

**STUDENT COMPANION**

*to accompany*

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**Human Geography**

**Culture, Society, and Space**

**Seventh Edition**

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*includes*

**Study Guide**

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## HOW TO USE THIS STUDY GUIDE

This study guide has been written to help you in using *Human Geography*, Seventh Edition, in a college-level course to guide you to a better understanding of the important discipline of geography. It is written in a clear and logical manner with the full appreciation of the pressures, scholastic and otherwise, that you will face in an academic environment in the twenty-first century.

Most, if not all, of the material in *Human Geography*, Seventh Edition, will be new to you. This is not a course of simple memorization. Geography is based on the understanding of *concepts* and *relationships*. A college-level text covers more material in greater depth than anything a student is familiar with from high school. Using this guide will help you overcome many of the problems you will encounter in this course.

The Seventh Edition of *Human Geography* has undergone extensive reorganization as well as updating of information to make it a text that is relevant and applicable to the rapidly changing world of the twenty-first century. Issues of gender, political devolution, and environment receive particular attention and have been woven into all parts of the text. Statistical information is the most re-cent that is available and is supported by a wide variety of maps, pictures, and illustrations.

The format for each chapter of the guide is the same. Each chapter begins with a **chapter introduction** that presents expanded discussion on the "Key Points" in the box at the beginning of the chapter. In some cases you will be referred to text material, maps, or illustrations in previous chapters to use in helping you better understand the material currently being covered. This is followed by a **chapter quiz** consisting of **multiple-choice** and **true/false** questions on material from the *entire* chapter, not just the introduction. Answers to the **multiple-choice** and **true/false** questions may be found at the end of the study guide. The last portion of the guide contains a series of **study questions** that are designed to make you think conceptually about the entire chapter.

To gain maximum benefit from the study guide it is important that you read the introduction in the guide *and* the entire chapter *before* it is covered in lecture. The multiple-choice and true/false questions should be used to test your retention of information from these three sources. You should re-read the chapter before attempting the study questions at the end of each chapter in the guide, since these are designed as comprehensive questions to help you tie together facts and concepts. Students are cautioned to remember the guide *is not* a substitute for the text. It *must* be used in combination with the text.

### ADDITIONAL HELPFUL HINTS

1. Lectures *must* be attended regularly because your instructor may cover material not in the text. Take good notes and ask questions for clarification.
2. Review lecture notes as soon as possible. Rewrite sections you have trouble reading while the material is still fresh in your mind.
3. Begin reviewing for quizzes and exams well before their scheduled date.

4. Having access to a *current* atlas will be an enormous asset for you in this course.

# PART ONE: GEOGRAPHY, CULTURE, AND ENVIRONMENT

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## CHAPTER 1. GEOGRAPHY AND HUMAN GEOGRAPHY

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### CHAPTER INTRODUCTION

Humans are geographers by nature. They can think territorially or spatially and have an awareness of, and curiosity about the distinctive nature of places. Even children possess qualities of geographers, creating carefully mapped realms in tiny places. Places possess an emotional quality, and we all must belong *somewhere*. Humans' insatiable curiosity and the place-centered element within us gave birth to geography as an academic discipline. Conquest and commerce generated a need to know about the world and *pragmatism* was added long ago by traders and explorers. *Geography* literally means "to describe the Earth," and the practical aspects of geography first arose among the Greeks, Romans, Mesopotamians, and Phoenicians.

#### **Divisions**

Physical and human geography are two great branches of the discipline, and their origins can be traced to the Greeks and later the Romans. Greek scholars were curious about the world, particularly the physical aspects, and collected information from traders and travelers. The Romans, un-like the Greeks, were empire builders and brought many different cultures under their control. They added to the Greek knowledge of the physical Earth and added information about different cultures they encountered or conquered. By the end of the Roman era, theories about a spherical Earth, latitudinal climatic zones, environmental influences on humans, and humans' role in modifying the Earth were established. The latter two are quite significant because today environmental geography is emerging as a link between human and physical geography.

#### **Traditions**

During the twentieth century, geography was marked by four durable traditions: *earth-science* (physical geography); *cultural-environmental* (encompasses a wide range of topics with a difficult, even controversial history); *locational theory* (the spatial focus of the discipline), which has become a modern element of human geography; and *area-analysis* (primarily involving the description of areas and regions), giving rise to what is today called *regional science*. These Four Traditions of Geography were first identified in an article by University of Chicago geographer W.D. Pattison in 1964. He argued that these were the four areas where geographic teaching, research, and other activity were concentrated.

