# ▘ Managing the Infosphere

## Where and What Is the Infosphere?

### Locating the Infosphere: The View from Appalachia

*Managing the Infosphere* was conceived in the summer of 2003, when one of us (Steinberg) was located in Mountain City, Tennessee, a town of 2,443 residents nestled in a valley in the Appalachian Mountains, about 12 miles from the borders of both Virginia and North Carolina. By any measure, Mountain City is one of the more isolated points in the eastern United States. It is the only incorporated town in Johnson County (pop. 17,499), and much of the 298-square-mile county consists of uninhabited National Forest land. Fewer than 60 percent of adults in the county have a high school degree, and fewer than 7 percent are college graduates (figures for the United States as a whole, by comparison, are 80 percent with a high school degree and 25 percent with a college degree). The nearest access to the Interstate highway system is in Abingdon, Virginia, a 40-minute drive away, across winding mountain roads that become treacherous in winter, and, as the ultimate indicator of isolation in rural, twenty-first-century America, Mountain City is probably one of the very few points in the eastern

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United States where one must drive more than 30 minutes to get to a Wal-Mart.

Technological innovations do get implemented in Mountain City (albeit, a bit later than in the rest of the country), but adoption is selective and uneven. To some extent, selective adoption of new technologies is likely the result of corporate calculations regarding the small market in this sparsely populated, low-income county. However, selective technology adoption also appears to reflect residents' desires to maintain small-town social norms. For instance, although one of the three banks on Main Street has an Automated Teller Machine (ATM), as late as 2003 most residents used it only when the bank was closed. When the bank was open, the ATM sat unused while customers idled in their trucks as they waited their turn in the drive-through lane, where they could communicate with a teller via intercom and pneumatic tube. It is difficult to know exactly why local residents avoided the ATM. Perhaps the explanation lies in the rural population's conservative resistance to change. Perhaps local residents were semiconsciously affirming their small-town lifestyle, as speed and efficiency were sacrificed for the familiar and the personal. Residents' reluctance to use the ATM during banking hours may even have been an indirect but purposeful act of resistance against outside forces, as local farmers and factory workers recognized that the job of their former high school classmate working at the bank depended on their willingness to wait in line for fifteen minutes to withdraw money.[1]

Even if local residents' refusal to use the ATM was primarily rooted in small-town conservatism and resistance to change, one should not use the ATM example to reach the conclusion that Mountain City folkways lead to a blanket rejection of technological innovations. Mountain City residents have had few qualms about adopting technologies that are seen as compatible with and supportive of local social institutions and cultural norms. For instance, the reluctance of Mountain City residents to use their local ATM can be contrasted with the enthusiasm with which they have taken to installing caller-identification options on their landline telephones. Presumably, residents have chosen Caller ID as a convenient tool for managing communications (and maintaining the sanctity of the home) in a community where everybody knows everybody and where telephone calls from unidentifiable parties are assumed to be from unknown (and hence unwelcome) outsiders.

Although Mountain City certainly is far from the cutting edge of emerging communication technologies, it is clearly "on the grid." During my stay in Mountain City, my Sprint PCS phone had clearer, more consistent reception than it did in the other places where I had lived over the previous year (in New York City and Tallahassee, Florida's state capital). At least three Internet service providers competed for the opportunity to connect Mountain City residents with high-speed DSL access. The town's public library boasted four public-access Internet terminals, and two even smaller communities just outside the county (Hampton, Tennessee and Damascus, Virginia) had tiny, privately operated "cyber-cafés."

These connections notwithstanding, the expansion of electronic communication systems to rural areas like Mountain City was complex and uneven. Despite the town's surprisingly well-developed communication infrastructure, in the end, Mountain City's physical isolation trumped its electronic connectivity. As soon as I would venture a mile or two outside the town center, the display on my PCS phone would change to "Service Not Available." Mountain City's electronic connectivity thus was recast as electronic insularity.

The electronic insularity of communities in the region was further elucidated on frequent trips to Boone, a much larger town with a population of 13,472 including several thousand university students, just across the state border in North Carolina. As one might expect, wireless telephone service resumed as one entered Boone. However, in Boone, electronic connectivity was trumped by a bureaucratic–administrative divide. Historically, rural areas of northeast Tennessee were served by United Telephone, which merged to form Sprint. Thus the wireless telephone standard in Johnson County was Sprint's PCS protocol. In adjacent North Carolina, however, AT&T historically was the dominant telephony provider, with very small independent cooperatives servicing rural areas. Wireless service in the region thus was dominated by AT&T's "Baby-Bell" offspring, Verizon and Cingular. My Sprint PCS phone functioned in Boone, but because the town was not large enough to support a Sprint outpost, I was forced to cope with poor analog sound quality and large roaming charges as my conversations were channeled via the Verizon network.

