

INDIANA UNIVERSITY

Geography G110  
Introduction to Human  
Geography

*School of Continuing Studies*  
*Independent Study Program*



# Geography G110

## Introduction to Human Geography

a learning guide  
(3 credit hours)

Course designed by  
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Course edited by  
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Indiana University  
School of Continuing Studies  
Independent Study Program

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Dear Independent Study Program Student:

It is now possible to use e-mail to send in your assignments for this course.  
Send all e-mail assignments to: **istudy@indiana.edu**

List your course and lesson number in the subject area like this:

Subject: **Math X101, Lesson 1**

Type your full name, followed by the last four digits of your student identification number, on the first line of your message like this:

**John Smith, 9999**

Skip two lines then start your assignment. It is best to embed your assignment in simple ASCII format in your e-mail. You can compose your assignment offline on your word processor and then paste it into the message section of your mail program. See your programs' documentation for the correct **copy** and **paste** commands.

Attached files are more difficult to process and may delay your assignment. Problems with attached files include: viruses, incompatible file formats, files encoded or compressed by the mailer which cannot be successfully decoded, and other uncorrectable file corruptions. **Check with your instructor before you include any attachments.** Even if attachments are allowed, your course, lesson number, name, and student identification number must be in the main message or we will be unable to process your assignment.

Spelling, typographic, and other errors will count the same as they would in a regular typed or handwritten lesson. Neatness and readability are always important.

*Never send your lessons directly to your instructor.* Always use the address indicated above, and be sure to include **only one** lesson per e-mail. E-mails with more than one lesson will be returned to you. Failure to follow these directions may cause delays in processing your lessons.

*Always keep a copy of your assignment.* Computers crash and even e-mail gets lost sometimes.

We are happy to offer this alternative to you for your assignment submission. Of course, you can still use regular mail or fax to send in assignments.

ACADEMIC PROGRAMS

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## About the Author

Hello! My name is Benjamin Timms, and I have developed this learning guide to help you navigate through this course. I earned my B.A. in geography from the University of New Mexico and my M.A. in geography from Indiana University. Currently, I am working on my Ph.D. in geography at Indiana University where I serve as an associate instructor. My research interests include economic development and environmental sustainability in Latin America and the Caribbean. I have studied and worked in the Caribbean and Central America, including serving as an environmental promoter for the Peace Corps in Jamaica. Welcome to G110 Introduction to Human Geography!

# Making a Schedule

When do you want a final grade for the course?

\_\_\_\_\_ date

How many weeks from today is that?

\_\_\_\_\_ weeks

Subtract three weeks (the time it takes us to process your final grade).

-3

Number of weeks to complete the course?

\_\_\_\_\_ weeks

How many lessons are there in the course? (Check the table of contents.)

\_\_\_\_\_ lessons

Divide the number of weeks by the number of lessons to get the number of weeks to complete each lesson.

On a calendar mark off the dates to submit each lesson, based on the number in the box. For example, if you figured you have about two weeks for each lesson, put "Lesson 1 due" on the date fourteen days from today; put "Lesson 2 due" fourteen days from that date, and so on.

Now, if you wish, copy the dates onto the chart at the bottom. When you have put a lesson in the mail (and **not before**), add the date in the next column. This way you will be able to calculate how well you are keeping to your schedule.

Finally, check the learning guide to see which lessons are examinations. Then note the dates you have scheduled yourself to take them. You will need to arrange the examinations first with the person who will supervise your exam locally and then with the Independent Study Program office. It is a good idea to make an appointment now with your examination supervisor to take the first examination. See the exam application in the learning guide. When you have sent us all the lessons before the exam, send us the application in the envelope marked "for examination request only."

Lesson	Planned Date to Submit	Date Lesson Mailed	Days Ahead (+) or Behind (-)	Lesson	Planned Date to Submit	Date Lesson Mailed	Days Ahead (+) or Behind (-)
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

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## Important Information

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The *Student Handbook*, included in your enrollment packet, contains valuable information about our policies and procedures. You'll find up-to-date information about exam procedures, assignment processing, grading policies, and other important topics. Before you begin your course, please read your *Student Handbook*.

### Ordering and Selling Back Textbooks

If you did not request textbooks when you enrolled, you may order all *required* textbooks for the course from the Indiana University Bookstore by completing and sending in the order form that follows the course introduction. (Note that some courses include supplementary or recommended texts, which are not available through the Indiana University Bookstore.) Be sure to order your textbooks immediately after enrolling in the course to ensure that the correct editions are available.

Book prices shown on the order form are current as of the learning guide's most recent printing. Publishers change prices frequently, however, and prices may increase without notice. The textbooks you receive will be used or new, depending on availability. If you are particularly interested in receiving a new textbook, call our toll-free number first to check on availability. If you specifically request a new textbook, you will be charged an additional fee.

After completing the course, you may sell your textbooks back to the Indiana University Bookstore if the textbooks are still used in the course. (To check whether your textbooks are still in use, write us or call our toll-free number.) The bookstore will pay a substantial portion of the list price for books still in use. Please use the form at the back of the learning guide when selling back textbooks.

### Doing and Submitting Lessons

Do the lessons in the order in which the learning guide presents them, carefully following all directions given for completing assignments. Unless the course introduction states otherwise, immediately begin working on the next lesson after submitting a completed written assignment. You may generally submit up to two assignments at a time, unless you are otherwise notified by your instructor. In order that you benefit from your course instructor's comments, we strongly recommend that you submit only one assignment at a time throughout a course.



Submit your completed assignments in the lesson envelopes provided in your enrollment packet. Be sure to include an assignment cover sheet and the correct lesson label with each submitted assignment. Alternatively, you may fax your completed assignments to us, provided they do not require supplementary materials such as computer disks or cassette tapes. Be sure to include the assignment cover sheet with the correct lesson label in your fax. If you live on or near the Bloomington campus, you may take advantage of the lesson drop box located outside room 001 in Owen Hall. Assignments deposited in the drop box require no postage and are picked up daily.

Always make copies of your completed assignments before you submit them. Assignments don't get lost in the mail very often, but if yours should be among the rare exceptions, an extra copy will prevent your having to redo the assignment.

## Making the Grade and Receiving Credit

Each returned assignment will include a letter or number grade, as well as comments from your instructor. If you've not done part of an assignment, your instructor may assign a lowered grade or may return the assignment with a grade of I (Incomplete) and request that you redo and resubmit it. The course introduction describes the specific grading criteria for the course.

When you've completed the course, your instructor will issue a final course grade, and a grade report will be sent to you. The Indiana University Office of the Registrar will record credit for university courses on your permanent transcript; it will also send your final course grade to the college or university you've designated on the transcript request form included in your enrollment packet. The Independent Study Program will report credit for high school courses to the high school you designate on the final examination.

## Study Hints

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So you're there by yourself. Maybe you're on a work break squeezing in extra study time, your time clock ticking away. Maybe your favorite CD blares in the background, or maybe your least favorite sibling blathers at the door. No matter where you are or what you're doing, you are about to plunge solo—perhaps for the first time—into a distance education course. What happens now?

### Making a Schedule

Distance education differs from the traditional classroom in that there will be no teacher or professor calling the shots. You'll study when you decide to study, turn in assignments when you decide to turn them in, take exams when you decide to take them. You therefore must plan your study time wisely in order to get the most out of the course.

Use the *Making a Schedule* worksheet in the learning guide's opening pages to create a study schedule that will match your personal needs. As you formulate your schedule, remember the following:

1. If you live in the United States or Canada, you have one year from the date of your enrollment to complete the course. If you need more time, you may request an extension; see the *Student Handbook*. If you live outside the United States and Canada, you have eighteen months to complete your course, which includes your first six-month extension at no charge.
2. It usually takes fourteen days for each written assignment to be processed, graded, and returned.
3. You must complete the course at least three weeks before you need your grade.
4. Since our courses are designed to cover a full semester of material, it normally takes twelve to eighteen weeks to complete a course.

### Studying Each Day

Devote some time daily, even if only a half-hour, to your course work. Research reveals that the time of day when you study affects your ability to recall information. For example, before going to bed at night, spend some time reviewing what you've learned earlier in the day. In this way, you'll mentally absorb, assimilate, and organize the material while you sleep.

Keep in mind, too, that some times are less conducive to learning than others. Studies have shown, for example, that it's more difficult to concentrate after eating a heavy meal, being outside in the cold and entering a warm room, or exercising.

## Taking Your Time

Learning takes time. Try, then, not to cover too much material in one sitting. Relax and absorb it slowly. Take time to respond actively to what you're studying. Think about the material. Ask yourself questions about it, fixing one thing in your mind before moving on to something new.

Take frequent study breaks to refresh yourself mentally. Occasionally get up and move around to get your blood circulating. Short, concentrated study sessions will benefit you much more than long, mentally fatiguing ones.

## Organizing

By logically organizing the material you study, you'll better understand it and recall it later. As you study a lesson, look for its main points; the learning guide will help you. List the main points or arrange them in an outline, and then study the points until you can easily recall them. You'll soon find yourself using the main points as hooks upon which to hang details.

## Getting Help

Don't worry. Though you'll spend much time in the course studying alone, help will always be close at hand. Each assignment cover sheet has a space for your questions and comments; you're strongly encouraged to use this space. If you have questions between assignments, you can write to your instructor at the Independent Study Program. Many instructors also have e-mail. In addition, you can reach most instructors by calling our toll-free number. Instructors look forward to talking with students on the phone, so call whenever you have questions. You'll find knowing your instructor makes studying on your own easier. Please refer to the contact information on the back cover of this learning guide for addresses and telephone numbers.

# Introduction

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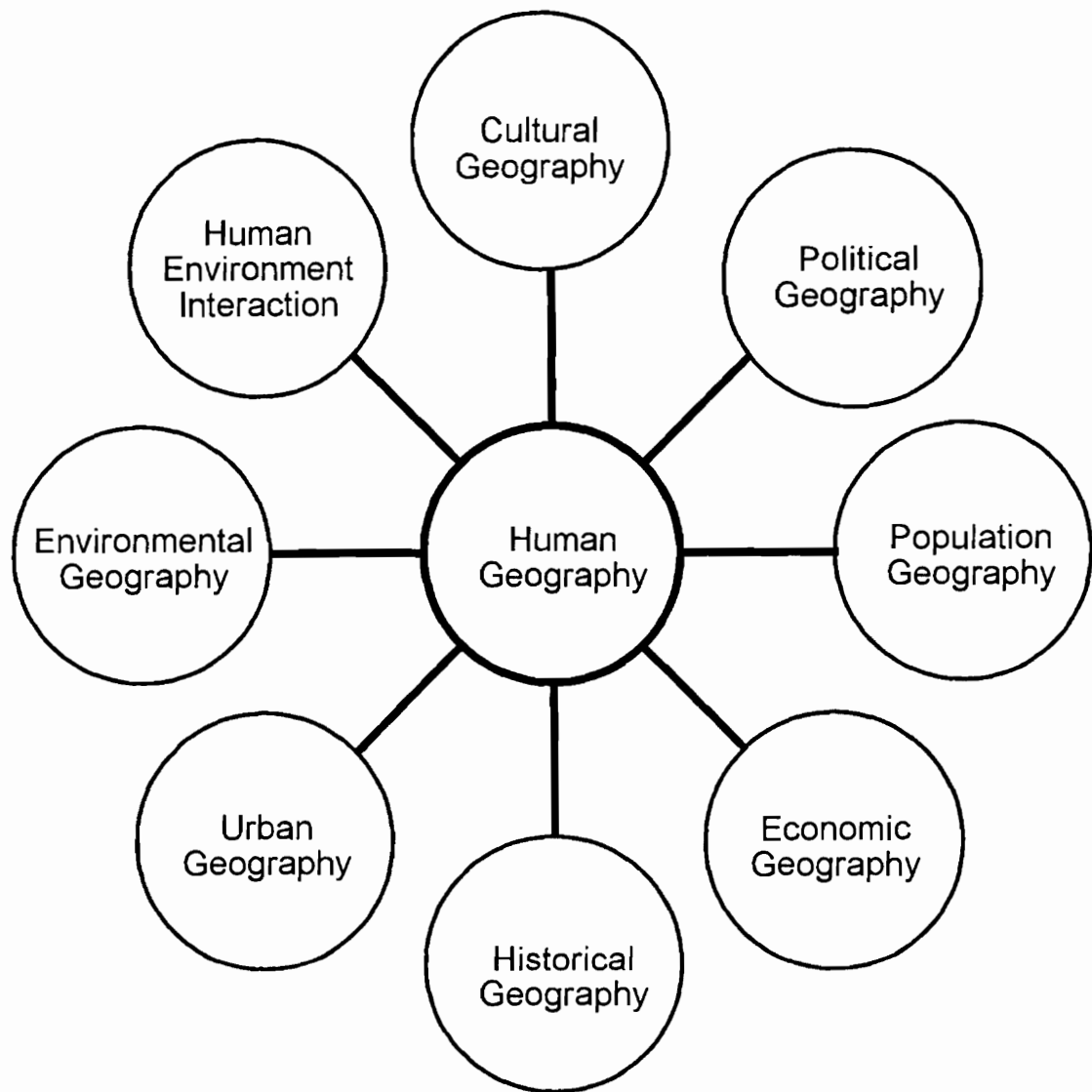
## Geography G110 Introduction to Human Geography

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### What Is Human Geography?

At present, your understanding of geography and, more specifically, human geography is likely to be unclear. That's okay! It's nothing to be embarrassed about because there is a good reason for it. Many people believe geography is only about looking at maps, memorizing state capitals, or reading about exotic places in magazines like *National Geographic*. This view is unfortunate because it hides the fact that human geography is a complex and important field of study.

Human geography is a broad discipline, encompassing numerous geographic subdisciplines, or areas of study. The diagram on the following page illustrates the field of human geography (at the center) with just a few of its subdisciplines (outer circles). Please take a moment to study this diagram.



Now you should have a better idea as to the parameters of human geography, but you might not have a mental definition clear enough to explain to your friends exactly what it is you are studying. Here's my definition:

Human geography is the study of the spatial organization of human activity and of people's relationships with the environment around them.

Other geographers' definitions of human geography would likely vary from mine. Of course, the number of different definitions is a result of the broadness of the discipline. But essentially, human geography is the study of nearly everything involving humans that happens on Earth.

In order to understand human geography, it's useful to explain its sibling, physical geography, and the symbiotic relationship between these two disciplines. If you keep the aspects of space and time intact and replace human activity with the physical systems of the world, you have a definition of physical geography. Physical geographers observe the effects of Earth's physical processes, such as hurricanes or el Niño, over space and time. Just as human geography contains many subdisciplines (e.g., population geography, political geography, and economic geography), so does physical geography. (Its subdisciplines include geomorphology, climatology, meteorology, and so on.)

Although human geography and physical geography are distinct fields of study, sometimes the two fields overlap. For example, suppose we are studying a drought in Africa. First, we could approach the drought from a meteorological or climatological perspective, commenting on how the weather patterns or climate contributed to the drought. Additionally, a human geographer could make inquiries as to the drought's implications for population growth, migration, food supplies, the development of the region, or some combination of these items. Thus the branches of geography are distinct, but they are also interrelated in many ways.

The diagram on page vi is useful for understanding human geography and its related fields. However, it is a bit incomplete. You'll notice that it does not list the field of physical geography, but it does include environmental geography. From the diagram, you might come to the conclusion that physical geography and environmental geography are the same thing, but that is not so. These fields are different, but both are related to human geography. Environmental geography intersects with the study of human geography because it focuses on the ways humans affect the physical systems of the earth. For example, environmental geographers might study how the Industrial Revolution contributed to global warming. While physical geographers observe Earth's physical processes, environmental geographers look at the *human impact* on those processes.

## Design of the Course and the Lessons

I have designed this learning guide to help you organize your study of human geography and focus on the most important concepts in the textbook, *The Cultural Landscape: An Introduction to Human Geography* (updated seventh edition) by James M. Rubenstein. To succeed in an independent study course, it is important to set a strict yet reasonable schedule and stick to it. The *Making a Schedule* worksheet at the beginning of this learning guide can assist you in setting your deadlines.

This course contains twelve lessons. Lessons 1–5 and 7–11 are study lessons, while lessons 6 and 12 are the midterm and final exams, respectively. Each study lesson has four parts, as follows:

### **Objectives**

A set of objectives explains the topics and goals of the lesson. When you have completed the lesson, go back to this list to be sure you can perform the lesson's objectives.

### **Reading Assignment**

The reading assignment tells you which textbook chapters you must read to complete the lesson. Because several of the lessons in this course cover more than one textbook chapter, I strongly suggest paying equal attention to all readings within a lesson. The author of the textbook, James M. Rubenstein, does a good job of highlighting key terms in each chapter by putting them in boldface type. You can locate their definitions at the back of the textbook. Pay particular attention to these terms because they will help you gain a deeper understanding of geographic concepts. Finally, since this is a geography course, be sure to study the maps and diagrams in the textbook. These images illustrate the concepts in the readings, and they can help you to better understand geographic ideas.

### **Discussion**

A discussion section introduces the reading assignment. This section is designed to focus your attention on the major geographic concepts and issues you'll encounter in the textbook, expand these concepts, and provide additional information. Read the lesson's discussion section *before* doing the textbook reading assignment. The discussion provides you with examples, questions to think about, and new terms.

Remember, this learning guide is *not* a substitute for the textbook. To succeed in this course, you must carefully read and take notes on the assigned chapters in the textbook. Since all of the material in the discussion sections and reading assignments is fair game on the exams, be sure to read everything that is assigned and to take notes as you read.

### **Written Assignment**

The written assignment contains questions for you to answer and submit to your instructor for grading. Although the number of questions varies, I expect the same amount of work to be done for each lesson. Some questions require more complex answers than others, but you should aim to write between one-half page and two pages for each question; your instructor will give you feedback about the length of your answers after lesson 1.

Look over the lesson's written assignment prior to beginning the reading assignment to help you focus on key points. I've tried to make the assignments as equal as possible, given the content of the readings. If you answer the questions as completely as the readings allow, you will do very well in this course. Feel free to bring in other relevant knowledge you have about the topics when the situation arises, as this can only help to make your answers richer and more complete. I encourage you to draw on personal experiences and knowledge of current events in your town and around the world. While most of your responses will be based on the textbook readings, you should not copy your answers directly from the textbook or simply change a few words. Instead, summarize what you have read and learned in your own words, incorporating personal experiences, current events, and examples. Additionally, I implore you to contact your instructor if you need assistance or if there is any part of an assignment that you don't understand (see the Contacting Your Instructor section at the end of this introduction).

If you have access to a computer or typewriter, please submit typed, double-spaced answers. If not, you may neatly handwrite your answers. You may complete the optional Internet-based **Web Quest** for a lesson instead of answering certain written assignment questions. These alternatives are indicated in the instructions for each written assignment. The Web Quests entail accessing Web sites and answering questions pertaining to the information you come across.



## Grades and Examinations

The ten written assignments are each worth 15 points, for a total of 150 points total, or one-third of your final grade.

The course has two exams: a midterm in lesson 6 and a final in lesson 12. The exams consist of multiple-choice questions, true/false statements, and several essay questions. Lessons 6 and 12 provide more information, instructions for arranging to take the exams, and tips for studying. Each exam is worth 150 points, or one-third of your course grade.

Ten written assignments	150 points
Midterm examination	150 points
Final examination	<u>150 points</u>
Total points possible	450 points

The following grading scale applies:

<b>Grade</b>	<b>Points</b>
A+	437–450
A	419–436
A–	405–418
B+	392–404
B	374–391
B–	360–373
C+	347–359
C	329–346
C–	315–328
D+	302–314
D	284–301
D–	270–283
F	0–269

**Important:** The average of your exam grades must be a D– or better for you to pass this course. Your lesson grades will not be used to calculate your final course grade if you have not achieved the D– average on your exams. Even if your lesson grades are excellent, you will not pass the course unless the average of your exam grades is at least a D– .

## Plagiarism

As stated in Indiana University's *Code of Student Rights, Responsibilities, and Conduct* (Art. III, § A.3), "A student must not adopt or reproduce ideas, words, or statements of another person without an appropriate acknowledgment. A student must give due credit to the originality of others and acknowledge an indebtedness whenever he or she does any of the following:

- a. quotes another person's actual words, either oral or written;
- b. paraphrases another person's words, either oral or written;
- c. uses another person's idea, opinion, or theory; or
- d. borrows facts, statistics, or other illustrative material, unless the information is common knowledge."

## Contacting Your Instructor

With each lesson you are required to submit an assignment cover sheet. Every assignment cover sheet has a space for your questions and comments; you are strongly encouraged to use this space. If problems arise between assignments, you can write to your instructor at the Independent Study Program. Many instructors can be contacted via e-mail or reached by telephone during established office hours. To learn your instructor's e-mail address and/or office hours, please refer to the contact information on the back cover of this learning guide.

I am positive that you'll learn a great deal through this course and discover new ways of looking at our world. Enjoy learning about human geography!

# Required Study Materials Order Form

## Geography G110

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If you have not ordered your textbooks yet and wish to order them from the IU Bookstore, please check off the books you want and fill out the information on the back of this page.

Prices are current as of this printing and are subject to change.

**Approximate  
Price**

- Rubenstein, James M. *The Cultural Landscape: An Introduction To Human Geography*. Seventh edition. Upper Saddle River, NJ: Prentice Hall, 2003. ISBN 0-13-046023-0

\$84.00

Subtotal \_\_\_\_\_

Indiana residents add 6% sales tax \_\_\_\_\_

Handling & Transportation (\$8.00 per course) \_\_\_\_\_

TOTAL \_\_\_\_\_



# 1

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## The Historical Evolution of Geographic Thought

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Geography is the study of Earth as the home of people.

