Networking and Placemaking

Reza Kazemian

The rapid application of the new means of information exchange and the emergence of globally networked markets are becoming important overall axioms in altering our living and working systems and thereby affecting the spatial and structural relationships between the home and the workplace. The exact nature and extent of these ongoing transformations are subtle and unpredictable, but there are indications that the emerging changes are historic in proportion, urban-regional in dimension, organized around electronic networks, with increasingly flexibility and mobility transcending dependence to locality. These changes are engendering a new situation in which location decisions can no longer be made with certainty. The emerging conditions challenge architects and urban planners with tremendous complexities in placemaking. If we are to succeed we must reconcile two crucial and divergent paths for the future urban development: to face, grasp and eliminate the growing structural tensions between "space of flows" and "space of places".

Theme: Workspace Design II

The article focuses on a history of the emerging cybernomadism through which teleworking in flexible time and place is minimizing individuals' and companies' dependence on places. It deals with the new condition of placemaking that is affecting urban forms and making it difficult to settle the growing spatial conflicts between nets and localities.

Placemaking, Locality, Globality

The choice of appropriate location is among the most sensitive and strategic aspects of placemaking and it will become even more crucial in tomorrow's informational societies. Location decision is something of a double-edged action. It may be made in a way that can bring about potential opportunities for more synergetic, sustainable and smooth transformation of living and working environments, while in contrast, improper sighting can cause irreversible societal, environmental and spatial damage.

The growing globalization of markets and the emergence of network communities present series of profound implications on localization and locality in which workplaces will be mostly affected.
Fig. 1. The net is hastily taking over the locality. No place identity, no place history is left behind. The picture shows a demolished traditional residential area in the north-west part of Beijing opening the way for flows. Photo: Kazemian 1996.

This new mode of development, though still at an early stage, shows signs of being able to alter a number of vital societal and spatial relationships. It is embedding new conditions for many employees and enterprises to become "footloose" to move everywhere as appropriate (Sassen, 1991). It is establishing a ground for offices and workplaces to be totally reorganized in a way that their reliance to primary urban CBDs be reduced. It is allowing companies now to concentrate on their core businesses and remove their offshoring parts and back-offices to remote regions. Out-sourcing and sub-contracting professional services and routine office information-handling operations are now usual actions among companies for minimizing costs and increasing productivity and efficiency.

Many professionals are already connected to electronic superhighway through interactive computer networks, exchanging information through teleconferencing, electronic chatting and messaging, high-resolution video transmission, exploring the Internet, learning at a distance, telemarketing, and performing other online transactions around the clock, throughout the year, across the globe.

Advances in the means of information and telecommunication are even establishing new conditions for a growing number of employees to work in net, in flexible time and space, to "commute" to their work from the desk of their home-based office or a kitchen table without being physically dislocated. They can now work in distance, far away from conventional urban cores or city boundaries.
The diffusion of electronic networking among companies, individuals and communities and its dispersion in various types of space is not yet known as is difficult to disentangle. However, it is clear that the rapid implementation of information technologies is causing a thorough rethinking of production processes, work schedule, labor management, workplace design, and placemaking at the levels of urban and regional planning. Workplace and dwelling location decisions, therefore, are becoming a more uncertain task, and urban planning schemes more complex and varied than in previous decades. The new thinking in work organization, in time and in location requires new planning instruments to coordinate, innovate and develop new spaces. These planning instruments must respond on the one hand to the conflicting spatial logics of multinational corporations and increasingly placeless global information networks and on the other hand to the historical memory and local identity of citizens who remain essentially place-bound. (Figs. 1 and 2)

In other words, we must develop new urban design thinking and strategies for addressing and resolving the growing conflicts inherent in the new social structure between spatial function and meaning, between what Manuel Castells labeled "space of flows" and "space of places" 2:

Thus, people do still live in places. But because function and power in our societies are organized in the space of flows, the structural domination of its logic essentially alters the meaning and dynamic of places. Experience, by being related to places, becomes abstracted from power, and meaning is increas-