This complex texture of connectivity (and disconnectivity) received a further twist when I visited my in-laws' farm in a slightly less remote

area of Tennessee, six miles from a small village (Fall Branch, pop. 1,313) and four miles from the nearest Interstate exit. The farm was beyond the range of any mobile phone tower, so to check voice-mail messages when there, I drove to the Interstate highway. The "mobile" in "mobile phone," I discovered, referred not simply to the phone being physically mobile but to the fact that it was designed to function in spaces of mobility. The farm, just off a sparsely trafficked state highway, was located between the threads that connect both moving vehicles and moving bits of information. The Interstate highway, by contrast, was a space of mobility *par excellence*. When on the Interstate, I was in a continuously connected swath of electronic (and asphalt) space that stretched, linearly, for thousands of miles. In effect, I was forced to go from a very real place with distinct social relations (the farm) to the ultimate isolated "nowhere" (the hermetically sealed world of my car) to be connected to "everywhere." Thus I transformed the road, formerly an "in-between" space that was to serve as an ideally friction-free (or "empty") surface as one traversed its length to get from point A to point B, into a destination in its own right. The road, formerly a vector of direction, was now an arena of connection.

Of course, all of the aforementioned technologies are dynamic. Indeed, in the years since 2003 mobile phone access has improved considerably in Fall Branch and Boone (although not in the area around Mountain City). The point of this story is not to document the degree to which the technologies of the infosphere have penetrated an area in rural America. Nor is our aim to document elements of the "digital divide," which remains significant in parts of the world that are not served (or are underserved) by electronic communication networks. Rather, this story illustrates how, when viewed from Appalachia, the infosphere appears as a space of distinct places, where external institutions selectively introduce technologies and where individuals located within these places selectively adopt and adapt these technologies if they have the resources to do so. The Federal regulators who provide funding for the Interstate system while allowing farms within earshot of truckers' horns to fall out of the network, the corporations that develop incompatible communication protocols in Tennessee and North Carolina, the Mountain City residents who eschew ATMs while embracing Caller ID, and the itinerant academic who copes with the problems of uneven telephone coverage by transforming the highway from an

empty route that one travels *through* to an arena of communication that one travels *to* are all managing the lived-in and lived-through places of the infosphere.

## Locating the Infosphere: The View from Hong Kong

While Steinberg was living in Mountain City, another one of this book's authors (McDowell) was engaged in a series of projects in Asia that involved trips to and through Hong Kong. Like the view from Appalachia, the view from Hong Kong provides a perspective for understanding and identifying the "location" of the infosphere.

Hong Kong was already an entry point to China prior to its seizure by the British in 1841. This function, however, intensified during the British era and has continued since 1997, when it was reincorporated into China as a special administrative region. As a commercial city, Hong Kong is a financial, travel, communication, and production center. Along with providing entry into China, it serves as a focal point for movement within the surrounding region and for connections to other parts of the world. Although assembly and production of goods takes place there, the main economic value added by the city is in commercial and service activities. Facilitating exchange quickly and at low costs, or reducing transaction costs, is the comparative advantage over other locations offered by Hong Kong businesses and governing institutions. Thus, the government of Hong Kong, like local governments throughout the world, devotes resources to developing the infosphere, both to facilitate mobility and to encourage production and consumption in place, a dual mission that we elaborate on further in Chapter 3.

Although unique both in its history and geographic position, the city's role and function today is also explained by the choices of civic and business leaders made in the last decades. Fixed investments in airports, shipping ports, roads, railways, and communication promote connectivity, mobility, and throughput and serve to enhance the city's locational attributes in regional and global political economies. Hong Kong's Internet backbone bandwidth, for instance, is second only to Tokyo's in Asia, with direct connections to San Francisco and Los Angeles, as well as regional links to Singapore, Taipei, Seoul, and Tokyo. Hong Kong's status as a site of global interchange, constructed out

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of a series of mountainous islands, is evidence of the importance of
human action and choice in dealing with the limitations of geographic
conditions.

In the area of sovereignty and territorial control, the tensions of
Hong Kong's role become apparent. The British were able to treat it as
an outpost of capitalism unfettered by democratic accountability. It was
both remote from Great Britain and located for almost fifty years next to
the largest population and the largest communist country in the world.