—Yi-Fu Tuan

### Objectives

When you have successfully completed this lesson, you will be able to

- summarize the history of human geography,
- explore responses to the questions that human geographers ask about *where* activities and events happen and *why* they happen where they do,
- define the basic geographic concepts used throughout this course,
- apply the methods of geographic analysis presented in this lesson.

## Reading Assignment

- Learning guide, introduction
- Rubenstein, *The Cultural Landscape: An Introduction to Human Geography*, chapter 1, “Thinking Geographically”

**Note:** Be sure to pay attention to the key terms in bold typeface in the textbook. The terms are defined at the back of the textbook.

## Discussion

This lesson has two goals. The first is to familiarize you with the history of geography and how it has progressed over the past several thousand years. The second goal is to introduce you to a host of geographic concepts that will help you understand the material presented in the lessons that follow.

The term *geography* comes from the Greek words *Geo* (Earth) and *graphy* (to write); thus, *geography* literally means “to write about the earth.” In this course we will study human geography. We will explore the relationship between humans and our planet, a theme that is reflected in the quote by Yi-Fu Tuan at the beginning of this lesson. No matter how we look at it, the study of human geography is a pretty big undertaking, since, as the geography wheel in the introduction to this learning guide exhibits, human geography can be related to almost every field of study. Of course it would be very difficult to be an expert in everything, so geographers have adopted a unique viewpoint, what can be termed a “spatial perspective.” Geographers ask three essential questions: Where are things located? Why are they located where they are? How does their location influence things in other places? This last question relates to Waldo Tobler’s first law of geography according to: “Everything is related to everything else, but near things are more related than are distant things” (Paul L. Knox and Sallie A. Marston, *Places and Regions in Global Context: Human Geography*, third edition [Upper Saddle River, NJ: Pearson Education, 2004], 19). As you will see, in a world of globalization asking these questions becomes increasingly important.

In the introduction, we defined human geography as the study of the spatial organization of human activity and of people’s relationships with

the environment around them. To gain a better understanding of this definition, let's investigate the long and storied history of geography. Many of the names will be familiar to you, but you may have never known they laid the groundwork for geography. As you read this discussion and the textbook, try to formulate your own definition of geography. (You will have the opportunity to tell me your definition in the written assignment.)

## The History of Geography

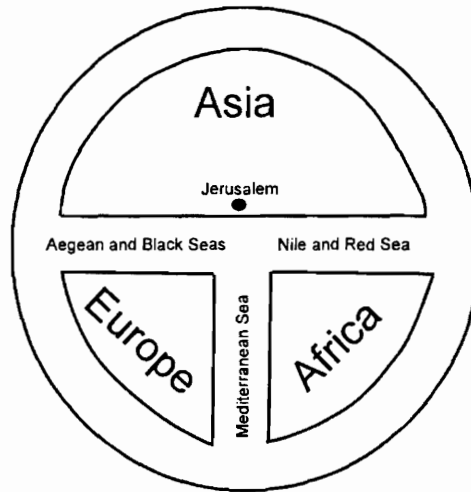
### Ancient Geography

The history of geography is rich with progress. Ancient Greek scholars recognized the relationships between humans and the natural environment around them and went to great lengths to understand these relationships. Their knowledge of the world was not surpassed until the Age of Discovery over 1,500 years later! The Greek philosopher **Aristotle** (384–322 B.C.) demonstrated the world was a sphere. **Eratosthenes** (276?–194? B.C.), who coined the term *geography*, was able to employ simple geometric principles to estimate the distance around the world to within four hundred miles.

Other important ancient scholars included **Strabo** (64 or 63 B.C.–A.D. 23?), who, between 8 B.C. and A.D. 18, wrote the seventeen-volume work *Geography*, which systematically described the relationships between humans and their natural environments in different regions of the known world (at least the world known to Strabo). **Ptolemy** (A.D. 100?–170?) wrote *Guide to Geography*, an eight-volume work that sought to describe the entire known world (at the time only Europe, Africa, and Asia), and created detailed maps with advanced coordinate systems. Interestingly, Ptolemy disregarded Eratosthenes's estimation of the world's circumference, instead accepting a much smaller estimate. Ptolemy also overestimated the size of Asia, which created the belief that the entire world lay within these three continents on a spherical earth.

Strabo and Ptolemy lived at the height of the Roman Empire, but after the Roman Empire fell in the third and fourth centuries, geographic knowledge declined to the point that Europeans believed the world to be flat. The accepted maps of the earth at the time were called **T-O maps**, showing a flat round earth consisting of Asia, Europe, and Africa, with Jerusalem the map's center (see the drawing at the top of the next page).

T-O Map



This regression in knowledge was not total, however; the works of the ancient Greeks were stored in the library of Alexandria in Egypt, and new advances were made in the other parts of the world. Chinese geographers, such as **Phei Hsiu**, were able to produce maps more accurate than those of their contemporary European cartographers (mapmakers) due to the knowledge gained from Imperial China's admirals who had navigated the Pacific and Indian Oceans.

Of special importance was the work of Islamic geographers during the European Middle Ages. While Europe had become a "backwater" of thought, Islamic power rose throughout the Middle East and Mediterranean during the seventh and eighth centuries. Baghdad, Damascus, Cairo, and Granada (a city in Spain founded by the Islamic Moors in the eighth century) became the world's centers of scholarship where Greek and Roman texts were collected and studied. Adding information gained through trade with China (along the famous "Silk Road") and the religious interactions of Islamic pilgrims to Mecca, geographic knowledge was greatly enhanced. The Muslim geographer **al-Idrisi** (1100–1165) was hired by Roger II, the Christian king of Sicily, to collect all geographic knowledge, which resulted in the creation of "Roger's Book."

Around 1445 Gutenberg created the first practical printing press, making the dissemination of books in Europe much more widely available than



ever before. In 1475 Ptolemy's *Guide to Geography* was printed and quickly became a best-seller, bringing the ancient Greek knowledge of geography to Europe during the Renaissance. One fan, **Christopher Columbus**, was inspired by Ptolemy's book. He accepted Ptolemy's underestimation of the distance around the earth and his overestimation of the size of Asia. Relying on these estimates, Columbus attempted to reach Asia by sailing west. Of course he instead stumbled upon the Americas, although Columbus died believing he had in fact reached Asia.

Columbus's accident, based on incomplete ancient geographical knowledge, jump-started the Age of Discovery and, in certain aspects, set in motion the rapid advancement of globalization. But at this point in history, geography was considered a descriptive science, meaning it would describe where places were and what they were like. While important, this approach asked only the *where* question. Today, we also ask *why* questions: Why are things located where they are? Why are these locations important?

### **Modern Geography**

We can trace the foundation for modern geography to several scholars in the eighteenth, nineteenth, and twentieth centuries. This discussion will give you more information about five of the scholars mentioned in the textbook.

**Immanuel Kant** (1724–1804), the German philosopher, saw geography as a spatial science. He believed that, much as history deals with changes over time, geography deals with changes over space. Kant also recognized several different types of geography, such as economic geography, geography of religion, mathematical geography, and political geography.

The German geographer **Alexander von Humboldt** (1769–1859) traveled throughout the world, including spending five years in South America looking at biological geography (the distribution of rocks, plants, and animals). In the process, he studied the interdependence of people, plants, and animals within specific environments, and examined how species adapt to the environment around them. To von Humboldt, geography was an integrative science, linking people and nature.

**Carl Ritter** (1779–1859), another German geographer, also saw geography as an integrative science, and he is credited with founding **regional geography**. Regional geography uses physical geography

Lesson 1  
Geography G110

concepts to classify regions of the earth with common characteristics and then seeks to understand how humans interact with the environment in different ways. Ritter's approach has led modern geographers to ask the question, how do humans interact with the environment around them?

Related to these two geographers and their views on human interaction with nature was the approach called **environmental determinism**, which claimed that the physical environment *scientifically caused* human activities. In this now discredited view, the environment is responsible for people's physical features (skin color, height, etc.) as well as for differences in their cultural activities. **Friedrich Ratzel** (1844–1904), another German geographer, advanced this idea by tying it to Charles Darwin's theories on survival of the fittest. Along with his American student **Ellen Churchill** and another American, **Ellsworth Huntington**, Ratzel argued that civilized cultures were the result of seasonal temperate climates where humans had to adapt to differing conditions. Unfortunately, this idea has been used to further unsavory ideals, such as racism.

Today, environmental determinism is considered too simplistic and has been replaced by **environmental possibilism**. Coming out of **cultural ecology**, environmental possibilism claims that the environment is influential in how people live, but it is not the only factor. It may contribute to human culture, but humans have the ability to adapt in different ways. Human adaptability explains why people in two similar environments can come up with completely different ways of life and how people in different environments can come up with similar ways of life. While environmental determinism claimed that the advanced (at the time) civilizations of northern Europe were the result of the physical environment, possibilism points out that over time great civilizations and advancements occurred in other physical environments, such as Mesopotamia, ancient Egypt and Ethiopia, and the Maya of the "New World." How could determinism explain the advancements in civilization in other parts of the world while Europe was stuck in the Middle Ages?

**Carl Sauer** (1889–1975) was one influential American geographer who rejected environmental determinism and contributed to the idea of environmental possibilism. He created what is termed the "Berkeley School" of cultural geography, so named because he was a professor at the University of California at Berkeley. Sauer's major contribution to geography was his idea of the **cultural landscape**, which focuses on human-environment interactions, as exemplified by his statement, "The

cultural landscape is fashioned from a natural landscape by a cultural group. Culture is the agent, the natural area is the medium, the cultural landscape the result” (John Leighly, ed., *Land and Life: A Selection from the Writings of Carl Ortwin Sauer* [Berkeley: University of California Press, 1963], 343). Sauer rejected environmental determinism and focused on unique landscapes created by the interaction of physical environments and cultural groups.

### **Approaches to Geography Today**

While what we have discussed is only a snapshot of the many contributors to geography, let’s now look at where they have led us. Geography can be broadly divided into two main branches, physical geography and human geography. **Physical geography** deals with earth’s natural processes, such as landforms, climates, soils, vegetation, and hydrology. **Human geography** deals with the spatial organization of human activity and of people’s relationships with the environment around them.

Another way to divide geography is between systematic geography and regional geography. **Systematic geography** focuses on a certain geographical theme, such as climate or economics, and examines it throughout the world. **Regional geography** focuses on certain regions, such as Latin America or Africa, and examines several geographical themes for that particular area. Refer again to the geography diagram in the introduction to this learning guide (page vi) to see many of the different topics for geography that can be studied using either systematic geography (focusing on one theme around the world) or regional geography (focusing on several of the themes for a specific region). This course will be oriented toward the systematic focus of human geography, with each chapter looking at a specific human geography theme, the processes responsible for where it is distributed around the world, and why it is important.

## Questions Geographers Seek to Answer

### **Where?**

Until you began this course, you may have thought that geography was simply about memorizing the names of places on a map. Identifying place is important, but it is only the beginning of geographical inquiry. The first question geographers ask is *where*. Rubenstein defines **location** as “the position that something occupies on Earth’s surface” (page 11). We can

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answer *where* questions in four ways by describing the following features of a location:

- place-name, also known as a toponym
- situation
- site
- mathematical location

Take a moment and try to define where you live using these four ways of describing location. For example, the **place-name**, or **toponym**, of the city where I currently reside is Bloomington, Indiana. Its **situation** is fifty miles southwest of Indianapolis, found in the rolling hills of southern Indiana, its **site**. The **mathematical location** of Bloomington is 39°8' N, 86°37' W.

### How Geographers Understand Reality

Reality is generally described in three dimensions. The term **three-dimensional space** simply means that we can pinpoint any location within our world using three lines. Imagine you are standing, with three lines running through you. The first of the three lines is the **latitude**, which runs across you from left to right, or shoulder to shoulder. The second is the **longitude**, which runs up and down, from your head to your feet. The last line is the **transverse**, which pinpoints depth and runs from your stomach to your back. If an object possesses these three dimensions, then it can be located in space.

Geographic analysis is further enhanced by incorporating a fourth dimension, **time**. Combining the three dimensions above with the dimension of time allows us not only to pinpoint something in space but also in time. This powerful way of thinking is very useful for analyzing specific **trends** for a particular place or several places around the world.

Let's use the four dimensions to think about population growth in India. India has a fixed population at present: the population is approximately one billion. This fact alone, although interesting, does not give us much room for analysis. However, as we will learn in lesson 2, India's population is expected to double to two billion in fifty years. This figure was projected by looking at current population statistics and how they will impact future population growth for a particular location. This process is useful because it gives information about expected population growth to the people who have to cope with and plan for such extreme increases.

It might be useful for you to think about the four dimensions in your daily life. When you leave your house and drive, ride your bike, or walk to the store, think about how matters of time and space play a role in your journey. Try analyzing the geographic aspects of the events that happen in the daily news. Everything that happens has a particular location and a particular time in which it happens. These are the geographic concepts that allow us to order our reality.

If we can answer *where* for one place, we can answer *where* for several places. At this point, the fun begins! Once we answer the *where* questions for one or more locations, we can then approach the very interesting *why* questions.

### **Why?**

To understand why things are located where they are and distributed as they are, geographers generally apply two sets of organizational tools, or methods of analysis: regional analysis and spatial analysis. These tools allow geographers to analyze spatial events in terms of their locations and relationships. Each method of analysis has its own terminology and concepts. Be sure you have a clear understanding of these methods and can discuss the concepts related to each type of analysis.

### **Regional Analysis**

Regional analysis, or what Rubenstein calls regional studies, identifies the unique geographic characteristics of a place or area. Rubenstein identifies three types of regions:

- formal
- functional
- vernacular

A **formal region** has a defined boundary, within which everything shares some trait. For example, the state of Indiana is a formal region, and within it everyone must follow the state's traffic laws. A **functional region** has a center, and within Indiana you can see many of these. For example, listeners of Indiana University radio station WFIU get good reception near Bloomington, but the farther away from Bloomington they travel, the worse the signal gets, until eventually listeners can no longer pick up the station. A **vernacular region**, or a perceptual region, is a bit trickier to define. Some people believe that southern Indiana is part of the South, a vernacular region of the United States. Most of us agree that there is a

region called the South, but we all probably have different perceptions of where its boundaries are. Some would say the line dividing the South from the North runs through Bloomington, Indiana. Others would say it starts at the Ohio River where Indiana and Kentucky meet, with Kentucky as part of the South. Still others would claim the dividing line for the South is the northern border of Tennessee. None of these views are wrong; each person bases his or her understanding of vernacular regions on an individual mental map. Each of us has a different reason for choosing a particular boundary according to different criteria—e.g., climate, dialect, religion, or even food or musical preferences.

### **Spatial Analysis**

Spatial analysis focuses on the interactions between two or more areas, including the **diffusion**, or spread, of people and their characteristics from one place to another over time. Rubenstein defines **distribution** as “the arrangement of a feature in space” (page 4). Throughout the course, we will explore the spatial distribution of languages, religions, industries, agriculture, and other phenomena. Be sure you can properly use the terms that describe the spatial arrangement of phenomena, because you will see them again in later lessons. They include the following:

- density
- concentration
- pattern
- relocation diffusion
- expansion diffusion
- hearth

Each of these concepts will be crucial in the chapters that follow. As we cover the topics in the course, we will often begin with the current distribution of some phenomenon around the world and then attempt to understand how it came to be that way and why it is important. For example, we will look at the current distribution of Islam around the world, where it began (its hearth), how it diffused to its present distribution, and how it interacts spatially with other religions, among other human geography topics.

### **Globalization**

Within the study of geography we can either use one of many preexisting regions or create our own region for analysis. The largest region is, of course, the planet Earth. In other words, there is a global region where we

can analyze spatial phenomena in terms of a global process. We call the process whereby events and activities become worldwide **globalization**, and this process is becoming increasingly important. The common phrase “the world is getting smaller” refers to the increasing familiarity we have with places all over the globe. However, we could just as well claim that the world is getting bigger. Think of the world that your grandparents knew about at your age; it probably was relatively small due to limited access to transportation (trains, steamships, etc.) and communications (telegraph, mail, telephone). Today we have supersonic airplanes and a globally connected internet through which people, goods, and information can flow rapidly from one place to another. As such, the world we know about is bigger than the one our grandparents knew about, and events in other parts of the world effect us more directly than ever before. Thinking of globalization this way exhibits the importance of geography in the modern world.

The process of globalization has economic, cultural, and political implications, which we will examine throughout the course. For now, think about the origins of the products you buy (e.g., clothes, computers, cars, stereos, etc.) and the foods you eat. Note, however, that globalization does *not* mean individual cultures are becoming more homogenous. In fact, many cultures are intent on preserving their distinct cultural traits during this era of globalization.

## Written Assignment

Answer the following questions as completely as the readings allow. I encourage you, when possible, to draw on outside sources or personal knowledge. Either type and double-space your answers or neatly handwrite them.

If you have Internet access, you may complete the Web Quest rather than answering question 5.

1. Geographers are required to know certain vocabulary relevant to the discipline. Using examples, briefly define the terms listed below.
  - a. location
  - b. scale
  - c. projection

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- d. GIS
  - e. map
  - f. toponym
  - g. site
  - h. situation
2. When locating a place on a map, it is important that geographers be precise. Use the information in chapter 1 and the map of the globe on pages xviii–xix of the textbook to answer the following questions.
- a. What is the approximate longitude of the westernmost part of South America?
  - b. What is the approximate latitude of New York, in the United States?
  - c. What is the latitude of the equator?
  - d. What is the name of the line that runs at a longitude of  $0^\circ$ ?
  - e. What is the approximate longitude and latitude of Santiago, Chile?
3. In this era of high technology, the impact of globalization is more evident every day. First, define globalization. Next, discuss the dynamics of globalization as it affects economies and cultures around the world. Finally, give an example of how globalization affects your life.
4. Regional analysis and spatial analysis are two approaches geographers use to answer *why* questions. Each approach has its own terminology (see the bulleted lists for each approach on pages 9 and 10 of this learning guide). Describe a situation you are familiar with using these terms. Make sure to use the terms appropriately. You may use as many examples as you need to answer the question.
5. If there were no maps, could geography exist as a discipline? Why or why not?

 **Web Quest**

If you have Internet access, you may complete this activity rather than answering written assignment question 5.



This Web Quest will give you more definitions of human geography and let you create your own definition. Also, you will get the chance to view some ancient maps created by a few of the historical figures we've discussed in this lesson.

Go to the About Geography Web site (<http://geography.about.com/>). This site provides a lot of excellent information pertaining to geography. You may want to bookmark it for future reference. Click on About Geography in the menu on the left side of the page, scroll down and click on General Geography Articles, and finally click on All About Geography. Browse through the information and click on [Click here](#) for additional definitions of geography. The reason I am having you navigate this site is to get you familiar with it, but if you are having problems you can just follow this link:

<http://geography.about.com/library/misc/blquote.htm>

When you have finished looking at the various definitions of geography, answer the following questions.

- WQ1. Based on the information you have looked over in the textbook reading, in the learning guide discussion, and at the Web site, which definition of geography makes the most sense to you?
- WQ2. Why did you choose this definition? Often your choice will reflect what you find interesting or important.
- WQ3. In what ways can geography be useful to you in your current field of study or occupation?

Now click on Historic Maps in the menu on the left side of the page. Scroll down and click on Ancient Atlas, then World Maps. Browse through the different world maps by Crates, Eratosthenes, the Orbis Terrarum, and Strabo. Again, if you are having problems navigating the site, just follow this quick link:

[http://ancienthistory.about.com/library/bl/bl\\_maps\\_world.htm](http://ancienthistory.about.com/library/bl/bl_maps_world.htm)

Once you have examined the maps, answer the following questions.

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- WQ4. For Crates's map, why did he create three additional continents beyond the "known world" at the time? Noting the map's striking resemblance to the world we know today, do you believe the ancient Greeks had more geographic knowledge than we give them credit for?
- WQ5. Briefly discuss some of the similarities of the maps by Eratosthenes, Strabo, and the Orbis Terrarum.

At the end of each lesson there is an assignment cover sheet. When you've finished your written assignment for lesson 1, tear out and complete the cover sheet and attach it to the front of your assignment. Please make sure that you attach the lesson label with the same number as your written assignment at the top right corner of the cover sheet. Follow this procedure with all written assignments, and be sure to include your student identification number on all correspondence with the Independent Study Program.

With this first lesson, please fill out and submit the student information form at the end of this lesson.



## Student Information

Please complete the following information and send it to your instructor with your first written assignment.

Course \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

S.Id. Number \_\_\_\_\_ Age \_\_\_\_\_

Why are you taking this course? \_\_\_\_\_

\_\_\_\_\_

What is the last grade level you completed? \_\_\_\_\_

\_\_\_\_\_

Please list any courses you have taken in the past, or those you are currently taking in the same subject area as this course.

Course	Grade Level	Date Completed

Are you currently enrolled in school? \_\_\_\_\_

If yes, what is the name and location of your school? \_\_\_\_\_

\_\_\_\_\_

University students: Major \_\_\_\_\_ Minor \_\_\_\_\_

Career plans \_\_\_\_\_

Present occupation \_\_\_\_\_

If you have a deadline to meet in completing this course, what is it? \_\_\_\_\_

\_\_\_\_\_

Please add any additional comments that will help your instructor understand your individual needs or possible problems to the back of this form.

# 2

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## Population Geography: The Measurement and Implications of Growth

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### Objectives

When you have successfully completed this lesson, you will be able to

- explain how the earth's population is distributed,
- describe the dynamics of population growth and its basic measurements,
- critically discuss the ramifications of population pressure and the availability of resources,
- debate the issue of population growth.

### Reading Assignment

- Chapter 2, "Population"

## Discussion

Since the task of human geography is to study the activities of humans across the earth, it's necessary to have a way of studying the most basic aspect of human geography: people. **Demography** is the study of population characteristics as they pertain to a particular region or society. Demography, which is a product of geographic thought, has grown into its own discipline over the years, yet it still relates directly to the study of human geography.