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Fig. 2. The spaces of flows are pulling down the spaces of places. A view of a redeveloped urban area at the Jianguo-Mennei Dajie Avenue in Beijing dominated by multinational banks, department-stores, offices and hotels. Photo: Kazemian 1996.
ingly separated from knowledge. It follows a structural schizophrenia between two spatial logics that threatens to break down communication channels in society. The dominant tendency is toward a horizon of networked, ahistorical space of flows, aiming at imposing its logic over scattered, segmented places, increasingly unrelated to each other, less and less able to share cultural codes.

 Unless cultural and physical bridges are deliberately built between these two forms of space, we may be heading toward life in parallel universes whose times cannot meet because they are warped into different dimensions of a social hyperspace. (Castells, 1996)

The established planning practices, urban design doctrines, location strategies and land use models we have inherited from our predecessors do not fully reflect the complex changes that are taking place in significant societal and spatial spheres, in the organization of urban spaces, in homes, in workplaces, across and within the city-region structures. Urban planners are not trained to be prepared for such complex transformations. They merely seek solutions after their intellectual references in the Project of Modernity. (Fig. 3)

Local planning agencies, by their nature tied to specific places, are being overwhelmed by the range and depth of problems posed by the new restructuring processes. They are losing their authority over the spaces of places. Local governments are adjusting their community development policies to respond to the requirements of corporate elite, to the dominant segments of economy; to the growing information-based manufacturing and service
sectors that are able to operate in a wide geographical arena and demanding spaces of flows. Indeed, it seems that corporate market forces, more than ever, are dictating the nature and scope of urban planning, location strategy, and the future prosperity or decline of localities. A number of burning questions confront urban planners today: How should urban regions adapt to the influx of new information and communication technologies? What kinds of initiatives can be taken to promote local identity and to develop a sustainable location management strategy without damaging existing natural and cultural resources? How can we planners equip ourselves to address conflicting spatial logics?

**Markets, Location Decision and Information**

The advanced societies of tomorrow are often characterized as "postindustrial" where the production of information and thereby knowledge will play a vital role in their existence (Gibbons, 1994). Since the early 1970s, dramatic changes have occurred in the economic structures, institutional organizations, social relationships, and spatial forms and functions of many societies throughout the world. Changes in the areas of production processes, scientific discoveries and technological innovations have been so profound and decisive as to constitute a new overall process of systems shifting based on access to information and knowledge characterized variously as the informational paradigm (Guile, 1985; Forrester, 1987), the heartland technology paradigm (Gill, 1985) or the informational mode of development (Castells, 1989).

This scientific and technological transformation is guided by the competition upon which a market economy is based. Companies operating in markets within the framework of a globalized system must compete to survive and grow. To compete with cheaper or better products and more efficient services from other regions, companies focus on improving design quality. They have to be engaged in training skilled labors, work organization and labor management. They strive to increase efficiency through applying new production processes. They also compete through research and development, constantly seeking to incorporate new scientific discoveries and technological innovations.

At the same time, these companies are forced to cut costs. When cheaper labor with potential informational skills, with greater efficiency and better premises become available elsewhere, companies must be flexible to relocate rapidly. Such companies operate within a wide geographical arena and have an expanding range of alternative locations from which to choose, and must therefore be connected to global information networks—to the space of flows. This informational and communicational networking is equally important for individuals who work and run their business at a distance (Castells, 1989; Simmonds, 1995).

**The Breakthrough of the Informational Mode of Development**

The early constitutional stage of the informational paradigm was defined during the decades following the Second World War in the United States, where the military industry played a decisive role in the development of electronic devices. However, it was not until the early 1960s that the commercial generation of computers came to be used in other work processes. In the 1960s, few of the scholars who addressed themselves to the future of societies recognized the general trend in the advanced West toward a new technological paradigm organized around information technology.

