Field Note

"The contemporary landscape of Genoa stands as a reminder of the city's historic importance. Long before Europe became divided up into states, a number of cities in northern Italy freed themselves from the strictures of feudalim and began to function autonomously. Genoa and Venice were two of these, and they became the foci of significant Mediterranean maritime trading empires. In the process, they also became magnificent, wealthy cities. Although most buildings in Genoa's urban core date from a more recent era, the layout of streets and public squares harkens back to the city's imperial days. Is it a surprise that the city gave birth to one of the most famous explorers of all time: Christopher Columbus?"

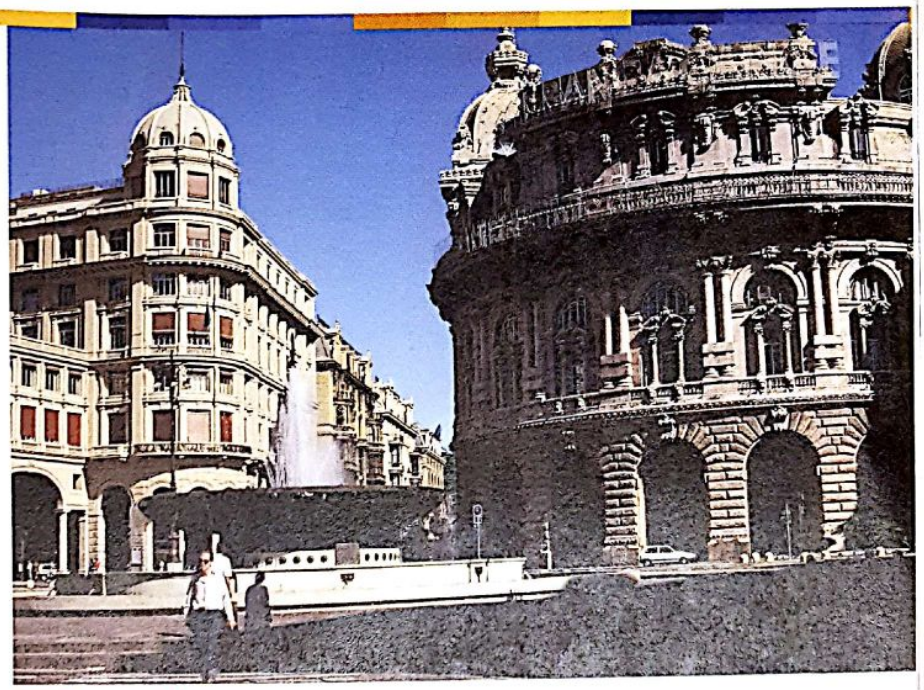


Figure 9.16
Genoa, Italy. © Alexander B. Murphy.

labor force for the burgeoning industries (for a further discussion of industrialization, see Chapter 12).

Not all mercantile cities turned into industrial cities. Many industrial cities grew from small villages or along canal and river routes. The primary determinant in the location of early industrial cities was proximity to a power source. For textile manufacturing, industrial cities had to be sited near fresh water sources to power the water loom. In Great Britain, industrial cities involved in textile manufacturing were located in the Pennines, where fresh water flowed down the hillsides. Industrial cities involved in iron manufacturing were located around Birmingham and Coalbrookdale, easily accessible to Britain's coal and iron ore fields.

When industrialization diffused from Great Britain to the European mainland, the places most ready for industrialization had undergone their own second agricultural revolution, had surplus capital from mercantilism and colonialism, and were located near coal fields (Fig. 9.17).

With industrialization, cities became unregulated jumbles of activity. Factories engulfed private homes. Open spaces became refuse dumps. Urban dwellers converted elegant housing into overcrowded slums. Sanitation systems failed, and water supplies were inadequate and often polluted. By the late 1800s, the Industrial Revolution had changed transportation significantly. The steam engine, powered by coal, not only pumped water from mines for coal mining but also powered the railroad and steamship. The diffusion of the railroad gave cities that were not near coal fields the chance to industrialize. Cities like London, Paris, and Amsterdam retained their preindustrial shape. But with the diffusion of the railroad, ugly railroad tracks knifed through long-stable neighborhoods.

Living conditions were dreadful for workers in cities, and working conditions were shocking. Children worked 12-hour shifts in textile mills, typically six days a week. In industrial cities, health conditions were worse than they had been in medieval times; the air was polluted and the water contaminated. The grimy, soot-covered cities of the British Midlands were appropriately deemed the "black towns." Few if any safety mechanisms protected the laborers, and injuries were common.

In the late 1800s, as Karl Marx and Frederick Engels (writing in Germany) encouraged "workers of the world" to unite, conditions in European manufacturing cities gradually improved. Industries began to recognize workers' rights, and governments intervened by legislating workers' rights and introducing city planning and zoning. Many manufacturing cities in North America never suffered as much as their European predecessors, although living and working conditions for factory workers (and "blue-collar" workers generally) were far from satisfactory. American manufacturing

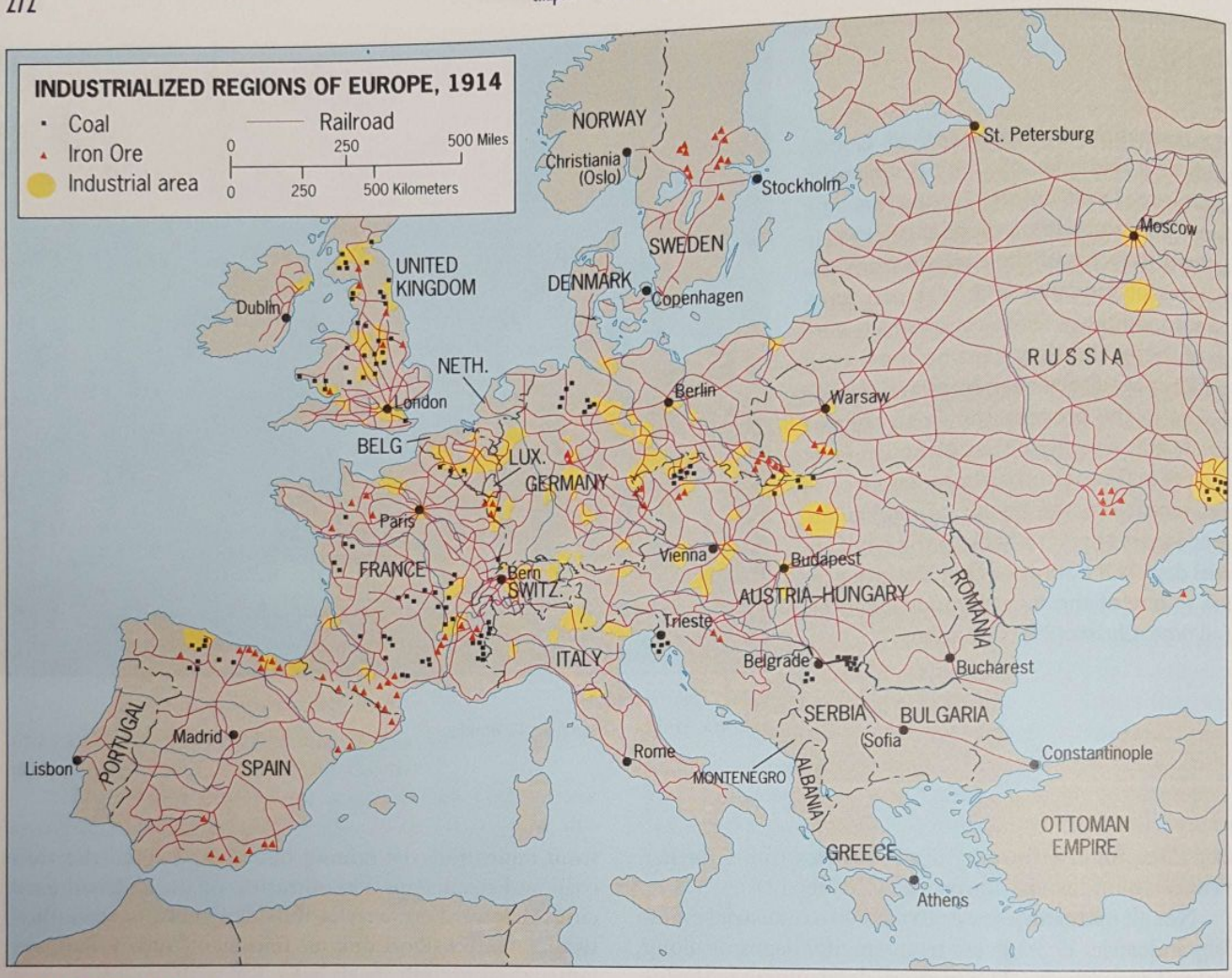


Figure 9.17
Industrialized Regions of Europe, 1914. *Adapted with permission from*: Geoffrey Barraclough, ed. *The Times Concise Atlas of World History*, 5th edition, Hammond Incorporated, 1998.

cities did not altogether escape the problems of the European industrial cities. During the late nineteenth and early twentieth centuries, the American manufacturing city grew rapidly, often with inadequate planning and rapid inmigration leading to the development of slums and ghettoes.

