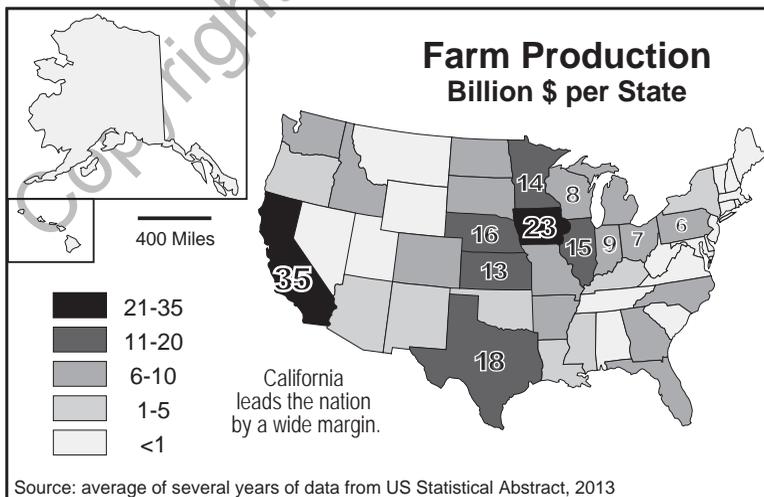


# 1

## One Perspective: A Way of Looking at the World

The Central Valley of California has the kind of land that provokes envy among farmers in less favored regions. It is astonishingly flat, with fertile soil, long hot summers, and rivers full of water from snow-capped mountains nearby. In short, this part of the world has a nearly ideal set of conditions for food production. Along a highway in the Valley, a billboard proclaims: “One in four Californians has a farm-related job – we grow food for the rest of the nation.”

That statement is nonsense, as are many statements about the California economy. But to understand why, let’s look at the kind of map that might lead someone to that conclusion (Figure 1A).



**FIGURE 1A.** A map made by coloring entire areas according to some measure of quantity in them. I added numbers to some states to make the logic of state coloring more obvious. In Activity 1A on the CD, students analyze the data and discover why this map design is misleading. Compare Figure 3M, which shows high-quality cropland.

*Choropleth map*

*One that colors entire counties, states, or other political units according to their value*

This map clearly seems to support the claim that California “feeds the nation.” It is a **choropleth map** – one that colors each state according to some measure of rank or importance. Specifically, this map uses different shades of gray (green, on the CD) to show the total value of grains, vegetables, fruits, milk, meat, and other farm products in each state (I added some numbers to the map to make the logic of state-coloring more obvious). The map clearly shows that farm production is greater in California than in any other state, by a wide margin. This kind of simple geographic comparison can be a very powerful tool of analysis when used properly. Furthermore, making maps like this has become much easier, with online data and mapping programs available from the Census Bureau and a large number of private vendors and organizations.

A map of total food production, however, tells only part of the story.

Moreover, the designer of this particular map is graphically illiterate (would you call that condition *iggraphicacy*?). This map maker used conventional map symbols, but not in an appropriate way – choropleth shading is *not* an accepted way to show total quantities of something on a map. The student activity linked to this Figure tells you why.

To be blunt, the design of this map is like saying “Me hungered is” in English. A perceptive reader can still figure out the correct message, but the language is used incorrectly and the result can be confusing.

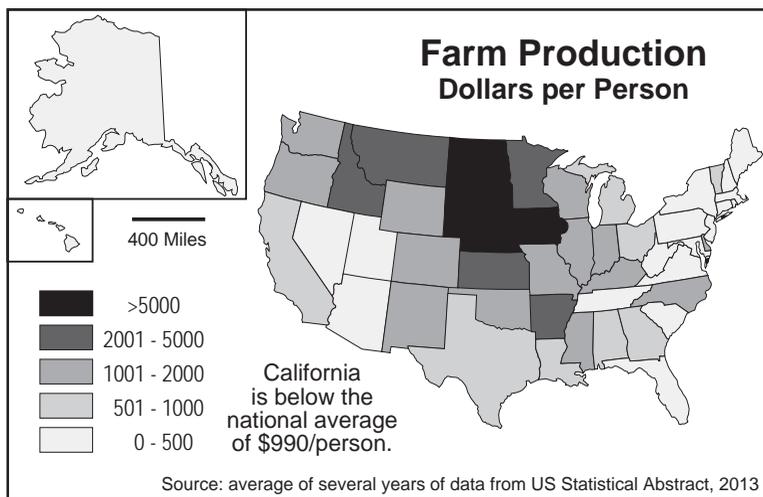
*CD unit**Choosing Tools*

How do we cut through the confusion?

One way is to gain a basic familiarity with the conventional “words” and “grammatical rules” of the language of maps. If we are able to recognize when someone is misusing this graphic language (whether out of ignorance or deliberate intent to mislead), we can take the necessary precautions to get the message correctly.

One of the most useful of those precautions is to use other information to help put the data on a map into perspective.