Marshall McLuhan was among the originators who as early as in 1964 introduced the notion of the "global village" in his book *Understand Media: The Extension of Man*. McLuhan identified the expansion and influence of Information technologies in our daily activities and predicted scenario of social and political transformation very similar to what we are witnessing today (McLuhan, 1964).

The transformation from industrial to informational social structure, however, first became a matter for serious consideration in the early 1970s, as indicated by the legitimacy crises of the Project of Modernity, the rapid spread of environmental awareness, the scientific and technological innovations of the time, and the sudden energy crisis in the industrial world appeared through the OPEC oil production policy and embargo by 1993. The changing process culminated in the expected economic recession and monetary turmoil in international markets in the early 1990s.

Many scholars therefore see the early 1970s as the turning point when the social, economic, and industrial organization of the West, often called "Fordism" or "Welfare Statism", pre-
vailed and was replaced by the post-industrial socio-economic regime, sometimes called "Post-Fordism" or "flexible accumulation" (Masuda, 1984; Harvey, 1990; Cooke, 1990).

Since the early 1960s, a growing number of eminent urban theoreticians including Jane Jacobs and Christopher Alexander, have analyzed, criticized and sometimes condemned Modernist urban designs. In the early '70s, the champions of Post-modernism attempted to pinpoint the moment when the Project of Modernity in urban design failed. According to Charles Jencks (1987) it was at 3.32 p.m. on July 15, 1972 in St. Louis, Missouri the moment when several blocks of the Pruitt-Igoe urban scheme, constructed according to the most progressive ideals of CIAM (Congrès Internationaux d'Architecture Moderne) leveled to the ground by dynamite. (Fig. 4)

The decisive jump in microelectronic technology was registered in 1957 through the invention of the Integrated Circuit. The first generation of computers was run on the Integrated Circuits System from 1965. In the early 1970s, that system was replaced by microprocessors (microchips) that revolutionized the speed, quality and capacities of generating, processing and transmission of data and information (Masuda, 1984; Castells 1996).

In 1973 Daniel Bell introduced the concept of the "post-industrial society" to define the shifting paradigm from the industrial mode of production to post-modern, computerized society (Bell, 1973). Since then many different notions, concepts and theories have been introduced by scholars from a wide variety of disciplines to illuminate the emerging technological, economic, social and spatial paradigm.

In his 1970 book *Future Shock*, Alvin Toffler writes of the startling and disturbing symptoms of what he calls "super-industrial" societies (Toffler, 1970). In *The Third Wave* (1980), Toffler gives a more detailed overview of recent technological developments, the impacts of the information revolution on every aspect of human activity, and the resulting dramatic transformation of city forms. He implicitly suggests a redefinition of the conventional concept of city. He forecasts the dissolution of existing urban patterns and the emergence of a new form of multi-nodal settlement, comprising dispersed "electronic cottages" that are highly service and information-oriented (Toffler, 1980).

In 1985 Mitchell Moss, among others, attempted to determine the relationships between new technologies and urban transformations. Based on empirical studies of Manhattan, Moss claimed that advanced telecommunications were among the major factors keeping corporate businesses in the city center. He rejects the predicted dissolution of megalopolises, arguing that, contrary to many futurist scenarios, major cities are restrengthening their position as the main foci of international finance, commerce and information services (Moss, 1986).

In 1986, Ulrich Beck published his book *Risikogesellschaft*, translated to English in 1992 as *Risk Society*. Beck characterized the emerging information society as a reflexive phase of modernity and the related hazards and risks of this new social and economic formation as "coextensive problems". To Beck, risks in emerging information societies are "the reflection of human actions and omissions, the expression of highly developed productive forces. That means that the sources of danger are no longer ignorance but knowledge" (Beck, 1992).
Manuel Castells introduced in 1989 the notion of the “Informational City” as a future human settlement pattern. His study was focused on the impacts of informational technology on location decisions and on socio-economic relations developed in the means of production by information based manufacturing and service sector companies. According to Castells, the new techniques for handling and communicating information have become a necessity for companies operating in a broad geographical landscape. The jump to cyberspace allows them to transcend urban and even national boundaries (Castells, 1989).