During the second half of the twentieth century, the nature of manufacturing changed, as did its location: cities repositioned many factories away from congested, overcrowded, expensive urban areas. Companies simply abandoned large manufacturing plants, making "rust belts" out of once-thriving industrial districts. Many of these plants still stand today, overgrown by weeds, with broken windows and cracking walls (Fig. 9.18).

Although factories and factory jobs are not permanent, the urbanization that went along with industrialization is still apparent. Today, Western Europe is about 80 percent urban. The statistics on urbanization vary by source, as some define urban areas as being over 2500 people and others over 5000 people; still others use employment (percent nonagricultural) as the major criterion. By whatever definition, urbanization has become a global phenomenon, with the majority of the world's people living in cities today.

THINKING GEOGRAPHICALLY

Archaeologists have found that the houses in Indus River cities, such as Mohenjo-Daro and Harappa, were a uniform size: each house had access to a sewer system, and palaces were absent from the cultural landscape. Derive a theory as to why these conditions were present in these cities that had both a leadership class and a surplus of agricultural goods.

Field Note

"The Ruhr Valley long functioned as the incubator of Germany's industrial economy. Largely destroyed during World War II, the Ruhr rose again to help Germany back to recovery. But as declining transportation costs and rising labor costs prompted heavy industries to move their operations to other parts of the world, factories such as this iron and steel mill on the edge of Duisburg fell silent. Unemployment soared, and the area became depressed. In an effort to rebound, local authorities are now trying to turn a few of these relics into tourist destinations. They are unlikely to compete with the great churches or medieval palaces found elsewhere in Germany, but for the geographer they provide fascinating insights into the urban and economic arrangements that made modern Europe what it is today."

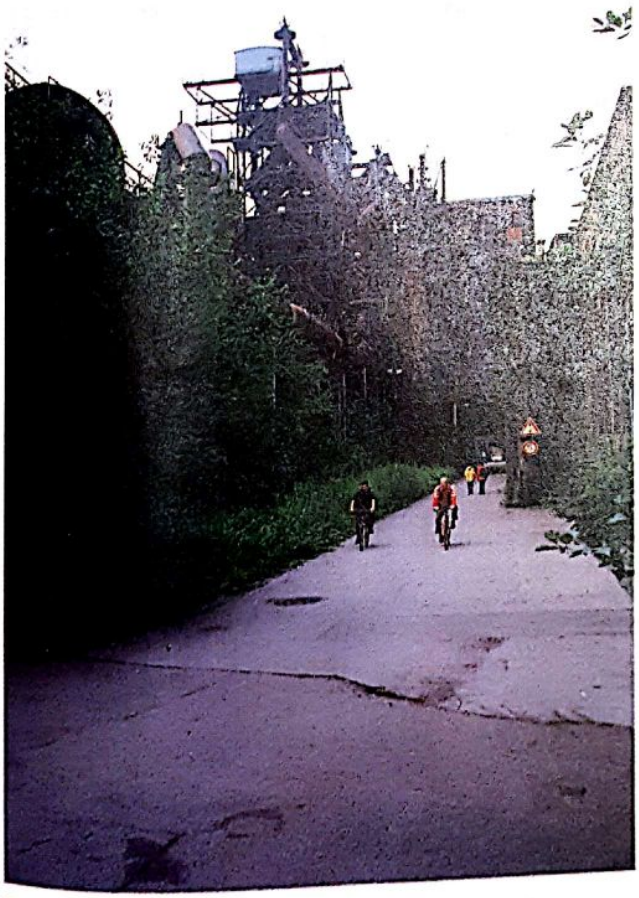


Figure 9.18
Duisburg, Germany. © Alexander B. Murphy.

WHERE ARE CITIES LOCATED AND WHY?

When you look at an atlas map of the United States or Canada, or at a road map of a State or province, you see an array of places of different sizes, with varying distances between them. The map looks like a jumble, yet each place is where it is because of some decision, some perception of the site or its situation. Site and situation help explain why certain cities were planned and why cities thrive or fail. To understand why a conglomeration of cities is distributed across space the way it is and why cities are different sizes, it is necessary to examine more than one city at a time and see how those cities fit together, into the region, into the state, and into the globe as a whole.

Urban geographers studied the distribution of cities in Europe and the Americas during the 1900s, using quantitative techniques to determine how many cities and what size cities are needed within a certain space. In studying the size of cities and distances between them, urban geographers explored the trade areas of different size cities. Every city and town has a **trade area**, an adjacent region within which its influence is dominant. Customers from smaller towns and villages come to the city to shop and to conduct other business. The city's newspapers are read, and its television stations are watched in the surrounding region (Fig. 9.19).

Across the multitude of quantitative studies in urban geography, three key components arose frequently: population, trade area, and distance. The simplest way to think through the relationship among these three variables is to consider your State or province map. On the map, you will see many villages with unfamiliar names, a number of small towns sited on highways, several medium-sized cities where transportation routes converge, and likely one familiar, dominant city. Geographers conclude that with the transportation available in the region, the largest city has the largest trade area, and as a result fewer places rival it as the major trade area: the several medium-sized cities trade in smaller areas of commerce and are scattered apart from the major city, small towns house the grocery stores and other necessities, and finally villages may still have a café or a gas station. The trade areas and population combine to give us a hierarchy of urban places, following a pattern commonly called the rank-size rule.

The **rank-size rule** holds that in a model urban hierarchy, the population of a city or town will be inversely proportional to its rank in the hierarchy. Thus, if the largest city has 12 million people, the second city largest will have about 6 million (that is, half the population of the largest city); the third city will have 4 million (one-third); the fourth city 3 million; and so on. Note that the differences between cities become smaller at lower levels

Guest Field Note

Broken Arrow, Oklahoma

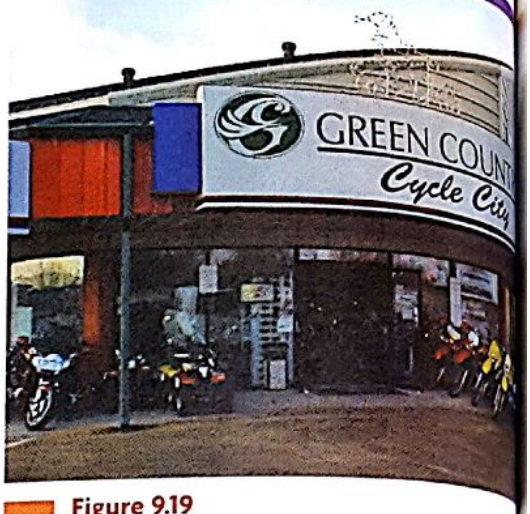


Figure 9.19

Many trade areas in the United States are named, and their names typically coincide with the vernacular region, the region people perceive themselves as living in. In promoting a trade area, companies often adopt, name, or shape the name of the vernacular region. In Oklahoma, the label Green Country refers to the northeastern quarter of the state, the trade area served by Tulsa. Tourism promoters derived the label in the 1970s, and the Tulsa media has used the name since. Promoters see the label as positive, implying Green Country is a landscape of forests, lakes, rivers, hills, and wealth—a perception that challenges popular notions of Dust Bowl Oklahoma as a treeless, dry, flat, windy, and improverished region of the 1930s. Green Country's popularity is confirmed by the hundreds of businesses, organizations, and agencies that have adopted the name. In turn, the presence of the trade area name throughout the cultural landscape reinforces the vernacular region, strengthening the importance of the region in the minds of people.

Credit: Brad Bays, Oklahoma State University

of the hierarchy so that the tenth-largest city would have 1.2 million inhabitants.

