

The Future of Urbanization

How Teletechnology is Shaping a New Urban Order

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Periodically in intellectual history, new movements of ideas arise when familiar institutions are viewed in unfamiliar ways: Keynes and his General Theory of Employment, Interest and Money; Adam Smith's reinterpretation of markets and labor; Marx's reappraisal of class structure; Freud and the familial household; Dewey and the schoolroom. We are now on the brink of a similar evolution in our concept of cities, emerging from a 20th-century view of urban life and management that was shaped by colonial, early industrial, and traditional agrarian philosophies.

Powerful forces are converging to create an increasingly interconnected urban infrastructure that is essentially a new stratum of the geopolitical landscape. These forces include international finance, security needs, environmental developments, and technological advancements. The result is a growing phenomenon of global urban connectivity: cities around the world are creating a new transnational political and economic realm separate from traditional nation-to-nation interactions. While there may yet be no reason to expect economic and technological relations between London, Beijing, and New York City to overshadow macro-relations between Britain, China, and the United States, inter-urban cooperative structures will increasingly influence national and international affairs. Current urban telecommunity theory illustrates some of the practical impacts of this trend as well as its profound implications for urban philosophy.

Urban Telecommunities As Regional Growth Engines

A good microcosmic example is an initiative to develop the town of **La Plata, Maryland**, into a pioneering telecommunity (E-Burb or wired suburb), presenting significant implications for the future of greater Washington, DC, as well as for urban regions throughout the United States, for which the La Plata project offers a growth engine model. The project envisages a telework community in which many residents will remain physically in La Plata while working virtually in DC or elsewhere, linked around the clock by fiber-optic internet and video. The project's controlling idea is a telecommunity concept developed by [Dr. J.J. Hellman](#).



In 2005, President Bush holds a teleconference with US troops in Iraq. With the rapid advancement of communications technology, procedures from military activities to urban planning have been made more streamlined worldwide. Photo courtesy lwb10463.

This "urban telecommunity" is not telecommuting as commonly understood—employees working from home occasionally or a loose network of geographically separated people linked periodically by the internet—but a formal group of substantial size, whose members, both remote and proximate, are continuously connected via a combination of on-screen and other contacts for public or private purposes of collegial cooperation, with most members sharing a common geographical locale. The idea of a dedicated social organization using teletechnology in this way to support a widely distributed urban workforce, metropolitan services infrastructure, and rurally located small community is an innovation of far-reaching practical and theoretical importance. It brings into useful illustrative convergence a cluster of concepts that together portends a new era in urban philosophy, embracing information technology as a positive and crucial contributor to both the social and infrastructural architectures of community.

Teletechnology's Impacts on Urban Evolution

The La Plata project illustrates a chain of teletechnology impacts on urban evolution. Seven of these relate to the town: erosion of the belief in internet homogeneity, natural ecosystems, security, educational institutions, the management of cities, and the design of urban buildings.

First, because **La Plata** is in many ways a typical American small town, how it responds to its telecommunity options **offers a model for similarly situated communities across the United States**. Dating from rural beginnings in 1888, the town is an 8,400-inhabitant bedroom community serving Washington, DC. The telecommunity project proposes to change that concept, envisaging a La Plata workforce servicing DC managers via internet from home offices and neighborhood telework centers. The town would be populated 24 hours a day, 7 days a week, with all that means socially and economically: creating new demand for recreational facilities, restaurants, shops, and other amenities needed to support a higher level of social activity.

Secondly, urban analysts will likely be interested in how the transformations expected from this envisaged telecommunity, and the studies on which it is based, contradict popular belief about internet homogeneity: the notion that global teletechnology is uniforming. The internet in its present form liberates personal individuality through expressive tools such as blogs; similarly, evidence indicates that networking encourages regional differentiation. **The La Plata proposal is linked to a municipal plan developed to reassert the area's original small-town character and distinctive personality**. Transitioning from bedroom community to "living community" status will create economic and social demands for a village hub that's both livelier and more uniquely identifiable than the town presently is.

Thirdly, this social benefit is envisaged as being paralleled by a natural-environment one. **By reducing commuter traffic, telecommunity is expected to curb pollution substantially**, especially if other towns follow suit.