Since 1997, China has addressed the challenges faced by the con-
trol of this territory in a unique way. For a period of time the Hong
Kong Special Administrative Region will be exempted from the laws
and policies that govern the rest of Chinese territory. This suspension
of full Chinese sovereignty and the lack of extension of full territorial
control into Hong Kong arise from a political accommodation. Hong
Kong's semi-extraterritorial status also serves to prevent its economy
from losing its distinct set of economic advantages in trade in goods
and services, and in the mobility of people, that contribute to its unique
role in the region. Asserting direct political authority has not been the
only goal of China in this ambiguous and contested situation—even
for the centralized political leadership and institutions that character-
ize this state. The identity of Hong Kong citizens remains somewhat
blurred as well. They share identity with people of Chinese ethnicity
on the mainland, in Taiwan, and in other countries of the region such
as Singapore and Malaysia. At the same time, the dominance of main-
land China poses the possibility of state power being exercised in more
coercive forms if certain boundaries in political behavior are crossed.

Hong Kong thus provides an example, or a complex metaphor of
sorts, to assist in thinking about governance, technology, and culture in
the infosphere. Rather than juxtaposing state control against noncontrol
or statelessness, the Hong Kong model of a special administrative region
provides an image with which one can explore these relations in more
productive ways, much as Palan (2003) has used Hong Kong's status to
investigate the liminal position of the world's offshore financial centers.
The lack of formal sovereignty combined with the ever-present exercise
of China's power, the contested identity and rights of Hong Kong cit-
izens, the fixed infrastructure and institutions providing for maximum
mobility of capital, goods, services, and people, and the importance
of specific historical and cultural dimensions provide a basis for the

analogy of the infosphere, like Hong Kong, being a special administrative region.

When viewed from the perspective of Hong Kong, the infosphere emerges as a kind of heterotopia, a space of alternate ordering.[2] On the one hand, the infosphere—like Hong Kong—is clearly a creation of the global political–economic system; it would be absurd to label either space as lying fundamentally outside capitalism. On the other hand, because both spaces are organized in ways that push the limits of the standard ways of organizing space and society, each serves as a potential model and resource for systemic change. From the perspective of Hong Kong, the infosphere is a dynamic space of partial incorporation, a continually contested space that is clearly within the system and functional to the system but that lies partly outside its constitutive spatial configurations.

## Locating the Infosphere: The View from the Ocean

Although our (temporary) locations in Mountain City and Hong Kong have informed the perspective from which we view the infosphere, our perspective is also informed by the attention that we elsewhere have directed to a much older special administrative region, the ocean.[3] Just as the intersection between the infosphere and Appalachia suggests the construction of the infosphere as a space consisting of places wherein individuals and institutions (from within and outside the region) selectively imbed and adopt technologies, and just as the example of Hong Kong suggests the construction of the infosphere as a space that is within the general workings of society and state power but outside its paradigmatic spatial construction (the sovereign, territorial state), when we view the infosphere from the perspective of the ocean our attention is drawn to the problems and complexities involved in constructing the infosphere as a space of movement.

The historic significance of the world-ocean as a space of movement is well known, from its key role in the early mercantilist empires of Spain, Portugal, and the United Provinces (the Netherlands), to its later role in the British Empire, to its continuing significance today as the space through which, by some counts, 95 percent of goods traded internationally are transported. To facilitate the construction of the

ocean as a space of movement, its regulation has centered on limiting formal state involvement to the minimum required to ensure navigational freedoms. States have been empowered only to remove any obstacles that might interfere with the construction of the ocean as an ideally friction-free transportation surface.[4] Additional regulatory measures that might further empower states or imply state territorial rights generally have been eschewed for fear that these would have the undesirable effect of "politicizing" the sea and erecting barriers to free movement across its waters.

Prescribed governance of the sea by modern European states is often dated to the Papal Bulls of 1493. In these documents, which were formalized and amended by the Treaty of Tordesillas (1494), Pope Alexander VI attempted to facilitate missionary and commercial activities by Spain and Portugal in overseas lands. In issuing the Bulls, the Pope was responding to a difficult challenge. On the one hand, he sought to establish a system wherein the two empires could establish the security of title necessary for them to make the spatially fixed investments required for missionary and commercial activities. On the other hand, by establishing a territorial regime for overseas lands, he ran the risk of implying that the sea that provided connection to these lands was similarly claimable territory, a construction that could interfere with its crucial function as a "free" space for the flows that enabled these activities. The Pope made a judicious compromise by allocating the *lands* beyond European waters to the respective European powers so that they could carry out missionary and commercial activities; however, the *seas* in their respective regions were placed in a trust that fell short of territorial control. Spain and Portugal were granted exclusive policing authority in their respective ocean-domains, but this authority fell short of territorial sovereignty; indeed, specific provisions in the documents limited the conditions under which the two states could exclude others from the seas over which they had authority. Already at this early date in the history of the modern world-system, the ocean was being constructed as a unique and dedicated space of flows. Care was taken to establish a governance system that would not impede its mobility functions, even as similar steps were being taken to establish overseas land-space as a series of bounded territories that were suitable for fixed investments. These limitations on the exercise of sovereign rights, designed to preserve the ocean's construction as a dedicated space of

movement, foreshadowed a similar set of limitations on sovereignty that were to be applied in a later era to the infosphere.