The goal of this lesson is to introduce you to the distribution of people around the world and the dynamics of population growth. Where are people located? Why are they there? How do populations grow or shrink? Why is studying population growth important? Chapter 2 of the textbook focuses on population measurements, distributions, and trends.

### Population Distribution

Earth's population is not randomly dispersed across lands. In fact, there are many logical reasons why population clusters exist in areas called the **ecumene** and why some areas remain sparsely populated. Some physical environments—such as dry lands, wet lands, cold lands, and high lands—are not conducive to supporting large settlements. These places are either inaccessible or they lack climates and soils that are suitable for growing a sufficient base of agricultural products. Let's examine the areas within the band of Earth 20° north and 20° south of the equator. This zone is one of the hottest regions on the planet; the countries at these latitudes are burdened with vast deserts or are covered by exceedingly wet, impenetrable rain forests. Neither land type is capable of supporting large numbers of people. Here we have an example of the interrelationship of physical and human geography.

### Population Dynamics

The size of a population, either for a particular place or the entire earth, is always in a state of change. Two main forces are at play in this dynamic, fertility and mortality. Excluding migration (covered in the next lesson), population growth or decline can only occur through births and deaths.

Beginning with this premise, let's examine the most basic measurements of population dynamics.

### **Crude Birth Rate**

Population grows with births, and the **crude birth rate (CBR)** is used to measure this growth. The CBR is the number of births in a year for every 1000 people in a country. The reason for relating it to every 1000 people is to level the playing field, so to speak, in order to make the measurements comparable between countries. China, with over 1.2 billion people, will almost certainly have more total births than a country such as Niger, with only 11 million people. But comparing the total number of births will tell us little about the population dynamics within each country. By making the figures relative to population size with the CBR, we can then compare the different rates for each country. For instance, China has a CBR of only 14 births per 1000 people and Niger has a CBR of 52 births per 1000 people.

### **Total Fertility Rate**

Related to the crude birth rate is the **total fertility rate (TFR)**. The TFR is the average number of children a woman in a particular country will have during her childbearing years. The larger the TFR, the larger the crude birth rate. As an example, China has a TFR of only 1.7; Niger, on the other hand, has a TFR of 7.2.

### **Crude Death Rate**

Population declines with deaths, and this rate of decrease is measured with the **crude death rate (CDR)**. The CDR is the number of deaths in a year for every 1000 people in a country. Again, it is presented as a rate to make it comparable between countries. Many factors influence death rates, including access to health care, sanitation, and even how elderly a population is. To continue with our comparison, China's CDR is 7 deaths per 1000 people, and Niger's CDR is 22 deaths per 1000 people.

### **Infant Mortality Rate**

The **infant mortality rate (IMR)** is defined as the total number of deaths of infants before their first birthday for every 1000 births in a country. China has 29 infant deaths per 1000 live births, while Niger has 127 infant deaths per 1000 live births. For Niger, then, over 1 in 10 children will die before their first birthday. The stark difference in these comparable rates tells us much more about the population dynamics and health care within each country than total number of infant deaths by itself would.

### **Life Expectancy**

**Life expectancy** is the average number of years a person will live, given the current conditions of a country. A person born in China today will live around 71.4 years, while a person born in Niger will live an average of 42.2 years.

### **Natural Increase Rate**

The **natural increase rate (NIR)** measures the percentage growth of a population in a given year. It is calculated as the crude birth rate minus the crude death rate (CBR – CDR), and then converted to a percentage. For China the NIR is 0.7 percent, or an increase of 7 people for every 1000 people in the population. For Niger, the NIR is 3.0 percent, or an increase of 30 people for every 1000 people in the population. While these NIR percentages seem low (and many of us would welcome such low rates for our credit cards or student loans), these countries are not paying against the population balance, so the growth in population can become rather eye-opening as it compounds over time.

### **Doubling Time**

The **doubling time** is the number of years it will take a population to double in size. The easy way to calculate this figure is to divide the number 69 by the NIR percentage. For China, 69 divided by 0.7 is 99 years. For Niger, 69 divided by 3.0 equals 23 years, meaning its population will be twice as large as it is today in only 23 years! What appears to be small changes in the NIR can have large repercussions. But it is important to remember that the NIR does change over time, thereby altering the doubling time.

### **Zero Population Growth**

In order for a country to become stable, the NIR must equal zero, a situation that occurs when births equal deaths. This point is called **zero population growth (ZPG)**. The total fertility rate that creates ZPG varies, but is generally between 2.1 and 2.4. Logically we might believe this rate should be 2, since if a woman has two children, they will replace her and her partner in the population when the couple dies. However, since some women die before reaching childbearing age, the number is adjusted upward depending on the prevalence of such occurrences.

As can be seen by the comparison of China and Niger in these population measurements, the size of a population can be misleading. Comparable rates are much more informative of the population dynamics occurring



within a country. Just think of the issues Niger presently has and will have in the future regarding its exploding population, as opposed to China, which has a substantially larger population but a much smaller NIR. We must also keep in mind that the NIR excludes the amount of people migrating to or from a country. Due to migration to the United States, its population is rising, even though it has a TFR of 2.1, or ZPG.

## Demographic Transition

For the majority of human history, population size remained somewhat stable, with fluctuating crude birth rates and crude death rates that averaged out to a natural increase rate of 0 percent. Around 8000 B.C. an agricultural revolution that created a slow, almost negligible, rate of natural increase took place. However, in the past 250 years several other “revolutions” that have resulted in an exponential growth of human population around the globe have occurred. This growth has not been the same everywhere at the same time, but has followed a logical sequence. From this pattern, geographers have created a model that is referred to as the **demographic transition**.

The demographic transition model ties population growth with economic development. The model assumes that over time high crude birth rates and high crude death rates will gradually be replaced by low rates as advances in agriculture, medicine, industrialization, and urbanization occur. In stage 1, a society is characterized by a high CBR and a high CDR, with an NIR of 0 percent and a stable, low population size. Stage 2 sees a continued high CBR and a falling CDR, which equals a high NIR and resultant population growth. Stage 3 sees the CDR stabilize and the CBR begin to fall, but population growth continues, just with a lower NIR. Stage 4 occurs when the CBR falls to the level of the CDR, and population growth stabilizes as the NIR equals zero, or even becomes negative when the CBR falls below the CDR (as can be witnessed in several countries of Europe today).

A society moves from stage 1 to stage 2 because of technological change. However, the change which propelled more developed countries (MDCs) from stage 1 to stage 2 over two hundred years ago came as a part of the Industrial Revolution, which generated more wealth. In contrast, less developed countries (LDCs) moved from stage 1 to stage 2 within the

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last fifty years or so due to the importation of medical technology from MDCs rather than through home-grown technological change.

A society moves from stage 2 to stages 3 and 4 due to changing social attitudes and improved economic conditions. More developed countries can impose technological change on less developed countries, through export of medical technology and agricultural innovation, but can they impose new social attitudes as well? And can the world sustain a global population using resources at the high level currently seen in MDCs such as the United States? While a country like England took over 220 years to progress to the fourth stage of the demographic transition, most of the LDCs of the world are expected to do so in 50 years. Current trends indicate that this shift is occurring, but world population is not expected to stabilize until the year 2050, when it is expected to reach 9.3 billion people.

Take a moment to read the Case Study Revisited on pages 66–67 of the textbook to get a better understanding of how China has been able to lower its NIR. Do you believe such drastic measures are justified given the daunting problem of an exploding population?

### Overpopulation or Population Pressure?

Is the world overpopulated? That is, are there too many people to be supported by the available food supply and resources? This question addresses the main issue pertaining to population growth dynamics. Of course, if the world population were to grow to the point that no one has any room to stand, we would definitely be overpopulated, since our world is finite but population growth is not. Foregoing the idea of colonizing Mars, the question becomes at what point did we, do we, or will we overpopulate the earth?

**Thomas Malthus** (1766–1834), an English economist and clergyman, believed in a doomsday scenario where population growth would outpace human ability to produce food, leading to famine, war, and diseases. Writing at a time when England was going through the Industrial Revolution and was entering the second stage of the demographic transition, he did not foresee the technological expansion in food supply that allowed production of food to outpace population growth.

**Neo-Malthusians**, present day believers of Malthus's ideas, point out that the majority of future population growth will occur in LDCs, places where food production and other resources may not be able to keep pace with rapid population growth. They call for limiting population growth in these countries to avoid future famines and wars over resources. Acknowledging that technological improvements today and in the future will increase food supply and the availability of other resources (like water, energy, etc.), neo-Malthusians point out that limiting population growth will allow for more resources to sustain fewer people, in effect increasing wealth around the world. To illustrate this point simply, imagine you have a medium pizza to feed you and a few of your friends. If you get a large pizza instead, and keep the same amount of friends, then everyone will have more slices. However, if you invite over more friends to eat the large pizza, then everyone will get less.

**Karl Marx** (1818–1883) and **Friedrich Engels** (1820–1895) viewed the overpopulation debate differently. They believed that there was enough food and other resources in the world to sustain the burgeoning population; the problem was that the resources were unevenly distributed. So while people in the United States, Canada, and Europe had more than enough to sustain themselves, people in other parts of the world did not. They also acknowledged that technological improvements could increase resources, but if such improvements were not equitably distributed, then famines and wars would continue to plague humankind.

Finally, there are the **cornucopians**, named after the fabled horn of plenty. The cornucopians have a completely different view on overpopulation. They believe that there is no population problem at all because the world is rich in resources; we just have to improve our technology to use them. Since every person born offers skills and ideas, the more people we have, the more technological advancements we will have. To illustrate the point, they believe that the more people that are born, the more Einsteins and Mozarts will be created, thereby improving the lives of everyone in the world.

These differing views exhibit the controversial nature of the population growth issue. The textbook refers to this issue as the world's "overpopulation problem." But **overpopulation** occurs when there are more people than the world's resources can sustain. Using this term implies that the world is already overpopulated, which is not necessarily a valid statement.

Contemporary geographers often use the term **population pressure** to better explain the situation. Population pressure is a more flexible term than overpopulation because it allows differences between places to be compared. For example, the population pressure on food supply in Ethiopia may be much higher than the population pressure on food supply in Canada for many reasons—population density and technology used in farming, among other factors. Population pressure acknowledges the impact population growth has on resources but allows for differences between places, technological advances, and changes in population growth that can alter the point at which a place becomes overpopulated.

## Written Assignment

Answer the following questions as completely as the readings allow. I encourage you, when possible, to draw on outside sources or personal knowledge. Either type and double-space your answers or neatly handwrite them.

If you have Internet access, you may complete the Web Quest rather than answering questions 2 and 3.

1. Briefly summarize the settlement patterns that exist throughout the world. Do not discuss every region individually, but try to make generalizations about physical environments (for instance, water, mountains, desert, etc.), climates, and other features. Also, explain the population distribution across regions. For example, you might write that x percent of the world's population is located in X region. **Hint:** This information is located in chapter 2.
2. Define the following terms that are often used by demographers and population geographers. Include how these terms are expressed (e.g., percentages, 1/1000, etc.). Also, **give examples** of highs and lows for each of these items using the statistics given in the textbook.
  - a. natural increase rate (NIR)
  - b. doubling time
  - c. crude birth rate (CBR)
  - d. total fertility rate (TFR)
  - e. infant mortality rate (IMR)

- f. life expectancy
  - g. crude death rate (CDR)
3. Explain the fundamental principles of population pyramids and how they are used. Also, draw a population pyramid for a typical MDC and a population pyramid for a typical LDC (you don't have to pick specific countries, just sketch the general look of each pyramid). Explain how each pyramid reflects the society and its level of development, in general.
  4. The textbook and discussion provide four different views on the overpopulation/population pressure debate. Which one do you believe is most relevant? Which one do you believe is least relevant? Be sure to explain your opinions.
  5. Some people argue that a baby born in an MDC poses a greater threat to global population pressure than a baby born in an LDC because people in MDCs use a much greater share of the world's resources than a people in LDCs. Do you agree? Why or why not?

### **Web Quest**

**Note:** If you have Internet access, you may complete this activity rather than answering written assignment questions 2 and 3.

This Web Quest will help you better understand population dynamics and the impact that differential rates of population measurements have on population growth. Thus, the assignment consists of two parts. First, via the Web, you will read an international brief from the U.S. Department of Commerce addressing world population growth. Second, you will visit the U.S. Census Bureau's Web site to compare and contrast different population measurements for four countries and calculate their natural increase rates and doubling times.

#### **Part I: World Population Growth**

The international brief "World Population at a Glance: 1998 and Beyond" is an Adobe Acrobat PDF file, which means you may need to download Adobe's free viewing software. To read the international brief, go to the following address.

<http://landview.census.gov/ipc/prod/wp98/ib98-4.pdf>

Then answer the following questions:

- WQ1. What is the world's population projected to be in 2050? What percent of this growth will occur in Africa, Asia, and Latin America? Why is this significant?
- WQ2. Compare the life expectancies in 1998 for Western Europe and Sub-Saharan Africa. How does this relate to their stages in the demographic transition?
- WQ3. What is the driving force behind natural increase? In what ways can this be reduced?
- WQ4. Approximately what would the life expectancy be for Zimbabwe if HIV/AIDS was not a factor? What is the life expectancy with HIV/AIDS as a factor? What impacts can you think of that this will have on Zimbabwe?

### **Part II: Natural Increase Rate and Doubling Time**

In this section you will take demographic data for four countries and, using basic calculations, find their natural increase rates and project how long it will take their populations to double in size. For this section, go the U.S. Census Bureau's International Database (IDB) site at the following address.

<http://www.census.gov/ipc/www/idbnew.html>

Click on Summary Demographic Data and scroll down the country list to Congo (Kinshasa) and click Submit Query. Using the data provided for 2000, record the measurements for Population (write out the whole number in millions), CBR, CDR, Life Expectancy, IMR, and TFR in the table on the next page. Make sure to write out the entire measurement, such as "34 per 1000." Repeat this process for the United States, Italy, and Brazil.

Next, you will use a calculator to fill in the rest of the table. To compute the NIR, use the following equation.

$$\text{NIR} = \text{CBR} - \text{CDR}$$

To convert the NIR to a percentage, first simplify the rate and then multiply by 100.

**Example:**   **Step 1**   10 per 1000 =  $10 \div 1000 = 0.01$   
                   **Step 2**    $0.01 \times 100 = 1\%$

**Hint:** After you are finished, compare your figures with the NIR reported on the Summary Demographic Data on the IDB site. They will be slightly different, but should not be more than 0.2 percent off.

To compute the doubling time, use the following formula.

$$\text{Doubling Time} = 69 \div \text{NIR \%}$$

**Example:**    $69 \div 1 = 69$  years

Country	Congo (Kinshasa)	United States	Italy	Brazil
Population in 2000 (in thousands)				
CBR (per thousand)				
CDR (per thousand)				
Life Expectancy (in years)				
IMR (per thousand)				
TFR (per woman)				
NIR				
NIR %				
Doubling Time (in years)				

Lesson 2  
Geography G110

Please attach the assignment cover sheet to your work and use the label for lesson 2.





# 3

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## The Geography of Migration

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### Objectives

When you have successfully completed this lesson, you will be able to

- discuss migration push and pull factors,
- explain the migration transition and how it relates to the demographic transition,
- summarize the history of immigration to the United States,
- debate the issue of undocumented immigration,
- describe the scope of the refugee problem.

### Reading Assignment

- Chapter 3, “Migration”
- Page 218, “Immigration to the North”

## Discussion

We have seen how populations change through births and deaths. Now we will see how populations change through migration. In this lesson we will examine why people migrate within countries and between countries, how countries try to regulate migration, and how illegal migration impacts countries.

### Migration and Population

Populations change through births, deaths, and migration. The total fertility rate in the United States is now 2.1, which is considered zero population growth. However, the U.S. population continues to grow due to a type of relocation diffusion called **migration**, which Rubenstein defines as “a permanent move to a new location” (page 73). To see if a country’s population is growing or declining through migration, we calculate **net migration**, the difference between **immigration** (migration to a place) and **emigration** (migration from a place). For the United States, net migration is positive, meaning that more people are coming into the country than are leaving the country. Mexico, on the other hand, has a negative net migration, the exact opposite of the situation in the United States. It is important to note that a migrant is both an emigrant (because he or she leaves a country) and an immigrant (because he or she moves to another country).

Migration is central to the study of human geography. When people migrate, they affect both the place they emigrate from and the place they immigrate to. Cultures are brought into contact with each other, creating new, syncretic (mixed) cultures and sometimes causing conflict. Migration also reflects population dynamics, political and ethnic geography, economic geography, and even physical geography.

While reading and working on this lesson, keep in mind the places migrants come from, where they go, and the reasons they have for moving in the first place. By doing so, you can uncover the complexities and alternative perspectives that are involved in migration.

## Migration Push and Pull Factors

People migrate for a reason or a combination of several reasons. These reasons are called push and pull factors, both of which can be divided into **economic, cultural, and environmental factors**. These factors can cause people to *choose* to migrate, what we call **voluntary migration**, or cause people to be *compelled* to migrate, what we call **forced migration**.

**Push factors** are reasons people have for leaving their homes and migrating to new places. The most common reason for people to migrate from a place is an economic push factor, such as a lack of jobs; without a job it is very difficult to make a living and to support a family. A cultural push factor is a bit more vague since the concept of “culture” is a very broad one. An example of a cultural push factor could be intolerance in a community toward religious or political beliefs; people who are persecuted for their cultural beliefs have a cultural push factor to migrate somewhere else. Finally, environmental push factors may cause people to migrate from a place due to adverse physical conditions; people who live in flood-prone areas or earthquake zones or who desire to escape a cold or hot climate may choose to move to more environmentally inviting places.

**Pull factors** are reasons people have for going to specific places. People do not just wander around until they find a good place; they almost always know where they want to go and why. Economic pull factors include being hired for a specific job or moving to a place where there is a better chance of finding a job. For example, immigrants from rural parts of southern Mexico make the long and dangerous trip to the United States because the U.S. economy needs workers, and they have a better chance of finding a job that will almost certainly pay more than similar jobs in their home communities. A cultural pull factor again can be many things, but one of the more popular cultural pull factors is migrating to a country where people are free to express and practice their religious or political beliefs. Environmental pull factors usually involve finding physically desirable places to live, such as the nice climate of California or the outdoor activities in the mountain state of Colorado.

Whether economic, cultural, or environmental, push and pull factors are fairly simple concepts to understand. But note that few people choose to migrate for only one reason; rather, the majority migrate for a combination of several reasons.

## Internal Migration

**Internal migration**, a permanent move within a country, is a common occurrence. People who permanently move to a new location within a country are called internal migrants. The key word here is *permanent*, meaning the move is for a long period of time.

An example of internal migration is the historical migration of African Americans in the United States from the South to the North. As you read the section “Immigration to the North” on page 218 of the textbook, focus on the push and pull factors involved. An interesting addition to this section is the role of recruiters. Radio stations, newspapers, and industry agents all recruited African Americans from the agricultural South to work in the industrial North to fill jobs created by World War I and World War II. As you read the textbook section “Migration Between Regions in Other Countries” on pages 95–96, consider the push and pull factors that influenced the migrants in Russia, Brazil, Indonesia, Europe, and India as well.

## International Migration

**International migration** is the permanent movement from one country to another. While internal migration is more common, international migration arguably gets more attention. Today international migrants make up 5 percent of the world’s population, or approximately 300 million people, which is more than the population of the United States! Such a movement of people is truly unprecedented.

So where are people emigrating from and immigrating to? Generally, international migration consists of people emigrating from LDCs to MDCs. Geographer Wilbur Zelinsky came up with the concept of **migration transition** to explain this trend. The migration transition is tied to the demographic transition that we discussed in the previous lesson. As countries move into stage 2 of the demographic transition, their populations increase rapidly, and people tend to move to cities (urbanization) or emigrate to new countries. The new countries that they immigrate to are ones that are in stage 3 or 4 of the demographic transition, where the population growth rate has begun to slow down or has reached zero. So, today, LDCs that are in stage 2 of the demographic

transition are the sources of international migrants, and MDCs that are in stage 3 or 4 are the host countries for these international migrants.

Be sure to study the migration transition, described in more detail in the textbook, and how it relates to the demographic transition to understand other facets of it as well. The textbook also discusses the history of international migration to the United States in great detail. As you read and study this section, notice the connection between the demographic changes in the immigrants' countries of origin (Europe, Asia, and Latin America) and the timing of the immigration waves to the United States.

Another facet of international migration is the idea of **chain migration**, or migration to a specific place because relatives or other people of the same country previously migrated there. For example, let's say that you are from Jamaica and your cousin has immigrated to New York City. If you get the chance to immigrate to the United States, it would make sense for you to go to New York City where your cousin can help you get settled, find a place to live, and get a job. If other members of your family or your friends decide to immigrate, they would be more likely to come to New York City as well for the same reason, which creates a chain migration. In many cases chain migration creates enclaves, or small communities, of immigrants from the same place in cities in the United States, Canada, and Europe. These enclaves can be quite distinct; one street might be made up primarily of immigrants from Brazil next to another street that is made up primarily of immigrants from Jamaica. Such settlement patterns are of great interest to geographers.

Chain migration and enclaves can help migrants become accustomed to living in a new place. Often immigrants will send money, called **remittances**, back to relatives in their home countries. Such remittances can be quite substantial forms of income for these relatives.

However, there is a down side to international migration. A lack of opportunities in the home country (economic push factor) can motivate younger and more highly educated members of a country to immigrate to countries that provide more opportunities (economic pull factor). These circumstances create a **brain drain**, in which the brightest and most motivated members of the community, such as doctors, nurses, and young professionals, are lured away from their home countries.

## Refugees

Many times people do not have much of a choice to migrate; they face **forced migration**. People who are forced to migrate from their home countries due to fear of persecution based on their race, ethnicity, religion, nationality, membership in a social group, or political opinion are called **refugees**. The key here is that they are forced to become international migrants because they have to leave their home countries. In 1999, there were more than 13 million forced international migrants. The refugee issue is extremely problematic, as the numbers attest, and touches almost every part of the globe (excluding Antarctica of course!). Take a look at the map on page 75 of the textbook to see just how widespread the problem is.