The rank-size rule does not apply in all countries, especially countries with one supremely dominant city (often called a primate city because it is much larger than all other cities within a country), such as Paris (France) or Mexico City (Mexico), but it does seem to apply in a number of countries with a multitude of large cities, such as the United States (see final section of this chapter). The rank-size rule is an impressive trick when it works. However, it does not explain where cities will be located or distributed across the hierarchy.

Central Place Theory

Walter Christaller wrote the classic urban geography study to explain where cities, towns, and villages will be located. In his book, *The Central Places in Southern Germany* (1933), Christaller laid the groundwork for **central place theory**. He attempted to develop a model to predict how and where central places in the urban hierarchy (hamlets, villages, towns, and cities) would be functionally and spatially distributed. Christaller began his theory development with a set of assumptions: first, the surface of the ideal region would be flat and have no physical barriers; second, soil fertility would be the same everywhere; third, population and purchasing power would be evenly distributed; next, the region would have a uniform transportation network to permit direct travel from each settlement to the other; and, finally, from any given place, a good or service could be sold in all directions out to a certain distance.

Through his studies, Christaller calculated the ideal central place system and then compared his model to real-world situations and tried to explain the variations and exceptions. In the urban hierarchy, the central places would be nested, so the largest central place provides the greatest number of functions to most of the region. Within the trade area of the largest central place, a series of larger towns would provide functions to several smaller places. The smaller places would then provide fewer central functions to a smaller-yet service area.

To determine the locations of each central place, Christaller needed to define the goods and services provided. He studied the sale of goods and services and calculated the distance people would willingly travel to acquire them. Cities, he postulated, would be regularly spaced, with central places where the same product was sold at the same price being a standard distance apart. He reasoned that a person would not be expected to travel 11 miles to one place to buy an item if it were possible to go only 9 miles to purchase it at another place. Central place theory maintains that each central place has a surrounding complementary region, an exclusive trade area within which the town has a monopoly on the sale of certain goods, because it alone can provide such goods at a given price and within a certain range of travel.

Hexagonal Hinterlands

Based on this description of Christaller's theory, you may expect the shape of each central place's trade area to be circular (bullseye shapes surrounding each place). But cir-

cles either have to overlap or leave certain areas unserved. Instead, Christaller chose perfectly fitted hexagonal regions as the shape of each trade area (Fig. 9.20).

Urban geographers were divided on the relevance of his model. Some saw hexagonal systems everywhere; others saw none at all. Christaller received support from geographers who applied his ideas to regions in Europe, North America, and elsewhere. In China, both the North China Plain and the Sichuan Basin display the seemingly uninterrupted flatness assumed by Christaller's model. When G. William Skinner examined the distribution of villages, towns, and cities there in 1964, he found a spatial pattern closely resembling the one predicted by Christaller's model. Studies in the U.S. Midwest suggested that while the square layout of the township-and-range system imposed a different kind of regularity on the landscape, the economic forces at work there tended to confirm Christaller's theory.

Christaller recognized that his assumptions would not all be met in reality; physical barriers, uneven resource distributions, and other factors all modify Christaller's hexagons. Nonetheless, his model yielded a number of practical conclusions. His studies supported a hierarchy of urban places that are spatially balanced and also established that larger cities would be spaced farther from each other than smaller towns or villages. Although Christaller's model of perfectly fit hexagons is not often realized, his studies confirm that the distribution of cities, towns, and villages in a region is not an accident but is tied to trade areas, population size, and distance.

Central Places Today

When Christaller worked on his spatial model and projected central place theory to help explain the distribution of urban areas, the world was a simpler and much less populated place than it is today. As many urban geographers have pointed out during the debate that followed Christaller's publications, new factors, forces, and conditions not anticipated by his models and theories make them less relevant today.

Geographer Larry Ford stresses that central place notions still have a role in explaining current developments. Take, for example, the **Sunbelt phenomenon** of the past four decades—the movement of millions of Americans from northern and northeastern States to the South and Southwest. This is not just an internal, voluntary migration made possible by social security funds and retirement plans; it also results from deliberate governmental economic and social polices that favor "Sunbelt" cities through federal spending on military, space, and research facilities. And even as Northerners moved southward, millions of Middle and South American migrants moved northward—into the same urban centers already growing for domestic reasons.

The overall effect of all this movement was to create a changed urban hierarchy in the Sunbelt region. Central place theory would predict that some existing cities would respond by increasing their production of higher-order (technological) goods and services, increasing their economic reach and bypassing others. And this is what

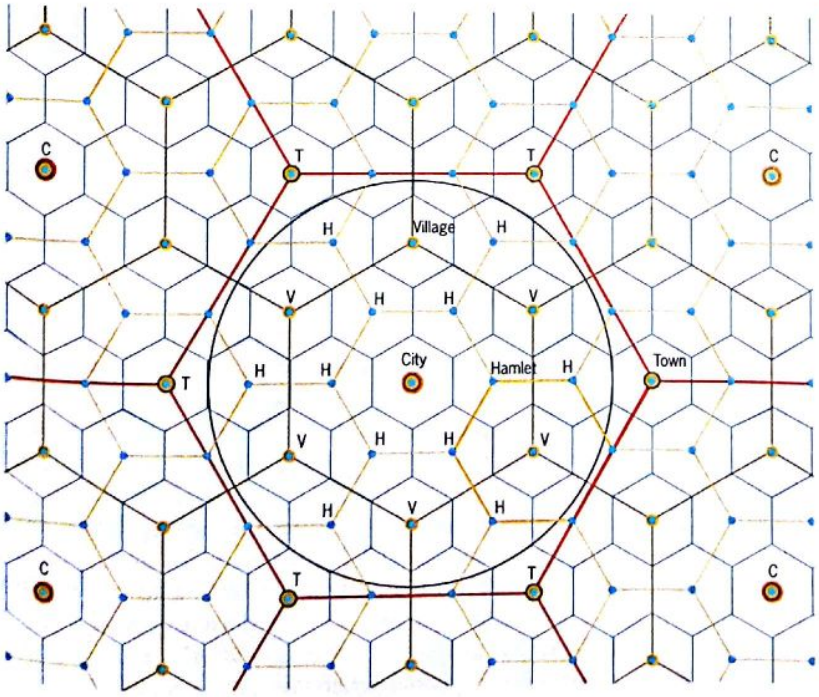


Figure 9.20
Christaller's Hierarchy of Settlements and their Service Areas. Christaller's interlocking model of a hierarchy of settlements and their service areas include: C = city, T = town, V = village, H = hamlet.

happened: Atlanta, Dallas, and Phoenix became headquarters cities for large regions, moving up in the urban hierarchy. Charlotte, Tampa, San Antonio, and Tucson also rose, but took secondary status. Other centers participated less in the new spatial economy and remained where they were in the urban hierarchy.

As Ford emphasized, central place theory can still add "analytical power to the understanding of patterns of urban growth, even in this era of fast and long-distance transportation, suburbanization, and multiple urban functions."

THINKING GEOGRAPHICALLY

Sketch a map of your city or town and the cities or towns nearby. Make a list of the kinds of goods and services available in each of these towns. Do the ideas about central places presented in this section of the chapter apply to your region?

HOW ARE CITIES ORGANIZED, AND HOW DO THEY FUNCTION?

For a number of years, urban geographers have studied, charted, and mapped cities to create models that describe how different parts of cities come together in different regions of the world. In this section of the chapter, we discuss a number of models that urban geographers have drawn for North American, South American, and other cities. In the next section of this chapter, we discuss the people and institutions that organize and create cities.

Across cities, you can see certain spaces defined for certain functions. The various parts of a city may be designated residential, industrial, or parkland. Or a group of people may take over an area of a city and redefine it to function for them. Cities are not simply random collections of buildings and people. Cities exhibit functional structure: they are spatially organized to perform their functions as places of commerce, production, education, and much more.

Models of the City

Each model of the city, regardless of the region, is a study in **functional zonation**—the division of the city into certain regions (zones) for certain purposes (functions). For example, cities typically have residential zones that are separate from industrial zones that are separate from garbage dumps. By studying the kinds of zones cities have and by examining where the zones are located with respect to one another, urban geographers draw models of cities.

Before examining the models of urban spaces, we must define some terms commonly used in referring to parts of the city (especially cities in North America). The term **zone** is typically preceded by a descriptor that conveys the purpose of that area of the city. The models describe zones as areas with a relatively uniform land use, for example, an industrial zone or a residential zone. Most models define the key economic zone of the city (if there is such) as the **central business district** (CBD). The CBD is a concentration of business and commerce in the city's downtown. The American CBD typically has high land values, tall buildings, busy traffic, converging highways, and mass transit systems.

