range of analytical tools, including conceptual and linguistic devices, maps, charts, and mathematical equations. In many ways, therefore, the tools and methods of human geographers are parallel to those used in other sciences, especially the social sciences. In addition, geographers increasingly use some of the tools and methods of the humanities—interpretive analysis and inductive reasoning, for example—together with ethnographic research and textual analysis. The most distinctive tools in the geographer’s kit bag are, of course, maps and geographic information systems (GIS). Geographic information systems involve an organized set of computer hardware, software, and spatially coded data that is designed to capture, store, update, manipulate, and display geographically referenced information (see “Appendix 1—Maps and Geographic Information Systems”). As we have seen, maps can be used not only to describe data but also to serve as important sources of data and tools for analysis. Because of their central importance to geographers, they can also be objects of study in their own right.

Spatial Analysis

The study of human geography is easily distinguished by its fundamental concepts. The study of many geographic phenomena can be approached in terms of their arrangement as points, lines, areas, or surfaces on a map. This is known as spatial analysis. Location, distance, space, accessibility, and spatial interaction are five concepts that are key to spatial analysis. Although these concepts may be familiar from everyday language, they require some elaboration.

Location

Location is often nominal, or expressed solely in terms of the names given to regions and places. We speak, for example, of Washington, D.C. or of Georgetown, a location within Washington, D.C. Location can also be used as an absolute concept, whereby locations are fixed mathematically through coordinates of latitude and longitude (Figure 1.13). Latitude refers to the angular distance of a point on

Figure 1.13  Latitude and longitude Lines of latitude and longitude provide a grid that covers Earth, allowing any point on Earth's surface to be accurately referenced. Latitude is measured in angular distance (that is, degrees and minutes) north or south of the equator, as shown in (a). Longitude is measured in the same way, but east and west from the prime meridian, a line around Earth's surface that passes through both poles (North and South) and the Royal Observatory in Greenwich, just to the east of central London, in England. Locations are always stated with latitudinal measurements first. The location of Paris, France, for example, is 48°51'N and 2°20'E as shown in (b). (a) and (c), after R. W. Christopherson, Geosystems: An Introduction to Physical Geography, 2nd ed., © 1994, pp. 13 and 15. (b), after E. F. Bergman, Human Geography: Cultures, Connections, and Landscapes, © 1995, Figs. 1–10 and 1–13.)
Earth's surface, measured in degrees, minutes, and seconds north or south from the equator, which is assigned a value of $0^\circ$. Lines of latitude around the globe run parallel to the equator, which is why they are sometimes referred to as parallels. Longitude refers to the angular distance of a point on Earth's surface, measured in degrees, minutes, and seconds east or west from the prime meridian (the line that passes through both poles and through Greenwich, England, which is assigned a value of $0^\circ$). Lines of longitude, called meridians, run from the North Pole (latitude $90^\circ$ north) to the South Pole (latitude $90^\circ$ south). Georgetown's coordinates are precisely $38^\circ 55' N$, $77^\circ 00' E$.

Thanks to the Global Positioning System (GPS), it is very easy to determine the latitude and longitude of any given point. The Global Positioning System consists of 21 satellites (plus 3 spares) that orbit Earth on precisely predictable paths, broadcasting highly accurate time and locational information. The GPS is owned by the U.S. government, but the information transmitted by the satellites is freely available to everyone around the world. All that is needed is a GPS receiver. Basic receivers cost less than $50 and can relay latitude, longitude, and height to within 100 meters day or night, in all weather conditions, in any part of the world. Current production models of many automobiles are now equipped with GPS-based navigational systems. The most precise GPS receivers, costing thousands of dollars, are accurate to within a centimeter. The GPS has dramatically increased the accuracy and efficiency of collecting spatial data. In combination with GIS and remote sensing, GPS has revolutionized mapmaking and spatial analysis.

Location can also be relative, fixed in terms of site or situation. Site refers to the physical attributes of a location: its terrain, its soil, vegetation, and water sources, for example. Situation refers to the location of a place relative to other places and human activities: its accessibility to routeways, for example, or its nearness to population centers (Figure 1.14). Washington, D.C. has a low-lying riverbank site and is situated at the head of navigation of the Potomac River, on the Eastern Seaboard of the United States.