However, not all people that are forced to migrate become international refugees. Those that are forced to migrate from their home communities to another region of their home country are called **internally displaced persons (IDPs)**. According to the textbook, in 1999 there were 17 million IDPs around the world, with the vast majority in Africa. Most often this situation is a result of warfare, with innocent civilians forced to escape to less war-torn locales.

Both refugees and IDPs have become the center of attention for international humanitarian groups. Most refugee populations are vulnerable, with women and children making up a vast majority of them. The numbers have risen in recent years due to a marked increase in countries' internal conflicts.

## Immigration Policies

With an unprecedented number of international migrants moving around the world, countries have created immigration policies in an attempt to regulate and limit immigration. The textbook discusses the immigration policies of the United States and some European countries. The United States currently receives the largest number of international immigrants: 10 percent of its total population were born in another country (which is actually less than the 14 percent in 1910). While the United States receives the most immigrants, a much higher percentage of the population of other countries were born in other countries: 25 percent of Australia's

population and 15 percent of Canada's population were born in another country.

Immigration policies in the United States can be traced back to the Oriental Exclusion Act of 1882, which banned further Chinese immigration. Chinese immigrants had previously been coming to the western United States to work on the railroads. More stringent restrictions on immigration were imposed by the Quota Act of 1921 and the National Origins Act of 1924. These acts stated that, based on the 1910 census, a **quota** of 2 percent of the number of a foreign-born nationality living in the United States could immigrate per year. For example, if there were 50,000 native Chinese living in the United States in 1910, only 1,000 new Chinese immigrants would be allowed to immigrate per year; but if there were 1,000,000 native Germans in the United States in 1910, then 20,000 Germans could immigrate per year. The intent was to ensure that Europeans would maintain prominence in the population of the United States in order to address racial fears.

These immigration restrictions were continued until the Immigration Act of 1965 set hemisphere quotas: 170,000 immigrants from the Eastern Hemisphere and 120,000 immigrants from the Western Hemisphere would be allowed. In 1978 this policy was revised to set a global quota of 290,000 immigrants per year, with only 20,000 immigrants allowed per country of origin. This global quota was raised to 500,000 per year in 1990. The new global quotas also have preferences for admittance, giving a greater chance for immigration to families of immigrants, skilled workers, and talented professionals. There also is a lottery system, designed to bring in people from diverse places.

In the United States today, over 1 million migrants are allowed in every year, mostly from Latin American and Asia. Asia dominated migration to the United States from the 1960s until the 1980s. However, from the 1980s on, Latin American immigrants have become the most numerous group entering the United States. You may wonder why 1 million immigrants are being allowed in even though the 1990 global quota was set at 500,000. Refugees account for this difference because they have a special status and do not count against the quota. However, it is difficult to tell the difference between refugees who flee political or religious persecution and those who flee for economic reasons.



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An interesting example of this problem is the difference between Cuban and Haitian refugees. Cuba and Haiti are neighboring island countries in the Caribbean, and both have had a long history of political turmoil and economic problems. Cuban refugees are considered political refugees if they flee Cuba because of the Communist regime of Fidel Castro. Often they must travel secretly on boats, and if they make it to dry land in the United States, they are allowed to stay as political refugees; if they are caught at sea, they are allowed to petition for entrance to the United States but may be sent back. This policy is often called the “wet foot–dry foot” policy. Haitians, on the other hand, are usually sent back to Haiti even if they make it to dry land in the United States. Haiti has had a long history of political repression and violence, arguably more so than in Cuba, yet the U.S. government considers Haitians economic refugees, which does not give them the special status of political refugees.

Finally, people who temporarily migrate for work are called **guest workers**. Many Eastern Europeans and North African migrants are allowed to go to Western European countries to work for a set period of time. Often these migrant workers perform low-skilled jobs that pay much more than the immigrants would receive in their home countries.

### Undocumented Immigration

One of the more controversial issues of migration is **undocumented immigrants**, or immigrants who enter the United States without proper documentation. It is estimated that between 5 million and 20 million immigrants are residing in the United States illegally, although it is impossible to count exactly because undocumented immigrants do not register themselves! Of these undocumented immigrants, half illegally cross the border from Canada or, more prominently, from Mexico. The Immigration and Naturalization Service, the agency responsible for handling immigration, apprehends 1 million people a year trying to cross the border illegally! The remainder of the undocumented immigrants are people who stay longer than their tourist or student visas allow. Once their visas expire, they are considered undocumented immigrants if they remain in the United States. Whether they cross the border or overstay their visas, these undocumented workers can easily get forged documents that allow them to work, usually in low-paying jobs.

As with all controversial subjects, there are two sides to the issue. Opponents of undocumented immigration claim that these migrants take jobs away from citizens, use public services but pay few taxes for them, and take money away from the U.S. economy through remittances. The process by which undocumented immigrants cross the borders is also seen as very dangerous; many die in the attempt. Further, attempts to keep these migrants out of the United States are extremely costly to enforce. Finally, undocumented immigrants who do not follow the rules for admittance are seen as unfairly affecting the plight of those immigrants who do follow the rules in applying for acceptance.

On the other hand, the lives of most undocumented immigrants are generally improved as a result of better paying jobs and living conditions and in being able to supply income to poorer members of their families in their home countries. Economically, from the U.S. perspective, undocumented immigrants provide cheap labor to restaurants, hotels, construction, and farms, while employers generally pay few or no benefits. In turn, this cheap labor keeps prices down for consumers.

## Conclusion

Migration is a central theme for human geography. This type of relocation diffusion is a reflection of culture, politics, and economics, and it in turn impacts culture, politics, and economics in both positive and negative ways. Today the movement of people around the world has reached levels never seen before and will continue to take a prominent place in the discussion of globalization.

## Written Assignment

Answer the following questions as completely as the readings allow. I encourage you, when possible, to draw on outside sources or personal knowledge. Either type and double-space your answers or neatly handwrite them.

If you have Internet access, you may complete the Web Quest rather than answering questions 6 and 7.

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1. In a table similar to the one below, fill in the three states or countries that you would most like to move to if given the opportunity. List one economic, one cultural, and one environmental pull factor for each.

State or Country	Economic Pull	Cultural Pull	Environmental Pull
1.			
2.			
3.			

2. In a table similar to the one below, fill in the three states or countries that you would least like to move to and list one economic, one cultural, and one environmental push factor for each.

State or Country	Economic Pull	Cultural Pull	Environmental Pull
1.			
2.			
3.			

3. How does the demographic transition relate to the migration transition? Include an example.
4. Briefly summarize the history of immigration to the United States. Include time periods, specific places migrants were coming from, and U.S. immigration policies for the different time periods.
5. Debate the positive and negative aspects of undocumented immigration. Be sure to look at this issue from different viewpoints, such as the migrants, citizens of the host country, and your own opinions.
6. On page 218 of the textbook, the section titled “Immigration to the North” explains the internal migration of African Americans in the United States from the South to the North. Describe this migration using all of the relevant concepts from chapter 3.

7. It is difficult to distinguish between political refugees and economic refugees. Explain the difference between the two using examples. How would you distinguish between the two types of refugees and the ways they are treated?

 **Web Quest**

**Note:** If you have Internet access, you may complete this activity rather than answering written assignment questions 6 and 7.

This Web Quest reinforces your understanding of the concept of internally displaced persons (IDPs). You will look at the situation of IDPs around the world and select one country to focus on. Be sure as you work on this assignment to apply the concepts you have been reading about from the textbook and discussion.

Go to the Global IDP Project Web site:

<http://www.idpproject.org/>

Then go to Global Overview and answer the following questions.

- WQ1. What is an internally displaced person (IDP)? How does this person differ from a refugee?
- WQ2. How many IDPs are there globally? List each region from the map and record how many IDPs there are for each. In what places are IDPs returning to their homes?

From one of the world regions listed at the top of the Global Overview page, click on the name of a country you have an interest in from the menu that drops down as you move your cursor over each world region. Then click on Profile Summary. Once you have read the country's profile summary, answer the following question.

- WQ3. Summarize the IDP situation for the country you have selected. How many IDPs are there and what condition are they in? What were the causes for their displacement? Are there any efforts to return them to their homes?

Lesson 3  
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Please attach the assignment cover sheet to your work and use the label for lesson 3.



# 4

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## The Geography of Culture, Language, and Religion

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### Objectives

When you have successfully completed this lesson, you will be able to

- discuss how cultures are changing through globalization,
- identify the roots of the world’s major language types and religions,
- describe how languages and religions disperse throughout the world,
- identify religious conflicts and their core causes.

### Reading Assignment

- Pages 103–113 and 121–31 of chapter 4, “Folk and Popular Culture”
- Pages 135–59 of chapter 5, “Language”
- Pages 173–89 and 200–207 of chapter 6, “Religion”

## Discussion

The goal of this lesson is for you to understand how folk and popular culture interact through globalization and how cultural characteristics such as language and religion help to shape the cultures of world regions. Popular culture, languages, and religions spread throughout the world, influencing areas beyond their places of origin. It is important to recognize how these cultural characteristics interact and how they are preserved on the earth's landscape.

### What Is Culture?

In the section on modern geography in lesson 1, we discussed Carl Sauer and his contributions to cultural geography. But what is culture? Rubenstein defines **culture** as “the body of customary beliefs, material traits, and social forms that together constitute the distinct tradition of a group of people” (page 18). It is important to understand that culture is a learned and shared set of behaviors. You are not automatically born with a certain culture; it is something that you are taught. As such, it is open to change over time and space.

Cultural traits can include just about everything—the food people eat, how they dress, the music they listen to, the language they speak, and the religion they follow, to name just a few. In this lesson we look at a few of the topics that help constitute “culture,” namely folk and popular culture, language, and religion. Of special importance to us is the geographical focus on origins, diffusions, and interactions in this era of globalization.

### Folk and Popular Culture

Chapter 4 focuses on material expressions of culture, which are “the visible objects that a group possesses” (page 105). Examples include food preferences, dress, shelter, art, and recreation. We can classify these material expressions of culture into two types: folk culture and popular culture. In this section we define these two categories and their characteristics and look at how they constantly interact.



### **Folk Culture**

**Folk culture** is comprised of cultural traits practiced by a small, homogeneous (meaning “the same”) groups of people that usually live in isolated rural areas. These traits usually have evolved over long periods of time, so their specific origins are murky. Additionally, these traits diffuse very slowly, if at all, from their original hearths and hence are tied very tightly to their local environments. Folk culture becomes entrenched in specific localities and is resistant to change.

An example of folk culture that exhibits how tightly it can be tied to local places is the practice of geophagy. Geophagy is the eating of dirt, or clay to be more precise. This practice may sound very strange to you, but if we delve deeper it makes perfect sense. It is reported to be practiced by people in the Andes Mountains of South America, by certain Native American groups in the southwestern United States, by people in Central Africa, and even in the southern United States by some African American populations (the practice diffused to the United States from Africa through slavery). The reasons for eating clay include adding nutrients to the diet, combating plant toxicity, and treating diarrhea and intestinal cramping during pregnancy. In fact, one popular over-the-counter medication for diarrhea has a type of clay as its primary ingredient! Native Americans in the Andes Mountains of South America used clay to help domesticate potatoes. Wild potatoes contain toxic chemicals that made people who consumed them sick. But by eating the potatoes with a clay dip, these toxic chemicals were neutralized and the potatoes could be eaten. Once they could eat the wild potatoes, the Native Americans were able to begin the process of selectively choosing varieties that were less toxic until eventually developing the nontoxic potatoes we eat today. The practice of geophagy demonstrates that folk culture evolves over time as it adapts to local conditions and needs.

### **Popular Culture**

**Popular culture**, on the other hand, is found in large groups of people who are often very different from each other (heterogeneous) and live in many different places. It usually diffuses very rapidly from place to place and can be relatively short lived (such as the Spice Girls) or last longer (such as McDonalds). The textbook discusses the origin and spread of popular music, which is a great example of popular culture. Based on commercialism and profit, styles and artists change rapidly. Popular music originates in certain places, such as New York or Los Angeles, and diffuses outward across the world through radio and television.

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American popular music diffused worldwide during World War II with the Armed Forces Radio Network.

An interesting example of the diffusion of American popular music is Jamaica, where a U.S. airbase played Armed Forces Radio music. Local Jamaicans who listened to this popular music began altering and adapting it to their own particular musical form, called reggae. Today reggae itself has spread far beyond the island and is popular around the world from Africa to Europe to North America. Take some time to think about the diffusion of forms of popular culture other than music.

**Globalization of Popular Culture: The Good and the Bad**

The spread of popular culture can be attributed to the growth of globalization. Ideas in one place can be transported around the world in a matter of seconds; popular products like Coca-Cola are found in such remote places as villages in the mountains of Nepal or in Central Africa. Such diffusion can be positive in terms of bringing the world closer together and increasing understanding among different cultures, as well as in improving people's standards of living.

However, the globalization of culture does not come without costs. The textbook discusses how isolation promotes cultural diversity. But in today's globalized world, isolation is no longer the norm; we have become connected. Globalization creates problems, including the loss of local diversity as popular culture overtakes local practices, a loss of traditional values, and negative environmental impacts.

Popular culture is not highly tuned to local conditions. While folk culture evolves over long periods of time in concert with local environmental conditions, popular culture, which may start on another continent in a completely different environment, diffuses rapidly and may not be appropriate for other locations. (A golf course is one example of popular culture that is not suitable for all areas. Can you think of others?) Additionally, popular culture often demands an increase in the use of natural resources, resulting in increased pollution. Finally, folk culture is often resistant to change, a situation that can cause conflict when popular culture diffuses. For example, the high incidence of violence and nudity in American movies conflicts with traditional values in many places, creating a backlash against this popular art form. Keep these concerns in mind as you read the textbook and answer the questions at the end of this lesson.

## Geography of Language

According to the textbook, between 2000 and 4000 distinct languages are spoken in the world today! **Language** is defined as “a system of communication through speech, a collection of sounds that a group of people understands to have the same meaning” (page 137). As such, it is the fundamental way in which culture is taught, shared, and expressed among a group of people. In this section we look at the origins, diffusion, and current distribution of languages around the world.

Languages are classified in a hierarchy based on common language ancestors. At the broadest level is **language family**. Languages within a family share some common ancestor before recorded history. A language family is further divided into **language branches**, which contain languages with a more recent common ancestor. Within language branches are **language groups** that contain languages with a relatively recent ancestor and share fairly similar grammar and vocabulary. Take a quick look at the language family tree on pages 154–55 of the textbook now to see how this hierarchy works.

### Language Origins

It is difficult, if not impossible, to trace the first language ever created. But we can assume that language came into being as soon as people could communicate through gestures, speech, or symbols. In this section, we attempt to trace the origin of the most populous language family, Indo-European.

Linguists theorize that a common **Indo-European language** existed thousands of years ago. This language is called **Proto-Indo-European**. The process of many languages being born out of one language is the ultimate example of the evolutionary process of languages.

Two main theories explain the origin and evolution of the Proto-Indo-European language. The first theory is known as the **Kurgan hearth theory**. According to this theory, around 4300 B.C. a group of people called the Kurgans lived near the modern-day Russia-Kazakhstan border. They were nomadic herders who had to search for grasslands for their livestock. Instead of searching in the same area, they split up into different groups that traveled in different directions. Because the Kurgan warriors were a dominant group, they conquered many areas between 3500 and

## Lesson 4 Geography G110

2500 B.C. and instilled their language in the places where Indo-European languages are now spoken.

The other predominant theory is known as the **Anatolian hearth theory**. This theory puts the first Proto-Indo-European speakers in Anatolia, a part of modern-day Turkey, two thousand years before the Kurgan people. According to the Anatolia theory, the people of Anatolia and the Proto-Indo-European language diffused as a result of agrarian practices, not military conquest.

### **Language Diffusion**

From these possible origins and early diffusions, the Indo-European languages spread to include the lands from present day England all the way to India. Over time, through **isolation** and **interaction** with other languages, the family was split into branches, groups, and individual languages. Today, globalization has brought many of these once isolated languages back together, and a new round of interactions are taking place.

Language primarily diffuses from its point of origin through relocation diffusion in the form of migration. People move to a new place and continue to speak their language. English and Spanish, currently the two most prevalent languages in the Americas, both diffused through relocation diffusion with colonists from Europe. Additionally, language can diffuse through expansion diffusion. The adoption worldwide of English as the international language of commerce and science is a great example of expansion diffusion. However, while English is becoming globalized around the world, within the United States there has been a rapid increase in the number of Spanish speakers, both through relocation diffusion of migrants to the United States and expansion diffusion through the adoption of Spanish words and language by native English speakers. Interestingly enough, while most people believe that English is the official language of the United States, in fact, the United States has no official language. The map on textbook page 138 is misleading in this regard. Canada, for example, has French as its second official language.

### **Language Types and Distribution**

In the language family tree on pages 154–55, the Indo-European language family has the thickest branch, which means that more people speak languages from the Indo-European language family than from any other language family. In addition to illustrating the evolution of language families, the language tree is also useful for understanding the prevalence

of specific languages throughout the world. For example, compare Mandarin, a big leaf on the Sino-Tibetan branch, with Zulu, which comes out of the Niger-Congo branch. Zulu is the most prolific language in South Africa; it is spoken by approximately 9 million people, or 26 percent of the population. While Zulu is very significant regionally, it is only a tiny leaf on the branch, perhaps because many of its practitioners have not migrated and spread the language to other parts of the world. In contrast, Mandarin Chinese is spoken by over 1 billion people worldwide. (Please note that the language family tree counts only native speakers, not people who speak second languages.) Mandarin Chinese is the primary language in the world's most populated country, and many of its practitioners have migrated to other parts of the world.

It is also important to notice the geography of languages in relation to political boundaries. The United States, for example, is a large country with one predominant language, English. Many other languages are spoken in the United States, however, and the number of non-English-speaking people living in the United States continues to rise, causing some controversy. In contrast, Europe is only about two-thirds of the physical size of the contiguous United States, but a multitude of languages are spoken in close proximity there. Language is an important concern in Europe, especially now with the formation of the European Economic Community and the free movement of people and goods across borders. A person from a European country is much more likely to speak more than one language than someone from the United States. The ability to speak different languages seems to be a matter of necessity for people living in Europe.

Many languages have spread so far that they have changed or evolved into **dialects**, or sometimes even completely different languages. For example, the former French colony of Haiti has altered the original French language to the point that it is now considered a separate language called Haitian Creole. In Jamaica, the local patois of English is still considered part of the English language, but to untrained ears it can be quite undecipherable. This example illustrates the contradictory nature of the globalization of culture: on the one hand globalization creates a more homogeneous world where English is becoming the dominant language; on the other hand, it can also create new forms of cultural traits at the local level that are rather unique.

## Geography of Religion

The textbook does not offer a definition of religion, claiming that geographers are not theologians (which is true). Instead, geographers focus on elements of religion that are geographically significant. While I am not a theologian, I believe you need to have an idea of what religion is and why it is important. Basically, religion is a taught, shared, and expressed belief system, often with a supernatural component. As such, it is an important part of culture that can dictate the way that people live. In this section we examine many of the different religions around the world, where they originated, how they diffused to their current distributions, and how this diffusion has created conflicts.

### **Classification of Religions**

The textbook divides religions into two types: universalizing and ethnic. **Universalizing religions** seek to spread their beliefs across the globe. Examples include Christianity, Islam, and Buddhism, each of which is divided into different branches. The textbook describes the major universalizing religions and their main divisions and includes a brief section on Sikhism and Bahá'í, two smaller universalizing religions.

**Ethnic religions** develop in one area and focus on one group of people. They include Judaism, Hinduism, Confucianism, Daoism (Taoism), Shintoism, and many African animist religions. In most cases ethnic religions are focused in one specific geographic area, such as Hinduism in India. However, Judaism is one major exception; it was dispersed around the world after the **diaspora** in A.D. 70.

### **Origins of Religions**

The origins of universalizing religions are traced back to their specific leaders; the teachings of **Jesus** for Christianity, **Muhammad** for Islam, and **Siddhartha Gautama** for Buddhism. The origins of universalizing religions can be traced because these religions are relatively young in comparison to ethnic religions, whose origins often go beyond recorded history and are therefore rather murky. Be sure you can identify where the main religions discussed in the textbook originated.

The origins of many religions are often related. The textbook discusses the similar roots of Judaism, Christianity, and Islam from their common ancestors, Adam and Abraham. Christianity and Judaism trace their

lineage through Abraham's first wife, Sarah, and the couple's son Isaac while Islam traces its lineage through Abraham and his second wife, Hagar, and this couple's son Ishmael.

Sikhism is another universalizing religion whose origin is related to other religions. Sikhism originated in the late 1400s in the Punjab region near the border of India and Pakistan. In this region Islam and Hinduism were battling for supremacy when Guru Nanak, the founder of Sikhism, combined elements of the two religions to form Sikhism.

### **Diffusion of Religion**

The diffusion of religion has been just as extensive as the diffusion of language. Examine the maps in chapters 5 and 6 (pages 152–53 and 176–77) and compare the distribution of languages with the distribution of religions by looking for similar patterns. Both language and religion are important elements of cultural groups and often are interrelated.

How do religions diffuse across the earth? Christianity, one of the most widely practiced religions in the world, has spread to many areas via missionaries and migration. **Missionaries** are people whose objective is to spread the word of God or, in geographic terms, “to transmit a universalizing religion through relocation diffusion” (page 185). At times, when this process did not work peacefully, force was used. Because religious persecution may force many people to flee their homelands, religion often serves as a push or pull factor in migration flows. Some persecuted people move to areas where others hold similar religious beliefs. Others carry their religions to other areas. For instance, when the Mormons were pushed from New York, they headed west and eventually settled in Utah.