The term **central city** describes the urban area that is not suburban. In effect, central city refers to the older city as opposed to the newer suburbs. A **suburb** is an outlying, functionally uniform part of an urban area, and is often (but not always) adjacent to the central city. Most suburbs are residential, but some have other land uses, including schools, shopping malls, and office parks.

Suburbanization is the process by which lands that were previously outside of the urban environment become urbanized, as people and businesses from the city move to these spaces. The process of suburbanization holds special interest for human geographers because it involves the transformation of large areas of land from rural to urban uses and affects large numbers of people who can afford to move to larger and more expensive suburban homes. The aesthetic of the suburb reveals the occupants' idealized living patterns because their layout can be planned in response to choice and demand. Elsewhere in the metropolis, constraints imposed by preexisting land-use arrangements make the building of new-construction houses with large lawns, multiple garages, and fenced-in yards quite difficult.

In *Contemporary Suburban America* (1981), urban geographer P. O. Muller offers a thorough analysis of suburbanization, describing how suburbia "evolved into a self-sufficient urban entity, containing its own major economic and cultural activities, that is no longer an appendage to the central city." Muller found suburban cities ready to compete with the central city for leading urban economic activities such as telecommunications, high-technology industries, and corporate headquarters. In addition to expansion of residential zones, the process of suburbanization rapidly creates distinct urban regions complete with industrial, commercial, and educational components.

The overall importance of suburban life in the United States is underscored by the results of the 2000 census, which indicated that no less than 50 percent of the entire American population resided in the suburbs (up from 37 percent in 1970); the remaining 50 percent were divided between the central cities (30.3 percent) and nonmetropolitan or rural areas (19.7 percent). Of the population living in metropolitan areas, 62.2 percent resided in the suburbs, which in 2000 had 141 million residents. Thus, the suburbs have become the essence of the modern American city.

Just by using such terms as *residential area* and *central business district*, people acknowledge the existence of a re-

gional structure within cities. When you refer to downtown, or to the airport, or to the municipal zoo, you are in fact referring to urban regions where certain functions prevail (business activity, transportation, and recreation, in the three just mentioned). All of these urban regions or zones lie near or adjacent to each other and together make up the metropolis. But how are they arranged? Is there any regularity or recurrent pattern in the location of the various zones, perhaps reflecting certain prevailing growth processes? In other words, can we create a model of the zones of a city that can then be recognized in every city, perhaps with modifications related to a city's particular site, size, shape, and relief?

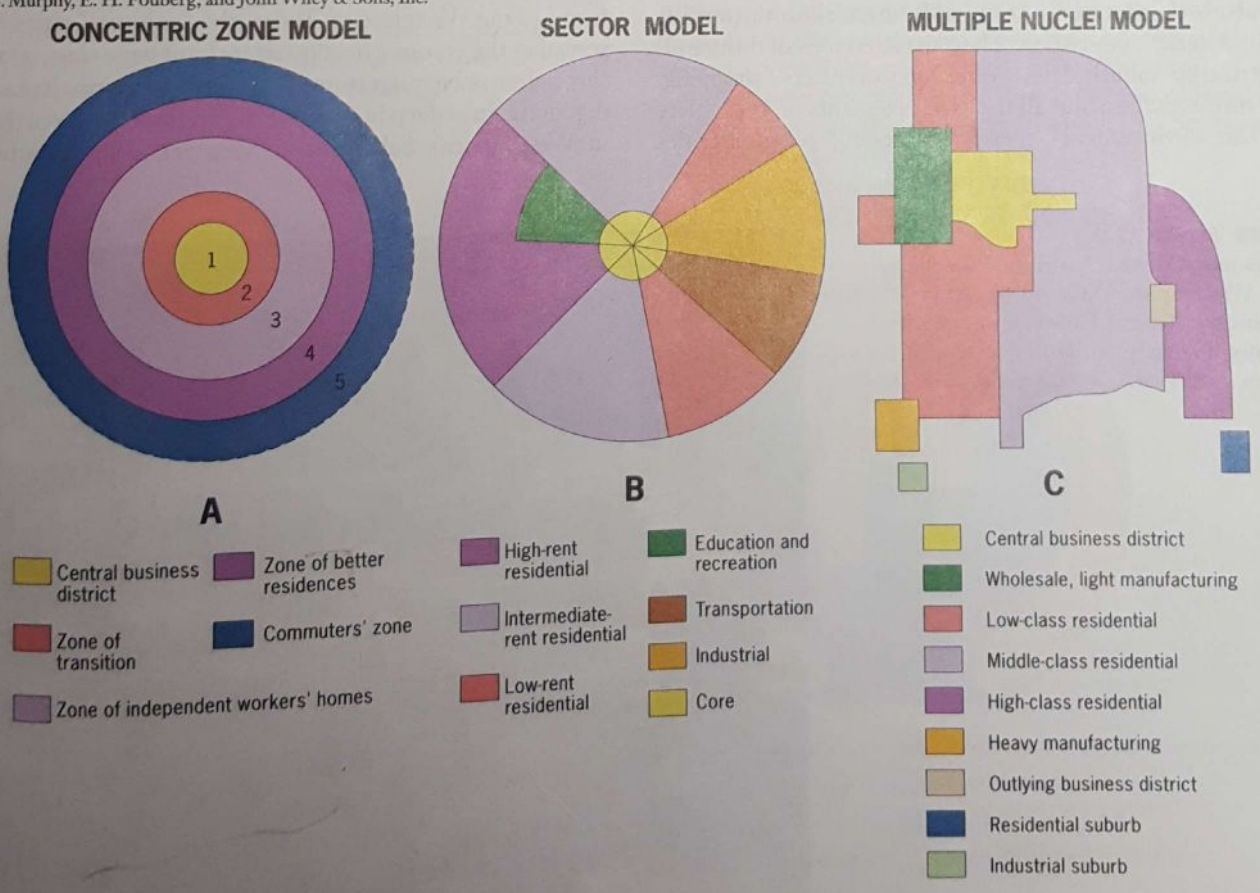
Modeling the North American City

Urban geographers have attempted to construct models that allow for change and growth in the geographic layout of North American cities. The first model, the **concentric zone model** (Fig. 9.21 A), resulted from sociologist Ernest Burgess's study of Chicago in the 1920s. Burgess's model divides the city into five concentric zones, defined by their function. As the city grew, land was converted in zones around the outside of the city, and the concentric zone model emerged. At the center is the CBD (1), itself subdivided into several subdistricts (financial, retail, theater). The zone of transition (2) is characterized by residential deterioration and encroachment by business and light manufacturing. Zone 3 is a ring of closely spaced but adequate homes occupied by the blue-collar labor force. Zone 4 consists of middle-class residences, and zone 5 is the suburban ring. Burgess described his model as dynamic: as the city grew, inner zones encroached on outer ones, so that CBD functions invaded zone 2 and the problems of zone 2 affected the inner margins of zone 3.

In the late 1930s, Homer Hoyt published his sector model (Fig. 9.21 B), partly as an answer to the limitations of the Burgess model. Hoyt focused on residential patterns explaining where the wealthy in a city chose to live. Hoyt argued that the city grows outward from the center, so a low-rent area could extend all the way from the CBD to the city's outer edge, creating zones which are shaped

Figure 9.21

The Three Classical Models of Urban Structure. The three classical models of urban structure are the concentric zone model, the sector model, and the multiple nuclei model.



like a piece of pie. Hoyt found that the pie-shaped pieces describe the high-rent residential, intermediate rent residential, low-rent residential, education and recreation, transportation, and industrial sectors.

Researchers studied both theories, and Chauncy Harris and Edward Ullman argued that neither the concentric rings nor the sector model adequately reflected city structure by the mid-twentieth century. In the 1940s, Harris and Ullman proposed the multiple nuclei model (Fig. 9.21C). Their model recognizes that the CBD is losing its dominant position as the single nucleus of the urban area. Several of the urban regions shown in the figure have their own nuclei.