The Census Bureau, for example, says that California has the largest population of any state, by a wide margin. This means that California has many more human mouths to feed than any other state. To put California’s food production into perspective, therefore, we should figure out a way to compare food production with population. One simple way to do this is to calculate food production *per person*. By that measure, California does not rank anywhere near the top – in fact, its food production per person is actually less than the average for the other 49 states (Figure 1B).



**FIGURE 1B.** A map made by dividing total farm production in each state by the population of the state. Farm products are a BIGJob (Basic Income Generating Job) for the United States — we sell farm products to people in other countries in order to get money to buy other things. In Activity 1B on the CD, students match states with their BIGJobs.

Here is a simple way to help students understand this put-the-data-in-perspective principle. Suppose Jay had 8 correct answers on a math test, whereas Kay had 15 correct on her test.

Does this kind of **raw data** give you enough information to decide which student did better?

Kay’s performance is clearly better, *IF* both students took the same test. But what if Jay’s test had 10 questions and Kay’s had 30? Then Jay’s performance seems to have been better: he got 80 percent of his questions correct, whereas Kay had only 50 percent correct.

Calculating PERcentages of correct answers is one way to put the test scores into PERspective. Mathematical ratios such as percentages, farm production PER capita, or yield PER acre could be called **processed data**, as opposed to raw data. Some mapmakers do a little wordplay and call this kind of calculation “per data.” A map of per-data ratios can help tell a more complete story, but no single number can ever be the whole truth. To get a complete picture, we need to consider all relevant variables. For example, Kay’s test questions may have been more difficult; that would make her lower percentage more understandable. Likewise, many farms in California produce vegetables, wine, nuts, and other specialty crops. These are harder to grow in the less favorable conditions found in other parts of the world. That focus on specialty crops makes California’s farm output more valuable, in money terms. At the same time, it creates another gap that is even wider — on a calories-per-capita basis (another kind of per data), California is a net food *importer*, rather than a supplier to the rest of the country.

Each additional attempt to put raw numbers into perspective helps people understand things better. That is a key goal of liberal

*Raw data*

*Counts or amounts: number of people, tons of aluminum, miles of railroad dollars, and so on*

*Processed data*

*Percentages, yield per acre, income per capita, miles per hour, and other ratios*

education: to enhance a student's ability to put things in perspective. A map is an exceptionally effective way to put some kinds of data into national or international perspective. It can do that, however, only IF the map is well designed AND the map reader is adequately skilled, OR the map reader is knowledgeable enough to get an accurate message even from a badly designed map.

Let us be very clear about this: a good “misleading-map-detector” is a valuable outcome of a geography class, but it is not the only kind of perspective we are trying to teach there. A liberal education should also foster awareness of (and appreciation for) different ways of viewing the world. These personal perspectives can occur because of differences in age, education, occupation, religion, or many other influences. Almost always, these differences are at least partly the result of growing up or living in a different place, with different conditions that have different influences on your thoughts. This use of the term “perspective” can apply to different cultures (on a global scale) or different population groups (on a local scale). It can even apply to different scholarly disciplines. In fact, comparing disciplinary perspectives is an exceptionally good way to look at what we are trying to do in a geography class.



### Disciplinary Perspectives

#### *Academic perspective*

*A specific way of asking questions and finding answers*

Geography, history, the humanities, and science frequently deal with the same topics, but they look at the world from different perspectives:

- *Scientists are concerned with process.* The focus is on causes and effects that occur regardless of time or place. The key questions in a scientific inquiry often begin with “how” or “what happens if.”
- *Historians are concerned with time.* The focus is on the time of events and what happens before and after them. The key questions in a historical inquiry usually begin with “when.”
- *The humanities deal with questions of ethics and aesthetics.* The focus of this group of disciplines is on how to judge things like morality and beauty. The key questions often begin with “should” or “how important.”
- *Geographers are concerned with space.* The focus is on locations of things, conditions in particular places, and connections among places. The key questions in a geographic inquiry usually begin with “where.”

Here is a quick example. Suppose I read a list of ten states – Alaska, Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon,