#### **New Themes**

In the 1980s, rising concerns about geographic illiteracy in America prompted the National Geography Society, and several other organizations, to begin campaigns to reintroduce geography into school curricula. In a 1986 publication, the NGS proposed a useful five-theme framework for geography as developed by the Geography Education National Implementation Project (GENIP). Three of the themes correspond to traditions identified earlier: location, human-environment inter-action, and regions. As the fourth tradition, the NGS proposed a single word, *place*, because all places on the surface of the Earth have distinguishing human and physical characteristics. A

fifth theme, *movement*, refers to the mobility of goods, ideas, and people, an appropriate theme in light of the mobile world we live in today.

### **Maps**

Maps—graphic representations of all or part of the Earth's surface drawn to scale—are the most important tool of geographers. Maps and geography are practically synonymous, and mapmaking (cartography) is as old as geography itself. The spatial perspective is geography's unifying bond and there is no better way to demonstrate insights gained through spatial analysis than through the use of maps. Maps are our "window on the world."

Maps are used to portray the distinctive character of places; their relationship to environmental issues; the movements of people, goods, and ideas; and regions of various types. Maps are used to wage war, make political propaganda, solve medical problems, locate shopping centers, bring relief to refugees, warn of natural hazards—in short, for countless purposes.

Maps are not *always* printed. Everyone has a *mental map*—a map in their mind—that has developed over years of looking at wall maps, atlas maps, and maps in books, magazines, and newspapers. People's perception of places and regions is influenced by their individual mental maps as well as printed maps. Since one's perception of different places is a combination of general information, personal experiences, and what is called "hearsay" in the legal profession, that perception is not always accurate. Look carefully at text Figure 1-9 in your text and you will begin to get some idea of the influence that mental maps and perception of places have on people.

## **CHAPTER QUIZ**

### **MULTIPLE-CHOICE QUESTIONS**

1. This text focuses on human geography. What is the other half of geography called?
  - a. environmental
  - b. spatial
  - c. physical
  - d. regional
2. When geographers look at the way places and things are laid out on the cultural landscape, they are taking a:
  - a. pattern analysis
  - b. distribution measurement
  - c. spatial perspective
  - d. map measurement
3. Which of the following is **not** true regarding remote sensing?
  - a. began with air photography
  - b. does not involve satellites
  - c. involves aircraft
  - d. reveals environmental changes
4. When the National Geographic Society developed what they called the "five themes" of geography they did not specifically include a traditional theme of geography, which is:
  - a. location
  - b. human-environment
  - c. landscape

- d. movement
5. Of the following, which **cannot** be shown on a map?
    - a. housing styles
    - b. river flow direction
    - c. diffusion of disease
    - d. relative location
  6. What event markedly changed Chicago's relative location (which already had good centrality)?
    - a. new interstate highway
    - b. more railroads
    - c. opening of the St. Lawrence Seaway
    - d. new airport
  7. Symbols on maps represent many different things. Arrows can show:
    - a. direction of migration
    - b. numbers of people
    - c. intensity of traffic on routes
    - d. all of the above
  8. The spread of various aspects of culture, such as language, knowledge, skills, religion, etc., from one place to another is called:
    - a. distribution
    - b. relocation
    - c. diffusion
    - d. infection
  9. Geographers define and delimit a region by:
    - a. establishing criteria
    - b. walking the region
    - c. asking others how they define the region
    - d. using climate changes
  10. A city is an example of a \_\_\_ region.
    - a. formal
    - b. functional
    - c. perceptual
    - d. physical

#### TRUE/FALSE QUESTIONS

1. Human geography encompasses several sub-fields and has an environmental component. (TF)
2. Medical geography is not a part of human geography. It belongs to physical geography. (TF)
3. Movement is not an important theme in the study of geography. (TF)



4. The geographical hypothesis of continental drift was actually developed by a climatologist. (TF)
5. The only thing maps can tell us is the absolute location of places. (TF)
6. The relative location of a place can change constantly but only for the better. (TF)
7. A map of worldwide precipitation can show us areas prone to droughts and floods. (TF)
8. The Pacific Ocean affects precipitation on more continental landmasses than any other ocean. (TF)
9. All regions have clear and concise boundaries. (TF)
10. A country is divided into separate regions. No region overlaps another and each is equal in importance. (TF)

### **STUDY QUESTIONS**

1. Why is the spatial perspective so important to geographers? How do patterns and distribution fit into this concept?
2. Make a list of some of the many ways maps are used. Do you understand the importance of relative location as shown in Figure 1-3? Can you find a map of another place that shows good relative location as described in the text?
3. We all live in a region as well as a country or state. What region do you live in? How is it defined? Is it a formal, functional, or perceptual region as defined in your text? Do you have different perceptions about your region?
4. How is your mental map of the city and/or region you live in? After reading the part about mental maps in this chapter, do you think you need to improve yours? Close your eyes. How many Western European nations can you visualize? Go to a map of Europe and see how well you did. Can you accurately visualize the major city locations in your country?