The dominant religions in the Eastern Hemisphere are **Islam**, **Buddhism**, and **Hinduism**. Islam originated in the Middle East, and its dispersion tended to move eastward. The followers spread the word of Islam to many places in Africa, Asia, and Europe. Buddhism, which began in present-day Nepal, diffused slowly, mostly through Asia. Hinduism, unlike the others, is not considered to be a universalizing religion because it does not actively seek converts. Yet it is the most adhered to religion in India. Hindu and Muslim differences ultimately led to the division of the Indian subcontinent into three separate political units: India, a Hindu state, and Pakistan and Bangladesh, both Muslim states.

### **Religious Conflicts**

People with particular religious beliefs sometimes find themselves in the midst of conflict. Rubenstein explains that there are two main forms of religious conflict: (1) conflicts between religions and governments and (2) conflicts between different religions. Let's take a closer look at examples of these two types of religious conflict.

The case study for chapter 6, "The Dalai Lama vs. the People's Republic of China," raises important issues about the potential for conflict between organized religions and national governments. Tibet gained its independence from China in 1911. In 1951, however, dominant Chinese forces regained control of the territory. In doing so, the Chinese government executed and imprisoned thousands of Tibetans because their religious and political beliefs were different from those of China's ruling Communist party. The Chinese government's gains from the takeover were not sufficient to justify the number of lives lost and the amount of property destroyed. So why did they do it? Throughout history, the spread of religion has been responsible for many social changes and cultural developments. When religious organizations become a threat to dominant political forces, history shows that conflict is a common result. Thus, it is important to think about the ways in which religions spread (or are prevented from spreading) when we study the geography of religion.

The religious dynamics of the Middle East provide another useful example of religious conflicts, especially in terms of the geographic role of religion in modern life. Within the Middle East or, more precisely, within a small strip of land located in the eastern Mediterranean where Jerusalem is situated, is the origin of the longest-running religious conflict known to humankind. The reason for this conflict is the importance of one city, Jerusalem, to three religious groups—Jews, Christians, and Muslims. As a result of their similar historical roots, all three groups feel that the Holy City belongs to them. The most significant link between Jews and Jerusalem is that King Solomon built their first holy temple in the city in the tenth century B.C. Some time later in the city's history, after the temple had been destroyed, the Romans deemed the area surrounding Jerusalem a Roman province called Palestine and expelled most of the Jews from the area. The majority of the people living in Palestine accepted Christianity after it became the official religion of the Roman Empire. Jerusalem and Palestine became holy places for Christians because they were the sites of significant events in Jesus's life. Finally, Muslims consider Jerusalem their third most sacred city, after Makkah and Madinah. Its significance stems



from Muhammad's ascendance to heaven from a rock located in Jerusalem.

Given that these three groups all feel significant religious affiliations to Jerusalem and all contribute relatively significant populations to the area, it is no wonder that there has been conflict. As expected, the conflict is not confined to Jerusalem; it affects the surrounding countries and the rest of the world. Over the course of history thousands upon thousands have lost their lives as a result of holy wars. Additionally, the physical landscape has undergone repeated destruction and construction. The situation in the Middle East illustrates the way in which population dynamics, the physical identity of a place, and religious conflicts interact and play a significant role in shaping the geography of a region.

## Conclusion

In this lesson we have looked at two classifications of culture (folk and popular) and two elements of culture (language and religion). Culture embodies much more than just these two elements. Most people inherently understand what culture is, but are hard pressed to come up with a clear definition. Keep in mind as you work on the reading and written assignments for this lesson that culture consists of learned and shared behaviors that greatly influence human activities, which in turn impact the physical environment.

## Written Assignment

Answer the following questions as completely as the readings allow. I encourage you, when possible, to draw on outside sources or personal knowledge. Either type and double-space your answers or neatly handwrite them.

If you have Internet access, you may complete the Web Quest rather than answering question 1.

1. Describe the differences between folk and popular culture. In what ways does the spread of popular culture cause problems?

Lesson 4  
Geography G110

2. Discuss the Indo-European branch of the language family tree on page 155 in the textbook. Explain how the languages in this family have or have not interacted historically. Be sure to incorporate in your answer particularly interesting points about any of these languages that the textbook presents.
3. Describe the main features of languages in the Sino-Tibetan language family and other East and Southeast Asian language families. Then describe the main features of languages in the African language families.
4. Choose one universalizing religion and one ethnic religion and discuss the origins and diffusion of each.
5. Describe briefly three examples of religious conflict discussed in the textbook. Are these really conflicts between religious beliefs or are other forces at play?

 **Web Quest**

**Note:** If you have Internet access, you may complete this activity rather than answering written assignment question 1.

In this Web Quest you will go to the Globalization101.org Web site and explore in more detail the influences of American culture on the rest of the world and the influence other cultures have on American culture. Go to this Web site and begin the fun!

<http://www.globalization101.org/issue/culture/>

**(Hint:** To get to the next section, click on > at the bottom of the page).

- WQ1. Which American products/corporations have spread to other countries around the world?
- WQ2. What positive and negative impacts do these products/corporations have? How do they alter local cultures?
- WQ3. What role do other countries play in cultural globalization? How do other countries contribute to American culture?

Please attach the assignment cover sheet to your work and use the label for lesson 4.



# 5

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## Ethnic and Political Geography

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### Objectives

When you have successfully completed this lesson, you will be able to

- differentiate between the concepts of ethnicity and race,
- explain the difference between states and nations,
- describe the processes of colonization and imperialism and how they have affected many parts of the world,
- explain the principles and significance of boundaries,
- identify the advantages and disadvantages of international cooperation among governments.

### Reading Assignment

- Chapter 7, “Ethnicity”
- Chapter 8, “Political Geography”

## Discussion

Principles of geography relate to ethnicity and political activity throughout the world. Ethnicity is important in geography because ethnic groups are often tied to particular places. Geography and political science are inherently connected simply because political power necessarily incorporates certain spaces. Political power, whether it is despotic or democratic, has the ability to influence people within its jurisdiction, and it acts as an agent of the political body for interactions with other political entities. Interactions and alignments between states were especially important during the Cold War era, when the world was divided along political lines. However, in the post–Cold War era, domestic alignments within many countries are based on the distribution of particular ethnic groups.

In this lesson, we'll examine the meaning of ethnicity and race, as well as the differences between nations and states. We'll also discuss different types of boundaries and the significance of boundaries both as barriers and as the means to establish power throughout a region. We'll consider the role of ethnicity in the formation of some types of boundaries. Finally, we look at international cooperation between states and how this cooperation reflects the broader trend of globalization.

### Ethnicity and Race

What is the difference between race and ethnicity? **Race** refers to the sharing of a common genetic ancestor and hence has a biological basis. Usually race is categorized by physical traits such as skin color. Most scientists discount that there are any real differences between “races” because the genetic variation within a race is much more diverse than any genetic variation between races. However, human societies have differentiated between races on the basis of skin color—a distinction which is really a social invention. But since it is a reality in today's world, geographers must take races into account as social groups.

Rubenstein describes **ethnicity** as “identity with a group of people who share the cultural traditions of a particular homeland or hearth” (page 213). The key here is the sharing of a culture, which can include language, religion, food, dress, and music, just to name a few cultural characteristics.

Remember that culture is something that is learned and shared among a group and is often tied to certain places. So the key difference between race and ethnicity is that race is based on genetics and ethnicity is based on culture. Many people confuse the two terms, but there is a real difference. Here are some examples that hopefully can make this distinction clearer.

- Within the biological race categorization that some refer to as “black” (based on skin color) there are thousands of different ethnicities, such as African-American, Jamaican, Zulu, Hutu, Tutsi, and Haitian. Each of these ethnic groups has a distinct history and set of cultural traits. So the label “black” tells us little about the distinct cultural traditions of each ethnicity, which is much more informative.
- Within the biological race categorization that some refer to as “white” there are also thousands of different ethnicities, such as German, French, Indian (from India), and Iraqi (broken up among different ethnicities themselves). Again, each ethnic group has a unique culture.
- Within the biological race categorization that some refer to as “Native American” there are also thousands of ethnic groups, such as Sioux, Inuit, Navajo, Hopi, and Mayan. These ethnic groups speak different languages, eat different foods, hold different religious beliefs, and live in different types of housing.

However, ethnicities do not have to fall within one racial category (or any at all). For example, Hispanic (or Latino) is considered by the U.S. census to be an ethnicity, but even this label is misleading. Most Hispanics identify with a national origin that forms the basis of their identifying with a cultural group, such as Mexican, Dominican, or Bolivian, that shares a homeland or hearth. Just these three ethnic groups are made up of many different races, including “black,” “white,” and “Native American.” In many parts of Latin America these racial categories are based more on how a person dresses, the language a person speaks, and even the food a person eats than on physical appearance.

These examples reveal that race is really a social construction. The only reason it has importance to geographers is that many societies (such as American society) choose to classify people based on skin color, and this classification is reflected spatially in terms of where people live, go to school, recreate, and congregate.

The study of ethnicity involves understanding the distribution of ethnicities and how particular ethnic groups interact. Furthermore, given that many political systems were originally based on the spaces occupied by ethnic groups, the interaction of ethnicity and politics is of particular interest to geographers. Take a few minutes to read the case study “Ethnic Conflict in Rwanda” (page 212) and the discussion of ethnic clashes in Central Africa (pages 231 and 240–41). These conflicts in Rwanda show the importance that ethnicity plays in political geography, which we will discuss next.

## Political Geography

Political geography deals with the organization of the world into sovereign states, the spatial characteristics of those states, and interaction between these states on a global scale. In this section we differentiate between states and nations, look at some of the geographical characteristics of states, and consider how global interaction between states is changing in a more globalized world.

### States versus Nations

The word **state** refers to a politically controlled area or unit and is also called a country. In a state, the ruling political party has control over both internal relations and foreign affairs. The term **nation** refers to a collection of people who are from the same region, who hold similar beliefs and characteristics, and many times have a legal attachment to a country. Note that the terms nation and ethnicity are similar, and many times they can be used interchangeably. The main difference between the terms is the idea of a legal attachment to a country in the definition of a nation.

It is likely that your definition of a state corresponds to the fifty states within the United States of America. The United *States* is a slight misnomer because each of the 50 units (states) within the United States are actually *subdivisions of a single state*. Interestingly, the declaration of the United States as a nation is also a bit misleading. Due to the diverse backgrounds and personal characteristics of U.S. citizens, there are virtually hundreds of nations living within the borders of the United States. As the documentary about Native Americans titled *500 Nations* illustrates, each individual Native American ethnic group in the United States—Cherokee, Navajo, Hopi, etc.—is a nation. Another example is the *Nation*



of Islam within the United States, which you read about in the textbook chapter on religion in lesson 3.

From a slightly different perspective, however, we may consider the United States a nation because of certain characteristics that span the population. The United States fits the definition given for a nation because it was formed by many different people from various countries gathering together in the same political unit. In other words, this shared belief in the importance of different people coming together to form a new culture is what defines the nationhood of the United States. Because a nation must consist of a group of people who share similar beliefs, cultural values, and customs, it is perhaps easier to perceive the United States as a nation divided. The many distinct people and ethnic groups, who are sometimes at odds with one another, often suggest division, not unity.

The evolution of political units began in the Mesopotamian region with **city-states**. These were self-governed cities, often protected by walls, moats, and/or surrounding areas. There are still several city-states in existence today, including Singapore and Vatican City. The modern **nation-state** can be traced to the French Revolution and the abolishment of monarchies, a trend which rapidly spread throughout Europe. A nation-state is a group of people who share similar beliefs, values, and customs and coexist within similar political space. Do nation-states exist today? The answer to the question is “probably not,” but a few countries come close. Some examples are Japan, France, Sweden, and Uruguay. Try to think of others.

### **Sovereignty**

**Sovereignty** refers to a state’s independence from other political powers. Many U.S.-born citizens take the concept of sovereignty for granted, but for many people throughout the world, sovereignty has been unattainable for centuries. For example, Angola, a country on the west coast of Africa, now controls its internal affairs by an appointed body of Angolans. This new situation is vastly different from years past, when Angolan internal affairs were governed from abroad by the Portuguese government.

Sovereignty, however, does not necessarily spill over to all members of a society or state, as is evidenced by the large number of civil wars occurring throughout the world. When more than one nation exists within a state, there is a potential for conflict. Although Angola is now free from foreign control, there is an ongoing civil war between two major nations

within the country. One group is represented by the political party União Nacional para a Independência Total de Angola (UNITA) and the other by Movimento Popular de Libertação de Angola (MPLA). In this situation, one party's claim to government is being challenged by another claiming leadership. Unfortunately, affairs of this type may take a long time to settle, and warfare can jeopardize the well-being of the citizenry.

Profound changes have occurred in the political geographic setting since the fall of the Soviet Union in 1991, which marked the end of the Cold War. During the Cold War two superpowers, the Soviet Union and the United States, exercised power in their "spheres of influence." The United States and supportive democratic countries were called the "first world," the Soviet Union and their supportive Communist countries were called the "second world," and nonaligned states, most of which happened to be LDCs, were termed the "third world." It was in the third world that the Cold War turned into hot conflicts: in the Koreas in the 1950s, Vietnam in the 1960s and 1970s, Afghanistan in the 1980s, and various states in Central America during the 1980s. With the end of the Cold War came the hope that a "New World Order" would triumph with opportunities for self-determination and independence for the world's states. However, with the superpowers no longer exercising control over their spheres of influence, internal ethnic divisions created **Balkanization**, "the process by which a state breaks down through conflicts among its ethnicities" (page 239). Yugoslavia is a great example of this process and how tightly ethnicity and political geography are tied together.

### **Colonialism and Imperialism**

Rubenstein defines **colonialism** as "the effort by one country to establish settlements and to impose its political, economic, and cultural principles on such territory" (page 252). "Such territory" is the **colony**, a region that is under the political rule of a sovereign state. The ruling state has the discretion to control whichever aspects of the colony it chooses. An example of colonialism is the settling of the Americas by the European states of England, France, and Spain. These European powers overwhelmed the indigenous residents through warfare and disease, and then settled the areas and set up colonies. The three basic reasons for European colonialism are often termed the "three Gs": God, glory, and gold; in other words, the promotion of Christianity, power in empire, and provision of natural resources for the development of the European states.

Imperialism differs somewhat from colonialism. Rubenstein defines **imperialism** as “control of territory already occupied and organized by an indigenous society” (page 252). One example of imperialism is European control over Africa and Asia from the sixteenth century through the twentieth century; few settlements were created, but the indigenous societies were controlled for the basic three Gs of colonialism. The main difference between the terms has to do with settlement; in colonialism wide-scale settlements were created, while in imperialism few settlements were set up.

Colonization was not just a European practice, but the influence of European colonizers was certainly the greatest on a global level. The remnants of colonial days can still be seen in countries of the developing world, as we will see in more detail in lesson 7.

### **Boundaries**

One of the primary means of exerting political force is through boundaries. Boundaries act as a means of security and are often a source of conflict. Oftentimes, border skirmishes occur because one state wants to expand its territory at the expense of another state. A **boundary** is the invisible line separating two states. The two types of boundaries are physical and cultural.

**Physical boundaries** are typically mountains, rivers, or oceans. Such features separate many states and regions. Physical boundaries are less open to debate than other, more arbitrary delimitations. Can you think of some examples of states separated by physical boundaries?

**Cultural boundaries** separate peoples of different ethnic groups or religions. This type of boundary is more arbitrary and can itself lead to conflict, as in the case of former Yugoslavia. When Yugoslavia broke into separate countries in the early 1990s and the new boundaries were made, it was nearly impossible to include all members of each individual ethnic group within the same border (see the map on textbook page 237). The aftermath was a bloody war, with vying countries trying to reclaim land designated for rival countries. Other areas where cultural boundary wars have occurred include Ireland, the Middle East, and Nigeria.

A unique cultural boundary that was superimposed on a specific group of people is the **apartheid** system in South Africa. The word *apartheid* means “apartness” in Afrikaans. Apartheid was a draconian system for

racially dividing the country. The system was based on four racial classifications delineated by the ruling South African National Party. The four racial classifications were black, white, colored (a mixture of white and black), and Asian. Under apartheid, these racial groups had to live within their own predesignated areas, and people were required to get passes to enter territories outside of their classification (i.e., “pass laws”). The system enabled the approximately 13-percent white-minority population to hold a decided advantage in the allocation of money and power. Economic pressures forced nonwhite races to disobey pass laws in order to find employment. In 1991, the National Party, because of pressures both within the country and internationally, repealed apartheid. This form of politically implemented cultural boundary has caused much strife in South Africa. Post-apartheid South Africa is struggling to gain economic stability and to overcome enormous inequalities that resulted from the imposition of political power with the aid of a boundary.

### **The Shape of Countries**

A consequence of the demarcation of boundaries is country shape. The five basic shapes among countries are as follows:

- compact
- prorupted
- elongated
- fragmented
- perforated

The shape of a country may seem like a trivial issue, but consider the case of Chile in South America. It is an elongated country, measuring 2500 miles, north to south. Chile, a developing country, does not possess a comprehensive network of communications or transportation; therefore, interactions between the north and south are very limited. In a state with a compact shape, the distance between places is much shorter and the potential for interaction is greater.

### **International Cooperation**

One of the key forces that helped bring an end to apartheid was international pressure. The dismantling of apartheid in South Africa is one example of the increasing importance of international organizations and policies. The idea of international cooperation is not new, but its current breadth is unprecedented. The first forum for international communication was the League of Nations, created after World War I. The United Nations

was established in 1945 with 49 member countries. In 2002, there were 190 member countries of the United Nations. Only a handful of sovereign states are not members for various reasons. International organizations now range from the regional (e.g., NAFTA, the European Union) to the global, and their significance cannot be underestimated. Ideally the potential of these organizations might be unlimited. However, they too experience persistent problems trying to meet multiple agendas.

## Conclusion

While ethnicity and political geography appear at first glance to be odd bedfellows, they are in fact intricately tied together. Ethnic groups are one level at which people organize themselves, and the creation of nations and states often reflects this organization. In fact, conflict often arises when ethnicity is not taken into account in the creation of nations and states, as the examples from the textbook painfully remind us. Can the process of globalization, of which international cooperation is one part, help alleviate some of these tensions, or does the imposition of outside values and political structures only exacerbate already existing tensions?

## Written Assignment

Answer the following questions as completely as the readings allow. I encourage you, when possible, to draw on outside sources or personal knowledge. Either type and double-space your answers or neatly handwrite them.

If you have Internet access, you may complete the Web Quest rather than answering question 6.

1. Define ethnicity and give some examples of ethnic groups. Then discuss the positive and negative aspects of ethnicity, giving examples where appropriate.
2. Differentiate between states and nations, giving examples of each. What is sovereignty and why is it important to national development?

Lesson 5  
Geography G110

3. Colonization and imperialism have fundamentally altered the histories and futures of many countries in the world. Describe the processes of colonization and imperialism and why they were necessary or desirable. Highlight what you see as positives and negatives for both the colonists and the colonized.
4. Explain the concept of boundary and why boundaries are important. Use an example you are familiar with in your answer. Also, identify the five basic state shapes. Which one is preferable and why?
5. The textbook briefly discusses the historical and political geography of South Africa. Discuss the use of boundaries under the system of apartheid.
6. Some people believe that cooperation between world powers is necessary to maintain global order. Discuss what you believe to be the benefits and the potential pitfalls of international cooperation. Use an example to illustrate your answer.

 **Web Quest**

**Note:** If you have Internet access, you may complete this activity rather than answering written assignment question 6.

This Web Quest takes you to the United Nations. You will learn about the organization of the United Nations, how it works, and its purpose. First, follow this link to the homepage:

<http://www.un.org/english/>

Now click on About the United Nations and then UN in Brief. Using this brief as your source, answer the following questions.

- WQ1. What are the four main purposes of the United Nations?
- WQ2. Briefly describe the organization of the General Assembly and the Security Council. What does a decision by the Security Council require?

- WQ3. How does the United Nations work toward peace? Choose one region of the world and describe what the United Nations has accomplished for peace.
- WQ4. What do you believe are the benefits and shortcomings of the United Nations? Do the benefits outweigh the drawbacks?

Please attach the assignment cover sheet to your work and use the label for lesson 5.





# 6

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## Tips for the Midterm Examination

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When you have completed lessons 1 through 5, you will be ready to apply for the midterm examination. Before applying to take the exam, please read the material about arranging exams at the end of this lesson. You'll need to make arrangements with a suitable proctor, set a time and a date, and mail the application form to the Independent Study Program in the envelope provided. **Be sure to attach the proper lesson label to the exam application.** Or you may phone, e-mail, or fax your application. See your *Student Handbook* for details.

In order to maximize your results for this exam, I suggest that you study your graded assignments, the discussions for lessons 1 through 5 in this learning guide, the textbook reading assignments, and the key terms at the end of each textbook chapter. When reviewing, you should consider the information from the textbook reading assignments just as important as the information in the lesson discussions.

The exam consists of multiple-choice questions, true/false statements, and several essay questions from which you will choose four to answer. The exam is worth one-third of your final grade.

Lesson 6  
Geography G110

**Note:** To be in compliance with the Independent Study Program's academic policies, your exam grades must average at least a D– in order for you to pass a course. Even if your written assignment grades are excellent, you will not pass a course unless you fulfill this requirement.

You will be allowed two hours to complete the exam; however, it should not take you that long. You will not be permitted to use your textbooks, learning guide, study notes, or any other supplementary materials when taking the exam.

Do your best!

## About the Examination . . .

### **When can I take an exam?**

You may take your examination at anytime during the year. However, your exam application will not be processed until the grades for all the preceding lessons have been posted to your record.