Such reduced highway commuter reliance, fourthly, is in turn seen as part of the model's security rationale. By phasing out high-risk urban resource concentration and by curtailing highway congestion that impedes crisis response, a more telework-based, geographically distributed workforce would reduce vulnerability to disruption of economic activity and government services by terrorism or natural catastrophe. **President Eisenhower** introduced the national highway system as the **Defense Highway System**—a crisis tool for resource mobility—but experience has shown that in emergencies it's difficult to use congested highways for defense, evacuation, or anything else. To emphasize the La Plata model's strategic desirability in this regard, the **proposal recommends that the pilot teleworkforce be Washington, DC-serving staff of the Department of Homeland Security**, distributed not only to La Plata but to a network of telecommunities in Maryland, Virginia, and elsewhere. These locations would be remote for strategic protection purposes but close enough for telework colleagues to meet over lunch periodically. This distribution rationale would apply to the security, crisis response, and strategic continuity-of-services interests of many cities.

Fifth, the model proposes that such E-Burbs be linked to educational institutions with teletechnology support capability. Qualifying universities and colleges would be integrated into the telecommunity grid. An example of how some educational institutions are adapting to the recovery and mobility options offered by teletechnology is **Grantham University**, an accredited online university. When its Slidell, Louisiana, campus was destroyed by Hurricane Katrina, Grantham continued to function without interruption to over 8,000 students around the United States and other countries because, as a result of Hurricane Ivan two years earlier, Grantham CEO **Tom Macon** had all the university's data digitized and stored on a secure server in Virginia. A plan to open a satellite campus in Kansas City, Missouri, was quickly converted to provide for the proposed branch to become the university's new headquarters. Forty employees relocated from Louisiana to staff the Missouri campus with 150 newly hired locals.

This example is particularly apt because Louisiana is the kind of state that is especially well-suited to illustrate telecommunity thinking: it must prepare for disasters while ensuring the distinctiveness of place that is essential to tourism and economic competitiveness—needs that are served well by telecommunity. Louisiana's socio-political diversity also suits telecommunity principles. Growing evidence suggests that a social advantage of teletechnology is its inclusiveness: it can empower community development players who were previously marginalized. This occurs partly by leveling the playing field with communications tools via which rural or other remotely located participants can take part as equals with those situated at the heart of the political action and partly by placing a value on information itself, from whatever source.

Sixth, because the La Plata project is geared toward the infrastructural development of greater Washington, DC, it has great interest for students of major metropolitan center management. **Thomas J. Lockwood**, the **Department of Homeland Security's** Director of National Capital Region Coordination, sees connections between telecommunity and the work of economist **Richard Florida** ("The Rise of the Creative Class", et al), which views urban growth as fueled by the creation of organic, industry-specific communities of co-workers enjoying access to many lifestyle choices. **Aris Melissaratos**, Maryland's Secretary of Business and Economic Development, supports telecommunity not only from the standpoint of his state's economic interests, but also because he regards it as a valuable development tool for the greater Washington, DC metropolitan area. A key telecommunity premise is that it is good for cities. The internet is global, but its infrastructural support is based in cities, whose competitiveness is increasingly linked to teletechnological capability. A virtual economy requires strongly defined and well-equipped physical locations.

Seventh, telecommunity is shaping the kinds of buildings cities will have in the future. Large companies and government agencies have traditionally maintained urban "people warehouses": head offices with large staffs. But a telecommunity requires only key people in head offices, which now assume a more symbolic role. According to management scholar **Charles Handy**, the office of the future will resemble a clubhouse, with rooms reserved for activities, not particular people. Also affected are the sites on which teletech-sensitive buildings are built. The **National Association of Realtors'** new US\$46 million tower on Capitol Hill arose on a site identified by telecommunity research. Skeptics long saw the relatively tiny (8,284 square feet), narrow, and unusually shaped location as commercially undevelopable. Technology-based studies of office building evolution indicated otherwise. Two similar projects have now been proposed to the National Capital Revitalization Corporation.

The Global Urban Net

To understand why teletechnology encourages community dispersal yet continues to coalesce in cities, it is important to realize that internet technology is not an ex nihilo phenomenon. It is a cumulative product of not only technological but also politico-economic history, a fact often overlooked by technology analysts who prefer to focus on hardware innovations. The evolution of global financial infrastructures has provided the scaffolding that makes transnational technology possible. Many people think of teletechnological infrastructure simplistically as a system of computer connections—it is much more.