## CHAPTER 2. CULTURES, ENVIRONMENTS, AND REGIONS

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### CHAPTER INTRODUCTION

*Culture* is an all-encompassing term that defines the tangible lifestyle of a people and their prevailing values and beliefs. The concept of culture is closely identified with anthropology. Over more than a century ago most anthropologists believed that culture was learned. However, recent advances in sociobiology and related fields suggest that certain behaviors may be genetically determined, so that culture has an "instinctive" component as well as a "learned" one. This chapter discusses the development of culture, the human imprint on the landscape, culture and environment, and cultural perceptions and processes. The key points covered in this chapter are outlined below.

#### **Culture and Human Geography**

The concept of culture lies at the heart of human geography. Locational decisions, patterns, and landscapes are fundamentally influenced by cultural attitudes and practices. The concept of culture, like the regional concept discussed in the previous chapter, appears to be deceptively simple, but in fact is complex and challenging. The definitions of culture vary widely, as does our use of the word itself, but all refer in one way or another to humans—their development, ideas, and adaptation to the world in which they live.

#### **Components**

Culture is made up of four major components. The first of these is a *cultural trait*—a single attribute of a culture—such as eating with certain utensils. The second component is a *cultural complex*—a discrete combination of traits exhibited by a particular culture—such as keeping cattle for different purposes. The third component is a *culture system*—culture complexes with traits in common that can be grouped together—such as ethnicity, language, religion, and other cultural elements. The final component, the *cultural region*—the area within which a particular culture system prevails—is marked by all the attributes of a culture. Cultural regions may be expressed on a map, but many geographers prefer to describe these as *geographic regions* since their definition is based on a combination of cultural properties plus locational and environmental circumstances.

#### **Topics**

Key topics in cultural geography include *cultural landscapes*—the human imprint on the Earth's surface. These create a distinct and characteristic landscape that reveals much about the culture presently occupying the area, as well as those that came before. A second key topic focuses on *cultural hearths*—the sources of civilizations from which radiate ideas, innovations, and ideologies. Cultural geographers identify both ancient and modern cultural hearths.

*Cultural diffusion*—the process by which innovations and ideas spread to other areas— involves several types of diffusion. *Expansion diffusion* may take the form of contagious diffusion, where some item of culture is spread through a local population by contact from person to person. In the case of *hierarchical diffusion*, another form of expansion diffusion, an idea or innovation spreads by trickling down from larger to smaller adoption units. Innovations often leapfrog over wide areas, with geographic distance a less important influence. The early spread of the FAX machine is a good example of this type of diffusion. A third type of expansion diffusion

is *stimulus diffusion*, a process where an idea or innovation is not readily adopted by a population but results in local experimentation and eventual changes in the way of doing things. The Industrial Revolution, for example, did not immediately spread to pre- or non-industrial societies, but did stimulate attempts to mechanize local handicraft production.

The different forms of expansion diffusion take place through populations that are stable. It is the innovation or idea that does the moving. *Relocation diffusion*—the spreading of innovations by a migrating population—involves the actual movement of individuals who have already adopted the idea or innovation, and who carry it to a new, perhaps distant locale, where they disseminate it. The spread of European emigrants around the world during the period of Europeanization is a classic example.

The topic of *cultural perception*—the way that members of a culture view themselves as well as how they view other cultures—is a combination of tangible and intangible elements that help to define the personality of a region. We all have impressions and images of various regions and cultures, even though they may not always be accurate. *Perceptual regions* are intellectual constructs designed to help us understand the nature and distribution of phenomena in human geography. These perceptions are based on our accumulated knowledge about such regions and cultures. Perceptual regions can differ considerably, depending on the individual's mental maps of various communities and cultures.

The final considered topic, *cultural environment*—the relationships between human societies and the natural environment—is complex. Environment affects societies in countless ways from the types of crops grown to the houses they build, but societies also modify their natural environments in ways that range from slight to severe. One thing is certain, however. While human behavior is not controlled by the environment (as the now-defunct concept of environmental determinism suggested), no culture, no matter how sophisticated, can completely escape the forces of nature.