### **How do I arrange for an exam?**

As soon as you have sent the last lesson before the examination, complete the application on the next page. Put the correct lesson label on the application, and send it in the envelope marked *examination request*. Applications are processed as received after all grades for preceding lessons and exams have been posted to your record. You should allow for a *minimum of 10 days* between the dates your grades are posted and the date you plan to take the exam. Keep in mind it is your responsibility to contact the appropriate examination site beforehand to arrange for your exam date and time. *Any cost involved in examination supervision/proctoring is the responsibility of the student.*

### **Who may supervise my exam?**

If you live in Indiana, you may take the exam at an Indiana University Examination Center (see next page) or at the Independent Study Program office in Bloomington.

Exams taken at other locations must be administered under the supervision of an administrative officer or designee of an accredited college or university, or a high school principal or principal's designee. We suggest that you contact the student services, continuing education, testing, or counseling office of your local college or university to ask how you can be assigned an exam supervisor. Military personnel should arrange to have their education officer supervise exams. High school students must take exams under the supervision of a *principal or counselor*. Relatives may not be used as examination supervisors. We send exams only to institutions, never to private residences. *Please make certain that you have made an appointment with your exam supervisor.* Your supervisor will require adequate identification, so come prepared.

### **How soon will I get my grade?**

The Independent Study Program will report your exam grade approximately two weeks after we receive your exam.

Most scheduling problems occur when many students' graduations are at stake. We cannot always arrange to have your exam graded immediately at these times, since our instructors are busy then. Consequently, you may fail to make your graduation deadline if you wait until the end of a semester to take an exam.

### **I have a question . . .**

Please consult the *Student Handbook* for more information. You may also write to the Independent Study Program, Examination Department, Owen Hall, 790 E. Kirkwood Avenue, Bloomington, IN 47405, or call our toll-free number listed on the back of this page and ask for the examination department.

## EXAMINATION CENTERS IN INDIANA

Indiana University Bloomington	Independent Study Program Owen Hall 002 790 E. Kirkwood Avenue Bloomington, IN 47405	(812) 855-2292 Bloomington (800) 334-1011 Nationwide
Indiana University —Purdue University at Columbus	IUPUI Columbus 4601 Central Avenue Columbus, IN 47203	(812) 348-7222
Indiana University East	Division of Continuing Studies 2325 North Chester Boulevard Richmond, IN 47374-1289	(765) 973-8203
Indiana University —Purdue University at Fort Wayne	Career Services Kettler Hall 232 B 2101 Coliseum Boulevard East Fort Wayne, IN 46805	(260) 481-6599
Indiana University —Purdue University at Indianapolis	Testing Center Union Bldg. Room G003 620 Union Drive Indianapolis, IN 46202-5167	(317) 274-2620
Indiana University at Kokomo	Continuing Studies 2300 S. Washington P.O. Box 9003 Kokomo, IN 46904-9003	(765) 455-9395 (800) 991-1459
Indiana University Northwest	Continuing Studies 3400 Broadway Sycamore Hall #300 Gary, IN 46408	(219) 980-6828
Indiana University Southeast	Student Development Center 4201 Grantline Road New Albany, IN 47150	(812) 941-2312
Indiana University South Bend	<b>South Bend:</b> Division of Continuing Education Administration Building 1700 Mishawaka Avenue P.O. Box 7111 South Bend, IN 46634	(574) 237-4261
	<b>Elkhart:</b> IUSB Elkhart Center 2930 S. Nappanee Street Elkhart, IN 46517	(574) 294-5550 (800) 321-7834

There is no charge for supervision of examinations by any of these Indiana University offices. Supervision charges by other institutions are the responsibility of the student.

## Midterm Examination Application

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- When you have turned in all the preceding lessons, complete this application and mail it in the examination envelope provided.
- Be sure to allow sufficient time—including possible postal delays beyond our control—for the processing of your application. Your exam will not be mailed until all the preceding lessons' grades have been posted to your record.
- Examinations cannot be faxed.

ATTACH LESSON LABEL HERE

GEOG G110

Lesson 6

\_\_\_\_\_  
Student's Name (please print)

\_\_\_\_\_  
Address

\_\_\_\_\_  
City, State, and Zip Code

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Student's Signature

\_\_\_\_\_  
Preferred Date and Time for Examination

Check one:

- Please schedule the exam at the Independent Study Program office in Bloomington on the date and time given above.
- Please send the exam to the person named below by the date given above.

\_\_\_\_\_  
Supervisor's Name (please print)

\_\_\_\_\_  
Official Title

\_\_\_\_\_  
Name of Institution

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# 7

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## The Geography of Development

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### Objectives

When you have successfully completed this lesson, you will be able to

- explain the fundamental distinctions between regions that are considered to have different levels of development,
- identify the indicators of development,
- discuss the geographical distribution of development around the world,
- describe several ways to improve levels of development,
- debate the topic of the international debt crisis.

### Reading Assignment

- Chapter 9, “Development”

## Discussion

The topic of this lesson is development. But development is not always easily defined and measured. What does it mean to live in a developed society? How does the quality of life vary between people in the developed and the less developed world? The degree of underdevelopment varies among countries and even within countries. In some places in the world, residents live comfortably without fear of sickness and starvation and have the potential for upward mobility during their lifetimes. In contrast, in many more places people struggle to meet the demands of everyday life, and every waking hour is filled with such basic concerns as obtaining clean water, finding a job, feeding the family, and so forth. In these places, children die every day from a lack of nourishment, only one person out of ten has the ability to read and write, and most people don't live to see their fiftieth birthday. At the end of this discussion, we identify strategies that have been implemented in an attempt to improve levels of development around the world.

### Defining Development

The process of development seeks to make the **less developed countries (LDCs)** more similar to the **more developed countries (MDCs)**. It includes the improvement of all facets of life, ranging from education to employment to health care, for every person. Undoubtedly, this task is very challenging for policy makers. Rubenstein defines **development** as “the process of improving the material conditions of people through diffusion of knowledge and technology” (page 285). If people have the know-how and the facilities to improve their lives, they are likely to do so. However, many scholars suggest that because of the world's political and economic structures, this diffusion may not be enough.

While the textbook divides the countries of the world into more developed countries and less developed countries, some geographers define these countries differently. In the discussion on political geography in lesson 5, I mentioned that the world had been divided into first-world, second-world, and third-world countries according to the geopolitics of the Cold War. I'm sure you have heard the poorer countries of the world called the third world. Today, most geographers discount this term as being a relict of the Cold War and consider it condescending (who wants to be in third place?).

Another popular distinction is what is termed the north-south split. Look at the map on page 295 of the textbook. The line running at approximately 30° north latitude separates the world into MDCs and LDCs (with the notable exception of Australia and New Zealand). This distinction is important in that it shows the geographic distribution of countries at the different levels of development. Plus, there are fewer negative connotations with using the terms north and south. However, to be consistent with the textbook, I will use the terms MDC and LDC from now on in this lesson.

The difference between the two categories should be easy to envision. MDCs, such as the United States and Japan, have relatively high standards of living, high levels of educational attainment, long life expectancies, and low infant mortality rates. Most residents of MDCs have access to clean water, sewage, and electricity. In contrast, many residents of LDCs lack these basic conditions that people in MDCs tend to take for granted. It is important to remember that these are very broad categorizations and much disparity exists within each category.

Let's look at the indicators used to measure development. They fall into three categories: economic, social, and demographic.

## Economic Indicators

**Per capita income (PCI)** is commonly used as an indicator of development. However, in many countries, especially the less developed countries, income figures are difficult to ascertain, so accuracy is always in question. The **gross domestic product (GDP)**—the monetary value of the total goods and services produced in a country annually—is often used as an alternative to PCI. Just as in the population lesson, this number must be standardized, because a large country like the United States will obviously have a larger GDP than a small country like Jamaica. So the GDP is divided by the total population in a country to create per capita GDP, which can be compared for different countries. However, per capita GDP gives no indication of income disparity within a given country because it is an average. For example, the per capita GDP for countries in Latin America make the region look fairly prosperous, but in reality many times a few wealthy elite control most of the country's wealth while the majority of the people live in impoverished conditions.



The **economic structure** of a given region, or the types of jobs available in a region, is another widely-used development indicator. The three principal sectors of an economic structure are called primary, secondary, and tertiary. The **primary sector** represents workers involved in the extraction of resources from the earth, including minerals, agricultural products, and fish. The **secondary sector** includes workers who turn primary-sector commodities (raw materials) into finished products through manufacturing. The **tertiary sector**, often referred to as the **service sector**, encompasses a large number of activities. It consists of the following five main categories:

- transportation and communication
- producer services
- retail and wholesale services
- personal and social services
- public services

Typically, LDCs will have a higher number of jobs in the primary and secondary sectors, and MDCs often have a higher percentage of the workforce employed in the tertiary sector.

A third economic indicator of development is worker **productivity**. Because technology is more prevalent in MDCs, worker productivity is generally higher in these countries. Rubenstein discusses several other economic indicators as well.

## Social Indicators

Social indicators also provide a way to measure development. The first social indicator has to do with **education** and **literacy**. Often, there are great discrepancies between MDCs and LDCs in these categories. In many countries, education levels for males and females vary widely. Today many geographers use the levels of female education and literacy to measure development, since female literacy rates in MDCs are much higher than in LDCs. Often there are cultural reasons for this discrepancy, such as in Afghanistan where female education was severely curtailed under Taliban rule.

**Health** and **welfare** services are also more extensive in more developed countries, mostly because additional resources can be allocated to these services. Not only do these resources assist sick or destitute people, but they also help prevent diseases. Examples of the extent of such services include the number of doctors per 10,000 people in a country, the degree of access to clean water and sanitation, the level of available housing, and average caloric intake. These social indicators are frequently used to measure the living standards of people, one of the main tenets of Rubenstein's definition of development.

## Demographic Indicators

Demographic indicators comprise the third set of most frequently used indicators of development. These indicators include infant mortality rates, natural increase rates, crude birth rates, and life expectancy. We discussed these indicators when we studied population in lesson 2.

A country's demographic indicators are interesting and useful to analyze. However, in order to measure development, they are much more informative when used in comparisons with other countries. The graph on page 304 of the textbook compares MDCs and LDCs on the basis of three demographic indicators of development: per capita gross domestic product, natural increase rates, and infant mortality rates. The graph clearly illustrates the vast inequalities between the MDCs and LDCs.

The United Nations has designed a method for measuring the development level of a country by combining several indicators. It is called the **Human Development Index (HDI)**. The HDI uses per capita GDP, literacy rate, amount of education, and life expectancy to create an index that ranges from 1.0, representing the highest level of development, to 0, representing the lowest level. This index is very useful as we begin to recognize varying levels of development around the world. The textbook contains profiles of more developed and less developed regions and their HDI ratings.

## Global Distribution of Development

Among the more developed regions, Anglo-America has the highest HDI, with a score of 0.93. The high score is attributable to many of the

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following characteristics: a high GDP, an abundance of resources, few primary sector employees, and a tertiary sector that is one of the most advanced in the world. Western Europe also scores high on the index, but it does not possess the same resource potential as Anglo-America. In contrast, Eastern Europe does not score very high. This low score is at least partially attributable to the poorly developed economic, social, and demographic aspects of Eastern Europe under former Communist governments.

Six regions fall under the category of less developed regions according to the HDI. Among these, Latin America has a rating of 0.76, which is relatively high among the less developed regions. East Asia's HDI rating is 0.70. This region includes China. In the past, major impediments to development in this region included problems with land ownership and strict governmental rule. But, as Rubenstein notes, the situation is changing, and China has great potential for development. Sub-Saharan Africa has the lowest HDI at 0.46. Problems such as poor leadership, frequent wars, and the long-lasting effects of colonization give this region the least potential for development.

The geographical north-south split in development begs the question of why this situation exists. There are no easy answers, but a few explanations include looking at where capitalism began, how it spread throughout the world, and the relationships between regions that were created as a result of its spread. Going back to the colonial era, Latin America, Asia, and Africa were colonized or ruled through imperialism and produced raw materials for export to Europe, which used these resources to further their own development (just think of the Industrial Revolution!). Today, **dependency theorists** claim that this situation created a world system in which LDCs rely on primary economic activities that involve exporting raw materials to MDCs, where secondary activities produce value-added goods that then are sold back to LDCs at a higher cost. Further, control of **transnational corporations**, companies that have activities in many countries, are based in MDCs, so decisions are made for the benefit of MDCs at the expense of LDCs.

Dependency theorists lay most of the blame for the underdevelopment of LDCs on MDCs. However, these theorists often ignore problems within LDCs such as corruption, lack of infrastructure, instability, and conflicts that are not conducive to development.

## Ways to Improve Development

Although the situations surrounding many of the less developed regions look hopeless, some people are concentrating on development processes and using methods aimed toward improving the overall situation of these countries. These development strategies focus on **self-sufficiency** and **international trade**.

The self-sufficiency strategy comes from the dependency theorists, who point out that the relationships between MDCs and LDCs are unequal, creating a system of neocolonialism in which MDCs control LDCs through economics. The key to development, then, is to break these neocolonial ties and develop themselves according to their own needs. So instead of exporting all their raw materials and importing expensive manufactured goods from MDCs, they should produce those goods for themselves. Additionally, investment is spread around the country and through all sectors of the economy where everyone shares in the benefits of development. Results are modest but steady. However, this strategy has its problems, most notably inefficient production, low quality of goods due to lack of competition, and large bureaucracies to manage the approach. While this approach was adopted by many LDCs in the twentieth century, most of these countries abandoned it in the 1970s.

The international trade approach is the strategy currently being employed for development around the world. Using this approach, countries focus on what they produce best (called comparative advantage) and import goods they do not. This approach entails neoliberal policies, which are based on free trade. Tariffs and taxes are removed, and goods move freely between countries and regions. Additionally, foreign investment is encouraged to bring in money for development.

But this strategy also has its problems. Resources are distributed unevenly around the world, so places with valuable resources do better than those without. Plus, by focusing on one product, a country is susceptible to problems when the price or demand for that product drops. Tourism in the Caribbean is an example of this type of situation. Because of the beautiful weather and scenery, over 50 percent of the GDP for many of the Caribbean islands comes from tourism. But after the terrorist attacks of September 11, 2001, the world tourism industry suffered, and the Caribbean was arguably hit the hardest.

Another problem is increased dependence on MDCs, which furthers the problems that the dependency theorists lay out. For example, many LDCs supply cheap labor and offer tax breaks to attract foreign companies. However, in order to keep the companies, the labor must remain cheap, and the LDC's government gets little money from taxes due to the tax breaks. Hence, if labor prices rise or the tax breaks end, the company can go to another country that offers cheaper labor and more tax breaks. This situation creates a "race to the bottom" in which LDCs are forced to compete with each other in order to attract foreign companies.

One major impediment to development in LDCs is financing. The two main international organizations that lend money to countries for development are the World Bank and the International Monetary Fund. During the 1970s, LDCs were encouraged to take out loans at low interest rates. However, many of the development projects turned out to be failures, and corruption caused much of the money to simply disappear. In the 1980s, interest rates rose considerably, and countries began to face daunting repayments. As the textbook states, the total value of outstanding loans to LDCs in 1996 was \$2.1 trillion, which is an increase of over \$1 trillion from ten years before! Today many LDCs are having difficulty repaying these loans and often have to take out new loans just to pay the old ones. In 2003, Jamaica was using 66 percent of its budget just to make interest payments on its debt! Hence, it only has 34 percent of its budget to run the country and to fund such things as healthcare, education, and roads. Some, including the singer Bono from U2 and the Pope, are now calling on financial institutions to forgive the debt of LDCs, but there is little chance of that happening, as opponents argue that it will only encourage more corruption and throw the world banking industry into chaos.

Today, in order to get loans, LDCs must adopt **structural adjustment programs** that attempt to structure the government and economy according to the international trade approach in order to ensure debt repayment: government spending must be cut, industries must be privatized, citizens must pay more for services, taxes must be raised, and attempts to attract foreign companies and investment must be increased. Although these changes are meant to increase the economic development of LDCs, they have caused many problems for the social development of these countries.

## Conclusion

In summary, development in the world today is a daunting problem with no easy solutions. This discussion only touched on a few facets of the problem, and as you can see it gets very complicated! No matter how we choose to address the problem, we must keep Rubenstein's definition of development as a primary focus.

Some people believe that development should be focused on the economy. If the economy becomes developed, then the wealth it generates can be used to provide social services such as education and healthcare. Others believe that development should be focused on the social side in order to create a healthier and more educated population that can then create economic development. What do you think?

## Written Assignment

Answer the following questions as completely as the readings allow. I encourage you, when possible, to draw on outside sources or personal knowledge. Either type and double-space your answers or neatly handwrite them.

If you have Internet access, you may complete the Web Quest rather than answering question 2.

1. Explain the concept of development. Identify the two categories used to describe a country's level of development. How are these categories helpful in understanding the global state of development? Also, what are the major shortcomings of this categorization scheme?
2. The textbook discusses eleven indicators of development that are divided into three categories: economic, social, and demographic. Make one column for each category and list the eleven indicators under the appropriate columns. Which indicators do you feel are most useful for understanding development? Also, which do you feel are least useful and why?
3. Explain the distribution of development levels across the world. Identify the MDCs and the LDCs. Also, select **one** region and discuss

the major factors that have contributed to or impeded development in that region.

4. From the textbook and the discussion, describe the various methods that are used to promote development. In your opinion, which methods are the most effective and why?
5. Discuss the problems of financing development through loans. Do you think this approach is part of the solution or part of the problem for development?
6. What economic policies do structural adjustment programs create? How do you think these policies affect the average person?

### **Web Quest**

**Note:** If you have Internet access, you may complete this activity rather than answering written assignment question 2.

In this Web Quest you will go to the United Nations Statistics Division and look up three development indicators for seven countries. Then you will create a composite ranking of the countries based on these three indicators. While the composite ranking you will create is a crude one, it will give you experience in looking up indicators, comparing countries, and observing the different facets of development.

To keep in line with the textbook's coverage of development indicators, you will use one economic indicator, one social indicator, and one demographic indicator. For the economic indicator you will use per capita gross domestic product (per capita GDP), or the total services and goods produced in a country in a year divided by its population. The social indicator will be school life expectancy, or the average number of years of formal schooling a person is expected to achieve. The demographic indicator will be infant mortality rate, or the number of deaths of infants under one year of age for every 1000 live births in country. Go to the UN Web site now and record these indicators in the table at the end of this lesson:

<http://unstats.un.org/unsd/demographic/social/default.htm>

Click on **Income and Economic Activity** at the top of the page for the per capita GDP indicator, click on **Education** for the school life expectancy, and click on **Health** for the infant mortality rate.

Once you have filled in the indicators for each country, rank them from 1 to 7, with 1 going to the highest per capita GDP, 1 to the highest school life expectancy, and 1 to the lowest infant mortality rate. If there is a tie, then assign both countries the same ranking and skip one rank for the next country in line.

For the composite score, find each country's average ranking. Then rank those scores from 1 to 7, with a ranking of 1 going to the lowest composite score and 7 to the highest composite score. Then answer the following questions.

WQ1. Do any countries show a good score for one indicator but a bad score in another? Why do you think this might be?

WQ2. Of all the development indicators covered in the textbook and on the United Nations Web site, which three do you believe are the most important and why? Are your choices oriented more towards economic, social, or demographic factors?

Please attach the assignment cover sheet to your work and use the label for lesson 7.







# 8

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## Agricultural Geography

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### Objectives

When you have successfully completed this lesson, you will be able to

- summarize the history of agricultural production,
- describe the different methods of agricultural production in LDCs and MDCs,
- explain the von Thünen model
- discuss why commercial agriculture produces too much food and how the U.S. government addresses this issue,
- debate the positive and negative aspects of the green revolution.

### Reading Assignment

- Chapter 10, “Agriculture”
- Pages 479–84 of chapter 14, “Resource Issues”

## Discussion

**Agriculture**, defined by Rubenstein as the “deliberate modification of Earth’s surface through cultivation of plants and rearing of animals to obtain sustenance or economic gain” (page 317), is one of the oldest activities practiced by humans. Plants that have been cultivated by humans are called **crops**, while the practice of allowing livestock to graze on land that is not suitable for growing crops is called **ranching**, an important but often overlooked component of agriculture. The importance of agriculture has not decreased over time. In fact, with growing population pressures, the need for sophisticated agricultural practices has never been greater. In this lesson, we explore the diverse practices of agricultural production across the world. Because climates, landscapes, and technological capabilities vary greatly throughout the world, the people of different regions produce a large variety of agricultural products using a wide range of farming methods. Additionally, the section about expanding global food resources on pages 479–84 addresses modern issues in agriculture that logically fit into this lesson.

### Origins of Agriculture

Let’s briefly discuss the history and origins of agriculture. The first people to roam the earth and take advantage of natural resources were **hunters** and **gatherers**. In comparison to today’s agriculturalists, the practices of these early inhabitants were quite simple. They hunted animals, fished, gathered plants and berries to fuel their daily activities, and followed herds of animals wherever they went. There were no large settlements at this time. Today, only about 250,000 people live this way. These contemporary hunters and gatherers can be found in Africa, Australia, South America, and the Arctic.

Eventually, people learned to **cultivate**, or grow, plants. Two primary cultivation methods are believed to have been invented during the early stages of agricultural production. The first is **vegetative planting**, which consists of cutting off stems from existing plants and replanting them. You may have cultivated house plants, such as African violets or cacti, in this manner. The other method is **seed agriculture**, a method still used in modern-day farming. Many of us do seed agriculture annually in our backyards; we plant seeds and help them grow. Carl Sauer, whom we

discussed in lesson 1, studied how both of these methods originated in several places and diffused across particular regions, as illustrated by the maps on pages 318 and 319 in the textbook.