Finally, location also has a cognitive dimension, in that people have cognitive images of places and regions, compiled from their own knowledge, experiences, and impressions. Cognitive images (sometimes referred to as mental maps) are psychological representations of locations that spring from people's individual ideas and impressions of these locations. These representations can be

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**Figure 1.14** The importance of site and situation The location of telecommunications activities in Denver, Colorado, provides a good example of the significance of the geographic concepts of site (the physical attributes of a location) and situation (the location of a place relative to other places and human activities). Denver has become a major center for cable television, with the headquarters of giant cable companies such as Tele-Communications and DirectTV, an industrywide research lab, and a cluster of specialized support companies that together employ over 3,000 people. Denver's site, 1.6 kilometers (1 mile) above sea level, is important because it gives commercial transmitters and receivers a better "view" of communications satellites. Its situation, on the 105th meridian and equidistant between the telecommunications satellites that are in geostationary orbit over the Pacific and Atlantic oceans, allows it to send cable programming directly not just to the whole of the Americas but also to Europe, the Middle East, India, Japan, and Australia—to every continent, in fact, except Antarctica. This is important because it avoids "double-hop" transmission (in which a signal goes up to a satellite, then down, then up and down again), which increases costs and decreases picture quality. Before the location of telecommunications facilities in Denver, places east or west of the 105th meridian would have to double-hop some of their transmissions because satellite dishes would not have a clear "view" of both the Pacific and Atlantic telecommunications satellites.
based on people's direct experiences, on written or visual representations of actual locations, on hearsay, on people's imaginations, or on a combination of these sources. Location in these cognitive images is fluid, depending on people's changing information and perceptions of the principal landmarks in their environment.

Some things may not be located in a person's cognitive image at all. Figure 1.15 shows one person's cognitive image of Washington, D.C. Georgetown is given a location within this mental map, even though it is some distance from the residence of the person who sketched her image of the city. Less well-known and less distinctive places do not appear on this particular image.

**Distance**

Distance is also useful as an **absolute** physical measure, whose units we may count in kilometers or miles, and as a **relative** measure, expressed in terms of time, effort, or cost. It can take more or less time, for example, to travel 10 kilometers from point A to point B than it does to travel 10 kilometers from point A to point C. Similarly, it can cost more or less. Geographers also have to recognize that distance can sometimes be in the eye of the beholder. It can seem longer or shorter, more or less pleasant, going from A to B as compared to going from A to C. This is cognitive distance, the distance that people perceive to exist in a given situation. Cognitive distance is based on people's personal judgments about the degree of spatial separation between points.

The importance of distance as a fundamental factor in determining real-world relationships is a central theme in geography. It was once described as the "first law" of geography: "Everything is related to everything else, but near things are more related than distant things." Waldo Tobler, the geographer from the University of California, Santa Barbara, who put it this way, is one of many who

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**Figure 1.15  One person's cognitive image of Washington, D.C.** This sketch was drawn by Rasheda DuPree, an urban affairs major at Virginia Tech, as part of a class exercise in recalling locations within students' hometowns. Rasheda has included many of the District's most prominent landmarks and some of its distinctive districts, including Georgetown. In contrast, there are no recorded locations in the city's southeastern quarter (marked by a skull and crossbones in Rasheda's sketch) or in the eastern outskirts (marked as "the burbs").
have investigated the friction of distance, the deterrent or inhibiting effect of distance on human activity. The friction of distance is a reflection of the time and cost of overcoming distance.

What these geographers have established is that these effects are not uniform—that is, they are not directly proportional to distance itself. This is true whether distance is measured in absolute terms (i.e., kilometers) or in relative terms (i.e., time- or cost-based measures). What happens is that the deterrent effects of extra distance tend to lessen as greater distances are involved. Thus, for example, while there is a big deterrent effect in having to travel 2 kilometers rather than 1 to get to a grocery store, the deterrent effect of the same extra distance (1 kilometer) after already traveling 10 kilometers is relatively small.

This sort of relationship creates what geographers call a distance-decay function. A distance-decay function describes the rate at which a particular activity or phenomenon diminishes with increasing distance. A typical distance-decay function is described by the graph in Figure 1.16, which shows the effects of distance on people’s willingness to travel for free medical care.