Most urban geographers think these models are too simplistic to describe the modern city. With the availability of personal automobiles and the construction of ring roads and other arteries around cities in the 1970s and 1980s, suburbanization exploded around the new transportation corridors. The outer city grew rapidly and became more functionally independent of the central city, and new suburban downtowns emerged to serve their new local economies. Often located near key freeway intersections, these suburban downtowns developed mainly around big regional shopping centers and attracted industrial parks, office complexes, hotels, restaurants, entertainment facilities, and even major league sports stadiums. They became **edge cities**. Edge cities such as Tysons Corner, Virginia (outside Washington, D.C.) and Irvine, California (outside Los Angeles) flourished. They attracted tens of thousands of nearby suburbanites—offering workplaces, shopping, leisure activities, and all the other elements of a complete urban environment—thereby loosening remaining ties not only to the central city but to other suburban areas as well (Fig. 9.22). As early as 1973, American suburbs surpassed the central cities in total employment. By the mid-1980s, in some metropolises in the Sunbelt, the majority of jobs in the metropolis were in the suburbs.

Geographers use the term **urban realm** to describe the spatial components of the modern metropolis, where each realm is a separate economic, social, and political entity that is linked together to form the larger metropolitan framework (Fig. 9.23). The urban realms model constitutes the latest step forward in interpreting the American urban structure. It clearly demonstrates that today's outer cities are not satellites of the central city; they too are shaping the metropolis.

Modeling the Cities of the Global Periphery and Semiperiphery

The number of cities in the world with millions of inhabitants can now be counted in the hundreds; it therefore becomes increasingly difficult to model, classify, or typify urban centers. In the 1960s, researchers classified "colonial" cities as urban areas where European transplants dominated the form of the city, laying it out with Western styles. They also drew models of "indigenous" cities that remained remote from globalizing influences and various forms of the Western city. Today, the "colonial" cities that served as the colonial headquarters (and have since grown through massive migration) defy generalization. Even indigenous cities deep in continental interiors (such as those in West Africa's Sahel and in Central Asia) have been

Figure 9.22
Tyson's Corner, Virginia. In the suburbs of Washington, D.C., on Interstate 495 (the beltway), Tyson's Corner has developed as a major edge city, with offices, retail, and commercial services. © Rob Crandall/The Image Works.

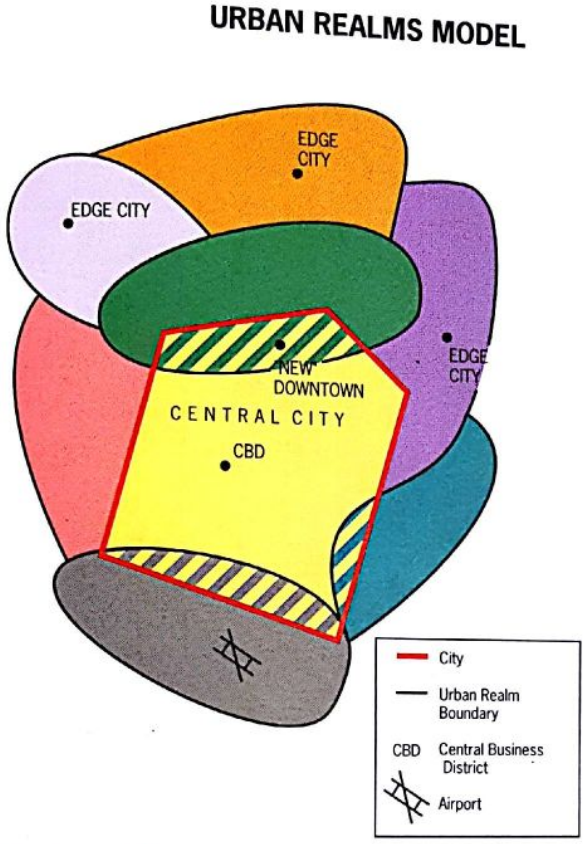


Figure 9.23
Urban Realms Model. The Urban Realms Model includes a central business district, central city, new downtown, and suburban downtown. *Adapted with permission from*: T. Hartshorn and P. O. Muller, "Suburban Downtowns and the Transformation of Metropolitan Atlanta's Business Landscape," *Urban Geography* 10 (1989), p. 375.

swept into the forces of globalization and immigration, and in the process they have been transformed.

In Middle and South America, Mexico City (Mexico) and São Paulo (Brazil) are now the kinds of megacities that make analysis difficult. But South American cities have been endowed with strong Iberian cultural imprints that define a certain common social-spatial geography. In Subsaharan Africa, some former colonial cities have retained the spatial components lost in stupendous agglomerations like Lagos (Nigeria) and Kinshasa (The Congo). And in Southeast Asia some middle-sized cities continue to exhibit a fairly consistent pattern.

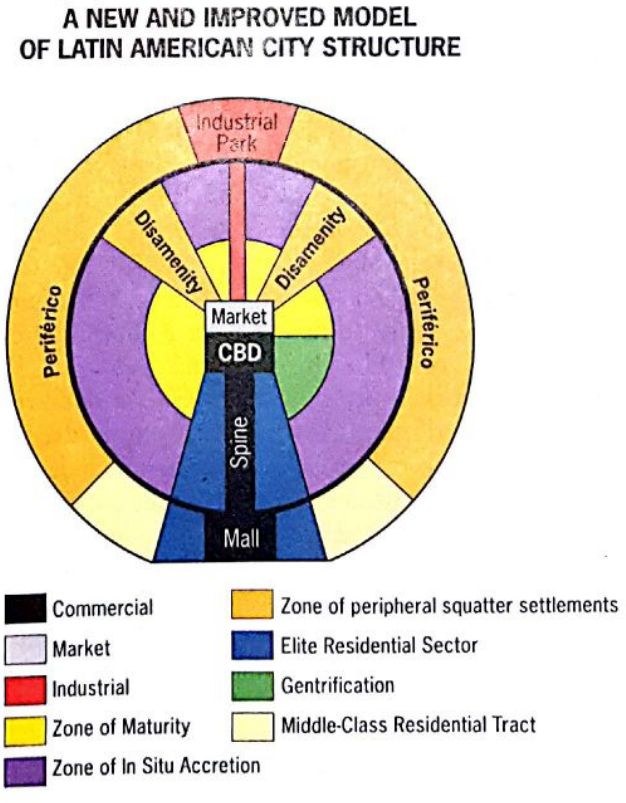
The Latin American City

In 1980, geographers Ernst Griffin and Larry Ford studied Latin American cities and derived a model of the Latin American city referred to as the **Griffin-Ford model**. Griffin and Ford found that Latin American cities blend traditional elements of Latin American culture with the forces of globalization that are reshaping the urban scene, combining radial sectors and concentric zones.

Anchoring the model is the thriving CBD, which remains the city's primary business, employment, and entertainment focus. The CBD is divided into a traditional market sector and a more modern high-rise sector. Adequate public transit systems and nearby affluent residential areas assure the dominance of the CBD. Emanating outward from the urban core along the city's most prestigious axis is the commercial spine, which is surrounded by the elite residential sector. This widening corridor is essentially an extension of the CBD. It features offices, shopping, high-quality housing for the upper and upper-middle classes, restaurants, theaters, and such amenities as parks, zoos, and golf courses. At the end of the elite spine sector lies an incipient edge city shown as "mall" on the model and flanked by high-priced residences. This reflects the emergence of suburban nodes from the North American model in South America's cities.

In the Griffin-Ford model, the remaining concentric zones are home to less well-off residents who compose the great majority of the urban population. Socioeconomic levels and housing quality decrease markedly with greater distance from the city center (Fig. 9.24). The zone of maturity in the inner city contains the best housing outside the spine sector, attracting the middle classes, who invest sufficiently

Figure 9.24
A New and Improved Model of the Latin American City Structure. This model includes both the zones created in the original Griffin-Ford model and the new Ford model of the Latin American city. *Adapted with permission from*: L. Ford, "A New and Improved Model of Latin American City Structure," *The Geographical Review* 86 (1996), p. 438.