## Agriculture in Less Developed Countries

As we learned in lesson 7, a majority of residents of LDCs participate in the primary sector of the economy. Many people in these countries still farm primarily to provide food for their families instead of selling it at the market. This practice is called **subsistence agriculture**. Each of the four main methods of subsistence farming is suited to the physical and climatic conditions where it is practiced. The four methods are as follows:

- shifting cultivation
- pastoral nomadism
- intensive subsistence with wet rice dominant
- intensive subsistence with wet rice not dominant

The textbook mentions **plantation** as the fifth method found in LDCs, but Rubenstein discusses it in the section on agriculture in MDCs. The reason for this placement is that plantation farming is not a subsistence agricultural type. While primarily located in LDCs, plantations usually produce crops for export to MDCs. Often these crops are luxury items like coffee, tea, rubber, or sugarcane rather than necessities of life. (You can't live solely by drinking coffee, although I'm sure many of us have tried to do so during finals week!) Plantations often take up the best agricultural land to produce crops for someone else, which can cause problems for places that are facing hunger issues.

**Shifting cultivation** is practiced in low latitudes, and it differs greatly from agricultural practices in MDCs. The farmers clear away all vegetation and debris and burn it. Thus, shifting cultivation is also known as **slash-and-burn agriculture**. This process adds nutrients to the soil and, at the same time, clears the land. The farmers use the land for several years, until all of the nutrients are depleted. Then they move on to another area and repeat the process. Eventually, they will return to the land they left and repeat the cycle. Unfortunately, due to population pressures and growing food demands, the return trips are occurring too rapidly, before

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the land has time to replenish its nutrients. Therefore, the land is not as productive as it once was, and these areas have to be abandoned.

The primary crops that come from shifting cultivation are corn and cassava. One major concern about this method is that in many forested regions the trees are being cut down to make way for agricultural land. Although the timber from this process is sold and brings in revenue to landowners and the process clears the land for potential development, it has reduced the tropical rain forests by 10 to 20 million hectares annually. It is a tricky situation for government officials and environmentalists. On the one hand, the slash-and-burn process is a profitable means of economic development, at least in the short term. On the other hand, the tropical rain forests are responsible for large amounts of the earth's oxygen; their destruction influences many climatic systems and has serious implications for our global environment. Rubenstein discusses the pros and cons of shifting cultivation and its global impact on pages 325–26 of the textbook.

**Pastoral nomadism** is another common agricultural method. Although similar to the activities of the hunters and gatherers, it is more complex. Hunters and gatherers are nomadic and follow herds. The animals within the herds are not domesticated; that is, they are wild. Hunters and gatherers do not have a particular herd of animals to follow. They just follow whatever herd they can find. In pastoral nomadism, the animals are domesticated, and typically they are sheep. In regions where sheep are not abundant, other domesticated animals are used. Whereas hunters and gatherers are highly dependent on gathering to supplement the meat, pastoral nomads are mostly dependent on the animal and its by-products, and they do little gathering.

Two other popular types of agriculture, which are widely practiced in LDCs, are **intensive subsistence where wet rice dominates** and **intensive subsistence where wet rice does not dominate**. Most of the regions where intensive subsistence agriculture is practiced are densely populated. The cultivation of a given parcel of land is done much more intensely because the parcels are smaller and must be used to their fullest potential. Due to these land restrictions, animals generally are not used in intensive subsistence agriculture. All of the required work must be done by humans.

Wet-rice dominant intensive agriculture simply means that wet rice is the product. Intensive subsistence agriculture where wet rice is not dominant yields mostly wheat and barley. This type of agriculture is done primarily

in the interior of India and in northeast China. Wet-rice dominant intensive subsistence agriculture is done mostly in other southeastern regions of Asia.

## Agriculture in More Developed Countries

In MDCs, agricultural methods are more technologically advanced and produce higher yields. As a result of increases in the use of technology, fewer people take part in the primary sector of the economy. More developed countries practice **commercial agriculture**, in which a small percentage of people produce sufficient food for entire populations.

Commercial agriculture has the following characteristics:

- a small percentage of farmers in the labor force (for example, less than 2 percent of the population in the United States)
- extensive use of machinery
- large farm size
- output sold to processors
- integration with other businesses

One aspect of commercial farming, which has recently received more public attention, is the use of waste products. Throughout the course, we've been discussing the increasing burden on the earth's resources. The use of agricultural products (e.g., wood, plant material, animal waste) as an energy source is an important research avenue. These alternatives may be able to reduce our consumption of fossil fuels. Some energy resources derived from agricultural products are currently being tested. One example is hog feed. The by-products of hog-feed production have been found to have energy-creating characteristics. The transformation of agricultural products into energy sources is called biomass. We'll learn more about biomass in lesson 11.

## The Von Thünen Model

Many disciplines use models to explain, describe, and analyze particular situations. A model is a representation of reality, based on the characteristics of a realistic situation. One of the most prolific models in

the history of the social sciences is the **von Thünen model**. Using several important variables, this model suggests which crops commercial farmers should plant and where these crops should be planted in order to maximize profits. Because particular crops are more difficult and expensive to transport, the von Thünen model uses a set of rules to determine which crops should be produced given the location of the marketplace. Be sure you understand the von Thünen model discussed on pages 341–42 in the textbook.

## The Green Revolution

Remember Thomas Malthus and his predictions of global starvation and warfare due to his belief that the population would outgrow food production? One of the reasons his prediction did not come true relates to what is termed the **green revolution**, as discussed on pages 481–82 of the textbook. In this “revolution,” which began in the 1960s, scientists selectively breed crops to produce bigger fruits and other desirable traits. However, these new crops also require more inputs, such as machinery, fertilizers, irrigation, and herbicides and pesticides. The green revolution has increased food production worldwide, but is not without its problems. You may choose to discuss the positive and negative aspects of the green revolution in the written assignment for this lesson.

## Written Assignment

Answer the following questions as completely as the readings allow. I encourage you, when possible, to draw on outside sources or personal knowledge. Either type and double-space your answers or neatly handwrite them.

If you have Internet access, you may complete the Web Quest rather than answering questions 5 and 6.

1. The various methods of agricultural production have a rich history. Explain the origins of agriculture.
2. As we learned in lesson 5, different countries and regions have varying levels of development. Agricultural practices also vary



according to country, region, and level of development. Describe the most common methods of agricultural production practiced in LDCs.

3. Now describe methods of agricultural production practiced in MDCs.
4. One of the most important geographic models is the von Thünen model. Explain the underlying assumptions of this model and its value in analyzing the location of agriculture activities. Use an example to illustrate the major points. Do **not** use the examples in the textbook.
5. Why does commercial farming produce too much food? How does the U.S. government deal with this “problem”?
6. The green revolution has raised agricultural production drastically in LDCs over the past 40 years. However, it is not without its problems. Discuss the positive and negative aspects of the green revolution.

### **Web Quest**

**Note:** If you have Internet access, you may complete this activity rather than answering written assignment questions 5 and 6.

There is a growing controversy about what are called **genetically modified organisms (GMOs)** or **genetically engineered (GE) foods** in agriculture today. A GMO or GE food has had its genetic DNA altered by scientists to create desirable traits. In the past, plants were modified by crossbreeding, but today scientists can select specific genes from one organism and place them into the DNA of another, creating desirable traits. For example, in an attempt to create a frost-resistant tomato, a gene from a cold water fish was spliced into the tomato’s DNA so that the plant could withstand colder temperatures and hence be grown in colder climates! However, there is considerable debate about the risks and benefits of GMOs, and in this Web Quest you will investigate this debate further.

Go to the Cornell University Web site

<http://www.geo-pie.cornell.edu//gmo.html>

Then answer the following questions.

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- WQ1. Click on **In the Market**. What types of foods probably contain GMOs? Which ones might? Which ones probably do not?
- WQ2. Click on **Genetic Engineering**. What six traits have been modified in GMOs? Click on **Insect Resistance** and describe how it works and which crops have been modified.
- WQ3. Click on **Risks and Benefits**. Choose one health related issue, one environmental and ecological issue, and one social issue and briefly describe the positive and negative aspects of each issue. (**Hint:** Click on the **box** in front of the specific issue to access more information about it.)
- WQ4. In your opinion, do the benefits of GE foods outweigh the risks? Why or why not?

Please attach the assignment cover sheet to your work and use the label for lesson 8.



# 9

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## Economic Geography

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### Objectives

When you have successfully completed this lesson, you will be able to

- describe the dynamics of the Industrial Revolution,
- discuss industrial location theory,
- compare industrial activity in LDCs with industrial activity in MDCs and explain the differences,
- discuss the principle of supply and demand for global industry,
- explain the concept of central place theory and how it relates to market-area analysis.

### Reading Assignment

- Chapter 11, “Industry”
- Pages 383–405 in chapter 12, “Services”

## Discussion

Economic activities fall into three main categories: primary, secondary, and tertiary. Recall from lesson 7 that primary sector activities such as mining, fishing, forestry, and agriculture extract materials from the earth; secondary sector activities, often termed manufacturing, turn these materials into useful products through industry; and tertiary sector activities such as retail sales, banking, education, and government activities provide these goods and services to consumers in exchange for payment. If we combine these three economic activities, we have the basics for economic geography.

In this lesson we will cover the secondary sector activities in industry and the tertiary sector activities in services. We will focus on the major geographic theories related to industrial location and the location of services, and how these choices are related. Economic activities have not advanced evenly across the globe. As the global economy progresses, however, economic activity is becoming increasingly interconnected.

### The Industrial Revolution

Any discussion of industrial activity is likely to begin with the **Industrial Revolution**. The Industrial Revolution originated in Europe, specifically in Great Britain, in the mid-eighteenth century. The technological advances of the Industrial Revolution irreversibly transformed social and physical environments throughout the world. The Industrial Revolution thus inaugurated what is termed the “modern era.”

Rubenstein defines the modern concept of **industry** as “the manufacturing of goods in a factory” (page 349). Prior to the Industrial Revolution, manufacturing was done on a small scale, usually in people’s homes. These small-scale industries were known as **cottage industries**. The new technologies of the Industrial Revolution provided the basis for a more efficient mode of production: assembly-line manufacturing.

Several important inventions initiated the transition from home-based cottage industries to assembly-line production in factories. The most important of these inventions was the steam engine. James Watt patented the steam engine in Scotland in 1769. This invention allowed people to

harness power and channel it in many different ways. The first industries to put the new power source into effective use were mining, engineering, transportation, the textile industry, the chemical industry, and food processing.

Factories became the homes of these mighty industries, which employed large numbers of people and demanded an unprecedented amount of natural resources. The Industrial Revolution transformed more than the state of production all over the world; it also changed economic, social, and political conditions. For example, it played a major part in the demographic transition and the process of urbanization.

## Diffusion of the Industrial Revolution

Although the new technologies were quickly adapted to a number of different industries in Great Britain, it took some time before they diffused to other regions. Diffusion was at least partially impeded by political instability throughout most of Europe. The French Revolution, the Napoleonic Wars, and other destabilizing political events slowed the spread of new technologies to many areas of Europe. You can trace the diffusion of the Industrial Revolution across Europe in the map on page 353 of the textbook and tie it to the migration of different European peoples to the United States in the figure on page 81. Think about how the diffusion of the Industrial Revolution impacted the demographic transition, and in turn, the migration transition.

In eighteenth-century North America, the American colonists were sowing the seeds of political revolution, so these technologies bypassed the continent. Hence, the United States remained mostly agrarian prior to the Revolutionary War. The Industrial Revolution eventually had a major impact in the United States during the postwar period. Many cities were forever changed as the influence of the Industrial Revolution spread from the East Coast to the Midwest. Cities situated near the resources required by factories (e.g., iron ore, coal) or cities located on important transport routes (e.g., lakes, rivers) had distinct advantages and grew rapidly, as shown in the map of major industrial regions on page 354 in the textbook.

## Weber's Industrial Location Model

The textbook discusses how industries choose where they will be located based on situation and site factors. Decisions about **situation factors** are based on transportation of raw materials and finished products. Decisions related to **site factors** focus on unique characteristics of a location: labor and land costs and the availability of capital (money) for investment. I will explain industrial location through one influential economic geography theory that uses both the situation and site factors discussed in the textbook. Alfred Weber (1868–1958), a German economic geographer, created an industrial location model called the **least cost theory** which seeks to minimize three costs: transportation, labor, and agglomeration.

For Weber, **transportation costs** were the most important element to consider in deciding where to locate an industry. An industry that requires bulky and heavy inputs (materials) and whose final product is lighter than those inputs is called a **bulk-reducing industry**. Such industries should be located near the source of the inputs. The textbook uses the example of the copper industry. The raw copper mined from the earth is very bulky and heavy, so transporting it in its raw stage is very expensive. However, refined copper contains a very small percentage of pure copper. Since the refined material weighs much less, it costs less to transport it. Thus, copper industries are generally located near copper mines.

On the other side of the spectrum are **bulk-gaining industries**, where the inputs are lighter than the finished product. For example, water is the heaviest input in soft drinks; the syrup used to make drinks like Coca-Cola and Pepsi is much lighter and less bulky. Since water can be found in most places, it makes sense to transport the syrup to the place it will be consumed (the market area) and just add local water there. The most efficient way of adding water to a soft drink syrup is the soda fountain, which can be found in most restaurants and convenience stores. Customers place their cups under the soda fountain and press the fill button. The syrup is mixed with carbonated water right into the cup!

**Labor costs** are the second factor in Weber's least cost theory. It makes sense for companies to locate their factories in places where they can get the cheapest labor possible to perform the needed jobs at the factories. The case study on maquiladoras at the beginning of chapter 11 is an example of locating an industry across the border in Mexico to reduce labor costs.

**Agglomeration**, the clustering of similar industries, is the third cost in Weber's least cost theory. Related industries that are located near each other can provide assistance to each other through shared talents, services, and facilities. Transportation of manufactured inputs is lessened as well. For example, at its beginning the auto industry agglomerated in the U.S. Midwest. It makes sense for a maker of brake pads for cars to locate near an auto-assembly plant in order to reduce the brake maker's transportation costs. Another example is the high-tech industry of Silicon Valley, where several universities that are located nearby (such as Stanford and UC Berkeley) supply both a highly skilled labor force and investors to provide capital investment. However, extreme agglomeration recently has created a problem in Silicon Valley. With competition for labor and land, wages and land prices rose to such a high level that many industries could no longer afford to be located here. Such factors have led many high-tech firms to leave Silicon Valley for other locations that have cheaper land and labor costs.

In today's global economy, industries are free to locate wherever they wish. Technological improvements have decreased transportation costs to the point that labor has become the most important factor in industrial location. Hence, industries have been moving their locations to places where cheap labor is available, most often in LDCs. What happens to the places these industries have vacated?

## Moving from an Industrial to a Postindustrial Society

Recently many factories in major industrial cities, particularly in MDCs, have closed down as countries try to make the transition from an industrial to a **postindustrial society**. As manufacturing declines throughout these major industrial cities, economic activity shifts toward the service sector, or tertiary sector. This transition from an economy dominated by manufacturing (i.e., secondary-sector activities) to one based on service-sector activities characterizes the transition from an industrial to a postindustrial society.

Because of the decline of industries in major cities throughout the East and Midwest, such as Pittsburgh, Philadelphia, Buffalo, Cleveland, Chicago, Cincinnati, and New York, this area of the United States has earned the moniker "**Rust Belt**." Today the fastest growing area in the United States



is known as the “**Sunbelt**” and includes southern cities such as Atlanta, Charlotte, Houston, Dallas, and Phoenix.

Sunbelt cities have prospered in the postindustrial period for several reasons. One is the good climate. Postindustrial activities are not resource dependent and therefore are not restricted to specific sites, so industries can locate in places with a favorable climate. Also, most states in the Sunbelt are **right-to-work states**, meaning that laborers are not required to join unions, and thus labor is usually cheaper. In contrast, most Rust Belt states are heavily unionized.

## The Fordist and Post-Fordist Eras

Much of the large-scale industrial activity in the twentieth century owes its beginnings to Henry Ford, an industrial pioneer. Ford implemented one of the first and most productive assembly-line plants in the United States. His assembly lines were designed to produce automobiles as efficiently as possible. Each worker repeatedly performed one task. The assembly line was created to take advantage of economies of scale. Simply put, **economies of scale** means that the more items a factory produces, the lower the cost per unit will be because the overhead costs will be spread over many more products.

We are now in the **post-Fordist era**, where labor and production practices are more flexible. The automobile industry illustrates the transition from a Fordist to post-Fordist mode of production. In the Fordist era, very few styles of cars were available; most cars were black and had similar features. Today when we purchase a car, we can choose from many options (e.g., different colors, new styles, special features). Such choices are possible because production is more flexible and seeks to meet the demands of the consumer. In contrast, Fordist production was not sensitive to consumer demands; the producer dictated the styles and features of the product.

## The Global Industrial Market

So far we have discussed industry mainly in the United States and from the perspective of the American worker and consumer. But the global

economy makes this way of thinking obsolete. Today we live in an increasingly interrelated global economy. The productive capacity of the global economy now far exceeds the demand for goods, which allows for flexibility in manufacturing, as noted above. When purchasing an item, today's consumer has many options, and producers compete to meet these demands. Rubenstein describes this situation on page 372.

From the Industrial Revolution's beginnings in the late 1700s until the 1970s, industrial growth in more developed countries was fueled by long-term increases in population and wealth. The growth formula was simple: More people with more wealth demanded more industrial goods. Demand was met by building more factories, which hired more people, who became wealthier and therefore demanded more goods. Times of major world conflict or economic depression were temporary exceptions to long-term growth in wealth, demand, and production.

This recipe for all-around prosperity and wealth was abandoned when the global market became saturated.

## LDCs in the Global Economy

Less developed countries have not entirely enjoyed the benefits of the global market described above. The industrial nations used the LCDs, many of which were former colonies, for the extraction of raw materials. Most LDCs did not build the infrastructure needed to transform these raw materials into finished products, the process that creates the greatest profits. Instead, these production activities remained in MDCs. Recently, MDC-based transnational companies have been producing products in LDCs; however, most of the profits return to the transnational company's country.

**Maquiladoras**, discussed in the case study for chapter 11, are an example of this new international division of labor. In contrast to old colonial mechanisms, new methods of exploitation, such as maquiladoras, have been ratified through international treaties and are always approved by the LDCs that house them. Maquiladoras are simply one form of what are called export processing zones (EPZs). These zones are initiated so that MDCs and transnational corporations can attempt to reduce labor costs by transferring jobs that can be performed by less-skilled workers to LDCs. The effects of these practices can be seen in cities around the world as jobs that have been historically within them are being moved to LDCs for

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reduced labor costs. Bloomington, Indiana, where Indiana University is located, recently fell victim to this process when Thompson Consumer Electronics closed its plant and transferred many employment opportunities to a maquiladora in Juárez, Mexico, just south of the Texas border.

The implications of industry on local and global conditions cannot be overestimated. Industrial activities have created unprecedented levels of wealth, access to goods, use of resources, and degradation of the environment.

### The Tertiary Sector: Services

**Services** are activities that fulfill a human want or need in exchange for money. The major force behind the settlement process was that people realized they could live better lives by coming together and pooling their particular personal skills and distinct forms of personal knowledge. Rubenstein discusses several types of services ranging from personal to public.

Early manufacturing centers that produced simple tools made out of stones were catalysts for early **settlements**. These settlements were important because they allowed for **specialization**. Different tasks, such as growing crops, hunting animals, raising children, and manufacturing tools, could be distributed among the members of the community. This era of specialization fundamentally altered the way humans interacted with one another. Beyond the specialization that occurred regarding hands-on tasks, other areas of specialization evolved and served complementary needs. Such services as health care and education greatly added to the overall construction of early societies.

### Market Areas of Service

As populations increased, services became more desirable and structured markets began to develop. Essentially, a **market** refers to a geographically contained unit that exists to serve those people who live within or in close proximity to it. The actual term for this area serviced by a market is called a **market area**, or **hinterland**.

The **range** is “the maximum distance people are willing to travel to use a service” (page 393). Rubenstein makes good use of McDonald’s as an example of range. Because there are so many McDonald’s franchises, the range of any given McDonald’s restaurant is minimized as a result of its proximity to another store. If we were to imagine a circle surrounding two neighboring McDonald’s restaurants, the range for each store ends where the other’s range begins. Of course, particular population dynamics and other locational factors contribute to this range, but in the rawest sense this example suffices.

The effects of population on a particular market are best illustrated through what Rubenstein refers to as the **threshold**. A threshold is “the minimum number of people needed to support a service” (page 394). Where a business locates depends very much upon its specific threshold. In fact, geographers use several techniques to strategically locate particular industries and services within urban areas, as discussed in chapter 12.

## Central Place Theory

Because geographers are inherently interested in studying various spatial matters, they have developed many analytical models for doing so. Rubenstein discusses several of these models. One model geographers commonly use to understand the location of cities is central place theory. **Central place theory** suggests that the location of cities within a given region is directly related to the services offered. The idea is that every city has a populated region nearby, and this region is considered to be its market. People within the region depend on the city for their services and consumer products. The largest cities tend to possess all the basic necessities, as well as services or commodities not found in smaller towns. For example, in every town people can buy groceries, clothes, etc. But if consumers want to buy something unusual or extraordinary, such as an automobile or sailboat, chances are they will have to visit a larger city. Rubenstein discusses central place theory in detail, starting on page 393. As you read this section, think about how it relates to where you live.

## The Economic Base

For a town to grow into a city, it must have a substantial **economic base**. The economic base allows the city to grow and support more people, which in turn generates more jobs; in other words, a multiplier effect occurs. Two principal elements make up the economic base: basic industries and nonbasic industries. **Basic industries** are responsible for products that are sold to or bring in revenue from people outside of the local market. These are often larger items such as automobiles or special attractions. In the case of Las Vegas, for example, gambling and entertainment are basic industries because they bring in people from elsewhere. The important feature of basic industries is that they bring in money from outside the area. This “new” money then circulates locally and helps the economy grow. **Nonbasic industries**, which meet the needs of the people at the local level, include schools, grocery stores, retail stores, entertainment, and utilities.