Distance-decay functions reflect people’s behavioral response to opportunities and constraints in time and space. As such, they reflect the utility of particular locations to people. The utility of a specific place or location refers to its usefulness to a particular person or group. In practice, utility is thought of in different ways by different people in different situations. The behavior of private firms and their agents or employees, for example, is most often guided by a bottom-line notion of utility that relates to dollar costs or profits. The same individuals will probably use a different notion of utility when it comes to their own lifestyle and the decisions they make in pursuing it. Prestige, convenience, or feelings of personal safety, communality, or happiness may well modify or override financial costs as the measure of utility. The business manager of a supermarket chain, for instance, will almost certainly decide on the utility of potential locations for a new store by weighing criteria based on the projected costs and revenues for each potential site. In deciding on the utility of potential locations in which to retire, however, that same manager will almost certainly weigh criteria based not only on costs but also on a wide range of quality-of-life aspects of potential retirement places.

The unifying theme here is that however place utility is thought of, people in most circumstances tend to seek to maximize the net utility of location. The supermarket chain’s business manager, for example, will seek to find the location for the chain’s new store that is most likely to yield the greatest profit. Upon retirement he or she will choose to live in the place that represents the best trade-off among housing costs, cost of living, and quality of life. Seeking to maximize the net utility of location means that a great deal of human activity is influenced by what University of Washington geographer Richard Morrill once called the “nearness principle.” According to this principle—a more explicit version of Tobler’s first law—people will seek to:

- maximize the overall utility of places at minimum effort;
- maximize connections between places at minimum cost; and
- locate related activities as close together as possible.

The result is that patterns of behavior, locational decisions, and interrelations between people and places come to take on fairly predictable, organized patterns.

Space

Like distance, space can be measured in absolute, relative, and cognitive terms. Table 1.1 lists the concepts human geographers use in talking about space in these various terms. Absolute space is a mathematical space described through points, lines, areas, planes, and configurations whose relationships can be fixed precisely through mathematical reasoning. Several ways of analyzing space mathematically are of use to geographers. The conventional way is to view space as a container, defined by rectangular coordinates and measured in absolute units of distance (kilometers or miles, for example). Other mathematical conceptions of space that geographers sometimes find useful also exist, however. One is topological space, defined as the connections between, or connectivity of, particular points in space (Figure 1.17). Topological space is measured not in terms of conventional measures of distance but by the nature and degree of connectivity between locations.

Relative measurements of space can take the form of socioeconomic space or of experiential or cultural space (see Table 1.1). Socioeconomic space can be described in terms of sites and situations, routes, regions, and distribution patterns. In these terms spatial relationships have to be fixed through measures of time, cost, profit, and production, as well as through physical distance. Experiential or cultural space is the space of groups of people with common ties, and it is described through the places, territories, and settings whose attributes carry special

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**Figure 1.16** The friction of distance The effects of distance on people’s behavior can be charted on graphs like this. The farther people have to travel, the less likely they are to do so. In this example, we can see clearly the deterrent effects of distance on people’s attendance at a free health clinic.
meaning for these particular groups. Finally, cognitive space is defined and measured in terms of people's values, feelings, beliefs, and perceptions about locations, districts, and regions. Cognitive space can be described, therefore, in terms of behavioral space—landmarks, paths, environments, and spatial layouts.

Accessibility

Given that people tend to pursue the nearness principle, the concept of accessibility is very important. Accessibility is generally defined by geographers in terms of relative location: the opportunity for contact or interaction from a given point or location in relation to other locations. It implies proximity, or nearness, to something. Because it is a fundamental influence on the utility of locations, distance is an important influence on people's behavior. Distance is one aspect of accessibility, but it is by no means the only important aspect.

Connectivity is also an important aspect of accessibility because contact and interaction are dependent on channels of communication and transportation: streets, highways, telephone lines, and wavebands, for example. Effective accessibility is thus a function not only of distance but also of the configuration of networks of communication and transportation. Commercial airline networks provide many striking examples of this. Cities that operate as airline hubs are much more accessible than cities that are served by fewer flights and fewer airlines. Charlotte, N.C. for example (a U.S. Airways hub), is more accessible from Albany, N.Y. than from Richmond, VA even though Richmond is 400 kilometers (248 miles) closer to Albany than Charlotte. To get to Richmond from Albany, travelers must fly to Charlotte or another hub and change—a journey that takes longer and often costs more.