In the centuries that followed the Treaty of Tordesillas, the international community repeated this pattern of designating the ocean as a special space of movement, in which state intervention was acceptable for the purpose of ensuring its continued construction as a surface for friction-free movement but not to the point at which state activity might generate obstacles to movement. This need for balance became especially evident in the late nineteenth century, when maritime trade (and the use of the ocean as an arena of international competition) intensified and mercantile interests perceived that some form of cooperation and regulation was necessary to ensure preservation of the ocean's friction-free character. In response, nineteenth-century maritime interests, like their fifteenth-century predecessors, developed a set of institutions that met their needs while steering clear of state territoriality. Thus, shippers and insurers, with the blessing of state powers, established the Comité Maritime International (CMI), an association of national maritime law associations that was formed in 1897 and that remains one of the premier bodies responsible for creating international maritime standards. Like the Internet Corporation for Assigned Names and Numbers (ICANN) that governs the Internet (see Chapter 6), the CMI is privately organized but state sanctioned, thus bringing the legitimacy of the state to ocean governance without the "baggage" of state territoriality.

In some instances, CMI standards have required changes in state law, but the CMI has developed an ingenious method of impacting state law while, at the same time, keeping states (and state intervention in the ocean) at a distance. Until 1972, whenever CMI standards required national legislation, the CMI drafted regulations in the form of a treaty that was then proposed by the Belgian government. The Belgian government convened an international intergovernmental conference at which the treaty was adopted, then brought back to the participating states' capitals for ratification. Essentially, participant governments were reduced to bodies that approved or rejected international standards designed and, in large part, implemented by the international shipping community. Since 1972, the Belgian government's function has been replaced by the United Nations, but formal state involvement in global maritime regulation is still kept to a minimum as leading

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maritime states continue to implement hegemony at sea in a manner that steers clear of direct expressions of territorial power.

The parallels between the ocean and the infosphere are further elucidated when one recalls that capitalism does not survive simply by moving capital about; it also must continually find (or invent) locations for placing fixed investments. Even as the twentieth century saw a dramatic increase in maritime mobility, it also saw the rise of the ocean as a potential venue for placing fixed investments, which has led to a greater demand for state protection. In the infosphere as well, the desire to construct a friction-free space of movement beyond state power (e.g., a space for seamless electronic commerce) has been complemented by the desire to construct the infosphere as an arena of locations wherein one can make fixed investments and wherein the power of state law can guarantee profit recovery (e.g., through intellectual property accords). When viewed from the perspective of the ocean, the infosphere emerges as a space of movement requiring social, but nonterritorial, regulation.

## Defining the Infosphere

As the above discussion illustrates, the infosphere is a difficult space to locate. It is also a difficult space to describe or define within circumscribed limits. Although popular discussions (and, indeed, most of this book) focus on applications and uses of web-based technologies, we define the infosphere as encompassing the overall universe of electronic communication and networking. Our definition of the infosphere expands further when we consider that it includes not only the actual connections that join diverse electronic media, but also the idea of a space "out there" that one can enter: a network connected to, but removed from the "real" spaces that one inhabits in everyday life. In offering this broad definition of the infosphere, we envision a field of interaction similar to Shields' (2000) cyberspace, which he defines as "a metaphor that conjures up an image or an idea of the potential of information and telecommunication networks which are formed by computers linked by telecommunications (such as telephone exchanges, fiber-optic cables, or wireless signals)" (p. 66).

In other words, while the infosphere is rooted in an ever-expandable set of electronic connectivity technologies, it also refers to something

much larger, a "metaphor [of] an image," an ever-shifting space, constructed and continually reconstructed for and by the movement of information. It is, as the subtitle of this book proclaims, a space of "governance, technology, and cultural practice in *motion,*" with the word "motion" referring both to the dynamism of the very concept and to the specific role of the infosphere as a space of movement.