Field Note

"February 1, 2003. A long-held hope came true today: thanks to a Brazilian intermediary I was allowed to enter and spend a day in two of Rio de Janeiro's hillslope *favelas*, an eight-hour walk through one into the other. Here live millions of the city's poor, in areas often ruled by drug lords and their gangs, with minimal or no public services, amid squalor and stench, in discomfort and danger. And yet life in the older *favelas* has become more comfortable as shacks are replaced by more permanent structures, electricity is sometimes available, water supply, however haphazard, is improved, and an informal economy brings goods and services to the residents. I stood in the doorway of a resident's single-room dwelling for this overview of an urban landscape in transition: satellite-television disks symbolize the change going on here. The often blue cisterns catch rainwater; walls are made of rough brick and roofs of corrugated iron or asbestos sheeting. No roads or automobile access, so people walk to the nearest road at the bottom of the hill. Locals told me of their hope that they will some day have legal rights to the space they occupy. During his campaign for president of Brazil, Lula de Silva suggested that long-term inhabitants should be awarded title, and in 2003 his government approved the notion. It will be complicated: as the photo shows, people live quite literally on top of one another, and mapping the chaos will not be simple (but will be made possible with geographic information systems). This would allow the government to tax residents, but it would also allow residents to obtain loans based on the value of their *favela* properties, and bring millions of Brazilians into the formal economy. The hardships I saw on this excursion were often dreadful, but you could sense the hope for and anticipation of a better future."

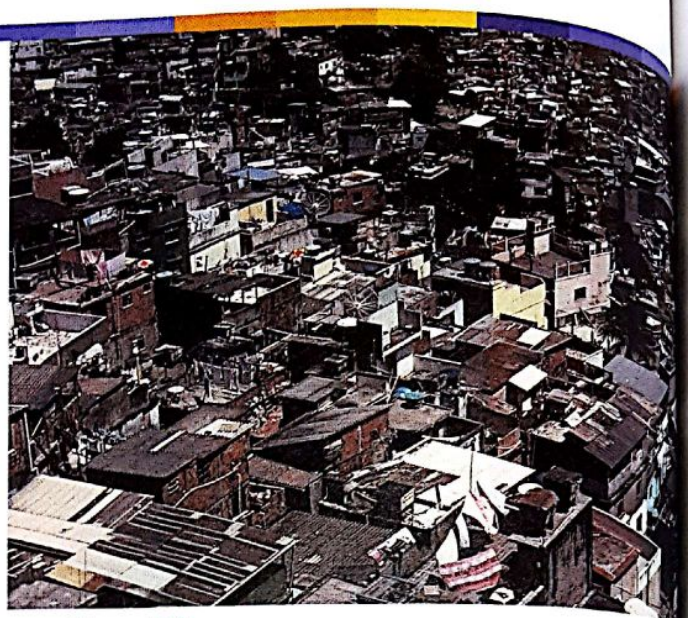


Figure 9.25
Rio de Janeiro, Brazil. © H. J. de Blij.

to keep their solidly built but aging dwellings from deteriorating. The adjacent zone is one of much more modest housing. Interspersed with the more modest areas are densely populated unkempt areas, which represent a transition from inner-ring affluence to outer-ring poverty. The outermost zone of peripheral squatter settlements is home to the impoverished and recent migrants. Although this ring consists mainly of teeming, high-density shantytowns, residents here are surprisingly optimistic about finding work and improving their living conditions.

A structural element of many Latin American cities is the **disamenity sector**, the very poorest parts of cities that in extreme cases are not connected to regular city services and are controlled by gangs and drug lords. The disamenity sectors in Latin American cities contain relatively unchanging slums known as *barrios* or *favelas*. The worst of these poverty-stricken areas often include large numbers of people who are so poor that they are forced to live in the streets (Fig. 9.25). There is little in the way of regular law enforcement within such communities, and drug lords often run the show—or battle with other drug lords for dominance. Such conditions also prevail in places beyond the ring highway or *periférico*, which is now a feature of most South American cities.

Finally, the Griffin-Ford model displays two smaller sectors: an industrial park, reflecting the ongoing concentration of industrial activity in the city, and a gentrification zone, where historic buildings are preserved. Gentrification remains much less common in South American cities than in North America, but it is an emerging phenomenon.

To what extent is the Griffin-Ford model a realistic portrayal of the Latin American city? The model reflects the enormous differences between the spaces of privilege and the spaces of abject poverty within the Latin American city. The model also describes elements of sector development evident in many large South American cities, but the concentricity suggested by the model seems to be breaking down. Figure 9.24 incorporates both the original zones of the Griffin-Ford model and the updates Larry Ford added in a 1996 article. Larry Ford's updated Griffin-Ford model adds a ring highway (*periférico*) around the outskirts of the city, divides the downtown business district into a CBD and a market, adds a mall near the elite space, and leaves space for suburban industrial parks.

The African City

At the beginning of this century, Subsaharan Africa included countries with some of the world's lowest levels of urbanization. In the tropical region of Africa, the majority of the people are farmers, and most countries in the tropics remain

under 40 percent urbanized. Outside the tropics, the region is about 57 percent urban. Despite the lower levels of overall urbanization than much of the rest of the world, Africa now has the world's fastest growing cities, followed by those in South Asia and mainland East Asia and South and Middle America. In contrast, the cities of North America, southern South America, and Australia were growing more slowly, and those of Western Europe were barely growing at all.

The imprint of European colonialism can be seen in many African cities. During colonialism, Europeans laid out prominent urban centers such as Kinshasa (The Congo), Nairobi (Kenya), and Harare (Zimbabwe) in the interior, and Dakar (Senegal), Abidjan (Ivory Coast), Luanda (Angola), Maputo (Mozambique), and other ports along the coast. Africa even has cities that are neither traditional nor colonial. South Africa's major urban centers (Johannesburg, Cape Town, and Durban) are essentially Western, with elements of European as well as American models, including high-rise CBDs and sprawling suburbs.

As a result of this diversity, it is difficult to formulate a model African city. Studies of African cities indicate that the central city often consists of not one but three CBDs (Fig. 9.26): a remnant of the colonial CBD, an informal and sometimes periodic market zone, and a transitional business center where commerce is conducted from curbside, stalls, or store fronts. Vertical development occurs mainly in the former colonial CBD; the traditional business center is usually a zone of single-story buildings with some traditional architecture; and the market zone tends to be open-air, informal, yet still important. Sector development marks the encircling zone of ethnic and mixed neighborhoods (often characterized by strong ethnic identities); manufacturing or mining operations are found next to some parts of this zone. Finally, many African cities are ringed by satellite townships that are squatter settlements.

The Southeast Asian City

Some of the most populated cities in the world are in Southeast Asia. The city of Kuala Lumpur, Malaysia, is a complex of high-rise development, including the 1483-foot-tall Petronas Towers, which until recently was the world's tallest building. The city of Jakarta, Indonesia, called Jabotabek by the locals, is an enormous conurbation of Bogor, Tangerang, and Bekasi.

In 1967, urban geographer T. G. McGee studied the medium-sized cities of Southeast Asia and found that they exhibit similar land-use patterns, creating a model referred to as the **McGee model** (Fig. 9.27). The focal point of the

Figure 9.26
Model of the Subsaharan African City. One model of the African city includes a colonial CBD, traditional CBD, and market zone.