Accessibility is often a function of economic, cultural, and social factors. In other words, relative concepts and measures of distance are often as important as absolute distance. A nearby facility, such as a healthcare clinic, is accessible to us only if we can actually afford the cost of getting there, if it seems close according to our own standards of distance, if we can afford to use the facility, if we feel that it is socially and culturally acceptable for us to use it, and so on. To take another example, a day-care center may be located just a few blocks from a single-parent family, but the center is not truly accessible if it opens after the parent has to be at work or if the parent feels that the staff, children, or other parents at the center are from an incompatible social or cultural group.
Spatial Interaction

Interdependence between places and regions can be sustained only through movement and flows. Geographers use the term spatial interaction as shorthand for all kinds of movement and flows involving human activity. Freight shipments, commuting, shopping trips, telecommunications, electronic cash transfers, migration, and vacation travel are all examples of spatial interaction. The fundamental principles of spatial interaction can be reduced to four basic concepts: complementarity, transferability, intervening opportunities, and diffusion.

- **Complementarity.** A precondition for interdependence between places is complementarity. For any kind of spatial interaction to occur between two places, there must be a demand in one place and a supply that matches, or complements, it in the other. This complementarity can be the result of several factors. One important factor is the variation in physical environments and resource endowments from place to place. For example, a heavy flow of vacation travel from Swedish cities to Mediterranean resorts is largely a function of climatic complementarity. To take another example, the flow of crude oil from Saudi Arabia (with vast oil reserves) to Japan (with none) is a function of complementarity in natural resource endowments.

A second factor contributing to complementarity is the international division of labor that derives from the evolution of the world’s economic systems. The more developed countries of the world have sought to establish overseas suppliers for their food, raw materials, and exotic produce, allowing the more developed countries to specialize in more profitable manufacturing and knowledge-based industries (see Chapter 2). Through a combination of colonialism, imperialism, and sheer economic dominance on the part of these more developed countries, less powerful countries have found themselves with economies that directly complement the needs of the more developed countries. Among the many flows resulting from this complementarity are shipments of sugar from Barbados to the United Kingdom, bananas from Costa Rica and Honduras to the United States, palm oil from Cameroon to France, automobiles from France to Algeria, school textbooks from the United Kingdom to Kenya, and investment capital from the United States to most of the less developed countries.

A third contributory factor to complementarity is the operation of principles of specialization and economies of scale. Places, regions, and countries can derive economic advantages from the efficiencies created through specialization, which allows for large-scale operations. Economies of scale are cost advantages to manufacturers that accrue from high-volume production, since the average cost of production falls with increasing output (Figure 1.18).

Among other things, fixed costs (for example, the cost of renting or buying factory space, which will be the same—fixed—whatever the level of output from the factory) can be spread over higher levels of output so that the average cost of production falls. Economic specialization results in complementarities, which in turn contribute to patterns of spatial interaction. One example is the specialization of Israeli farmers in high-value fruit and vegetable crops for export to the European Union, which in return exports grains and root crops to Israel.

- **Transferability.** Another precondition for interdependence between places is transferability, which depends on the frictional or deterrent effects of distance. Transferability is a function of two things: the costs of moving a particular item, measured in real money and/or time, and the ability of the item to bear these costs. If, for example, the costs of moving a product from one place to another make it too expensive to sell successfully at its destination, then that product does not have transferability between those places.

Transferability varies between places, between kinds of items, and between modes of transportation and communication. The transferability of coal, for example, is much greater between places that are connected by rail or by navigable waterways than between places connected only by highways. This is because it is much cheaper to move heavy, bulky materials by rail, barge, or ship. The transferability of fruit and salad crops, on the other hand, depends more on the speed of transportation and the availability of specialized refrigerated vehicles so the fruits and vegetables stay fresh. While the transferability of money capital is much greater by telecommunications than it is by surface transportation, it is also higher
between places where banks are equipped to deal routinely with electronic transfers. Computer microchips have high transferability because they are easy to handle, and transport costs are a small proportion of their value. Computer monitors, on the other hand, have lower transferability because of their fragility and their relatively lower value by weight and volume.