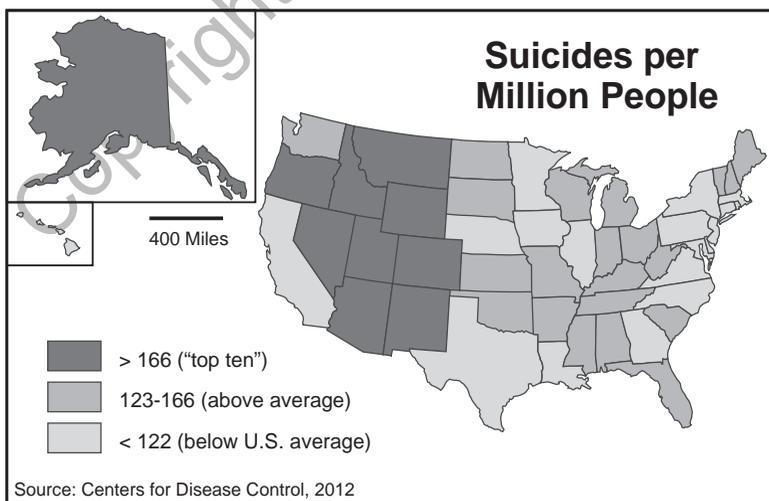
Utah, and Wyoming. Unless you have a good mental map, you might not have noticed *where* these states are. Nine of them form a solid block in the western half of the country (the tenth one is Alaska). Contiguous location is not all that these states have in common. Every one of them has been in the top quarter of states with the highest suicide rates for decades (since before the first edition of this book, which featured a nearly identical map made from 1999 data). When geographers see features clustered in a particular part of a map like this, they immediately wonder whether the high suicide rate in those states has something to do with where they are (Figure 1C; to get some hypotheses for further inquiry, you could compare this map with Figures 3N, 3Q, 3R, or 6W).

*Suicide rates per million people have a persistent geographic pattern*

To evaluate hypotheses about the influence of location, geographers frequently borrow knowledge from other disciplines, but the focus is always on the locations of things, the conditions at those places, and the connections between places. We do not claim that this is the only path to truth, or even the best path. It is just one part of the truth. In some cases, however, it is an essential part – one cannot get a valid picture without a geographic perspective.

This is not a new idea, but it has received some intriguing support in recent years, with many implications for the design of curriculum, daily lessons, and assessments. We will explore these implications throughout this book. Here is a quick summary of some key points from future chapters:

1. Immanuel Kant (1724–1804) has been described as “the central figure in modern philosophy.” (Don’t worry, this is not going to be a detailed philosophical discussion, but bear with me for two minutes, because there are *two* revolutions going on in



**FIGURE 1C.** Suicide in the United States has a “spatial bias” toward the western half of the country. “Spatial pattern language” is the focus of Activity 1C; compare Activities 3L (hazards), 4K (houses), 6R (historic forts), 10D (West Bank settlements), 10E (animals in Africa), and the primary-school lesson folder on the CD.

education – curricular initiatives like the Common Core, and modern neuroscience – more about that in Chapters 6 and 8.)

*Kantian a priori:*

*“Built-in” way  
of organizing  
knowledge*

2. Kant suggested that the human brain has several “built-in” ways of organizing information from experience. He called them “**a priori**” tendencies, predispositions to organize knowledge in specific ways – temporally, spatially, quantitatively, and causally. Harvard psychologist Steven Pinker summarized his idea as follows: “What the innate apparatus of the mind contributes is a set of abstract conceptual frameworks that organize our experience – time, space, substance, causation, number, and logic.” (*The Stuff of Thought*, p. 160)
3. Kant’s ideas had an obvious influence on the organization of academic disciplines. Even so, the ideas fell rather completely out of favor in the 19th and 20th centuries, especially among educators, who replaced them with ideas about blank slates, behavioral modification, scaffolded learning, constructivism, and cultural transmission.
4. In recent years, however, brain-scanner-based neuroscience has rather convincingly proved that the human brain does indeed have “innate” structures that seem to organize information in particular ways, much as Kant suggested. For a review of the part that is most relevant to geography education, see “A Kantian View of Space” in the July 4, 2011 issue of *Science*.

In short, there are both logical and neurological reasons to accept the idea that a geographic perspective is both essential for many kinds of inquiry and qualitatively different from historical or scientific perspectives.

The practical value of a geographic perspective rests on four simple ideas:

1. There are reasons why things are located where they are.
2. There are advantages for things being in appropriate places.
3. There are penalties for things being in less suitable places.
4. A careful analysis of the locations of things can provide useful insights about causes and other relationships.

### **Geographic Perspectives on Historic Events**

What happens when we use these ideas to make a geographic analysis of events in the real world? We should immediately realize that the success of the inquiry depends on many things, including