Despite of differences in their ideas of the future changes and methodologies, what connects most of these scholars is their common belief that the way we live and work is becoming increasingly dependent upon information and knowledge processes and that a transformation of historic proportions is underway. They agree that this transformation will have a dramatic effect on the societal and spatial relations, an overall effect no longer limited to a few areas of society but encompassing the entire life spectrum, from countryside to city and region. (Fig. 5)

The table illustrates a speculative comparison of the historic changes in the three different modes of development. The items under the informational mode of development is just a scenario.

Making Information Technologies Popular

Over the past two decades, information and communication technologies, though continually on the verge of turmoil, have become an important force in the ongoing transformation of capitalist production system (Graham, 1996). Several recent international studies indicate that governments throughout the world have realized that these technologies are going to be
among the most important factors in the smooth operation of their social and economic systems in the future (Masuda, 1984; Fathy, 1991). These governments worry about losing the investment potentiality of powerful information-based manufacturing and service enterprises and the entailing mass employment. In advanced industrial societies, at both national and local levels, governments have begun to respond to this emerging mode of development, rushing to compete in the global arena and proudly investing a large share of their GNP in establishing sophisticated information and communication infrastructures.

Leading countries in the field of information and telecommunication technologies are initiating in pilot projects that explore patterns and methods for future informational societies. National and international funding agencies in the West are concentrating their resources on experimenting with these new technologies in diverse areas to "popularize" their use among ordinary citizens. The "popularization" of such technologies has been greatly facilitated by the invasion of the mass media by IT enterprises to market their products. Massive investments in information technologies began in the early 1970s and IT fever took off after a sudden economic recession in 1991. In Western Europe, information technology has held a prominent position in the public eye since 1992, when a group of High-Level European Industrialists from the European Union member states came together and unveiled strategic guidelines for the development and popularization of information technologies (Bangemann, 1994). The group signed and published a document demonstrating the will of the European Union to rapidly implement several information and telecommunications projects in the region. They set extremely ambitious goals for the expansion of teleworking to be reached by the year 2000: at least 20 teleworking centers are to be constructed across Europe, each involving at least 20,000 people; by 2000, teleworking is to involve at least 10 million Europeans (Bangemann, 1994). It is expected that telecommunications industry is to reach 7 per cent of the Gross Domestic Product of Western Europe compared to 2 per cent in 1984; and more than 60 per cent of all employees are to be directly or indirectly supported through telecommunications (Mulgan, 1991; Graham, 1996).

Following these strategic guidelines, numerous programs of research and investments are justified in order to speed up the process of popularization of information technologies. In line with this policy the Informational Society Forum was set up in February of 1995 "to create a new authoritative source of reflection, debate and advice on the challenges of the information society" (Cordis, 1996). In a recent publication, The First Annual Report to the European Commission, the Forum outlines in detail a policy for creating a networking society in Europe. The document suggests, for example, spreading the use of information and communications technologies among ordinary citizens through the rapid development of teleworking, electronic distance education, computerized road traffic management, electronic healthcare, trans-European public administration networks, and city information highways. Special emphasis is given to supporting the various networks and societies involved in researching information and communications.