Transferability also varies over time, as successive innovations in transport and communications technologies and successive waves of infrastructure development (canals, railways, harbor installations, roads, bridges, and so on) alter the geography of transport costs. New technologies and new or extended infrastructures have the effect of altering the transferability of particular things between particular places. As a result, the spatial organization of many different activities is continually changing and readjusting. The consequent tendency toward a shrinking world gives rise to the concept of time-space convergence, the rate at which places move closer together in travel or communication time or costs. Time-space convergence results from a decrease in the friction of distance as new technologies and infrastructure improvements successively reduce travel and communications time between places. Such space-adjusting technologies have, in general, brought places closer together over time (Figure 1.19). Overland travel between New York and Boston, for example, has been reduced from 3.5 days (in 1800) to 5 hours (in the 2000s) as the railroad displaced stagecoaches and was in turn displaced by interstate

Figure 1.19  Time-space convergence  The effects of changing transportation technologies in “shrinking” the world in terms of travel time.
automobile travel. Other important space-adjusting innovations include air travel and air cargo; telegraphic, telephonic, and satellite communications systems; national postal services, package delivery services, and facsimile (fax) machines; and modems, fiber-optic networks, and electronic-mail software.

What is most significant about the latest developments in transport and communication is that they are not only global in scope but also are able to penetrate to local scales. As this penetration occurs, some places that are distant in kilometers are becoming close together, while some that are close in terms of absolute space are becoming more distant in terms of their ability to reach one another electronically (Figure 1.20). Much depends on the mode of communication—the extent to which people in different places are "plugged in" to new technologies. Older wire cable can carry only small amounts of information; microwave channels are good for person-to-person communication but depend on line of sight; telecommunications satellites are excellent for reaching remote areas but involve significant capital costs for users, while fiber-optic cable is excellent for areas of high-population density but not feasible for more remote, rural areas. The shrinking of space has important implications for people's everyday conceptions of space and distance and for their level of knowledge about other places.

In **Intervening Opportunity**. While complementarity and transferability are preconditions for spatial interaction, intervening opportunities are more important in determining the volume and pattern of movements and flows. Intervening opportunities are simply alternative origins and/or destinations. Such opportunities are not necessarily situated directly between two points or even along a route between them. Thus, to take one of our previous examples, for Swedish families considering a Mediterranean vacation in Greece, resorts in Spain, southern France, and Italy are all likely to be intervening opportunities because they can probably be reached more quickly and cheaply than resorts in Greece.

The size and relative importance of alternative destinations are also important aspects of the concept of intervening opportunity. For our Swedish families, Spanish resorts probably offer the greatest intervening opportunity because they contain the largest aggregate number of hotel rooms and vacation apartments. We can therefore state the principle of intervening opportunity as follows: Spatial interaction between an origin and a destination will be proportional to the number of opportunities at that destination and inversely proportional to the number of opportunities at alternative destinations.

- **Spatial Diffusion**. Disease outbreaks, technological innovations, political movements, and new musical fads all originate in specific places and subsequently spread to other places and regions. The way that things spread through space and over time—spatial diffusion—is one of the most important aspects of spatial interaction and is crucial to an understanding of geographic change.

Diffusion seldom occurs in an apparently random way, jumping unpredictably all over the map. Rather, it occurs as a function of statistical probability, which is often based on fundamental geographic principles of distance and movement. The diffusion of a contagious disease, for example, is a function of the probability of physical contact, modified by variations in individual resistance to the disease. The result

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**Figure 1.20** The Cybersmith Café, Cambridge, Massachusetts
In early 2005 more than 75 percent of American adults had regular access to the Internet. Increasing reliance on the Internet has led to the growth of Internet cafés, catering mostly to people's need for connectivity when they are away from home and/or work.
Regionalization

The geographer’s equivalent of scientific classification is regionalization, with individual places or areal units being the objects of classification. The purpose of regionalization is to identify regions of one kind or another. There are several ways in which individual areal units can be assigned to regions. One is that of logical division, or “classification from above.” This involves partitioning a universal set of areal units into successively larger numbers of regions, using more specific criteria at every stage. Thus, a classification of countries might be achieved by first differentiating between rich and poor countries, then dividing both rich and poor countries into those that have a trade surplus and those that have a deficit, and so on. A second way in which individual areal units can be assigned to regions is that of grouping, or “classification from below.” This involves searching for regularities or significant relationships among areal units and grouping them in successively smaller numbers of classes, using a broader measure of similarity at each stage.

