognition at all of the relationships between urbanism and communications has come from academicians and professionals outside the fields most directly involved in urban analysis and policy development. Most of the literature coming from such sources, however, treats communication and information-generating hardware seemingly as the means of solving most of the urban problems with which we are presently confronted.

It is imperative that communications resources, goals, and potentials be included in the urban planning process, taking into account local, regional, and national needs. The development of communications technologies and communicative structures is intimately related to housing, transportation, social services, and the political economy. Communications systems must be considered a major component of the urban infrastructure, both as a public resource and as an integral part of urban movement systems involving people, goods, energy, and information. There is a clear need for substantive analysis and synthesis of urban change in terms of concomitant communications developments . . .

Cable communications has particular import for urban change in that it has the potential for radically altering the very concept of the urban community. Entirely new perceptions of community life may develop. In addition, it may well be a key to determining the ability of urban inhabitants to understand their individual and collective problems and deal with them effectively. However, it should be pointed out that predictions of the emergence of "the wired-city" are clearly shortsighted in that they fail to realize that with such extensive a communicative system, the very term, "city", will no longer be a useful term for symbolizing urban way of life. Indeed, as Melvin Webber (1968) has already pointed out, we are even now in a "post-city age"



Fourth of July Parade in Saugerties cablecast on Public Access Television.



Nicholas Johnson (1970) has commented that communications will be the primary technological determinant of urban life in the next several decades. "Communications will be to the last third of the twentieth century what the automobile has been to the middle third." Such a statement is as foreboding as it is promising. Forecasts of the development of communications media already range from eloquent prose about the tremendous potential of new media (Youngblood, 1970; Shamberg/Raindance 1971) to horrifying suggestions of a future society unprecedented in the degree of control and repression (Gross, 1970). Cable communication in particular has probably as many potentially negative consequences as it has positive ones. Cable technology is so imminently powerful that it deserves immediate assessment with respect both to its effect upon urban institutions and related technology and the effect of the institutions and technologies upon cable itself.

Two Possible Futures

It is obviously difficult, if not hazardous, to attempt to make forecasts about changes in the nature of urbanism brought on by such a rapidly changing area as cable communications. Peter Drucker (1968) has noted that in the future "the unsuspected and apparently insignificant (will) derail the massive and seemingly invincible trends of today." Nevertheless, it is important to engage in an anticipatory delineation of first, second, and third order consequences of various alternative developments. Of the many futures that are possible, I will elaborate on two.

The first alternative is essentially an extrapolation into the next few decades, the events, developments and value systems of the present. This assumes a continuation of current social trends. Thus we will witness a rapid growth of megalopoli possibly developing into

Doxiadis' world of ecumenopolis: a continual global city. We will, in addition, continue to see the flight of upper income groups, together with industry and the economic base, to exclusive suburban areas. Older urban centers will then become massive human sinks with palliatives being perennially applied through quasi-benevolent welfare-state policies. Complex bureaucratic institutions will continue to proliferate, becoming diffused and interwoven throughout all areas of society. Finally, with social disorganization increasing, environmental degradation reaching a new high, and clamor for security and control mounting from all sides, government and its corporate cohorts will look to research organizations and academia for solutions in systematic applications of a new and powerful union of the social, behavioral, and technological sciences.

The second alternative assumes that the forecasts of increasing exponential change are wrong; that we are instead entering into an historical era in which exponential curves begin to flatten into logistic or S-shapes—an era of evolutionary change into a fundamentally different level of societal existence. This future assumes an eventual emergence of a corresponding shift in values, with voluntary reductions in overall consumption levels, a redefinition of individual rights and responsibilities, an acceptance of cultural diversity, a recognition of ecological interdependence, and a critical attitude toward the possibilities and the problems of technology. There will be simultaneous undertakings to create a variety of new patterns of urban habitation, with access to life support systems and services being increasingly seen as a basic human right. Cable communications and its attendant services will be recognized as a medium for the creation of wholly new communities as a tool for exchanging socially useable and useful information.

The scenarios below attempt to expand upon these two alternatives in terms of an overall societal framework.