Our discussion of the infosphere thus joins a concern with the rise of material practices of mobility and connection that increasingly characterize the (post-)modern world (e.g., Castells, 1996, 1997, 1998) with the rise of cultural formations that revolve around conditions of betweenness and mobility (e.g., Appadurai, 1996; Bhabha, 1994; Clifford, 1997). All the while, however, our focus remains centered on issues of technology, as individuals and institutions find ways to develop, standardize, regulate, promote, and adopt electronic technologies of connection.

## Problems in Conceptualizing Spaces of Movement

### The Liberal Perspective on Space

As we attempt to construct a perspective on the infosphere that accounts for the views from Appalachia, Hong Kong, and the ocean, we are confronted with a series of problems in conceptualizing spaces of movement. Classical theories of society (which continue to inform many analyses of political economy and technology) implicitly adopt what Soja (1980) calls a "liberal perspective on space," wherein each place is perceived of as a distinct point on a global grid, with unique natural attributes. Key social activities (production, consumption, social reproduction, etc.) are seen as occurring at these points, which are bounded into stable territories—the state-territories that constitute the fundamental spatial units of society. Over time, increasing investments are located at these points in space, leading to the consequent transformation of nature, which, in turn, brings about the socioeconomic development of state-territories.

When one adopts this liberal perspective on space, movement (whether of capital, commodities, labor, or information) is reduced to a secondary status, and spaces of movement are perceived of as

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fundamentally asocial spaces between the territories wherein investment, transformation of nature, and social and state development transpire (Steinberg, 1998). Of course, social scientists who subscribe to this perspective recognize that trade occurs and that investments move, but these are seen as derivative activities that may either enhance the exploitation of resources and valorization of places in a state's territory, leading to further national development (a position that broadly can be associated with neoliberal economic and political theories) or threaten the state's power base (a position typically associated with realist and neorealist theories of international relations). Whether movement is seen as an opportunity or a threat, when viewed from the liberal perspective on space, movement is not in itself seen as constitutive of state territory or social power.

The limits of this perspective in analyzing spaces of movement are perhaps most evident in the works of individuals who have attempted to analyze spaces of movement while still subscribing to a liberal perspective on space. Within the discipline of economics, for instance, scholars who identify with the "new economic geography" (e.g., Fujita, Krugman, and Venables, 1999; Venables and Boltho, 1998) propose to spatialize economic thought by focusing on the impacts of trade, relative location, and spatial agglomeration. They differentiate themselves from "nongeographic" economists who account for the role of space only by modeling the impact that transport has on unit price (as expressed by the difference between c.i.f. [cost, insurance, and freight] and f.o.b. [free on board] prices). Instead, new economic geographers attempt to account for the spatial properties of nearness and distance (and the processes of movement that occur when sites are separated by distance) by adding an "iceberg" function to economic models. According to this function, a certain percentage of the value of a good being transported "melts away" over each unit of distance that it travels.[5] Although this innovation appears to insert the materiality of space into economic calculations, in fact the space of movement is presented in an abstract way, removed from the social processes that occur within spaces of movement and that enable movement as a social activity. Indeed, one of the leading new economic geographers, Paul Krugman, defends use of the iceberg function not because it accurately portrays the social institutions and cost frictions encountered, established, and demolished when one moves across space, but rather because it is a "trick" through which "one

[can] avoid the need to model an additional industry" (Krugman, 1998, p. 11). In short, the new economic geographers fail to recognize that the spaces of movement within which transport occurs are also spaces of *time,* a particularly ironic omission given that, if one engages in a literal reading of the iceberg metaphor, iceberg melt rates are determined not by the area of space over which the iceberg is transported but by the duration of time for which an iceberg is at sea.[6]

One can turn to Manuel Castells for another example of a scholar who seeks to understand movement as a significant social activity but whose lingering adherence to the liberal perspective on space prevents him from fully appreciating the ways in which spaces of movement are socially constructed and contested. Despite conceiving of the world as a networked space of flows, Castells devotes little attention to the actual spaces of movement between the nodes at which people engage in spatially fixed social activities (what Castells calls the "first-level space of flows"). When he does investigate these "first-level" spaces, Castells characterizes them as "hyperspace[s] of pure circulation" (Castells, 1996, p. 475), spaces that are beyond time, beyond society, beyond experience, and beyond politics. Such a perspective is in keeping with a view of the world as a set of points at which social life transpires (Soja's liberal perspective on space), but it provides little ground for understanding the specific imperatives and obstacles that characterize governance, inhabitation, and technological transformation in the world's spaces of mobility.