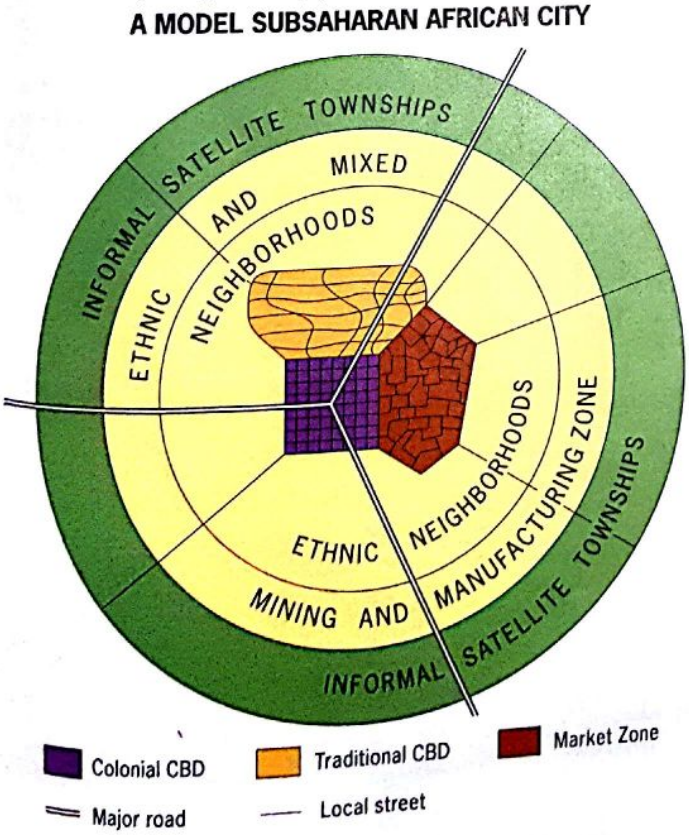
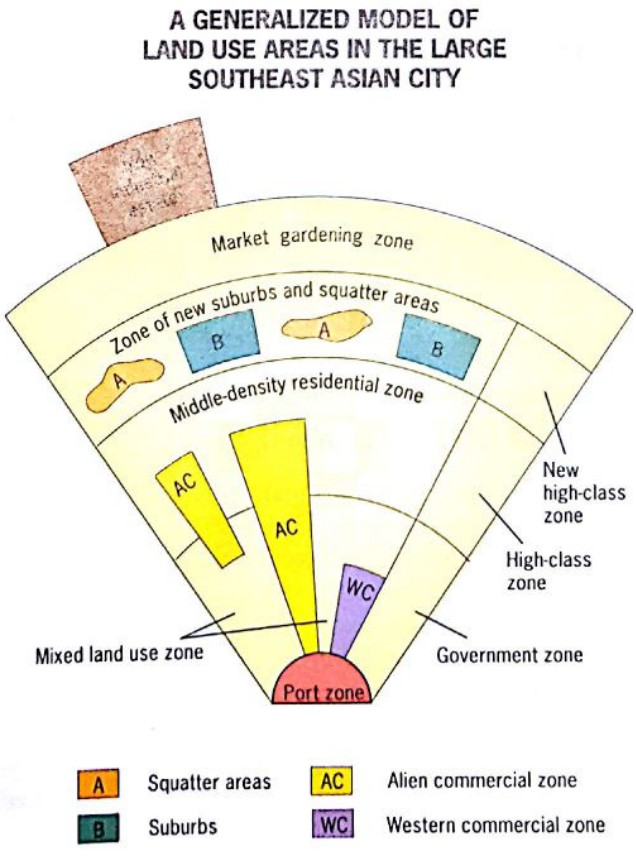


Figure 9.27
Model of the Large Southeast Asian City. A model of land use in the medium-sized Southeast Asian city, includes sectors and zones within each sector. *Adapted with permission from*: T. G. McGee, *The Southeast Asian City*, London: Bell, 1967, p. 128.



city is the old colonial port zone combined with the largely commercial district that surrounds it. McGee found no formal central business district; rather, he found the elements of the CBD present as separate clusters surrounding the old colonial port zone: the government zone; the Western commercial zone (practically a CBD by itself, the alien commercial zone, dominated by Chinese merchants whose residences are attached to their places of business; and the mixed land-use zone that contains miscellaneous economic activities, including light industry. The other nonresidential areas are the market-gardening zone at the outskirts of the urban area and, still farther from the city, a recently built industrial park or "estate."

The residential zones in McGee's model are similar to those in the Griffin-Ford model of the Latin American city. Other similarities between the McGee and Griffin-Ford model are the hybrid structure of sectors and zones, an elite residential sector that includes new suburbs, an inner-city zone of middle-income housing, and peripheral low-income squatter settlements. One main difference is that the McGee model includes middle-income housing in a suburban zone, reflecting the larger middle class in these cities of the global semiperiphery and the small middle class in Latin American cities.

Regardless of the region or city, we recognize that models do not explain how or why cities are organized the way they are. A model of a city shows us an end product, whether planned or not.

THINKING GEOGRAPHICALLY

Employing the concepts defined in this section of the chapter, draw a model of the city with which you are most familiar. Label each section of the city accordingly. After reading through the models described in this section, determine which model best corresponds to the model you drew and hypothesize as to why it is so.

HOW DO PEOPLE MAKE CITIES?

People and institutions make places, and the city is not an exception to this rule. The roles individual people, governments, corporations, developers, financial lenders, and realtors play in making places varies across the world. For example, in some parts of the world, governments pass strict laws on urban structures and enforce them, and in other parts of the world governments either do not pass laws or do not enforce them.

Powerful social and cultural preferences shape the character of particular parts of the city and influence who lives where. Wander through the residential neighborhoods of any city, keep your eyes open, and study the cultural landscape. You will find yourself surrounded by landscape indicators of social and cultural preferences. You can see differences in the existence of single-family or multifamily homes, in particular styles of construction and building materials, in the distance between houses, in the nature and style of vegetation around houses, in the distance between the houses and the streets, and even in the amount of space devoted to automobile movement and storage.

Comparing and contrasting the urban cultural landscapes of two cities helps us understand the differences in social and cultural forces in cities. Compare Figure 9.28 with Figure 9.29. Analyze each picture and guess which city is located in a wealthy country in the world and which is located in a poor country in the world. What factors can you consider? You may look at the presence or absence of high-rise buildings, the aesthetics of the buildings, the transportation, and the distance between houses, and after doing so, you may guess that Figure 9.28 is in the wealthy country. Look again. This time, look for whether the cars are operable, the presence of telephone and electrical wires, and the building materials. Figure 9.28 is actually in a poorer country; it is the city of Luanda, Angola, in Subsaharan Africa. Figure 9.29 is part of a suburb of Tokyo, Japan. Japanese houses in this middle-class neighborhood are on top of each other because the city is so densely populated that land is at a premium. In Luanda, the high rises are part of the central business district, and they and the houses immediately surrounding them are where the wealthy live. The houses in the foreground are where the poor live. Here the roofs are tin or cardboard, the houses are makeshift, the cars do not run, and the one utility pole is connected to nothing. Notice that in this picture of Luanda, we see no evidence of a middle class; this is common in cities of the periphery where there are the "haves" and the "have-nots" and little in between.

Making Cities in the Global Periphery and Semiperiphery

Many of the world's most populous cities are located in the less prosperous parts of the world, including São Paulo (Brazil), Mexico City (Mexico), Mumbai (India), Dhaka (Bangladesh), and Delhi (India). Across the world, people continue to migrate to cities in response to "pull" factors that are often more imaginary than real; their expectations of a better life mostly fail to materialize. Particularly in the economic periphery, new arrivals (and many long-term residents, too) are crowded together in overpopulated apartment buildings, dismal tenements, and teeming slums. New arrivals come from other cities and towns and from the rural countryside, often as large

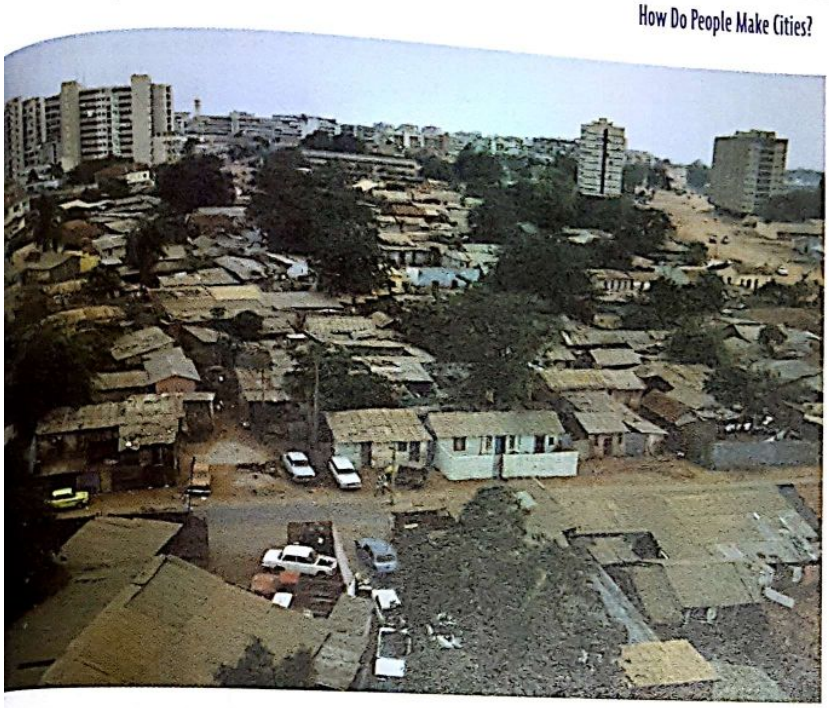


Figure 9.28
Luanda, Angola. The city's landscape reflects a clear dichotomy between the "haves" and "have-nots." © Sarah Errington/Hutchinson Picture Library.

families; they add to the cities' rate of natural growth. Housing cannot keep up with this massive inflow. Almost overnight huge **shantytowns**, unplanned developments of crude dwellings and shelters made mostly of scrap wood, iron, and pieces of cardboard, develop around these cities. The overcrowding and dismal conditions do not deter additional urban migration, and as a result millions of people spend their entire lives in urban housing of wretched quality.