Scenario I

Six months after the end of the Viet-Nam War in mid-1973, it seemed fairly evident that the much hoped-for diverting of funds from military expenditures to domestic social problems was not going to materialize in any significant amount. Dissidents began to turn their energies to the inefficiencies and insensibilities of corporate practices and headlines were soon occupied with news of several coordinated, large scale explosions and communications disruptions in factories and corporate offices around the country. It did not take long for Neo-Luddites to coalesce around the goal of bringing the megamachine-society to a standstill.

Within urban areas the crime rate had reached an all time high in June of 1973 with the vast bulk of crime consisting of thefts of personal property and street mugging, much of it violent. There also was an exponential increase in the number of apparently senseless crimes: random shooting and knifing of people in all major American cities.

By 1974 blacks essentially had control of two major cities, and militants in at least one other large city and a half dozen smaller ones were in the process of trying to wrench control from bureaucrats and civil servants who lived outside their communities. Demands for immediate community control came not only from blacks and Spanish-speaking peoples, but from poor and middle-income ethnic white areas as well. Many reacted with violence at attempts by decision-makers to change the character of their areas. The chief concern of many politicians was the very real prospect of widespread social disorder occurring before and during the upcoming Bicentennial Celebration. Most people regardless of their race, income, or ethnicity felt such a crisis demanded immediate and drastic action.

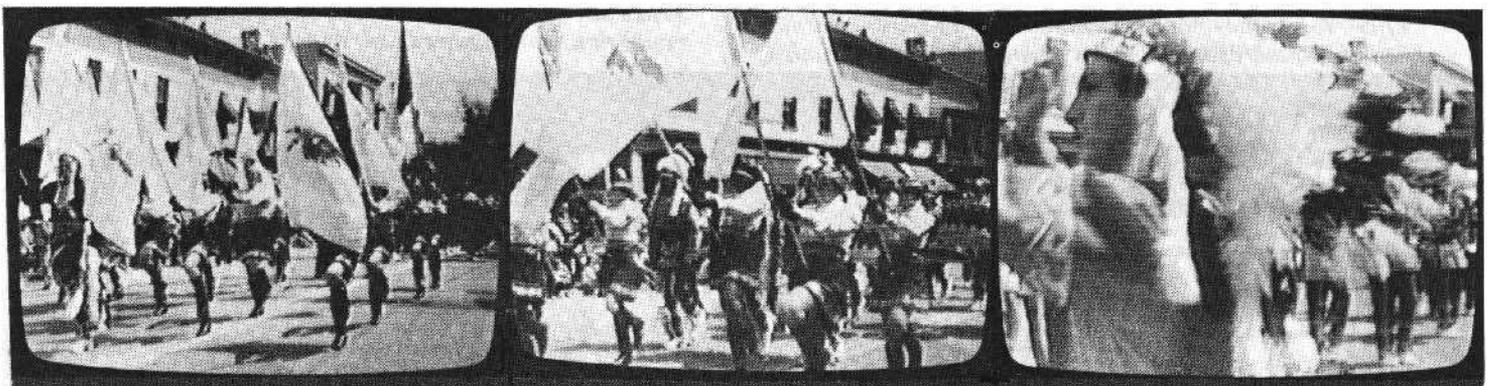
So it was that in 1976 a President was elected on a "Security and Stability" platform and together with a sympathetic Congress instituted a number of swiftly implemented measures. The National Internal Security Administration was created and under the Urban Communications Act of 1977 the Department of Communications was added to the Cabinet. DOC was empowered and given funding to immediately establish a National Communications System, or NATCOM for short. Each megalopolitan complex was to see to the construction, by public or private means, of intra-urban cable networks to feed into NATCOM. The scheme developed by national communications planners was multifold.