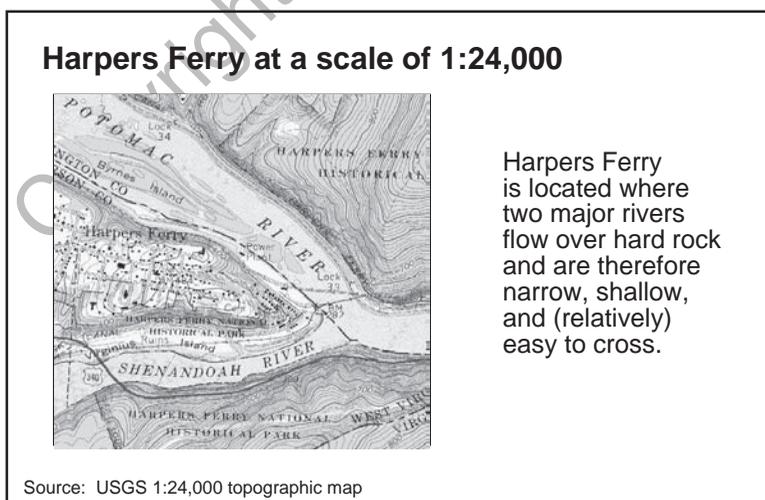
something as simple as the scale at which we examine the situation. As an example, let's look at a little town called Harpers Ferry, and focus on the struggles that occurred around this town during the Civil War. The town is located directly in the gap where the Potomac River cuts through a long mountain. This ridge, while not high by Colorado or California standards, was steep enough to pose a major barrier for armies in the 1860s. It is hard to climb on foot, and all but impossible to move heavy cannons and supply wagons over it, especially if another army didn't want you to succeed! The strategic importance of the Harpers Ferry location, however, seems different when you take a broad view of the general area or zoom in to look closely at the town itself (Figures 1D and 1E).

### *Harpers Ferry*

*A place with  
different strategic  
importance at  
different scales*

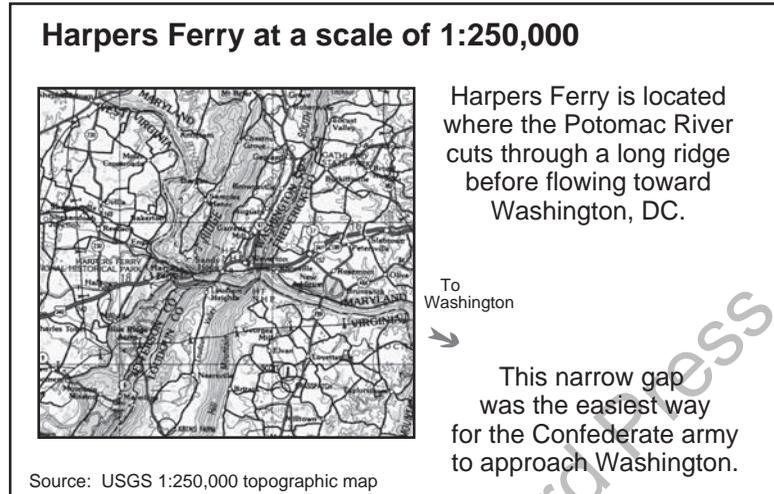
At a continental scale, the Harpers Ferry gap was one of only a few places where an army could move cannons and supplies through the mountains – and remember, the main Confederate army was just west of the ridge, while Washington, DC, is only a short distance downstream to the east. At a closer scale, however, Harpers Ferry is surrounded by high land, which made it basically indefensible, given the military technology at the time of the Civil War. “General Jackson and General Hill told me personally, they had rather take it forty times than to undertake to defend it once” (Lieutenant Henry Binney, letter to the *Boston Journal*, September 27, 1862).

The importance of Harpers Ferry was not just military, it was also symbolic. After climbing one of the high hills overlooking the town, I was impressed by how hard it would be to hide in the town and how easy it would be for a sniper to terrorize the town. From that perspective, it seems unlikely that John Brown could have imagined any scenario where he would survive and escape after capturing the armory in the town. It's hard to see any tactical advantage to being



**FIGURE 1D.** On a detailed topographic map, Harpers Ferry seems important as a place where two rivers are narrow, shallow, and (relatively!) easy to cross — hence the name of the town. Activity 1D on the CD is an open-ended exploration of the kinds of detail that can be shown on maps with different scales.

**FIGURE 1E.** On a more general map, Harpers Ferry seems important as a place where a river cuts through a long mountain and allows easy transport of goods and people — a strategically valuable site during the Civil War. Activity 1E on the CD is a structured investigation of the kinds of detail shown on maps with different scales.



trapped on a point of land, almost completely surrounded by high hills, with only a few roads in or out of the area. It seems much more likely that he went to Harpers Ferry with a deliberate intent to become a martyr for his cause. His inevitable capture or death would have been close enough for Washington journalists to make the whole story front-page news. That proximity to the capital, in short, is a highly relevant geographic fact.

Except for the proximity to Washington, a number of other towns have similar geographic situations, where rivers cut through major topographic barriers. North American examples include Chattanooga, Gettysburg, Roanoke (Hanging Rock), Ticonderoga, and Vicksburg — which reads like a who's-who list of major military turning points in American history. International examples include Vienna, Budapest, Sarajevo, Luoyang, Kyoto, and now Kabul, Afghanistan. In nearly every case, the location of a pivotal battle was influenced by the configuration of rivers and hills, and the outcome of the battle depended at least partly on the fact that at least one of the combatants did not have personal experience in the kind of terrain where the battle was fought. As a result, many of them applied tactics that might have been appropriate in other environments but were at best questionable in that particular setting. Our challenge, as geographic educators, is to figure out how to equip students with the skills to assess proximity, evaluate terrain, and apply a geographic perspective to historic events (and to modern economic and social issues). That process must begin in primary school, with activities that help students develop essential spatial-thinking skills.