Cities in poorer parts of the world generally lack enforceable **zoning laws**, which, over the last century, most city governments in North America drew up to ensure use of space in ways that the society at large would deem culturally and environmentally acceptable. Under a city's

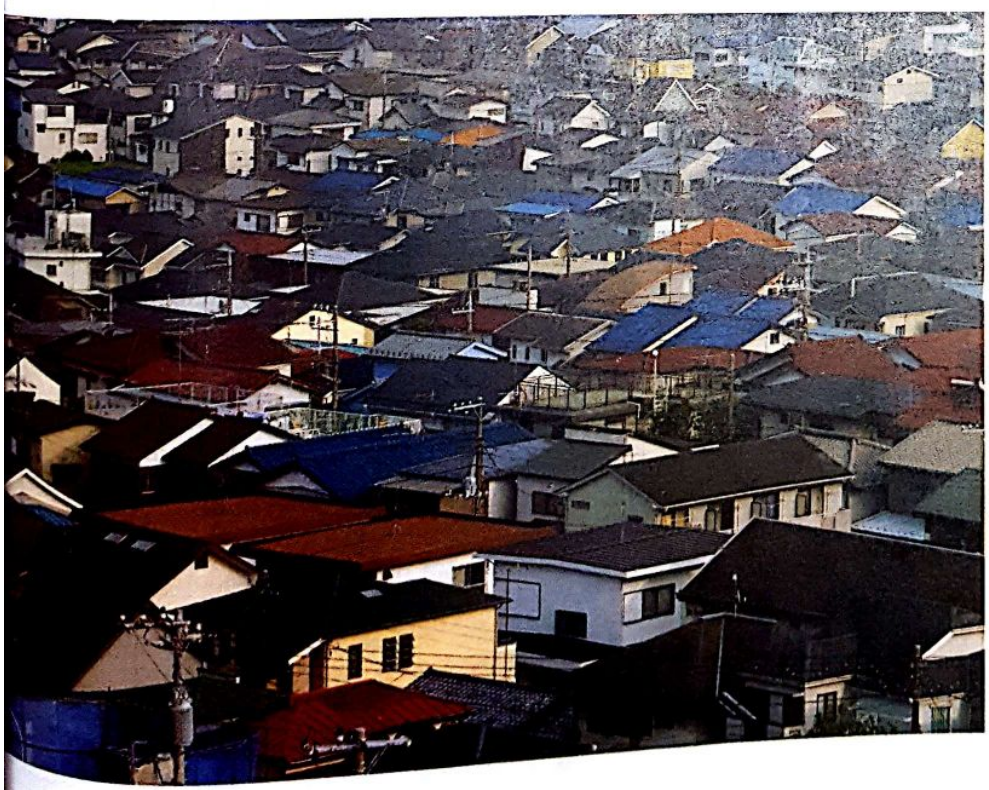


Figure 9.29
Tokyo, Japan. The city's landscape reflects the presence of a large middle class in a densely populated city. © iStockphoto.

Field Note

"Central Cairo is full of the multi-story buildings, transportation arteries, and commercial signs that characterize most contemporary big cities. Outside of a number of mosques, few remnants of the old medieval city remain. The first blow came in the nineteenth century, when a French-educated ruler was determined to recast Cairo as a world-class city. Inspired by the planning ideas of Paris' Baron von Hausman, he transformed the urban core into a zone of broad, straight streets. In more recent years the forces of modern international capitalism have had the upper hand. There is little sense of an overall vision for central Cairo. Instead, it seems to be a hodge-podge of building and streets devoted to commerce, administration, and a variety of producer and consumer services."

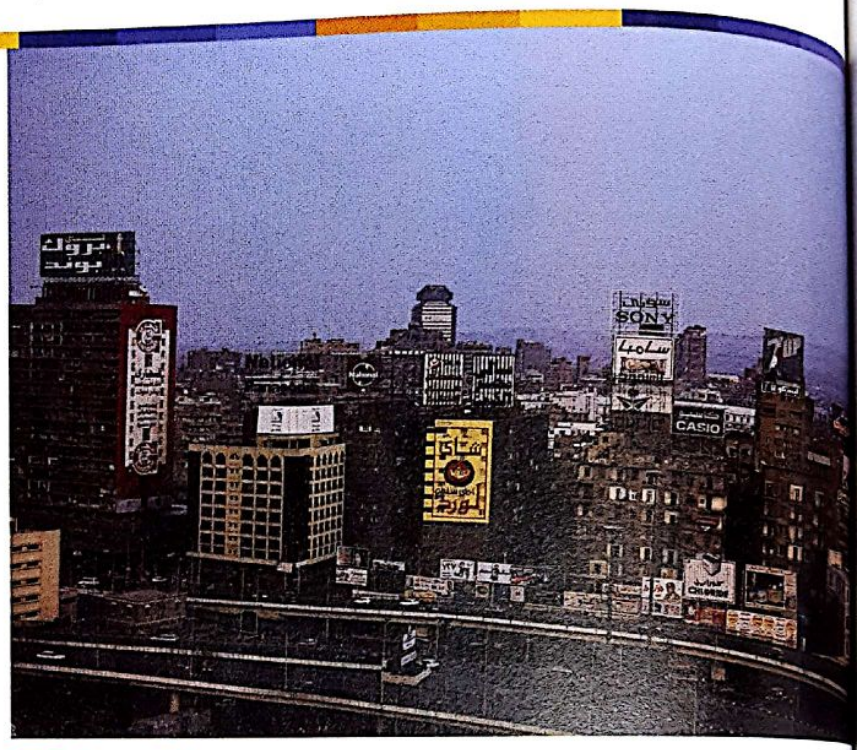


Figure 9.30
Cairo, Egypt. © Alexander B. Murphy.

zoning laws, a fast-food franchise could not occupy a corner lot in a residential American suburb if the city zoned all the lots in that suburban block exclusively for single-family homes. Zoning laws do not exist, nor are they equally enforced everywhere in the core. In Europe, for example, few cities have zoning laws, but most have looser land-use plans. In the United States, Houston, Texas is the only large city that does not have zoning laws on the books, with citizens in the city voting against the creation of zoning laws three different times (as recently as 1993).

Without zoning laws, cities in the periphery will have mixed land use throughout the city. For example, in cities such as Madras, India (and in other cities in India), open space between high-rise buildings is often occupied by squatter settlements. In Bangkok, Thailand, elementary schools and noisy, polluting factories stand side by side. In Nairobi, Kenya, hillside villas overlook some of Africa's worst slums. Over time, such incongruities may disappear, as is happening in many cities in East Asia. Rising land values and greater demand for enforced zoning regulations are helping transform the central cities of East Asia. But in South Asia, Subsaharan Africa, Southwest Asia, North Africa, and Middle and South America, unregulated, helter-skelter growth continues.

Across the global periphery, the one trait all major cities display is the stark contrast between wealthy and poor. Sharp contrasts between wealthy and poor areas can be found in major cities all over the world—for example, homeless people sleeping on heating grates a half a block from the White House in Washington, D.C. Yet the intensity and scale of the contrast is greater in cities of the periphery. If you stand in the central area of Cairo, Egypt, you see what appears to be a modern, Mediterranean-European metropolis (Fig. 9.30). But if you get on a bus and ride it toward the city's outskirts, that impression fades almost immediately as paved streets give way to dusty alleys, apartment buildings to harsh tenements, and sidewalk coffee shops to broken doors and windows (Fig. 9.31). Traffic-choked, garbage-strewn, polluted Cairo is home to an estimated 12.5 million people, about one-fifth of Egypt's population; the city is bursting at the seams. And still people continue to arrive, seeking the better life that pulls countless migrants from the countryside year after year.

Making Cities in the Global Core

The goals people have in making cities have changed over time. One way people make cities is by remaking them, reinventing neighborhoods, or changing layouts to reflect current goals and aesthetics. During the segregation era in the United States, realtors, financial lenders, and city governments defined and segregated spaces in urban environments. For example, before the civil rights movement of the 1960s, financial institutions in the business of lending money could engage in a practice known as **redlining**. They would identify what they considered