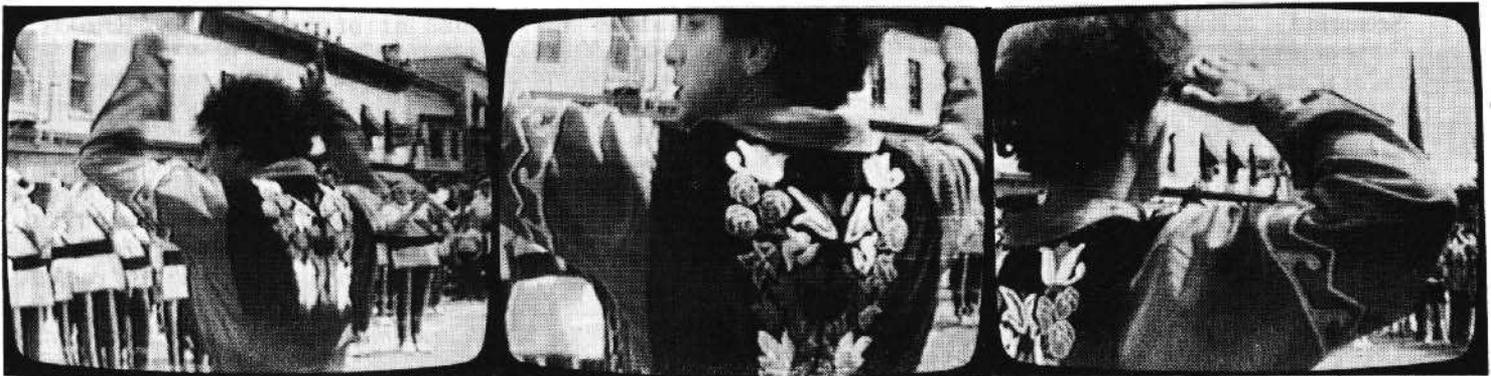
First NATCOM was devised so as to enable government, military, and police operations to function swiftly and effectively in a widely dispersed pattern. Information about potentially dangerous people or groups was data-banked and made instantaneously available. Computers were utilized to collate personal information and activities and to predict by simulation the probability of a particular disruptive action. Thus those potential dissidents who could not be coopted or otherwise cooled out could be closely monitored. A proposal made back in 1971 for mobile transmitters implanted in the brains of habitual criminals was being implemented experimentally.

The personal crimes in urban areas that were not eliminated by local heroin distribution programs, NATCOM sought to minimize by installing miniature video cameras at strategic points on streets. One of the major reasons for the popularity of two-way cable television was its burglar protection service. It thus came to be that privacy from electronic surveillance ceased to become a major concern; after all, it was felt, no decent citizen had anything to hide.

Second, NATCOM could help satisfy public demands for greater localized control through the establishment of intracommunity cable systems within urban areas. By the end of the 70's almost all urban places over 2500 were fully wired. Planners maintained that by encouraging intense involvement in local cable systems a sense of control over local affairs and participation in local matters could be produced. (Behaviorial research by several prestigious institutions had shown that only a sense of participation was necessary to satisfy most people.) With attention so intensely focused on local developments, higher levels of government could thus be freed to pursue their activities unharrassed.

Third, NATCOM facilitated the formation of eight regional superagencies to control urban population distribution, housing, transportation, environmental resources, land use, and internal security. The formerly sticky issue of metropolitan government was skirted by instituting not a new level of government but rather technical service agencies empowered to set policy without the chaotic process of public involvement that had bogged down the implementation of so many plans in previous decades. Possible objections to such an arrangement were largely forestalled by the strategy of including into the agencies potential dissidents.





Finally, cable communications was seen by NATCOM planners as a means of eliminating the propensity of mass media for unnecessarily inflaming emotions about particular events and for raising aspirations and expectations of people beyond what corporate enterprises and government could practically provide. This led in the early 1980's to the custom tailoring of packaged information and entertainment to fit the unique characteristics of particular cultural and social groups. Not that this was unwelcome; the previous decade had seen a widespread clamoring for programming more relevant to the experiences of specific racial, ethnic, and economic urban subcultures. NATCOM enlisted the aid of former advertising and public relations specialists, social and behavioral scientists, video artists, and communications experts to research the needs of various publics and to prepare carefully designed pieces of programming for distribution by cable and cassettes. NATCOM operated in close partnership with the three former broadcast networks which by the mid-80's had turned their investments entirely from broadcasting to broadband communications. These corporations discovered entirely new areas of profit-making by marketing cable hardware and producing programming for video cassettes (particularly with the tremendous demand for violent sports and pornography).