## **CHAPTER QUIZ**

### **MULTIPLE-CHOICE QUESTIONS**

1. When a discrete number of culture traits is combined it is referred to as a culture:
  - a. region
  - b. complex
  - c. realm
  - d. system
2. Features placed on the land change its natural look. Geographers call this the cultural:
  - a. realm
  - b. system
  - c. landscape
  - d. land change
3. The birth place of a civilization is called a/an:
  - a. culture hearth
  - b. origin region
  - c. agricultural home base
  - d. source region

4. When an idea or invention spreads outward from its source area and also remains strong in its source area, it is said to have spread by:
  - a. stimulus diffusion
  - b. migrant diffusion
  - c. expansion diffusion
  - d. trans-culturation
  
5. When the Spanish overthrew the Aztecs in Mexico, they adopted some of the Aztec ways and ideas. At the same time the Aztecs adopted some of the Spanish ways and ideas. This process is called:
  - a. migrant diffusion
  - b. relocation diffusion
  - c. trans-culturation
  - d. acculturation
  
6. An assemblage of cultural or geographic regions forms a cultural:
  - a. system
  - b. realm
  - c. complex
  - d. trait
  
7. Perceptual culture regions are:
  - a. known to have sharply defined boundaries
  - b. different in definition from person to person
  - c. defined by using at least three criteria
  - d. found only on islands
  
8. The idea that human cultural behavior is controlled by the environment in which we live is called:
  - a. possibilism
  - b. environmental ecology
  - c. environmental determinism
  - d. environmental regional identity
  
9. The influence of the natural environment on humanity declines:
  - a. toward higher latitudes
  - b. with increasing technology
  - c. in agrarian societies
  - d. in urban societies
  
10. Broad generalizations about the impact of the environment on humans are:
  - a. more accurate today than in the past
  - b. almost always sustained
  - c. rarely sustained
  - d. more accurate for traditional agrarian societies

#### **TRUE/FALSE QUESTIONS**

1. Culture does **not** include the behavior of people. (TF)
2. The same cultural trait can often be found in more than one culture. (TF)
3. Cultural systems are only found in the developed countries of the world. (TF)
4. Cultural landscapes usually vary from one country to another. (TF)
5. Nomadic people leave a large imprint on their cultural landscape because they keep traveling the same routes over and over. (TF)
6. Culture hearths first appeared in the Eastern Hemisphere. (TF)
7. Most information spread from culture hearths by hierarchical diffusion. (TF)
8. The wheel, after being introduced into Mesopotamia, did not diffuse quickly to Egypt. (TF)
9. Culture regions can become political battlegrounds and even physical battlegrounds because of people's emotional attachments to the land and traditions. (TF)
10. People must learn to live with their physical environment because changing or trying to control it causes problems. (TF)

### STUDY QUESTIONS

1. Define the six components of culture. In your own geographical region, can you think of any culture traits that seem to stand out from the normal traits with which you are familiar?
2. After reading about cultural landscapes, can you see signs of how your culture region's landscape has changed over time? If you are attending a college or university away from home, look for material changes in the landscape. Talk to a long-time resident who can tell you about changes that have taken place.
3. Why do you think it is important to study cultural hearths? When you look at Figure 2-4 in your text, can you understand how expansion and relocation diffusion worked in carrying ideas and inventions to distant lands?
4. If you live in a large city, can you see signs of acculturation in ethnic neighborhoods? If you come from a rural environment, is everyone alike or are there ethnic differences that might be evident in the way people layout farm buildings or in house-building styles dating from an earlier time?
5. Look at Figure 2-8 in your text. In which perceptual region is your home state? Does this map fit with your perception of what region you live in? If not, how do you perceive where you live? On what do you base your reasoning?

## CHAPTER 3. THE EARTH AS HUMANITY'S HOME

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### CHAPTER INTRODUCTION

This chapter introduces you to the physical and environmental aspects of the Earth, both past and present, and the impact of human occupancy. It also focuses on the development of humanity during one of the most fascinating geologic epochs, the Holocene. During this epoch, humanity developed socially, politically, and economically. In addition, the number of humans occupying Earth soared. There is much to learn from this chapter, both to lay the foundation for the remainder of the text and to broaden your knowledge of human and Earth history that led to the world we live in today.

#### **Environment**

Despite what you may think, the Earth's environment is not stable and environmental change is humankind's constant companion. To understand the geography of culture, it is necessary to understand the complexity of the environment within which humanity lives. Many changes in the environment have occurred since early hunter-gatherers began to exploit the Earth's resources and deal with their environment. The survival of humanity may well depend on an understanding and appreciation of environmental conditions.

Earth's environment frequently changes, and warming and cooling of the planet are natural. Far more of the Earth's surface is water than land, as a glance at any world map will reveal, and only a small percentage of the total surface is suitable for human occupancy. Humanity is quite old, but compared to the age of the Earth, we are recent occupiers. The Earth is currently in the grip of a long series of glacial advances (cooling periods) and retreats (warming periods); modern human civilization emerged during a warm spell between glaciations.

Technological progress notwithstanding, terrain and climate continue to influence the distribution and nature of human life and activity. Compare, for example, text Figure 3-4 (Global Terrain), text Figure 3-5 (World Climates), and text Figure 4-1 (World Population Distribution). Ask yourself why people are where they are **and** why they are **not** in other places. In essence, humans are "where they have always been," relative to terrain and climate. What has changed are the numbers.