## Recasting Mobility

We take a somewhat different approach as we inquire into the nature of mobility, its spaces, and the ways in which mobility reflects and reproduces power. In contrast to political theories that are informed by the liberal perspective on space, wherein mobility is seen as a secondary activity that is undertaken by states that are fundamentally defined by their bounded insides, we view mobility as an essential aspect of society. Our resurrection of the constitutive role of mobility as a social process is linked with a questioning of "common-sense" assumptions about the nature of territoriality. As Burch (1994) asserts, the discourse of territoriality that underlies the modern state system rests on a manufactured distinction (which had not existed prior to 1700) between

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a political arena characterized by real, tangible property and an economic arena characterized by mobile, intangible property (see also, Polanyi, 1944). The designation of movement as a secondary activity, outside politics, thus is based on a reified concept of territoriality that, in turn, is based on a relatively recent and manufactured epistemological distinction.

If indeed the modern system of sovereignty—with its binary distinction between "insides" and "outsides"—rests on a discursive construction of fixity as the exclusive domain of the political and mobility as the exclusive domain of the economic, then a good place to begin deconstructing the distinction between "inside" and "outside" may be through an investigation of the (hidden) role of mobility in the construction of the political. Deleuze and Guattari (1988) shift the focus of sovereignty to the process of mobility by defining state practice as the continual processes of deterritorialization and reterritorialization, through which states mark boundaries and their crossings as means toward facilitating and controlling the movements that simultaneously enable and threaten state power. As Albert, expanding on Deleuze and Guattari, notes: "Sovereignty is something that has to be *practised* through 'marking' space by boundaries of various kinds—and by mapping these boundaries in an exact science. . . . For territory to be meaningful it has to be reproduced by the enactment of challenges to it, by questionings and erasures of boundaries as markers of space, but also through the inscription of new boundaries" (Albert, 1999, p. 61). In other words, through the marking and crossing of boundary lines, one defines not merely the scope of what is inside the territorial unit but also the nature of the system itself, because the system is represented as being the sum of its bounded units. This mode of thinking has led to a series of studies on the signification of national borders (Paasi, 1996); the interactions that take place in the borderlands between cultural worldviews (Dening, 1980); the significance of minority communities that reterritorialize by forming new "borderlands" within bounded territories (Doty, 1999); the role that the fear of a backflow of knowledge from the colony to the core plays in constructing the boundaries that both facilitate and retard these flows (Richards, 1993); and the function of boundaries within the territorial state that, through their crossing, reproduce discourses and structures of both unity and hierarchical differentiation on the "inside" (Rubenstein, 2001).

For this study, Deleuze and Guattari's insights regarding the continuing function of reterritorialization through boundary-drawing and boundary-crossing are important because they suggest that the relationship between movement across space and fixity in place is more complex than simply being a site of contradiction where the fundamental political need to control and develop the "inside" meets the secondary, economic need to maintain flows with the "outside." If, as Deleuze and Guattari assert, movement across borders *constitutes* the state, then positing a diametric relationship between fixity and movement, or between inside and outside, misses the point. Movement and fixity, and inside and outside, are so constitutive of each other that the very reification of these concepts into oppositional categories unwittingly accepts the (manufactured) discourse wherein stable, unitary territorial entities engage in relations with each other across the boundaries that divide an abstract, and otherwise friction-free Euclidean plane.

An alternative perspective, in which movement is recognized as a constitutive force in global society, follows from our critique of the liberal perspective on space. Table 1.1 identifies assumed binary oppositions that emerge when the liberal perspective on space is applied to state-societies, across four attributes: the nature of economic activity, the spatial characteristics or properties of capital, the spatial attributes of economic production and exchange, and the goals that orient states' intervention in national economies. Along each row, the table divides each attribute into those aspects considered essential to states and those considered nonessential or outside the fundamental purview of state

**TABLE 1.1.   FOUR ATTRIBUTES ASSOCIATED WITH THE LIBERAL PERSPECTIVE ON SPACE**

| Attributes | Essential State Aspects | Nonessential State Aspects |
| --- | --- | --- |
| *Economic activity* | Production | Trade |
| *Spatial property of capital* | Fixity | Mobility |
| *Space of economic activity* | Discrete points within state territory | Channels and surfaces of movement across state boundaries; spaces outside any state's territory |
| *Reason why states care about strong national economy* | Economy as means for building political power | Economy as end in itself |

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governance or competence. Again, we stress that even among scholars
working from a liberal perspective on space there is considerable dif-
ference of opinion regarding the implications of the nonessential state
aspects for state practice and state power: Neorealists view nonessential
state attributes as insignificant given state competition, whereas neolib-
erals view these as potential arenas for cooperation that will energize
economic activity and override state competition. Our aim, however, is
not to come down on one side or the other in this debate. Rather, we
wish to propose that the very division between essential and nonessen-
tial state aspects rests on a conception of space that is particularly ill-
suited for interpreting spaces of movement like the infosphere. To this
end, the remainder of this section is devoted to exploring how, for each
of these attributes, the division between essential and nonessential state
aspects can be reconsidered when one abandons the liberal perspective
on space and adopts a more explicitly spatial constructivist perspective.