An implicit assumption in this type of classification of areal units into regions is that each unit is homogeneous with respect to the attribute or attributes under consideration. Where this assumption holds true, the result of regional classification is a set of formal regions. Formal regions are groups of areal units that have a high degree of homogeneity in terms of particular distinguishing features (such as religious adherence or household income). Few phenomena, however, exhibit such homogeneity over large areal units. For this reason, geographers also recognize functional regions (sometimes referred to as nodal regions)—regions within which, while there may be some variability in certain attributes (again, for example, religious adherence and income), there is an overall coherence to the structure and dynamics of economic, political, and social organization.

The concept of functional regions allows us to recognize that the coherence and distinctive characteristics of a region are often stronger in some places than in others. This point is illustrated by geographer Donald Meinig’s core-domain-sphere model, which he set out in his classic essay on the Mormon region of the United States (Figure 1.23). In the core of a region the distinctive attributes are very clear; in the domain they are dominant but not to the point of exclusivity; in the sphere they are present but not dominant.

In addition to questions of classification, the art and science of regional analysis must consider questions of geographic scale, for we can (and must) see the world as a mosaic of small regions that exist within successively larger frameworks (see Figure 1.4). These frameworks are closely related, as both cause and effect, to the formal boundaries that have evolved (and that are continually challenged and amended) under national and international law.

Finally, people’s own conceptions of place, region, and identity may resonate with or against these boundaries to

Regional Analysis

Not all geographic phenomena are most effectively understood through spatial analysis. Geographers also seek to understand the complex relationships between peoples and places in terms of the similarities and differences among and between them and the identities and qualities associated with them. Here the key concepts are regionalization, landscape, and sense of place.
generate strong feelings of regionalism and sectionalism that feed back into the processes of place-making and regional differentiation. Regionalism is a term used to describe situations in which different religious or ethnic groups with distinctive identities coexist within the same state boundaries, often concentrated within a particular region and sharing strong feelings of collective identity. If such feelings develop into an extreme devotion to regional interests and customs, the condition is known as sectionalism. Regionalism often involves ethnic groups whose aims include autonomy from a national state and the development of their own political power (see Chapter 9). In certain cases, enclaves of ethnic minorities are claimed by the government of a country other than the one in which they reside. Such was the case, for example, of Serbian enclaves in Croatia, claimed by nationalist Serbs. The assertion by the government of a country that a minority living outside its formal borders belongs to it historically and culturally is known as irredentism. In some circumstances, as with Serbia’s claims on Serbian enclaves in Croatia in the early 1990s, irredentism can lead to war.

**Landscape**

Geographers think of landscape as a comprehensive product of human action such that every landscape is a complex repository of society. It is a collection of evidence about our character and experience, our struggles and triumphs as humans. To understand better the meaning of landscape, geographers have developed different categories of landscape types based on the elements contained within them. Ordinary landscapes (or vernacular landscapes, as they are sometimes called) are the everyday landscapes that people

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**Figure 1.22  Patterns of spatial diffusion** (a) Expansion diffusion (for example, the spread of an innovative agricultural practice, such as the use of hybrid seed stock, across a rural region); (b) hierarchical diffusion (the spread of a fashion trend from large metropolitan areas to smaller cities and towns); (c) mixed diffusion (the spread of a contagious disease across a region). (After E. K. Cromley and S. L. Mclaughlin, *GIS and Public Health*. New York: Guilford Press, p. 193.)
create in the course of their lives together. From crowded city centers to leafy suburbs and quiet rural villages, these are landscapes that are lived in and changed and that in turn influence and change the perceptions, values, and behaviors of the people who live and work in them.