#### **Human Development and Innovation**

The various stages in Earth history have been divided into periods of geologic time. The most recent geologic time period, the Holocene epoch, refers to the most recent 12,000 plus years of Earth's history. Because of the unique cultural-geographical characteristics of this period of great environmental variation, it is sometimes referred to as "Holocene humanity." Within this short time humanity did what it had not done in previous interglaciations.

Perhaps the single most significant event of the early Holocene was the domestication by humans of plants and animals, which may have occurred nearly simultaneously in areas as far removed as the Middle East and Southeast Asia. Agriculture developed and surpluses were stored for future use. Villages grew larger, towns and cities emerged, and political organization became increasingly complex; inventions multiplied, and tools became more efficient. Certain communities thrived, sometimes at the expense of others. The earliest states appear to have emerged about 5500 years ago in the middle East and southeastern Turkey. The spiral leading toward empires, colonial realms, and global power struggles had begun.

### **Human Population**

Humans have always used *resources* (sometimes defined as anything that humans value), but that use is dependent on, among other things, the number of humans and the technology available to them. The human population growth spiral began during the Holocene epoch. Numbers at the beginning of this epoch have been estimated at between 4 and 8 million. Population growth during the Holocene began slowly at first, then accelerated. Modern humanity is indeed the product of the Holocene epoch.

During the Holocene the Earth changed as never before, not because of geologic forces but because of humanity's humanity. That imprint has become stronger over time, especially over the last 200 years when human population growth and pressure on resources have reached unprecedented levels. This began with the Industrial Revolution in Europe and spread globally during the period of Europeanization and colonialization. During the twentieth century, the Earth especially felt the strains created by the human population. Raw materials were used up at an ever faster rate while the air, water, and land became polluted or damaged. Together, these events have rendered environmental change one of the key issues of the twenty-first century.

### **CHAPTER QUIZ**

#### **MULTIPLE-CHOICE QUESTIONS**

1. When America's first lunar astronauts first looked at the Earth, the dominant color they saw was:
  - a. blue
  - b. green
  - c. brown
  - d. gray
  
2. Approximately 70 percent of the land surface of the earth is:
  - a. plateaus
  - b. desert
  - c. tropical forest
  - d. ice caps
  
3. A glacial period was in progress as recently as   ?   years ago.
  - a. 6,000
  - b. 8,000
  - c. 10,000
  - d. 20,000
  
4. Human population growth began during which of the following geologic epochs.
  - a. Miocene
  - b. Holocene
  - c. Paleocene
  - d. Pleistocene

5. Cultural geographer Carl Sauer suggested that plant domestication may have begun more than 14,000 years ago in:
  - a. Mesopotamia
  - b. Mesoamerica
  - c. Southeastern Asia
  - d. eastern China
  
6. The development of sedentary and irrigated agriculture and the rise of villages and towns initially occurred in:
  - a. Southwest Asia
  - b. East Africa
  - c. South America
  - d. Southeast Asia
  
7. Ancient Babylon was located on the Euphrates River in present-day:
  - a. Iran
  - b. Turkey
  - c. Iraq
  - d. Greece
  
8. Which of the following human activities transforms more of the Earth's surface than any other.
  - a. manufacturing
  - b. urbanization
  - c. farming
  - d. transportation
  
9. Africa's most populous country is:
  - a. Nigeria
  - b. Kenya
  - c. Egypt
  - d. Tanzania
  
10. The continent which consists mainly of plateaus, and therefore supports fewer people than the single country of India, is:
  - a. Australia
  - b. Africa
  - c. South America
  - d. Asia

### **TRUE/FALSE QUESTIONS**

1. Climatic fluctuations during ice ages have little effect on Earth's livable space. (TF)
2. Today Earth is going through the end of an ice age caused by global warming. (TF)
3. The Holocene epoch has been humankind's time of the greatest cultural development. (TF)
4. The Paleolithic period is the latest stage of the Stone Age. (TF)



5. The world's oldest continuous civilization may have started in China. (TF)
6. Domestication of plants and animals kept people nomadic because animals ate all the nearby grass and land was worn out from farming. (TF)
7. The first cities arose in the Fertile Crescent. (TF)
8. Caring for plants is the same as plant domestication. (TF)
9. In general, mountainous regions do **not** support any population clusters, and never have. (TF)
10. Industries could be found in different parts of the world 6000 years ago. (TF)

### STUDY QUESTIONS

1. When you read about the Pleistocene epoch can you understand the environmental problems our human ancestors faced? Can you understand why some branches of the early human family tree died out?
2. Why is the Holocene epoch different from previous epochs? List the accomplishments of humankind during this period and contrast it to previous periods. What do you think might happen when Earth goes into another ice age? How might people survive?
3. Explain what caused the changes in early settlement. How was the social structure changed? Was this change uniform among the settlements?
4. Why do geographers consider Köppen's climate classifications so important? Compare text Figure 3-5 (World Climates) with text Figure 20-1 (World Agriculture Regions). What correlations can you find between climate and crops grown? How can you tell from the climate map where people are most likely to live?