### Production vs. Trade

Turning to the first row in Table 1.1, one sees that the liberal perspec-
tive on space supports a conceptual distinction between production
and trade. Production is seen as an activity that occurs within state bor-
ders and thereby strengthens the nation–state–territory bond that is the
root of political power. Trade is seen as a secondary activity that occurs
subsequent to this fundamental political, economic, and geographical
formation. As we have seen, even new economic geographers who at-
tempt to highlight the significance of moving commodities across space
(i.e., trade) in their calculations maintain this privileging of production
and the spaces of production and consumption. Of course, with a few ex-
ceptions (such as futures markets), production of an object historically
occurs prior to its being traded, but the establishment of logical priority
implies a conceptual distinction between production and trade—and
between their respective spaces—that we find difficult to support.[7]

　　As Wallerstein (1979) notes, if one accepts that production is orga-
nized at the world-systemic scale, then trade—rather than being an
external activity among independent producers or states—is an in-
ternal aspect of the division of labor. It follows that trade, like pro-
duction, is constitutive of territorially defined social units (states) and
that regulatory measures taken to facilitate international transportation
and communication are fundamental acts in the construction of global

society, not secondary activities undertaken by state-actors attempting to maximize economic or political power within their state territory. The distinction between production and trade is further challenged when one considers the large percentage of trade that is intrafirm, typically the result of foreign direct investments. Hence, it follows that the spaces wherein trade occurs are integral spaces of global society and not merely "empty" and "asocial" spaces between the state–society units where the seemingly essential social acts of production and consumption occur (Ciccantell and Bunker, 1998).

### Fixity vs. Mobility

Our second critique of the liberal perspective on space centers on its conception of the dichotomy between capital fixity and capital mobility. For liberals, space is a pre-existing grid of locations, "something physical and external to the social context and to social action, a part of the 'environment,' a context *for* society—its container—rather than a structure created by society" (Soja, 1980, p. 210, emphasis in original). According to this perspective, the art of the capitalist is to identify the point at which transport and labor-force reproduction costs are lowest and to locate production there. The emphasis is on locating spatially fixed investments, which serve to develop territory and, ultimately, the state that bounds the territory. The liberal spatial perspective does recognize that capital is mobile, but only in that capitalists have a choice regarding where to locate their investments, and in the domain of trade which, as has been noted, is conceived of as an activity subordinate to production and consumption.

This view of the relationship between capital fixity and mobility has been thoroughly critiqued by geographers and institutional economists. As a number of geographers (most notably, David Harvey) have stressed, investment decisions, rather than involving a set of rational choices regarding placement of capital against a static environment of locations, take place within a highly politicized environment wherein space is continually "constructed" and "annihilated." Capital mobility is essential to the workings of capitalism, as it is only through the interplay of tendencies toward mobility and tendencies toward fixity that places are valued and devalued, providing economic rents for speculators and investors (Harvey, 1982; Smith, 1990). As places take on distinct values, further rents are obtained by moving production and consumption

activities from one place to another, a process that often takes the form of trade and that leads to new cycles of valuation and devaluation. This is a fundamentally different vision of the spatiality of capital than that held by those who view capital as being inherently "intangible" (to use Burch's term), circulating across space until it is captured and its value is realized through emplacement. Instead, places of fixed investment and the spaces through which capital moves are mutually constitutive, as producers, consumers, speculators, and traders navigate through capital's dialectical tendencies toward both fixity and mobility.

Amid these cycles of investment and disinvestment, there is an ever-intensifying attempt to "shrink" space so as to accelerate the speed and efficiency of movement. This tendency, however, has its own contradictory attributes, as Harvey elaborates in his discussion of the technological improvements and political regulations that facilitate transportation and communication:

> Capitalism . . . is necessarily characterised by a perpetual striving to overcome all spatial barriers and "annihilate space with time." But it transpires that these objectives can be achieved only through the production of fixed and immobile spatial configurations (transport systems, etc.). In the second instance, therefore, we encounter the contradiction: spatial organisation is necessary to overcome space. . . . [There is] a tension within the geography of accumulation between fixity and motion, between the rising power to overcome space and the immobile spatial structures required for such a purpose. (Harvey, 1985, pp. 145, 150).