**Symbolic landscapes**, by contrast, represent particular values or aspirations that the builders and financiers of those landscapes want to impart to a larger public. For example, the neoclassical architecture of the buildings of the federal government in Washington, D.C., along with the streets, parks, and monuments of the capital, constitute a symbolic landscape intended to communicate a sense of power, but also of democracy in its imitation of the Greek city-state. Some landscapes become powerfully symbolic of national identity. Nation-building depends heavily on stories of golden ages, enduring traditions, heroic deeds, shared hardships, and dramatic destinies, all located in traditional (or promised) home lands with hallowed sites and scenery. Landscapes thus become a way of picturing a nation. With the creation of modern Italy during the *Risorgimento* (“revival through unification”—1815–1861), for example, the classical Tuscan landscape (Figure 1.24) became emblematic of Italy itself and has attracted landscape painters, romantic poets, and novelists ever since. Similarly, the West of Ireland (Figure 1.25) came to symbolize the whole of Ireland to Irish nationalists in the early twentieth century—partly because it was seen as...
the region least affected by British colonization, but also because its bare and rugged landscape seemed to contrast so strikingly with the more bucolic rural landscapes (Figure 1.26) through which England was popularly imagined.

Geographers now recognize that there are many layers of meaning embedded in the landscape, meanings that can be expressed and understood differently by different social groups at different times. Landscapes reflect the lives of ordinary people as well as the more powerful, and they reflect their dreams and ideas as well as their material lives. The messages embedded in landscapes can be read as signs about values, beliefs, and practices, though not every reader will take the same message from a particular landscape (just as people may differ in their interpretation of a passage from a book). In short, landscapes both produce and communicate meaning, and one of our tasks as geographers is to interpret those meanings.

Sense of Place

The experience of everyday routines in familiar settings allows people to derive a pool of shared meanings. Often this carries over into people's attitudes and feelings about themselves and their locality. When this happens, the result is a self-conscious sense of place. The concept of a sense of place refers to the feelings evoked among people as a result of the experiences and memories they associate with a place and to the symbolism they attach to that place. It can also refer to the character of a place as seen by outsiders: its distinctive physical characteristics and/or its inhabitants.

For insiders, this sense of place develops through shared dress codes, speech patterns, public comportment, and so
on. A crucial concept here is that of the lifeworld, the taken-for-granted pattern and context for everyday living through which people conduct their day-to-day lives without having to make it an object of conscious attention. People’s experience of everyday routines in familiar settings leads to a pool of shared meanings. People become familiar with one another’s vocabulary, speech patterns, dress codes, gestures, and humor as a result of routine encounters and shared experiences in bars and pubs, cafes and restaurants, shops and street markets, and parks. This is known as intersubjectivity: shared meanings that are derived from the lived experience of everyday practice. Elements of daily rhythms (such as mid-morning grocery shopping with a stop for coffee, the aperitivo en route from work to home, and the after-dinner stroll) are all critical to the density of routine encounters and shared experiences that underpin the intersubjectivity that is the basis for a sense of place within a community (Figure 1.27). The same is true of elements of weekly rhythms, such as street markets and farmers’ markets; and of seasonal rhythms, such as festivals.

These rhythms, in turn, depend on certain kinds of spaces and places: not only streets, squares, and public open spaces but also “third places” (after home, first, and workplace, second): the sidewalk cafes, pubs, post offices, drug stores, corner stores, and family-run trattoria that are the loci of routine activities and socio-cultural transactions. Third places accommodate “characters,” “regulars,” and newcomers, as well as routine patrons and, like public spaces, facilitate casual encounters as well as settings for sustained conversations. The nature and frequency of routine encounters and shared experiences depends a great deal on the attributes of these spaces and places.

A sense of place also develops through familiarity with the history and symbolism of particular elements of the

Figure 1.26 Aylesford, England
The well-ordered and picturesque landscape of the southern parts of rural England have long been taken to be emblematic of England as a whole, and of the values and ideals of its people— even though urban and industrial development, together with modern agricultural practices, have brought about significant changes to both landscapes and society.

Figure 1.27 Intersubjectivity
Routine encounters such as this, in Chiavenna, Italy, help to develop a sense of community and a sense of place among residents.
physical environment—a local mountain or lake, the birthplace of someone notable, the location of some particularly well-known event, or the expression of community identity through community art (Figure 1.28). Sometimes it is deliberately fostered by the construction of symbolic structures such as monuments and statues. Often it is a natural outcome of people’s familiarity with one another and their surroundings. Because of this consequent sense of place, insiders feel at home and “in place.”

For outsiders, a sense of place can be evoked only if local landmarks, ways of life, and so on are distinctive enough to evoke a significant common meaning for people who have no direct experience of them. Central London, for example, is a setting that carries a strong sense of place to outsiders who have a sense of familiarity with the riverside panoramas, busy streets, and distinctive monuments and historic buildings that together symbolize the heart of the city.