## PART TWO: POPULATION PATTERNS AND PROCESSES

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### CHAPTER 4. FUNDAMENTALS OF POPULATION: LOCATION, DISTRIBUTION, AND DENSITY

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#### CHAPTER INTRODUCTION

No event in human history has equaled the rapid increase in population over the last 10,000 years. This is in sharp contrast to the 200,000 years following the emergence of *Homo sapiens* in Africa, during which the earth's human population grew very slowly, its numbers rising and falling in response to the "traditional" controllers of population: environmental change, disease, and availability of food. As the last glaciation retreated and the Holocene epoch began, the amount of habitable space increased and unprecedented events began to occur in Earth's history.

The study of population is termed *demography*, derived from ancient Greek words roughly meaning to "describe and write about people." The focus of *population geography* is on the spatial aspects of demography. The key questions in geography are *where* and *why there?* These lead to some penetrating insights into population issues.

#### **Population Growth**

The dominant issue in population geography remains *growth*. The world's population is currently growing at a rate that is more than ten times the *total* estimated world population at the beginning of the Holocene and the bulk of this growth is occurring in the world's poorer countries. The Earth's environments and natural resources are strained as never before by the needs of a mushrooming human population, a population that has more than doubled in the last 50 years. Problems resulting from unprecedented population growth became especially acute in the twentieth century. A continued high rate of population growth in the twenty-first century can have a calamitous impact, causing irreversible damage to the natural systems on which we depend for our existence and survival.

#### **Population Distribution**

From the beginning, humanity has been unevenly distributed over the land and this pattern was intensified during the twentieth century. Whether urban or rural, populations tend to cluster in certain areas (see text Figure 4-1) because, as you will recall from earlier discussions, much of the Earth is unsuitable for human occupancy (refer back to text figures 3-4 and 3-5). To handle contrasts of this type on maps, geographers use measures of population *distribution*—the locations on the Earth's surface where individuals or groups (depending on the scale of the map) are concentrated—and the *density* of the population figured as the number of people per unit area of land.

Text Figure 4-1 shows patterns of population distribution for the world using the dot method. It shows that the world's three largest population concentrations all lie on the Eurasian landmass—*East Asia*, *South Asia*, and *Europe*—each associated with a major civilization. It also reminds us that the overwhelming majority of the world's population inhabits the Northern Hemisphere.

East Asia, centered on China but extending to Korea and Japan, contains about one-quarter of the world's population—nearly 1.3 billion in China alone. The map shows that the population is concentrated toward the coast with ribbon-like extensions found on the basins and lowlands of China's major rivers. The great majority of people in East Asia are farmers.

India lies at the center of the South Asian concentration with extensions to Pakistan, Bangla-desh, and the island of Sri Lanka. This is one of the greatest concentrations of people on Earth with about 1.5 billion people. It is a confined region (the Himalaya Mountains on the north and the desert west of the Indus River in Pakistan) with a rapidly growing population. By almost any esti-mate, the capacity of the region to support this population has been exceeded. As in East Asia, the majority are farmers.

Europe, the third-ranking population cluster, also lies in Eurasia but at the opposite end from China. This cluster contains about 700 million people, which puts it in a class with the South Asian concentration, but the similarity ends there. In Europe, unlike East and South Asia, terrain and environment are not as closely related to population distribution. Another contrast lies in the fact that the majority of the European population live in cities and towns, leaving the rural country-side more open and sparsely populated. These contrasts with the East and South Asian clusters reflect the impact of the Industrial Revolution on Europe over the last 200-plus years.

### **Population Density**

Population density can be measured on the basis of several different criteria, revealing contrasting aspects of a country's demography. Text Figure 4-2 illustrates density via the isopleth method. The data in Resource B at the end of your textbook provide area, total population, and density per square mile for every country. One must examine such data with caution, however, since the high cost and organizational challenges of census taking often produce unreliable data. *Arithmetic* and *physiologic* population densities are the two most common approaches. These two methods become more meaningful and useful when compared with each other.