By the mid-1980's the results of the Emergency Housing Act of 1978 were being seen. The Act has provided for the simultaneous construction of forty-five new towns and twenty linear megastructures within megalopolitan areas entirely by rapid industrialized methods. Such a massive urban development effort was unprecedented in scale and scope.

At the same time, national obsession with the automobile was being gradually replaced with an equally if not more intense obsession with personal communication systems. Status began to be measured by the number and type of equipment one could wear or affix to home cable terminals: wall-sized plasma screens, quadrasonic sound systems, biofeedback units,

cameras and video recorders, colorizers, CAI terminals, facsimile attachments, and other paraphernalia. Waiting on the horizon, holography promised yet another addition to personal "telecoms". Not that the automotive corporations simply disappeared; they like former broadcast networks transformed themselves. Megalopolitan living in the 1980's demanded new forms of transportation—personal rapid transit, gravity-vacuum carriers, "people-movers", aerobuses—all of which required both sophisticated transport technology and highly developed and coordinated cybernetic communications systems.

Other corporate institutions were transformed under the impact of universal cable communications. It did not take long for marketing analysts to discover that vastly greater profits could be made by designing information about products and services for particular consumer groups. Even channels devoted entirely to consumer reports, at first resisted by corporate structures, eventually resulted in greater sales, because they further encouraged high consumption patterns. Electronic home shopping with instantaneous credit accounting proved to be a particular boon to commerce as impulse purchases soared.

The 1980's also saw the advent of educational cable networks. Experiments conducted by a number of independent academic centers, and research sponsored by the Department of Communications had proven conclusively that cable communications learning consoles utilizing stimulus-response and reinforcement patterns could significantly increase certain computational and reading skills. It was found particularly suitable for students who showed, through early testing methods, little capacity for more than basic skills. By putting the earlier theories of B.F. Skinner into practice, educational psychologists found that such learning units could also be structured so as to produce a certain degree of satisfaction with a particular role in society. Frustrations and anxieties due to unmet expectations could thus be minimized.





Two-way cable was soon recognized by social, behavioral, and demographic scientists to be a blessing. Not only was a continual census possible, but researchers were afforded a means by which to gather wholly new varieties of information about the activities, behavior, and characteristics of people. Never before had such accurate statistical data been available to social scientists and planners. Government and corporate decision-makers, seeing the enormous potential of such statistical data gathering, defined this as a major element in public participation in policy-making, a method by which government could continually determine the needs of its people. This was deemed much more effective than the mere voting on issues and candidates. Therefore, 1995 was set as target date by which time all homes would be required to have at least one basic, two-way cable terminal.

In America the beginning years of the last decade of the twentieth century saw an unprecedented era of social stability brought about by strictly-imposed government policies. Although conflicts and disturbances periodically arose they were largely localized, short-lived and had little effect on society as a whole. The 1900's also saw the gradual formation of a new type of social stratification based upon differing degrees of access to certain types and qualities of information. The Kerner Commission and political scientists who in the late 1960's had warned of a racially divided society had not foreseen the impact of localized community communications. This permitted urban communities to defend themselves against intrusion by people they considered undesirable, resulting in a vast array of exclusive subcultural urban enclaves. Many communities formed around economic levels, while others formed around ethnic, racial, or work-role distinctions. Local cable systems facilitated the emergence of rigid in-group/out-group attitudes within communities while helping to legitimize and reinforce their particular beliefs and values. Such community atomization permitted government to identify and isolate potential trouble spots and deal with them without upsetting the larger society. The degree of social stability within America was, however, in sharp contrast to the increasing intensity of social, political, and ecological chaos in many other parts of the world.

Scenario II

Urban America in the last quarter of the twentieth century was the locus of a series of widespread social and institutional changes. The mid-1970's saw the breaking down of restrictive zoning laws in suburban areas while the general movement to outlying urban areas continued. Increasingly entropic conditions in central cities due to an overload of population concentration and diseconomies of overly complex institutions gave rise to desire throughout all economic, social, ethnic, and racial groups for alternative environments and live styles. Even while the popularity of suburban living continued to grow, however, it too was beginning to be seriously questioned as a suitable choice.