Developing a Geographical Imagination

A geographical imagination allows us to understand changing patterns, processes, and relationships among people, places, and regions. Developing this capacity is increasingly important as the pace of change around the world increases to unprecedented levels. Whereas much of the world had remained virtually unchanged for decades, even centuries, the Industrial Revolution and long-distance, high-speed transportation and communications brought a rapid series of rearrangements to the countryside and to towns and cities in many parts of the world. Today, with a globalized economy and global telecommunications and transportation networks, places have become much more interdependent, and still more of the world is exposed to increasingly urgent imperatives to change.

It is often useful to think of places and regions as representing the cumulative legacy of successive periods of change. Following this approach, we can look for superimposed layers of development (Figure 1.29). We can show how some patterns and relationships last, while others are modified or obliterated. We can show how

Figure 1.29  Places as the cumulative legacy of change  To understand places properly, we have to see them as the cumulative legacy, not just of buildings and structures from different periods of the past but also of the laws, institutions, customs, and so on that developed within each of these periods. This photograph of Istanbul, Turkey, is a very striking example, with modern urban development interlayered with surviving fragments of Roman, Ottoman, and nineteenth-century development.
different places bear the imprint of different kinds of change, perhaps in different sequences and with different outcomes. To do so, we must be able to identify the kinds of changes that are most significant.

**Recognizing the General and the Unique**

We can prepare our geographical imagination to deal with an important aspect of spatial change by making a distinction between the *general* and the *unique*. This distinction helps account for geographical diversity and variety because it provides a way of understanding how and why one kind of change can result in a variety of spatial outcomes: It is because the *general effects* of a particular change always involve some degree of modification as they are played out in different environments, giving rise to *unique outcomes*.

Although we can usually identify some general outcomes of major episodes of change, there are almost always some unique outcomes, too. Let us take two related examples. The Industrial Revolution of nineteenth-century Europe provides a good example of a major period of change. A few of the general spatial outcomes were increased urbanization, regional specialization in production, and increased interregional and international trade. At one level, places could be said to have become increasingly alike: generic coalfield regions, industrial towns, ports, downtowns, worker housing, and suburbs.

It is clear, however, that these general outcomes were mediated by the different physical, economic, cultural, and social attributes of different places. Beneath the dramatic overall changes in the geography of Europe, new layers of diversity and variety also existed. Industrial towns developed their own distinctive character as a result of their manufacturing specialties, their politics, the personalities and objectives of their leaders, and the reactions and responses of their residents. Downtowns were differentiated from one another as the general forces of commerce and land economics played out across different physical sites and within different patterns of land ownership. They also were differentiated as local socioeconomic and political factors gave rise to different expressions of urban design. Meanwhile, some places came to be distinctive because they were almost entirely bypassed by this period of change, their characteristics making them unsuited to the new economic and spatial order (Figure 1.30).

The second example of general and unique outcomes of change is the introduction of the railroad, one of the specific changes involved in the Industrial Revolution. In general terms, the railroad contributed to time-space convergence, to the reorganization of industry into larger market areas, to an increase in inter-regional and international trade, and to the interconnectedness of urban systems. Other unique outcomes, however, have also contributed to distinctive regional geographies. In Britain the railroad was introduced to an environment that was partially industrialized and densely settled, and one of the main outcomes was that the increased efficiencies provided by the railroad helped to turn Britain's economy into a highly integrated and intensively urbanized national economy. In Spain, however, the railroad was introduced to an environment that was less urbanized and industrialized and less able to afford the costs of railroad construction. The result was that the relatively few Spanish towns connected by the railroads gained a massive comparative advantage. This situation laid the foundation for a modern space-economy that was much less integrated than Britain's, with an urban system dominated by just a few towns and cities.

**MAKING A DIFFERENCE: THE POWER OF GEOGRAPHY**

The study of geography has become an essential basis for understanding a world that is more complex and faster changing than ever before. Through an appreciation of the diversity and variety of the world’s peoples and places, geography provides real opportunities not only for contributing to local, national, and global development but also for understanding and promoting multicultural, international, and feminist perspectives on the world.