In other words, fixed investments (and complimentary political regulatory mechanisms) implemented in transportation–communication spaces to facilitate mobility create new opportunities for valorizing space. The attempt to "annihilate space" (through mobility) leads to the creation of places (locations for spatially fixed investments), which leads to a further search for still other means of space annihilation. This dialectic, perhaps most clearly seen in the tendency to locate export processing zones adjacent to airports and shipping terminals, is the foundation of a crucial dynamic within the continual restructuring of space in the modern political–economic system.

A similar questioning of the distinction between fixity and mobil-ity (and the privileging of fixity) has been undertaken by institutional economists, especially those working in the tradition of Harold Innis (1951, 1995). For institutional economists, economic choices are made within highly complex and specific institutional environments, wherein norms and technologies do not so much add variables to the calcula-tions made by *homo economicus* as they shape the very way in which calculations are made (or, put even more strongly, they shape the very concept of what calculation is). For Innis in particular, technologies and infrastructures of mobility play a crucial role in shaping norms and calculative environments, as past investments in infrastructure for moving resources (staples) and ideas (communications) construct the places within which norms are encountered and economic decisions are made. Thus, mobility, far from occurring subsequent to spatially fixed economic activities, is constitutive of their essences.[8]

As with our rejection of the production–trade distinction, our re-jection of the liberal perspective's emphasis on capital fixity at the ex-pense of capital mobility suggests a new appreciation for transportation–communication activities and the governance of the spaces within which they are carried out. When one acknowledges that the spaces of capital-ist society always have been constructed amid a continual cross-current of factors favoring mobility and factors favoring fixity, then the recent trend of globalization appears, at most, as a quantitative change rather than a qualitative threat to the territorial state and the distinct locality (Cox, 1997). It follows that, even as the world becomes a web, whose channels of interaction constitute a postmodern equivalent of "place," this transformation in global spatiality is merely the latest episode in a dialectical process that long has played a role in both buttressing and al-tering society's spatial formations. Recent changes in the technologies, governance structures, and intensities of transportation and communi-cation flows therefore should be viewed within a historical context, from a perspective that appreciates ongoing and continuing contradictions within the spatiality of capitalism.

### Territory vs. Nonterritory

Turning to the third row in Table 1.1, we take issue with the liberal spatial perspective's unproblematic distinction between territory within state boundaries and nonterritory outside state boundaries. According to the

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liberal perspective, a prime concern of the state is development through the location of fixed investments in its territory. A clear distinction is made between these activities and those that take place outside state territory (whether in nonterritorialized space, in another state's territory, or through an action whose territorial placement is blurred). This distinction, like the two distinctions previously discussed, is dependent on a contextual view of space that fails to appreciate the degree to which social processes shape the spaces through which society operates.

Over the past years, international relations scholarship has come under criticism for its failure to problematize state territoriality. Building upon a frequently made critique that the discipline artificially separates domestic and international politics (Keohane and Nye, 1998), critical scholars assert that the territorial state is a relatively recent innovation, its power within its territory rarely has been complete, the mechanisms and meanings of state territoriality have changed significantly over time, and states always have attempted to exercise power outside their borders (Agnew, 2005; Kratochwil, 1986; Mann, 1984; Ruggie, 1993; Taylor, 1994). They note that much of the state's authority within its territory comes not from having a "monopoly of violence" within the space it controls but from participating in a mutual sovereignty pact wherein states recognize each others' territorial claims and thereby construct the territorial state system. This recognition has led Taylor (1995) to suggest that the basic unit of analysis in political science should be the *states,* not the *state*. Thomson (1994) adds a further element to this critique, asserting that the state system, although normally associated with political control of territory within state boundaries, historically was not complete until its systemic authority could be asserted in the spaces beyond formal state borders. Rounding out this line of criticism, discourse theorists assert that the legitimacy of the state as a sovereign authority governing territory is buttressed by linguistic practices that "naturalize" the state–society as a geographical "fact" (Agnew and Corbridge, 1995; Der Derian and Shapiro, 1989; Ó Tuathail, 1996). Through discursive strategies, civil interventions within state space come to be seen as natural and acts of governments and militaries designed to protect state space are portrayed as reflexive acts of self-defense.

As an alternative, recent contributors to the literature suggest that society's institutions thrive amid a dialectic between territorialization and movement: "Statecraft oscillate[s] between the desire for order