Concern for the environment and the quality of goods and services, initiated at the end of the 1960's, had by the middle of the 1970's expanded to a greater concern for the total living environment, including housing, transportation, services, community, and social inequities. Demands for a more humanely organized society were echoed by feelings that megalopolis had passed the point of diminishing returns and that different choices were sorely needed.

Moreover, people began to realize in the last few years of the decade that full and responsible participation in decisions affecting their lives and their communities demanded access to means of generating, receiving, and exchanging ideas and information. Only in such a way could common areas of concern be discovered and cooperative efforts at problem-solving be attempted. Adequate and easily available methods of inter-community and intra-community communications were necessary for effectuating mutually beneficial change.

By the end of 1976, cable communications systems had been installed in enough areas that people in many communities began to see their potential for facilitating collective action. Awareness of the potential of community cable resulted not only by the increasing availability of the medium, but from educational campaigns conducted by universities, video groups, and citizens organizations which explained that the cable was not merely an extension of further refinement of television, but an entirely new means of communication.

← Andy gets a haircut--shown on Public Access television. →

With an acceptance of the value of subcultural diversity within the larger society, the abundance of cable channels and inter-networking of community systems permitted sharing of experiences, customs, and artistic expression among various urban groups. Local cable systems and portable video recorders helped foster community awareness and self-development. With the steady proliferation of switched two-way systems in the early 1980's, cable communication was gradually seen as an indispensable tool for local planning.

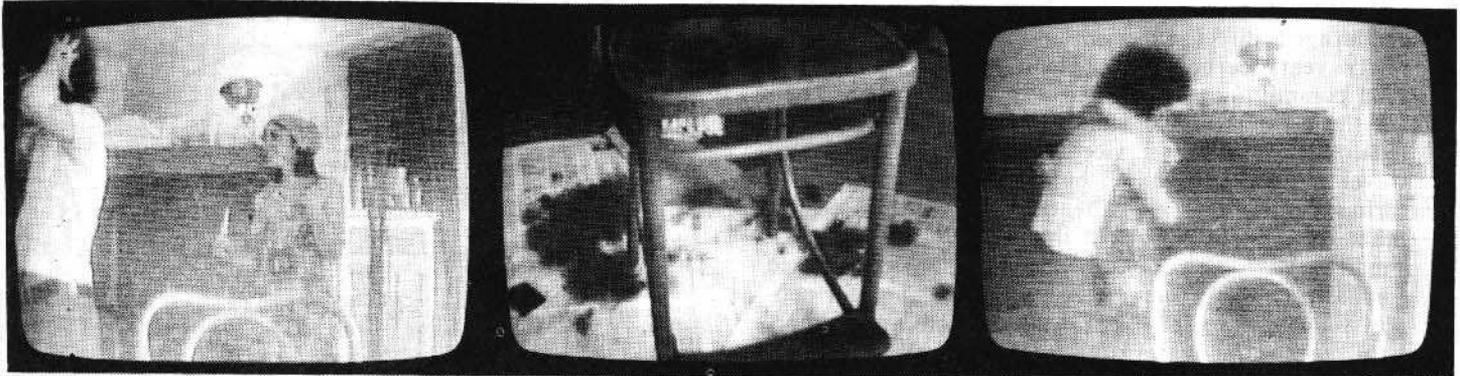
By 1977 the shift from employment in primary and secondary economic activities to employment in services was virtually complete. Fully seventy-five percent of the work force was engaged in such tertiary service activities. It was also becoming clear that the single term "services" was inadequate, for cybernation had begun to reduce employment even in many service categories. At the same time, there was a dramatic increase in the need for people engaged in human care and community development activities such as health services delivery, education, and child care. Simultaneously a desire for performing socially useful roles which permitted more choice and flexibility instead of a single lifelong occupation were pervading all sectors of the population. Moreover, the very concept of what activities constituted "work" came under intense criticism, with a wide range of people from housewives to students at all levels, arguing that they performed functions that made a valuable contribution to the resources and development of society. Finally, the awareness of the fact that American society had decades ago shifted from an economy centered around competition for scarce resources to one of an abundance, gave rise to a wide-spread belief that the provision of basic goods and services required for a life of dignity should be a right of citizenship. The collective force of such events and demands resulted in the institution in 1978 of a guaranteed annual income to all persons.