So far, we have seen that a geographic perspective can provide useful insights into topics as diverse as food production, suicide rates,

and military strategy. To refine the idea just a bit more, let's look at one local example and then conclude with an international one.

### A Local Example of a Geographic Perspective

People in many communities across the country seem to think that it is worthwhile to host a big event – a fair, festival, sports event, classic car show, or holiday celebration. Some famous examples include Mardi Gras in New Orleans, Groundhog Day in Punxsutawney, Pennsylvania, the Masters Golf Tournament in Augusta, Georgia, and the Sundance Film Festival in Park City, Utah.

Let us put on our “geography glasses” to look at one tiny aspect of these events – the fact that they can provide income to people who rent rooms or houses to people traveling from other places to attend the event. To focus this inquiry even further, let us consider just two places: Augusta during the Masters Golf Tournament and San Diego during the Comic-con convention. I chose these two events because they attract about the same number of visitors in a typical year.

The two cities, however, have different local conditions. San Diego is a large city with beaches, naval bases, universities, and many tourist attractions. To house visitors, there are more than 50,000 hotel and motel rooms in the San Diego area. Augusta is a much smaller city, and it has only 7,000 rooms in hotels and motels (Figure 1F).

These differences have a huge impact on the budgets of some individual families. During the golf tournament in Augusta, hotel rates skyrocket. Many families offer their houses for short-term rent, because visitors are willing to pay more than 600 dollars a night to



**FIGURE 1F.** In Activity 1F on the CD, students evaluate the role of a major festival in a community. They see how its effect depends on other conditions in the local area. Compare Figures 3N and 3O (the Erie and Pennsylvania Canals), 9E (the spatial aura of Disneyland), and 6F and 10C (comparing countries).

stay in private family homes. Meanwhile, rents are much lower in San Diego during the big convention.

In short, the economic effect of special events depends in part on the population and other conditions in the places where they occur. Simply because Augusta is so much smaller than San Diego, many Augustans are able to pay for a European vacation or a trip to Hawai'i with the money they make by renting their houses for a week or two during the golf tournament.

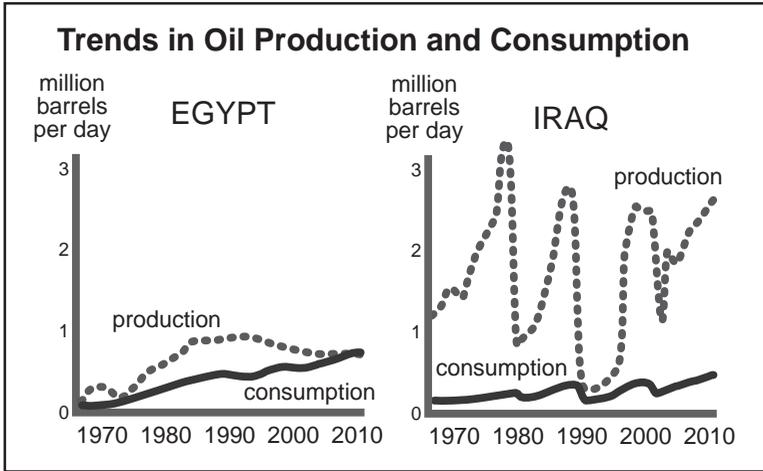
### **An International Example of a Geographic Perspective**

This same principle can apply to international comparisons as well as local ones. Consider, for example, the wave of early-2010s revolutions described as the "Arab Spring." Some people have wondered whether this era of popular dissatisfaction would have toppled the government of Saddam Hussein in Iraq as well as that of Hosni Mubarak in Egypt. If so, that would be a reason to view the costly war in Iraq as unnecessary.

What happens if we use a geographic perspective to compare these countries? I have neither the space nor the expertise to attempt a full analysis of political geography in the Arab world. But as an illustration of the value of geographic comparison, look at just one factor – the income to governments from the sale of oil. In the 1990s and early 2000s, the governments of both Iraq and Egypt used money from oil sales to provide benefits to the people – free education or subsidized food, for example. Both governments also used income from oil sales to buy weapons for their military and police forces.

When we compare the *trends* in income through time, however, we see that the two countries are very different. Egypt's oil production peaked in the early 1990s, at nearly a million barrels per day. Output then began to decline. By 2010, production was down to about 700,000 barrels per day. Meanwhile, consumption continued to rise, reaching 700,000 barrels per day in 2010. In short, the profits from oil exports were enormous in the 1990s but had dropped to zero by 2010. Is it just coincidence that the government toppled in early 2011, the year after the loss of its main source of money to buy weapons, pay for security, and subsidize food and education (Figure 1G)?