## **CHAPTER QUIZ**

### **MULTIPLE-CHOICE QUESTIONS**

1. Demography is the study of:
  - a. physical geography
  - b. population
  - c. animals
  - d. climate
2. Which country has the highest arithmetic density of people.
  - a. Japan
  - b. Bangladesh
  - c. India
  - d. Netherlands
3. Physiologic density of a country relates the total population of a country to the:
  - a. number of people living on farmlands
  - b. population divided into total acres of farmland
  - c. acres of farmland available
  - d. population living in villages and cities

4. About \_\_\_\_ of the world's population lives in East Asia.
  - a. one-half
  - b. one-third
  - c. one-fifth
  - d. one-fourth
  
5. One of the greatest concentrations of population, according to your text, is:
  - a. in Argentina
  - b. on the Ganges River plain in northern India
  - c. in Bangladesh
  - d. on the Nile River
  
6. In Germany \_\_\_\_ percent of the people live in cities.
  - a. 85
  - b. 90
  - c. 50
  - d. 75
  
7. In the United States, the largest urban complex, called a megalopolis, lies:
  - a. in Florida and north to South Carolina
  - b. along the Pacific coast in Southern California
  - c. in Chicago and its surrounding area
  - d. from Boston to Baltimore
  
8. Southeast Asia has \_\_\_\_ clusters of population.
  - a. contiguous
  - b. few
  - c. discrete
  - d. large
  
9. The population of Sub-Saharan Africa is nearly:
  - a. 200 million
  - b. 350 million
  - c. 400 million
  - d. 650 million
  
10. Geographically, the spatial distribution of population in Australia and South America is:
  - a. very scattered
  - b. concentrated in the interior regions
  - c. peripheral
  - d. concentrated on plateaus

#### **TRUE/FALSE QUESTIONS**

1. In the poorer countries, people tend to cluster in the urban areas because there is little farmland. (TF)
  
2. Population distribution dot-maps are used primarily to show where people live. (TF)

3. Physiologic density maps more accurately show population densities because they are based on urban land clusters. (TF)
4. In China, farmers far outnumber people living in cities. (TF)

5. The country of Bangladesh has a population of nearly 133 million people living in an area about the size of Iowa. (TF)
6. In contrast to East and South Asia, Europe's population centers are not closely related to terrain and environment. Instead they are related exclusively to the coal-fields. (TF)
7. In the United States the largest urban agglomeration is located along the Pacific coast. (TF)
8. Southeast Asia does not have large contiguous urban areas because it is made up of islands. (TF)
9. In Africa, there are no agglomerations comparable to those in Asia. (TF)
10. With land reforms it would be possible for South America to support a much larger population. (TF)

### **STUDY QUESTIONS**

1. List and explain the problems high population growth rates are causing in the world today.
2. Define and discuss the difference between arithmetic and physiologic densities. What is lacking in each? Why aren't either of these completely accurate?
3. How does the spatial distribution of population of North America and Europe differ from that of East Asia and South Asia? How are populations spatially distributed in South America and Australia?
4. How does Japan support its large population? What special problems does this country have that are not faced by the other developed nations?

## CHAPTER 5. PROCESSES AND CYCLES OF POPULATION CHANGE

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### CHAPTER INTRODUCTION

Population does not increase in an even manner from country to country. The differences include age, gender, life expectancy, and geographic distribution, and may be identified between countries but are more significant internally. A country that has a large percentage of its population at 15 years of age or below will have enormous needs for education, jobs, and housing in the years ahead. A country where the population is "aging," such as the United States or France, can face shortages of younger workers and problems with their retirement systems. The list goes on but you get the point: a population is far more than mere numbers. This is an extremely important chapter, and when you have studied it, you will have a much better understanding of the complex issues of world population.

### **Population Trends**

Never before in human history have so many people filled the Earth's living space, and never has world population grown as rapidly as it has during the past 100 years. The population explosion of the past 200 years has increased the world's population from under 1 billion to approximately 6 billion. It took from the dawn of history to the year 1820 for the Earth's population to reach 1 billion. It now is taking only a decade to add each new billion. It is still possible that there will be 10 billion human inhabitants on the planet by the middle of the twenty-first century.

### **Population Growth Rates**

Rapid population growth varies over time and space. Europe's rapid growth occurred during the nineteenth century, the result of the Second Agricultural Revolution. At this time better farming methods and improved organization resulted in increased food supplies, especially to cities and towns. This was immediately followed by the Industrial Revolution, during which sanitation facilities made the towns and cities safer from epidemics, and modern medical practices became wide spread. Disease prevention through vaccination introduced a new era in public health. Death rates declined markedly—by 50 percent between 1750 and 1850—while birth rates remained high. The change is especially spectacular when viewed in the context of doubling time—the number of years it takes a population to double—which was 150 years in 1750 but only 35 years in 1850.

One effect of this increase in the rate of natural population growth was increased migration. Millions of people left Europe to emigrate to other parts of the world—North and South America, Australia, South Africa, and elsewhere. When European colonization began in earnest during the nineteenth century, Europeans brought with them their newfound methods of sanitation and medical techniques and death rates in Africa, India, and South America began to decline. Indigenous populations began to grow, and at ever-increasing rates. Today, South America's growth rates have declined, but Africa's remain high. As mentioned previously, the fastest-growing populations to-day are invariably taking place in those poorer countries that have the greatest difficulties providing the basic amenities of life for their citizens.