The cumulative effect of such structural changes in society as a more equitable distribution of goods and services, a reduction in levels of consumption, a more careful use of resources, a blurring of distinctions between leisure, work, and education, and concurrent changes in technologies of information, energy, transportation, and housing was to diminish the necessity for megalopolitan concentrations of people. Two-way cable communication services played a vital role in facilitating the formation during the 1980's of a great variety of urban environments. "New" towns, medium-sized urban areas, community clusters, communal settings, and former small towns and rural areas were receiving emigrants from the denser urban complexes. This expanded range of different environments encouraged more involvement with alternative social relationships such as extended families, family clusters, learning groups, group marriages, and religious groups that had previously enjoyed only limited experimentation. Interactive cable systems with ownership having been separated from programming in the mid-1970's permitted people to maintain linkages within and between differing types of communities; some geographically concentrated, some spatially diffuse, others transient and based solely upon temporary convergence of interest.

For the first time, people were able to enjoy both the benefits of smaller, intimate communities and the access to and participation in larger, more culturally diverse urban environments: national, trans-national, and global. By the mid-1980's the former model of the urban-rural dichotomy had all but disappeared from sociological theory: participation in urban ways of life no longer depended upon habitation within an area arbitrarily defined by population, density, or political boundaries but was instead determined by the access to communicative and informational nets.

The maturation of cable communications and its ancillary services aided in the emergence of a full-blown post-mass-consumption/production urban economy. Advanced cybernation with computer operations capable of rapid reprogramming was permitting a return to high quality crafted goods designed and produced to fit unique criteria. Housing, for instance, could be built to meet the specific needs of particular communities or even individual families. Urban planners and designers saw cable as a means of receiving information about the needs and preferences directly from potential user groups. Cable was also seen as a medium of presenting simulated alternative environments and housing configurations and eliciting reactions to them. Outcomes of various policy choices were projected and compared in terms of their possible long-run ecological consequences. Thus it served as a valuable tool for the creation of more responsive and responsible designs.

Interactive cable systems permitted the development of more individualized inter-personal, intra-community and trans-community communicative services as well. People involved in kinetic and visual arts used cable and related technologies or portable video and cassettes to introduce other people to the process of expressing images and ideas. Many people became involved in the production and distribution of entertainment for specialized audiences. Still others engaged in gathering, arranging, and presenting widely varying types of informational materials to meet the demands for more useful and useable knowledge. Multiple-access retrieval systems via cable gave rise to large groups of people engaged in reading, reviewing, cataloging, and abstracting literature and research documents for users who had been suffering from an overload of data and were in need of more manageable forms of information. Completely new forms of exchanging and presenting information were created, centering around methods for understanding interrelationships of societal changes. Still other people became involved in various types of community development, organization, advocacy, individual and group therapy, and the analysis of problems, goals, and potential areas of conflict and cooperation. Finally, others engaged themselves in the communication of customs, beliefs, events, and cultural contributions of the particular communities of which they were a part. Members of communities which were mobile used cable to form ties with those which were geographically stationary. With the realization that urban communities were socially interdependent, cable nets enabled the creation of shared pools of information and ideas and the joining together of disparate groups of people in collective attempts at bringing about desired changes.



During the 1980's an indirect by-product of a universally-accessible urban communications medium was the gradual replacement of the former two party political structure with a political environment containing a multiplicity of active interest groups each possessing differing value patterns and community myths. In some cases political associations coincided with physically identifiable communities, while others cut across separate communities. Interactive broadband communications networks permitted these groups to coalesce, separate, and recombine around particular issues as the need for effective action demanded cooperative group efforts.