Conditions in Iraq are harder to analyze, because the wars had a disruptive effect on both production and consumption of oil. Students need to learn how to ignore short-term fluctuations like these in order to focus on long-term trends. When you do that, the graph clearly shows that production is still very close to its absolute peak.



**FIGURE 1G.** In Activity 1G on the CD, students examine oil production and use in order to see why some Arab governments were especially vulnerable to internal collapse. Compare Figures 1H (land per person), 9B (community BIGJobs), and 10C (trade of countries), as well as the Southwest Asia unit in the model curriculum on the CD.

Indeed, Iraqi oil production was as high in 2010 as it was in 2000, at more than two and a half million barrels *per day*. Meanwhile, with less than half the population, Iraq consumes less oil than Egypt, even if oil consumption *per person* is the same. This leaves a continuing surplus of more than 2 million barrels of oil *per day*. At today's oil prices *per barrel*, minus the costs of production, this adds up to nearly 40 billion "surplus" dollars *per year*.

Fluency in using simple ratios to provide *perspective* helps us get to the bottom line: Saddam Hussein could have had access to nearly a hundred million dollars *per day* to help him stay in power. That's a *lot* of weapons, security forces, bribes, and subsidies! (Figure 1H offers a similarly dramatic comparison based on differences in available land *per person*; see also Postscript 1-2.)

	Land per Person				Cropland	
	Million sq. mi.	Million people	People /sq.mi.	Percent arable	Million acres	Acres/person
Canada	3.85	35	9	5	125	3.5
United States	3.80	317	83	18	440	1.4
Mexico	0.75	116	155	13	60	0.5
Germany	0.15	81	540	33	30	0.4
Japan	0.15	127	850	12	12	0.1
Russia	6.60	143	22	7	300	2.1
Argentina	1.10	43	39	10	70	1.6
Bangladesh	0.05	164	3300	55	18	0.1
Nigeria	0.35	175	500	33	75	0.4

Note: Even this many numbers do not tell the whole story. Yields are low in cold and dry places. Cropland in Russia looks more like western North Dakota than northern Iowa.

Data source: CIA Factbook, 2013

**FIGURE 1H.** Many kinds of "per-person" comparisons can shed light on international issues and at the same time address Common Core math and language-arts standards. In Activity 1H on the CD, students finish data spreadsheets and write generalizations. Compare Figures 8I (GNP per person and life expectancy) and 11A (Tragedy of the Commons).

## Conclusion: Deductive versus Inductive Approaches

After looking at these examples and many others like them, here is one of my favorite graduation-dinner-or-other-social-occasion rationales for geography (in 25 words or less):

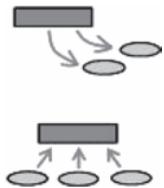
Geography is the discipline that helps us understand  
why something we know is true in one place  
may be false in some other location.

This is a simple-sounding sentence, but it can be applied to an amazingly wide variety of topics, ranging from table manners, courtship rituals, and restaurant success to the design of freeways or floodwalls and the administration of health, crime, and disaster policies.

A skillful geographer (just like a good historian or scientist) has to draw on a wide range of knowledge and skills. Some of that necessary background is factual: to understand why a given action may fail in one place even though it works in another, we must know something about conditions in both places. Factual knowledge, however, is not always enough; we also have to understand the ways in which people use the facts and ideas they have.

I could keep on writing about the geographic perspective in this verbal, abstract, **deductive** mode. I suggest, however, that much of geography is easier to teach **inductively**, by making observations and then drawing conclusions about them. This “bottom-up” logic is an especially useful perspective for teachers, because it helps bridge an age-and-experience gap between teacher and student.

*Inductive  
and deductive  
modes of teaching*



That gap is part of the reason why deductive teaching does not always work well. A nice, logical, “top-down” deductive outline might sound fine to a teacher, who already has a bunch of personal experiences and mental images that the outline ties together into a neat package. The fit with those experiences is precisely what makes the ideas in a logical outline seem so compelling, so “right.”

Young students have fewer experiences, however, and the ones they have are often individual rather than shared. For that reason, they sometimes “just don’t get” an idea that a teacher might think is almost self-evident. Geography teachers, therefore, have to make a conscious effort to build a “vocabulary” of shared facts and images as well as an explanatory worldview.

While doing so, teachers have to keep finding ways to tell their students what I am saying right now, in these last paragraphs of the chapter: facts about places are important, but they are not the primary message of geography. With modern search engines, we

can look up facts about farm production in California, suicide in the West, battles near Harpers Ferry, oil production in Egypt, and even rents during the Masters Golf Tournament. A geographic perspective on these events and facts starts with the assumption that the *locations* of things like this can be important in understanding them. It's about knowing how to relate a fact observed in a place to other characteristics of the place – its terrain, population density, resources, religion, government, even distance from DC, and so forth – and how to find and apply that additional information.