Since the early 1970s several IT-oriented urban and regional projects have been undertaken in Sweden. The internationally recognized Project Therese of 1975 was one of the first large-scale efforts in Sweden to use information technologies to promote regional policies, providing job opportunities in the northern regions of the country in order to counteract the depopulation of these areas. Project Therese, though remained at an experimental level, gained the attention of scholars for its social awareness and environmental aspects in designing and implementing new information networks in remote communities. Particularly since the early 1990s, regional and local governments in Sweden, together with many manufacturing and service companies, tried to adjust and transform regional infrastructure to prepare for the information society. Recently several teleworking and IT-oriented pilot projects have been undertaken with the joint support of state and local governments together with private and public companies. The Bangemann Challenge is a prize-winning inter-European IT project planned by the City of Stockholm for 1997. The project is based on the recommendations of the High-Level European Industrialists for creating an information society, and headed and reported by Martin Bangemann, a member of European Commission DG-XIII responsible for industrial affairs and information and telecom-
munication technologies. The Bangemann Challenge invites European cities of more than 400,000 inhabitants "to put their best project forward", in a competition to develop information technology that focuses on citizens. So far 108 projects from 25 European cities have been submitted to the Challenge.

The Stockholm County Council's 1991 Regional Plan, a regional strategy scheme mainly for land use and infrastructure in the county, is coordinated with other counties around the Mälar Lake. The Regional Plan of 1991 shows a 15 year development program. It is estimated that over $7.6 billion will be invested in developing transportation and communication systems in the Stockholm-Mälar Region. The ambition is to limit the travel time required to reach any part of the region to less than two hours. Great emphasis is placed on the expansion of telecommunication and information networks and the rapid development of a high-speed electronic infrastructure. This scheme is important because it is placing nearly 2.5 million population and favoring several multinationals such as ABB, Ericsson, Astra, Pharmacia, Atlas Copco and Electrolux. These enterprises have their origins in the region and might continue to run a large proportion of their business operations there. However, the scheme can have a considerable impact on the relocation of homes and workplaces in the region as well as on the societal and spatial aspects of many less-favored rural communities, towns and cities at the national level. The Mälar Regional Council (Mälardalsrådet), comprising representatives from 31 municipalities around the Mälar Lake, was established in 1989 to coordinate the implementation of this burgeon, expansive and critical project.

Changing Workplace Locations

In the pre-modern era workplaces and dwellings were usually mixed and shaped entities. In some cities the distance between the home and the workplace was limited by the fact that people walked to work. Pedestrian accessibility kept the dimensions of the city relatively small. Even the introduction of the spinning wheel or loom from the East by the thirteenth century did not significantly alter the close relationship between workplace and the home in European cities.

But the mid-nineteenth century saw the large-scale introduction of mechanical power into the production process, and a huge capital investment demanding a controllable workforce concentrated in large workplaces located in the rapidly growing urban areas. These new conditions gradually created dense areas for work separated from locations devoted primarily to housing. In some cases, entire residential areas were constructed to house the workers of a nearby factory. By the dawn of industrialization, housing construction, which had previously been a locally based and "bottom-up" initiative, became a centrally administered activity, with planning and location decisions controlled by a "tope-
down” structure (Marcus, 1993). By the turn of the century, the pre-modern, decentralized factory community was history; planning and development focused on the cities, and urban planning entered into an entirely technocratic and bureaucratic era.

In the advanced industrial world, a series of interconnected innovations and changes brought on a gradual acceptance of the compartmentalization of urban functions. Among these were an explosion in the use of motor vehicles, the rapid spread of the new means of communication such as telegraph and telephone, the rising price of land in central urban areas, the empowerment of representative governments, the practical application of the Fordism. Tylor’s principles of work organization and management, and the accompanying Keynesian model of economics. The development of the corporate production system in the industrialized West in the decades after World War One had a disastrous effect on the traditional cultures of industrially underdeveloped countries, where militarized central governments often took over the planning affairs and location decisions and with brutal methods dictated a separation of urban functions. (Fig. 6)

Modernism generally paved the way for the maneuvering of centralized powers. The leading urban designers of the Modern Movement advocated a powerful planning authority they believed would bring about good urban form, lead to good content, and produce healthy social behavior (Moos, 1980; Jencks, 1987).

In fact, the whole idea of compartmentalization of urban spaces emerged in the 1920s when a group of young town planners and architects, among them Le Corbusier, Gropius, and Mies van der Rohe became the influential representatives of a new international style of architecture and urban design which altered the fundamental structure of many cities.