The internet is a physical system, but the World Wide Web is a community of interlinked units of intellectual property. Both depend on a complex architecture of voluntary contracts and shared protocols

subscribed to by exchangers of information traffic (for example, so-called peering agreements). In the early stages of internet development these contracts were informal, trust-driven relationships; they are now mostly formal agreements between participants around the world. The **Internet Corporation for Assigned Names and Numbers (ICANN)**, which oversees the allocation of unique internet identifiers like domain names, has an international board. The platform on which global telecommunity capability rests is a socio-political infrastructure based on cooperation between the major cities of the world—an "urban net"—without which the physical infrastructure couldn't operate.

The system of global politico-economic agreements that links the world's major urban communities, making possible orderly global trade, academic, professional, technological, and many other types of cooperation, developed over centuries but made a quantum leap in the 20th century. This is not only of historical interest; it is crucial to how cities function now and how they are evolving. The **Bretton Woods conference** in 1944 was a watershed for the integration of world financial centers into a global infrastructure, including regulatory treaties like the **General Agreement on Tariffs and Trade (GATT)**. This regulatory infrastructure, a cousin of the mesh of agreements and protocols underlying the internet, is an inter-urban construct enabling world financial centers to trade.

A co-drafter of one of the treaties related to GATT, **Gordon J. Cloney**, heads the international insurance program of Washington, DC's Department of Insurance, Securities, and Banking, where he is responsible for cooperation between the US capital and other global financial centers. Insurance, of course, is a fundamental element of all global financial trade. Cloney points out that although the insurance industry has for years now been liberalizing its global trade, it has simultaneously been building new international structures for regulatory cooperation. As world trade grows freer, contractual infrastructures between global cities become denser. This facilitated the creation of inter-urban teletechnology, which is now in turn enabling information to be exchanged between urban communities at unprecedented and increasing speed across both regional and international borders, reinforcing the urban net anew.

A New Urban Order in the Making

In short, a new global urban order is being shaped by the growth of teletechnology. This process encompasses the development of telecommunities as a leading-edge phenomenon, the technological connection of regional and global urban interests, and the mutual reinforcement of technological and socio-economic infrastructures. Two major points for urban analysts emerge: one immediate and practical, the other theoretical, slower-moving, but far-reaching. On the practical level, teletechnology is part of the evolution of the urban net—a global community of cities distinct from countries—and will rapidly increase the ability of global cities to create inter-urban infrastructures separate from traditional nation-to-nation infrastructures.

Saskia Sassen is credited with coining the term "**global city**" to denote a city which, because of its power and other characteristics, relates to similar cities in other countries more strongly than to the rest of its own country. **A good current example of this is Hong Kong.** A British Crown Colony from 1843 until its government was ceded to the People's Republic of China in 1997, Hong Kong continues to conduct a liberal capitalist economy. The People's Republic has agreed to allow the city effective autonomy until 2047 in all matters except defense and foreign relations. Since Hong Kong is one of the world's major centers of capitalist enterprise, however, maintaining its own judicial structure, envoys to important global institutions, customs protocols, and immigration regulations, it is hard not to see it as effectively conducting a vigorous de facto foreign relations apparatus. Now that they are being empowered even further by teletechnology, global cities can be expected to increase their cooperation and their formation of a transnational realm of intercity cooperation. We will see more initiatives like the **Cities Alliance**, a global coalition of cities jointly organized by the **World Bank** and the **United Nations Centre for Human Settlements (Habitat)**. **As urban teletechnology use increases, cities will use telecommunity tools increasingly in designing their infrastructures and managing their relationships with regions and outlying communities.**

On the theoretical level, a new, technologically informed way of thinking about cities is emerging. Parts of this shift are highly philosophical, involving our ideas of technology itself, which have played a substantial role in traditional urban discourse. Such discourse has been greatly affected by the Newtonian or Industrial Revolution concept of the machine: a construct of clockwork gears, noise, and steam. An example of such Newtonian urban thinking is the influential work of **Lewis Mumford**, whose studies reflected agrarian reaction to the perceived constriction of cities by inhumane mechanisms. The philosophical nature of Mumford's work did not make it remote from practical decision-making: like many another set of effectively articulated abstract ideas, it helped shape the working vocabularies of generations of planners, policymakers, and urban professionals. **We are now moving into a new era of urban philosophy: the era of the post-Newtonian city**, with a revised concept of technology based on information systems rather than industrial mechanisms, and with growing multidisciplinary alliances between groups such as technologists, technology theorists, environmentalists, architects, philosophers, economists, researchers, teachers, and urban planners. This will inevitably influence the further evolution of numerous practical urban disciplines over time.

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