Having made that assertion, I suspect that it is probably wise just to end this first chapter and proceed to the rest of the book. Other chapters will say more about geographic explanations, perspectives, and even neuroscience. Those comments, however, will come after we assemble a larger number of shared experiences with maps, photos, and other concrete examples. The delay is for a sound pedagogical reason: in the long run an inductive approach is probably better for most geography, including books about teaching geography!

On the next few pages are (1) some thoughts about the importance of the little word “where,” and (2) a kind of editorial on American perspectives. You could safely postpone reading either of these “Postscripts.” They are here because they are related to the idea of perspective, and because a number of teachers in our workshops and focus groups said that they would appreciate a few comments about these topics. To help you decide whether to read them now, here is what they are about:

Postscript 1-1 gives teachers a few more examples of why public understanding of geography is important in a fair and efficient society.

Postscript 1-2 is for reading if (or whenever) you wonder why schools in the United States seem to lag so far behind their counterparts in other countries in trying to foster the kind of public understanding of geography discussed in Postscript 1-1.

## POSTSCRIPT 1-1

**Thoughts about the Little Word “Where”**

Where. Such a simple-sounding word, but it can mean so much.

We make decisions about **where** to put or do things every day. These decisions usually have consequences, which depend on **where** you are.

Think about **where** the bathroom is located in your apartment or house. If it is in the middle of the hall, people from the kitchen and the bedroom can get to it equally well. If, however, it is at the end of the hall, beyond the bedroom, it will take four seconds longer to get there from the living room and kitchen (**where** most people start more trips to the bathroom).

Four seconds, each way, for perhaps nine times a day, 365 days a year. That adds up to seven hours, which could be used for something else.

Big deal, you say? Seven hours of time for each family in a city of a million people, if it could be put together, would be enough to build nearly 150 houses. It could repair more than a thousand miles of road. It could provide a year of day care for two thousand children. That is how much the people of a city would save if all of the bathrooms were located four seconds closer to **where** the people are.

On the other hand, there was a lavatory near my former fifth floor office, but I often walked up the stairs to the one on the tenth or twelfth floor – it seemed obvious that people who write for a living should probably take a few exercise breaks during the day! The importance of **where**, therefore, depends on your perspective, your goals, and your personal needs.

It also depends on what activities are being analyzed. Consider, for example, the task of trying to drive through a city **where** property lines had been arranged to fit life before the automobile. I was curious, so I paged to the “L’s” in my *American Almanac* to compare two mid-size cities: Lowell, Massachusetts (an old city, by U.S. standards), with Lincoln, Nebraska (a younger city). Partly because the older city has a less efficient road network, the U.S. Census reports that a typical worker in Lowell spends about 16 minutes more each day commuting to work. Over a year, the hours “wasted” in extra commuting in this mid-size city are roughly equal to the annual total number of worker hours for all employees in a company the size of Mastercard, Del Monte Foods, or PoloRalphLauren (employment data from *Fortune* magazine).

All that extra cost, just because of **where** roads are located.

The costs or benefits of “where-knowledge” are not just financial.

- For example, imagine what it is like to get bitten by a strange dog in a city **where** you cannot speak the language. **Where** do you get help?
- Now imagine that you are choosing a hiking trail and putting things in your backpack. Would it be useful to know **where** the blueberries are ripe this week (or **where** you might find water)?
- Finally, picture walking through a neighborhood with boarded-up windows, trash in the street, and graffiti on the walls, and not knowing **where** to find an open store or telephone if you need one.

We could easily give many more examples of the value of where-knowledge for people who are making decisions at the scale of an individual. The value of where-knowledge can be much greater (although often harder to measure) at the scale of a community or society.

Here is a poignant example. On a crisp November day, a child in northeast Detroit was jostling with other children and stumbled into a street, **where** she was seriously injured by a passing car. This accident happened **where** it did partly because thousands of commuters use half a dozen city streets to get from **where** they live (in the northeastern suburbs along the river) to **where** they work (in the central city). In a typical year, dozens of schoolchildren are likely to be injured on these particular streets. The basic geographic principle is easy to state: the riskiness of a given school crossing is related to **where** it is with respect to homes, jobs, and traffic patterns.

The consequences, however, can be magnified if suburban voters and politicians are guided by the benighted notion that people who live beyond a city-suburb boundary should not be required to pay taxes to help solve “the problems of the city.” In other words, people’s perceptions of **where** problems occur can sometimes keep them from taking moral and financial responsibility for problems that they may be physically responsible for causing.

At a global scale, a military decision about **where** to deploy a naval battle group can involve extra costs of hundreds of millions of dollars, but the cost comparison becomes completely different if the aircraft carriers are not in a strategic location when hostilities break out. On the other hand, the decision about **where** to send a peace-keeping envoy can mean the difference between a timely settlement of a dispute and full-scale war.

The fact is, every action on the planet has consequences that depend (at least in part) on **where** the action takes place. Whether that matters, in turn, depends on **where** the consequences occur and who gets hurt or helped by them.