In 1922, Le Corbusier was invited to submit an urban design project to the exhibition Salon d’ Automne. He presented the visionary, abstract and functional Ville Contemporaine, which later formed the basis for his widely read book Urbanisme. In a part of the Pavillon de l’Esprit Nouveau at the Art Deco Exhibition in 1925, Le Corbusier displayed a large diorama of an urban design proposal for Paris — what he called the “Plan Voisin.” The plan was based upon functional zoning, advocating a new traffic pattern for solving the crisis caused by the throngs of new automobiles, and proposed widespread demolition in the central parts of city. Only a few isolated monumental buildings such as churches and palaces were to be spared. The project attracted support from various automobile firms including Peugeot, Citroën, and Voisin. Though the project was never implemented, it exerted a lasting influence on large-scale urban zoning and urban renewal.

In 1933, Le Corbusier presented a new urban design ideal, La ville radieuse, which may be considered the pinnacle of the mature Modern Movement in urban design for the Machine Age. Le Corbusier suggested a completely new pattern of urban design, dividing the city in separate zones for housing, work, and transportation, all with easy access to recreation areas.

The most important outcome of the Modern Movement in urbanism and urban design was the fourth congress of CIAM on the theme “The Functional City.” The congress was held in August of 1933, aboard the cruise-ship Patris II, sailing between Marseilles and Athens. The congress dealt extensively with the problems of modern cities and the future of urban design. The views expressed at the congress were reflected in a series of “statements” published in Switzerland and Holland in 1933 and a decade later (1943) published in France in the document “la Charte d’Athénes.” The CIAM congress and la Charte it produced were based largely on the Le Corbusier’s own doctrines of urban design, which classified the city’s main functions into four fundamental categories: housing, recreation, work, and transportation/circulation.

Meanwhile, other modern counter-theories on urban issues were on march in the West. These theories were mainly rooted in the social-reformist ideas of William Morris and John Ruskin, two pioneer figures that profoundly influenced critics of the functionally zoned modern city such as Camillo Sitte, Patrick Geddes, Ebenezer Howard and Raymond Unwin.

Camillo Sitte recognized the importance of placemaking and locality in cities, and saw the medieval sense of local identity as an ideal source of inspiration for urban development. He joined the critics and advocated an artistic solution to urban design (Sitte, 1965).

Patrick Geddes was among the leading planners and social reformers of the early twentieth century who...
frequently preached through his "Outlook Tower" criticizing the mechanically placemaking and "civic surgery" of the day. He explained that town planning... is not something which can be done from above, on general principles easily laid down, which can be learned in one place and imitated in another... It is the development of a local life, a regional character, a civic spirit, a unique individuality... the renewed art of Town Planning has to develop into an art yet higher, that of City Design — a veritable orchestration of all the arts, and corresponding needing, even for its preliminary surveys, all the social sciences. Here, then, is the problem before us on our return to survey our modern towns, our ancient cities anew, to decipher their origins and trace their growth, to preserve their surviving memorials and to continue all that is vital in their local life...

(Geddes, 1968)

Ebenezer Howard's To-morrow: A Peaceful Path to Real Reform published in 1898 and with a slightly revision Garden Cities of To-morrow published in 1902 were among the influential books widely read by the town planners of the early twentieth century. Howard's idea remained as a rejection of functional separation of city into different zones. Howard's Garden City ideal combined the advantages of the town with those of countryside into "...a town designed for healthy living and industry; of a size that makes possible a full measure of social life, but not larger; surrounded by a permanent belt of rural land...." (Howard, 1945).