One of the many proposals for government reform that had enjoyed public popularity during the Great Debates of 1976 was a voter response feedback system. As in earlier proposals, it had been suggested that the system could be implemented through two-way cable. At that time, however, cable linkages had been made with only a small proportion of the total number of households. An argument at that time against the system was that such a readily available access to a voting mechanism would effectively discriminate against those who did not have cable. By the late 1980's, however, cable penetration had approached ninety-five percent and the voter system became politically practical. By that time since the hardware was essentially in place, all that was necessary for full implementation was a computerized accounting apparatus. However, once the system had been in operation it soon became clear that a simple yes-no response to proposed policies and candidates was entirely inadequate. Such a system of "feedback" had been based on the notion of "feeding" reactions back up to representatives and administrators involved in public policy-making. What was needed, it was claimed, was an interactive, truly participatory structure that would give individuals and groups the opportunity to originate and present proposals. This subsequently brought about a movement during the early 1990's to replace the system of representation with more direct and cooperative decision-making mechanisms.

The development and proliferation of interactive cable communications as an urban information utility influenced the development of more fluid, diverse, and participative social environments during the late 1970's and 1980's. The 1990's began to see the impact of ubiquitous information access on the physical environment. Static, fixed, and technologically obsolescent building forms were increasingly replaced by flexible, user-controlled environments. One manifestation of this was the construction of basic life support infrastructures providing water, climate control, waste recycling, and communication services which would be designed to last for a relatively long period of time. Attached to these infrastructures or service grids could be virtually an infinite variety of housing types which would either be designed intentionally with short life spans or with the capability of being modified when the needs of the inhabitants changed. Many forms of shelter and community facilities even became entirely mobile, some entirely self-sufficient, others requiring links with service networks. Urban architecture like communications had become more process-oriented, individualized, adaptive and diverse.

The last decade of the twentieth century witnessed a general trend toward more dispersed, polynodal patterns of urban habitation and away from large concentrations of population. Several large urban complexes like New York and San Francisco were maintained because of their unique qualities, but were considerably diminished in population, as they became simply alternatives in a wide range of urban configurations. Locational decisions and choice of lifestyle became based more upon preferences for different environmental or cultural characteristics rather than upon economic determinants. The majority of people were engaged in such activities as interpersonal care and development and cooperative crafts and it was discovered that these activities could be performed well in smaller urban units.

By 1995, it was clear that many of the earlier predictions concerning the impact of communications were being proven wrong. Travel had hardly decreased; rather it saw a net increase as communication about different urban cultures, subcultures, and environments encouraged direct experiential visitation. Predictions thirty years earlier of people communicating rather than commuting to work had also not been borne out, for the very nature of work changed as it fused with localized community service and education. Routinized travel did indeed decline; but travel itself was transformed from mere movement from one point to another to an integral part of the total learning process. Finally, electronic communication did not, as had been forecasted, replace such activities as shopping, for people valued the social function of the community marketplace and recognized the importance of tactile, olfactory, kinesthetic, and spatial experiences. Indeed, the proliferation of communication technologies resulted in *more* direct human interaction rather than less; there was a great increase in the demand for places facilitating direct human interchange. The interrelated effects of transportation and communication technologies, economic change, and political decentralization was bringing about the simultaneous phenomena of societal dispersion and integration—dispersion into a multiplicity of diverse communities and the integration into a national (and increasingly global) urban culture.

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Conclusion

The scenarios I have presented are only skeletal images, verbal sketches of two possible futures. There are, I am sure, elements in each that could be considered undesirable by someone. Indeed, the scenarios are not necessarily mutually exclusive; a synthesis of conditions from both might well come to pass. Both might be dismissed as mere extreme utopian or dystopian fantasies, though I believe both to be realistically possible. Neither "future history" is entirely probable, although I feel that the first alternative is more likely. (Another more probable future which was not discussed is one of increasing ecological chaos culminating in global devastation.)

Unforeseen innovations and events during the coming three decades might explode all present projections. Nonetheless, the normative task of attempting to arrive at desirable futures necessitates an ongoing analysis of the multi-fold potentials, negative as well as positive, of emerging broadband communications. Only in such a manner are we presented with effective charts for helping to guide urban change in the present.

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