Here is a simple example: suppose a Wisconsin shoe company opens a store in Florida and sends a truckload of insulated boots to sell during the December holiday sales. This action implies an embarrassing level of ignorance about the weather in Miami and how it differs from conditions in Milwaukee. If the company goes bankrupt because its insulated shoes do not sell in a hot climate, the penalty for ignorance falls directly on them, the ignorant people.

Here's a more complicated example: suppose a beach house is seriously damaged by a hurricane. Should the government declare it a natural disaster and provide a low-interest loan to help the owner rebuild, or should it refuse to issue a building permit for any further construction on such a risky site? This question has an important scale consideration: the benefits of a beachfront location for a house usually go to those few individuals who are lucky enough to live there, but the costs may be borne by everyone who pays insurance premiums or taxes (unless the tax and insurance policies are designed with precisely the kind of geographic understanding we are advocating).

In short, it is easy to find a few egregious examples of things that make sense in one place but are laughably inappropriate in another. The benefits of geographic awareness, however, are usually more subtle: efficiency, safety, fairness, and beauty often depend on arranging things in a slightly better way – bathrooms a bit closer, shopping malls in better locations, houses on safer sites, tax money transferred between municipalities to help pay for school crossing guards and other services, and so on. As with any subject, geographic understanding is a matter of degree.

## POSTSCRIPT 1-2

**A (We Hope) Soon-to-Be-Unnecessary Note about Standards and International Comparisons**

Much of this book is based on discussions that took place in more than 190 teacher workshops in 36 states from Florida and Connecticut to Arizona and Hawai'i. Many teachers at those workshops commented that the ideas being presented were different from what they were used to. Sometimes, they said the material was interesting, but they doubted it would work in their classes. Comments like these usually came early in the workshop, and in nearly every case, after working with the material, the person later changed his or her mind.

This leaves me with a huge dilemma: an author needs credibility, but my experience as a workshop instructor tells me that many teachers' first impressions are skeptical. To get over this hurdle, it might be useful to try to figure out why American teachers often express doubts about teaching the kind of geography that is described in this book.

Even here, a geographic perspective is useful. If we use some straightforward measurements to compare the United States with other countries, we can easily uncover three facts that seem to be "causes" and one fact that seems to be a "consequence":

**Cause-fact 1 — isolation.** Compared with other countries, the United States has been relatively isolated. It occupies a large fraction of its continent, it has borders with only two countries, and its economy is about six times as large as the economies of Canada and Mexico put together. Until airplanes and telephones helped "shrink" the globe, Americans simply did not have to worry much about powerful neighbors with different languages and ideals.

*CD unit*

*Comparing Places*

**Cause-fact 2 — wealth.** Compared with other countries, the United States has been relatively rich. It occupies the most favorable part of its continent, and it has much more good land per person than most other countries (Figure 1H).

**Cause-fact 3 — power.** Compared with other countries, the United States has been relatively powerful. As recently as the 1960s, this country exported more than it imported, loaned more than it borrowed, controlled more property in other countries than those countries controlled here, and held most of the patents on its industrial processes.

**Consequence-fact:** Typical U.S. high school students receive less than one-third as much instruction in geography as their counterparts in other countries.

So what should we reasonably expect? American students perform below the international average in geography. And many American teachers do not know what is attainable or desirable in a geography class in elementary or secondary school. That is not their fault — they have little experience with world-class geography. I repeat: it is not the fault of the teachers, but if we want to break the cycle of sub-standard geography education, we may have to ignore first impressions about what is possible or desirable in a geography lesson.

Here is a compelling reason to break that cycle: the world is changing. The blunt fact is that all three of the cause-facts in the list above are less true now than they were a few decades ago. For example, ideas about land that were acceptable when the United States had 50 million people may not be appropriate after the population has passed 300 million. As parts of the country become more crowded, Americans need to think more carefully about how they organize and use their land.

At the same time, connections among nations are becoming both more complex and more important. A century ago, there were few links between Tennessee and Japan. Now, a large Nissan factory near Nashville practically guarantees that events in Tokyo will affect people in Tennessee nearly every day, in many ways.

As a result, students in the United States need to learn how to analyze things spatially, not just try to memorize facts about places. They should be observing, hypothesizing, and evaluating, rather than just coloring maps and hunting for placenames in a maze of letters. In short, they need to do world-class geography.

So, try to ignore doubts, at least for a while. Read the next chapters, which are about two analytical approaches, three strands of meaning, and four cornerstone ideas of geography. Think about how you might adapt these ideas for your students. It *will* work — hundreds of teachers have said so. This kind of geography is not the same as reading “all the facts about Zambia” in an almanac or atlas, but students actually know more about the world when they finish. Moreover, students usually think that this kind of geography is at least as much fun as watching yet another video about weird-looking animals, colorful costumes, or strange foods.

(I warned you that this was an editorial! It is offered in the belief that readers have a right to see where an author stands on issues that might influence the content of a book.)