A primary goal of garden cities was to halt the explosive growth of metropolis centers, and to elevate the growing social misery and segregation in overcrowded and polluted industrial cities. By reversing the increasing "separation" between home and workplace, they would begin to weld together the values of rural and urban living, and to bring together people with different social and occupational backgrounds to coexist and share the same amenities. (Fig. 8)

Raymond Unwin and Barry Parker were the first to implement Howard's urban planning ideals in reality. They envisioned a solution which would promote local values and counteract the increasingly impersonal character of urban life produced by zoning. Unwin and Parker, as many contemporary social philosophers (Cooke, 1990; Harvey, 1990; Kolb, 1992), perceived a growing sense of emptiness which they attributed to Modernist planners' negligence of people's need for social belonging and individual stability, to their lack of respect for history, tradition, and collectively transmitted local norms and values. Taken together, the ideas and critical views propounded by Sitte, Geddes, Howard and Unwin grounded the early critiques to the Modern Movement in architecture and urban planning that, with all means, undermined the traditional relationship between home and workplace, that resulted to "distanciation" of them in time and space (Giddens, 1990).

The new automobile-centered lifestyle, functional segregation through urban zoning, and the centralized system for determining the location of workplaces entailed the construction of many dormitory suburbs, satellite industrial towns, modern neighbor-
hood unites, and the sprawling growth of settlements that popped up around many cities. "Modern living" combined a drive-to-work mentality with an inflexible infrastructure, an expanding system of space-consuming roads and parking areas. Unpaid time spent commuting to work, environmental damages, energy waste, and traffic congestion were some by-products.

Automobility dispersed many critical urban functions and institutions, such as the many craftsman workshops, small-scale workplaces, semi-rural food markets and old-fashioned bazaars, from the city's center to its periphery. Capital-intensive enterprises took over the production and distribution of goods, moving these activities from the central business districts to less expensive urban peripheral sites near orbital motorways and close to middle and lower-class suburbia. Planning policies, localization of homes and workplaces and other strategic urban priorities were dominated by the interests of monopolistic capitalism – the banks, mortgage companies, mass-producing and transport industries. The automobile became a necessity, a crucial instrument in modern life, a symbol of prosperity and freedom for most of the urban inhabitants and a determinant factor in urban design.

The Placemaking Continuum and New Axioms for Planning

Keeping pace with technological and economic transformations, a series of renewed labor management philosophies addressed the new condition of post-industrial life, and entrenched as a dominant global regime of work and the production process. The new management strategies exercised the free move of capital from one place to another, concentrating labor intensive assembly operations to low-wage economies. They suggested the decomposition of labor schedule and workplaces by utilizing new information and telecommunication technologies in the work process, investing in super-modern infrastructures for mobility and communication, experimenting with decentralized and recentralized types of production methods and other major structural changes. With these changes arose a new global mode of development based on global networking (Cooke, 1990).
Reestablishing complete control over new production systems required some profound changes in the prevailing spatial relationships. It required a different organization of the urban settings. The urban design schemes of the past decades had not provided a suitable ground for transformations which were in view. They instead shared responsibility to create the problems that made transformations inevitable (Sudjic, 1994). The demands of the new management theories very soon were manifested in the aesthetic features of spaces of flows, such as airports, hotels, technical parks, capital-intensive industrial buildings, information-intensive workplaces, business headquarters, that became the sensitive recipients of the new image and order. The past two decades have produced new architectural styles that symbolize the "post-modern" era, reflecting an insecure, unstable, transient and footloose production system and a distrust for established urban design logics are emerging. The old concentration of industrial and commercial activities in specified urban zones is being superseded by a tense oscillation between centralization and decentralization processes, producing a complexity in urban form and content quite different from the process we learned during the Industrial Era.

While city centers still are maintaining their position as the foci of high-level services, cultural activity, commerce, and business, the functional necessities which brought them into being are losing their importance. Major demographic and occupational transformations are underway in large metropolitan areas and in their suburban and related regional hinterland. For some communities these transformation mean adapting to a new economic niche with renewed prospects for development and growth; for others they mean economic decline and a struggle to find a basic means of survival.