Disease and famine were the major controllers of population for the world as a whole until the last 100 years. Diseases still kill millions of people each year, especially infants and children, but the overall effects have been reduced, at least in many countries.

### **Reduction of Growth Rates**

Reducing population growth rates is a complicated and sensitive issue. In the richer, more developed countries, general modernization and education has resulted in lower growth rates. Therefore, these countries total populations do not approach those of the poorer countries. The benefits enjoyed by the wealthier, developed nations that have led to their slower rates of population have not been shared by much of the world. A key issue to the reduction of population growth rates is to improve the status of women and to secure their rights in society. In the Muslim countries of South- west Asia and Sub-Saharan Africa, two of the regions with the highest rates of population growth, women often live in near-Medieval conditions or, at best, as second-class citizens. Tradition plays a powerful role, but the barrier to better education for women is the real key. In places where women's education levels have risen, there has been an accompanying decline in population growth rates; not to mention a general improvement in the well-being of the population.

The demographic transition model, which compares birth and death rates in a population over time, suggests that the world's population will stabilize in the twenty-first century, but the model may not be universally applicable. The sequence of stages of the demographic transition has been observed in several European countries, but what transpired economically and socially in Europe may not apply for the rest of the world. It may be unwise, therefore, to assume that the demographic cycles that have occurred in already-industrialized countries will eventually spread to the rest of the world.

## **CHAPTER QUIZ**

### **MULTIPLE-CHOICE QUESTIONS**

1. At the present time, about \_\_\_ million people are added to the world's population each year.
  - a. 150
  - b. 100
  - c. 90
  - d. 80
2. Today, Russia is experiencing a \_\_\_ population growth rate.
  - a. rising
  - b. declining
  - c. negative
  - d. stable
3. Africa's rate of natural increase in population is still high but its population faces the grim prospects of:
  - a. a decade or more of drought
  - b. increasing ethnic strife in all countries
  - c. the AIDS epidemic
  - d. increasing military conflict
4. The continent with the lowest birth rates is:
  - a. Europe
  - b. North America
  - c. Southeast Asia
  - d. Antarctica
5. The total fertility rate of a country measures the total number of:
  - a. women able to have children



- b. children between 1 year old and age 10
  - c. women between 13 and 45
  - d. children born to women of childbearing age
6. Crude death rates are highest in:
- a. tropical Africa
  - b. China
  - c. South Africa
  - d. South America
7. Which of the following did **not** have an effect on keeping population growth rates down before 1820.
- a. the Little Ice Age
  - b. wars
  - c. plagues
  - d. advances in medicine
8. The actual demographic transition is represented by which two of the four stages of the demographic transition model.
- a. 1 and 4
  - b. 2 and 3
  - c. 3 and 4
  - d. 2 and 4
9. It is thought by some that perhaps today's developing countries will \_\_\_ of the demographic transition model.
- a. not go through all four stages
  - b. have to go through all four stages
  - c. not follow any stages
  - d. only go through stages two and three
10. As a tool for development, the demographic transition model is most useful in one place.
- a. United States
  - b. Europe
  - c. Japan
  - d. Canada

### TRUE/FALSE QUESTIONS

1. Because of the world's falling population growth rate, there is no longer fear of a population explosion. (TF)
2. Population growth rates are rising in the Muslim countries of North Africa and Southwest Asia. (TF)
3. Not all of the countries with low birth rates are wealthy. (TF)
4. Thomas Malthus thought the world's population growth would be slowed by disease. (TF)

5. By 2030, people in Germany over age 65 will account for close to half the adult population. (TF)
6. Population geography is the spatial component of demography. (TF)
7. Japan's population is projected to begin expanding rapidly in 2007. (TF)
8. Crude death rates decline more rapidly than birth rates. (TF)
9. In Between 1348 and 1350, almost half the population of England died from bubonic plague. (TF)
10. Most countries in the world are at the same stage of the demographic transition model. (TF)

### **STUDY QUESTIONS**

1. Look at text Figure 5-1. Note where the high population growth rate countries are. Do you see a pattern?
2. Even though the world's overall population growth rate has slowed, why is there still concern about another population explosion? Explain exponential growth and why the base population is so important worldwide and by country. Use text Figure 5-2 to help you. What kinds of problems can you foresee for those countries that have a high rate of growth today?
3. Study text Figures 5-4 and 5-5. Explain what you can learn by looking at these age-sex pyramids.
4. Study the section under the heading Demographic Cycles. Write down all the terms and their definitions in this section.
5. After studying the demographic cycle, do you understand why the four stages might not apply to today's developing countries? How did European colonization affect these countries?