Already many suburban communities built upon the spatial logic of Modernism are undergoing functional changes. They are evolving from once "dormitory towns" to become sites for secondary headquarters, the back-oftices of consumer and non-production services, and information-intensive manufacturing enterprises. These suburbs now provide homes and workplaces for both highly paid professionals and re-skilled low-wage, blue collar workers. A new type of spatial formation is emerging, a new "suburbanization" process extending far beyond the conventional urban boundaries.

At the same time, a large portion of the low-income and unskilled segment of these suburban communities now faces the threat of a new wave of poverty, segregation, and displacement. They are struggling for their local identity, protecting their roots in the space of places. A new social and spatial tension, a new process of differentiation and compartmentalization is hiding within and around cities built on functional placemaking, zoning, and spatial price gradient.

Some visions for the future of cities and urban design continue to be guided by utopian, dystopian, futuristic, simplistic, linear, and confusing "technology-will-fix" attitudes. Nevertheless, compared to the rigid and constraining urban design methodologies of the 1960s, '70s and '80s, the new mode of development promises greater potential for creating cities in sync with current concepts and realities, cities of integrated cultural, social and spatial diversities. Planners now employ information and communication technologies in placemaking, help them to replace, rebalance and redensify urban spaces, to transfer many activities from city centers to other areas, reducing urban traffic congestion and allowing a more for culturally and socially effective use of places (Smith, 1992).

The strategy of relocating back-offices supporting telecommuting, and minimizing private transportation in city centers is receiving great attention in planning debates. Scientists from a variety of disciplines, including information technologists and urban planners, are working together to introduce methods of improved telecommunication and information access to replace the costly, inflexible infrastructures for fuel-driven transportation. They are also experimenting with multifunctionality of spaces that combine employment opportunities, cultural activity, social diversity, recreation, and housing in order to preserve the life of decaying urban and suburban
communities. Multifunctional development pattern is seen by many as an answer to the problems of the monofunctional, compartmentalized cityscapes.

It is widely accepted that the diffusion rate of new information and communication technologies should be in line with the democratic principle of giving citizens access to and control over the flow of information to increase their awareness, helping them make more informed decisions, and making the planning process more participatory and its solutions more contextual. It is not the "popularization" of information technology but the democratization of information that is needed, and this should be on the top of every planning agenda, as the primary source of inspiration for future thinking in urban planning and design.

Before anything else, planners have to grasp thoroughly the growing tensions between the space of flows and the space of places. It is a challenging task for us to reconcile different spatial logics, to discover how new opportunities can best be diffused, success be achieved, and pitfalls be avoided at this early stage. Our success will surely depend on our ability to form a well-thought out and far-sighted strategy for location decision and placemaking.

Notes
1. Powerful service and financial sectors are already applying such techniques. For instance, the publishing giant Axel Springer Verlag, sends book manuscripts via satellite to India to be printed (Forester, 1989).
2. These two concepts are borrowed from Manuel Castells who, particularly in his recent work, The Rise of the Network Society, further develops his idea on "space of places" and "space of flows" (Castells, 1996).
3. As Charles Jencks reports, the project was designed in 1951 and was given an award by the American Institute of Architects. The Scheme consisted of fourteen story high-rise slab blocks with plenty of sunshine, space and greenery. Pedestrian and motorized traffic was separated, and local amenities such as playgrounds, laundries, community meeting centers, were all built in "rational" patterns. The inhabitants were safe from cars, but as it turned out, not safe from crime (Jencks, 1987).
4. Modernist urban design ideas were widely presented in several exhibitions. Two of the most important were the Paris Art Deco Exhibition of 1925 and the Stuttgart Exhibition of 1927 (in the Weissenhof Colony).
5. In 1992, Federal Highway Administration in the United States announced that, in addition to the time normally spent commuting, Americans lose more than 2 billion hours a year to traffic delays. It is estimated that the annual cost of these delays exceeds $14 billion. The fear is that, unless radical measures are taken the figure will increase to almost 7 billion hours by 2005 (Smith, 1992).
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