In general, for every basic industry job that is created, two nonbasic industry jobs are created. This is called the **multiplier effect**. For example, if a city is able to attract a factory that makes televisions and creates 1,000 jobs, then 2,000 additional nonbasic jobs are also created to service the new workers in the form of restaurant workers, hairstylists, lawn-care service providers, and movie theater employees to name just a few. On the other hand, if the same city loses a factory that makes televisions, then it may lose 1,000 basic jobs and possibly 2,000 nonbasic jobs! Some cities depend too much on one or two industries and are confronted with major problems if those industries decline. Examples include the major steel centers, coal mining towns, and the city of Flint, Michigan, as depicted in the film *Roger and Me*.

## Conclusion

In this lesson we have covered the secondary sector activities in industry and the tertiary sector activities in services, two of the three basic components of economic geography. As you read the material from chapters 11 and 12, think about how the themes and theories of economic geography introduced in this discussion play out in the real world where you live and how globalization has altered the way we look at economic geography.

## Written Assignment

Answer the following questions as completely as the readings allow. I encourage you, when possible, to draw on outside sources or personal knowledge. Either type and double-space your answers or neatly handwrite them.

If you have Internet access, you may complete the Web Quest rather than answering question 6.

1. What is the difference between a bulk-gaining industry and a bulk-reducing industry? Give an example of each that is **not** covered in the textbook or the discussion.
2. Explain some of the impediments to industrial growth in LDCs.
3. Discuss the principle of supply and demand as it relates to the global industrial market.
4. Explain the concept of central place theory. Use an area you are familiar with to illustrate your points.
5. How do range and threshold help in market-area analysis? Give an example.
6. Explain the historical changes of the U.S. economy, from first being based on primary sector activities, then relying on secondary sector activities, and now being largely dependent on tertiary activities.

### Web Quest

**Note:** If you have Internet access, you may complete this activity rather than answering written assignment question 6.

This Web Quest focuses on the economic base of your U.S. state. If you are an international student, you may focus on a state of your choice in the United States. You will record economic data from the U.S. Census to determine in what types of jobs and economic activities your state specializes. Go to the U.S. Census homepage at the following address:

<http://www.census.gov>

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Click on Economic Census and then the arrow in front of 1997 data by NAICS - U.S., states, counties, and metro areas. At the top right-hand side of the page, select a state from the scroll-down menu. With the data available, fill in the top five economic activities based on the number of paid employees. For economic activities that are broken into taxable and exempt categories, add these numbers to get the total number of paid employees for the economic activity.

<b>Economic Activity</b>	<b>Paid Employees</b>
1.	
2.	
3.	
4.	
5.	

Next, answer the following questions.

WQ1. Which state did you choose?

WQ2. Classify these five economic activities as primary, secondary, or tertiary sector activities.

WQ3. Which of these top five activities did you expect to be prominent? Which ones surprised you?

WQ4. What evidence of these activities do you see in your community?

Please attach the assignment cover sheet to your work and use the label for lesson 9.





# 10

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## Urban Geography

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### Objectives

When you have successfully completed this lesson, you will be able to

- define the terms used to describe urban settlements,
- describe the dynamics of major urban problems,
- explain the processes of suburbanization and gentrification,
- identify the underlying causes of the spatial distribution of social groups in urban areas,
- discuss the models of urban structure,
- compare and contrast U.S. cities and other cities around the world.

### Reading Assignment

- Pages 406–13 from chapter 12, “Services”
- Chapter 13, “Urban Patterns”

## Discussion

In this lesson, we look at the significance of urban settlements as arenas for social, economic, and political activity. Cities often possess the best and worst features of our society: the world's great cities are a mixture of wealth and poverty, choices and constraints, pleasure and despair. In New York City, for example, the glitter of Broadway is juxtaposed with X-rated theaters and homeless people. Because so many people conglomerate in one place, the enormous amount of human potential results in humankind's greatest achievements and its worst problems. From the readings, you'll develop a clear understanding of the underlying causes of both positive and negative urban phenomena, including some of the major urban ills and the potential means to cure them. Additionally, since cities generally have distinct residential and commercial patterns, we will examine how urban features appear spatially on the landscape.

## Urbanization

When an increasing number of people convene in one area or settlement, we call this process **urbanization**. Typically, urbanization is accompanied by an expansion of the infrastructure, including services and other resources. From a global perspective, MDCs are more urbanized than LDCs, although Latin America is a region of LDCs with urbanization rates similar to MDCs. In fact, many of the world's largest cities are now located in LDCs. The reasons for urbanization varies among regions. To truly do justice to this interesting phenomenon, we should examine each region separately. The maps on textbook pages 420 and 422–23 portray the scope of urbanization worldwide.

One factor contributing to the rapidly increasing urbanization rates in LDCs is continued high population growth, which contributes to urban growth in two ways. First, growing population pressures in rural areas force many people to move to cities in search of better opportunities. Second, the birth rates of people who move to the cities in LDCs are not dropping, as they are prone to do in MDCs. The continued high birth rates can, at least partially, explain the massive poverty that persists in cities in LDCs.

## Defining the City and Understanding the Growth of Cities

Before embarking on a more detailed discussion of urbanization and cities, we must first reach a consensus, or common ground, on a definition of the term **city**. Rubenstein defines a city as “an urban settlement that has been legally incorporated into an independent, self-governing unit” (page 421). His definition is simple but sufficient for our purposes. Keep in mind that each country has a different definition a city, so when you see population counts for the world’s major urban centers, remember that their methods for classifying places as urban or nonurban may be quite different.

How and why do cities grow? Cities continue to grow because people perceive them to be places of opportunity. Cities typically house a multitude of employment opportunities, particularly during periods of high industrial activity. Cities also offer better opportunities for education and health care. Thus, people often equate betterment of their lives with moving to the city. This philosophy may be changing in MDCs, where urbanization rates have slowed, but it still holds true in LDCs.

Cities grow through two processes. The first, and most obvious, process is known as **rural-to-urban migration**; people simply move to the city. The second way that cities grow is through **annexation**. Cities will often annex (i.e., legally absorb) surrounding areas and incorporate them. Annexation is done for two main reasons. The first reason is that annexation increases the tax base of the city; more people mean greater tax revenues. The second reason is that awards of state and federal funds are often given to the largest cities or those that seem to be most in need.

### Metropolitan Statistical Area (MSA)

In the United States, the U.S. Bureau of the Census has its own designations for urban areas. The most common designation is the **metropolitan statistical area (MSA)**. By definition, an MSA must have a central city with a population of at least 50,000. The term **central city** refers to that area of urban space generally known as “the city” or the urban core. An MSA includes the county within which it is located. Any adjacent county with at least 50 percent of the population working in the central city, provided it meets several lesser requirements, is also

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considered part of the MSA. Urban researchers commonly use the MSA designation.

Because MSAs continue to expand spatially (those of you who have visited Los Angeles are well aware of this), they can sometimes merge with one or more other urban areas to form what is called a **conurbation**. One of the world's largest conurbations involves the cities of Tokyo and Yokohama in Japan. In more extreme circumstances, several cities may overlap; that's the case on the east coast of the United States in an area known as the "Boswash corridor." The corridor extends from north of Boston (Bos) to south of Washington, D.C. (Wash). Geographers refer to this urban phenomenon as a **megalopolis**.

## Inner-City Blues

Cities in North America are undergoing major transformations. As we discussed earlier in the course, many of the industries upon which major cities were founded have fled to all corners of the globe. Some industries have moved to the suburbs to escape high inner-city land costs, while others have moved to the Sunbelt or to LDCs in order to take advantage of lower labor costs. Some cities have not dealt with this change well (Detroit, for example), while other cities have switched to promoting tourism or high-tech industries to revitalize their economies.

U.S. inner cities have also undergone fundamental population shifts. Since the 1950s, many urban residents have fled to the white-picket-fence and tract housing of the suburbs. Also, many people have left the city because of the high-priced land and increasing congestion and crime. This movement to the suburbs has created an "urban doughnut" in many cities, which is depicted in the concentric zone model on textbook page 425. Here we will discuss four factors contributing to the problems and the promise of U.S. cities: suburbanization, gentrification, racial and ethnic unrest, and postindustrial society's impact on urban areas.

### **Suburbanization**

There are several valid explanations for the decline of inner cities in the United States. In the 1950s, the U.S. government initiated a program encouraging the development of suburban communities. Soldiers returning home from war received favorable loans to purchase homes outside of the

crowded cities. This trend accelerated as many families soon desired private backyards, two-car garages, and other amenities not available in the city. The widespread diffusion of the automobile also contributed greatly to suburbanization as obtaining personal transportation became easier and people no longer had to locate within walking distance or along public transportation routes.

Once the people moved to the suburbs, industries soon followed. Industries in need of large areas of land were lured to suburban communities by relatively inexpensive land prices. The movement of people and industry fed off each other. The stream of people moving to the suburbs continued to grow, eventually leaving old and decaying inner cities in its wake.

### **Gentrification**

Some people believe that gentrification is the last gasp for dying cities. **Gentrification** is the process of rehabilitating old urban housing. Gentrification is bringing some people back to the inner city, but in most cities it has not yet initiated a major population shift. Two important factors have made gentrification possible. First, run-down properties can be purchased relatively cheaply and upgraded to luxury, or at least middle-class, residential units, which are very profitable investments. The downside is that many lower-income residents are being displaced and forced to find alternative low-income housing arrangements. The second factor contributing to increased gentrification is demographic. Many young couples are marrying later, earning two good incomes, and waiting longer to have children. These people are likely to enjoy the amenities of inner cities, such as the theater and a wide variety of restaurants. In a sense, these people are rediscovering the city and contributing to the revitalization of decaying neighborhoods.

### **Racial and Ethnic Unrest**

Many urban areas are burdened with racial and ethnic unrest. You may remember the incidents surrounding the Rodney King trial in Los Angeles. Prior to these events, riots in Watts (Los Angeles) and Detroit, as well as other places, occurred. These incidents painted an ugly picture of U.S. cities and illustrated the downside of the integration of large numbers of people from different ethnic, racial, and socioeconomic backgrounds.

Race and ethnicity also figure prominently in the spatial patterning of cities. Many people who visit cities like to go to ethnic neighborhoods

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such as Chinatown, Little Havana, or Little Italy to sample ethnic restaurants, shops, and events. The availability of diverse cultural resources is the positive element of ethnic and racial clustering. Unfortunately, the downside of such diversity is often more newsworthy and all too familiar to most of us.

Changing economic and social dynamics often have implications for urban populations. The city is in constant motion as people position themselves to maximize their utility in the urban system. Some urban residents seek out the most inexpensive accommodations, some look for quiet residential streets, others like to be near local “hot spots,” and some locate where they find racial and/or ethnic familiarity. These processes are not always harmonious. Some urban residents feel that when people of other races or ethnic groups enter a neighborhood, it is fundamentally altered, and then they react to this action. In other words, once a neighborhood reaches its **tipping point**, a reaction will occur. You may be familiar with this urban dynamic from viewing Spike Lee’s film *Do the Right Thing* (1989), which depicts the tipping point of racial and ethnic tensions in Brooklyn, a borough of New York City. Some statistics suggest that once a predominantly white neighborhood’s population increases beyond 40 percent African American, whites will begin to move out. Other studies indicate that African Americans will move out of a neighborhood when the percentage of Caucasians exceeds 50 percent. I don’t mean to suggest that this shift will always happen. If you travel to neighborhoods in U.S. cities, you are likely to see places where neighbors of different ethnic groups and races live peacefully in close proximity. But the tipping point theory does provide one possible explanation of population shifts within urban areas.

### **Postindustrial Society’s Impact on Urban Areas**

The postindustrial economic transformation occurring in most cities has also had a severe impact on urban residents. Most noticeably, cities have lost a significant number of jobs, many of which were relatively high-paying and did not require advanced education. The loss of high-paying jobs has forced many urban residents to take low-skill, low-paying jobs in the service sector. The pay offered in these jobs makes it very difficult for individuals to support themselves, let alone their families. An even more serious problem is the increase in **homelessness**. Rubenstein gives estimates of the number of homeless people in various cities around the world. Regardless of the accuracy of these figures, the numbers are increasing everywhere.

Due to these problems, inner-city residents have been referred to as a permanent **underclass**. The concept of an underclass is related to a cycle of economic and social problems. As jobs leave the inner-city, the tax base declines. With fewer tax revenues, the city cannot provide as many social services, such as policing and education. With poorly funded schools, students receive a subpar education that leaves them with fewer job skills. With fewer job skills, only low-paying jobs in the service sector are available to them. With low-paying jobs comes lower tax revenues, which in turn leads to poorly funded schools, and the cycle repeats itself. This cycle has led to high rates of unemployment, drug and alcohol addiction, illiteracy, and crime. How can the cycle be broken? Does it start with improving education or does it begin with attracting better paying jobs? Are there other ways of breaking the cycle?

## Urban Models

We have spent some time discussing various models that have been used to represent different geographical situations. Several models pertain to urban areas. One of the most influential is the **concentric zone model**. The concentric zone model suggests that urban areas consist of five zones based on residential choices or constraints. The five zones are as follows:

- the central business district
- the zone of transition
- the zone of independent workers' homes
- the zone of better residences
- the commuter's zone

The model suggests that as individuals or families improve their economic status, they gradually move away from the core area to more expensive residential areas. The concentric zone model was developed and first tested in Chicago in the 1920s and has since been very influential in our understanding of the socio-spatial evolution of urban areas. One of the model's major criticisms is that it does not account for ethnic or familial ties, which are very persuasive factors in a person's decision to move or not to move.

The **sector model**, derived from the concentric zone model in the 1930s, claims that cities develop in a series of sectors, not rings. In this model,

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certain activities are attracted to certain areas of a city and then develop outward in a wedge from the center. Often a transportation corridor influences how these wedges, or sectors, develop outward. Industry and retailing develop along the transportation corridor, while high-class residential areas take over the most attractive areas of the city. Middle-class and lower-class residential areas fill in less attractive areas, all of which create wedges that grow outward from the center of the city.

A third model is the **multiple nuclei model**, which claims that cities develop around many nodes, or centers, of activity. In this model industrial areas, educational areas, retailing areas, and business areas, to name a few, each attract different services and residential classes that cluster together into multiple centers of activities.

The rise of suburbanization from the 1950s onward influenced the creation of the **peripheral model** for U.S. cities. This model has a central city surrounded by suburban residential and business areas tied together with a beltway, or ring road. **Edge cities** develop in the suburban areas where businesses, shopping malls, and manufacturing areas spring up. At first, edge cities serve the suburban residents who work in the central city, but eventually they take on a life of their own.

All of the models seem to have elements that represent many urban areas. While none is perfect, these models are still very useful to geographers and other people who are interested in urban phenomena. Even so, many of these models are not transferable to other urban areas, particularly international urban areas.

### Urban Models Outside of the United States

European cities have developed almost exactly opposite the way U.S. cities have. Because the history of these cities far predates the use of cars, the central part of European cities consists of narrow winding streets lined with the best shops, cafes, and cultural activities. The wealthy tend to live in the dense housing within the central part of the city. The poor, on the other hand, live in public housing projects in the suburbs, where they must commute long distances for work and where the problems of crime, unemployment, and poor social services are concentrated. As you can see, this situation is the mirror opposite of the U.S. urban models.



Less developed countries also have different urban structures. Because these urban areas are quite diverse, we cannot easily generalize them. Cities that were the result of European colonial practices exhibit a similar structure to European cities. The wealthy tend to live toward the city center and in a wedge outward from there. The poor are concentrated in the outer rings of the city.

Urbanization has increased rapidly in the past 50 years in LDCs; the poor take up land on the outside of the city, often in **squatter settlements** that consist of people who have moved to the city, constructing their own dwellings and attempting to provide their own services, which is quite difficult. Governments in LDCs often eventually incorporate squatter settlements into the city infrastructures by providing electricity, sewer systems, and roads. However, these governments have trouble keeping up with the massive increases in rural to urban migrants.

## Conclusion

The trend of urbanization over the past two hundred years has resulted in an increase in both the total number of people living in cities and the percent of population living in cities. In 1800, only 3 percent of the world's population lived in cities; today, 47 percent of the world's population lives in cities. This process has not been evenly distributed throughout the globe, however, and is a constantly changing phenomenon. As you read the textbook material, keep in mind the different historical urbanization movements in different parts of the world, the reasons for them, and how they have created different urban structures.

## Written Assignment

Answer the following questions as completely as the readings allow. I encourage you, when possible, to draw on outside sources or personal knowledge. Either type and double-space your answers or neatly handwrite them.

If you have Internet access, you may complete the Web Quest rather than answering question 6.

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1. Define and give examples of the following terms related to urban settlements:
  - a. annexation
  - b. urbanized area
  - c. metropolitan statistical area (MSA)
  - d. megalopolis
  - e. consolidated metropolitan statistical area (CMSA)
2. Discuss three problems associated with contemporary U.S. cities.
3. Using the community you live in, or a city that you are familiar with, discuss how it fits into the peripheral model. Include a discussion of the central city, suburbs, and edge cities.
4. Differentiate between U.S. cities and European cities.
5. How does the rapid rise of urbanization in LDCs reflect the demographic and migration transitions?
6. Define and discuss the process of gentrification. Include in your answer two reasons why gentrification is becoming increasingly common in U.S. cities. Also, list some pros and cons of gentrification.

 **Web Quest**

If you have Internet access, you may complete this activity rather than answering written assignment question 6.

Urban geography is tightly allied with urban planning in designing our cities and neighborhoods. Many of the problems we have discussed in this lesson are the result of a lack of appropriate planning in our cities, over-reliance on the automobile, suburban sprawl, inner-city degradation, homogenized landscapes of strip malls and parking lots, and a loss of a sense of community. This Web Quest introduces you to “New Urbanism,” a movement that hopes it can solve some of these problems through better urban planning. One of the movement’s main tenets is that careful urban planning can change people’s behavior and create a better sense of community; for example, narrower streets and wider sidewalks are designed to encourage people to walk more and meet their neighbors.

As you work through this Web Quest think about how the design goals of New Urbanism can shape behavior. Go to the following Web site:

<http://www.cnu.org/index.cfm>

Place your cursor over About New Urbanism and click on Tour: Start here! Once you have completed the tour of New Urbanism, answer the following questions.

- WQ1. What are the problems that New Urbanism tries to fix?
- WQ2. New Urbanism divides its principles into three categories: the Region, the Neighborhood, and the Block/Street/Building. What are some of the planning principles for each category?
- WQ3. How can the principles of New Urbanism change behavior? Give an example.

Please attach the assignment cover sheet to your work and use the label for lesson 10.



# 11

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## The Geography of Resources and Environmental Impacts

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### Objectives

When you have successfully completed this lesson, you will be able to

- describe the spatial distribution of energy resources,
- discuss differential energy consumption,
- describe alternative energy resources,
- debate the issue of global warming,
- identify ways to alleviate pollution.

### Reading Assignment

- Pages 453–79 of chapter 14, “Resource Issues”

## Discussion

Throughout the course we've studied the importance of human actions in transforming Earth's surface. Perhaps the most important part of this process is the impact our actions have on the planet's resources. Since the Industrial Revolution, we've accelerated our use of resources and our participation in environmentally harmful activities, many of which directly impact the way we live. In our final study lesson, we examine the geography of resources, including the important role resource use has had in attaining our current level of development and the crisis that we will soon confront as a result of our actions.

The case study for chapter 14, "Pollution in Mexico City," explicitly illustrates the magnitude of environmental degradation occurring throughout the world. Massive influxes of people and rapid industrialization have overburdened the infrastructure of Mexico City, resulting in unbreathable air, poor water quality, and excessive amounts of untreated waste. Pollution leads to the spread of diseases and lowers the quality of life. Typically, the poor bear the brunt of the problem, but no one is immune to the harmful effects of a polluted environment. Although Mexico City is a worst-case scenario, similar symptoms are found throughout the world from Los Angeles to Jakarta.

### The Life of Our Resources

What is a resource? Rubenstein defines a **resource** as "a substance in the environment that is useful to people, is economically and technologically feasible to access, and is socially acceptable to use" (page 455). Examples include trees, water, air, oil, minerals, and other useful natural items. The resource must be economically and technologically feasible to access. Oil, for example, was not a resource until we found a need for it as energy and then developed the technology to access and use it. Today it is economically feasible to use, but in the future oil may no longer be a resource that is useful to humans.

We categorize resources as either renewable or nonrenewable. As these names suggest, **renewable** resources can replenish themselves within a reasonable period of time; **nonrenewable** resources cannot be replenished—once they are gone, they are gone forever. To date, we've mainly been

concerned about the loss of nonrenewable resources, such as fossil fuels and minerals. But now scientists are becoming increasingly concerned about the damage being done to renewable resources, such as forests and soils, which are being destroyed at a rate that threatens the existence of many ecosystems.

When discussing fossil fuels, it is important to note the difference between proven reserves and potential reserves. **Proven reserves** are deposits of energy, such as oil and coal, that have been discovered and are economically and technologically feasible to access. There are 1 trillion barrels of oil in proven reserves worldwide. This sounds like a lot, but since humans use 25 billion barrels of oil a year, this supply will only last for another 40 years! **Potential reserves** are deposits of energy that are undiscovered but that we believe exist. Experts estimate that there are 500 billion barrels of potential oil reserves, but even if these reserves are found, they will only add another 20 years to the supply of oil.

I find it interesting that Utah, Wyoming, and Colorado have ten times more potential petroleum reserves than the entire Middle East. However, the reserves are in the form of oil shale, which means that the oil is literally stored in the rocks. With our present technology, it is far too expensive and environmentally hazardous to extract the oil from the rocks, so these potential oil deposits will remain out of reach until we can find new ways to access them.

## The Spatial Distribution of Resources

The key idea to keep in mind as we discuss the geography of resources is their uneven global distribution. Each country or region is blessed with certain natural resources, which are often vital to local economies, some obviously more so than others. For example, the abundance of oil found in the Middle East has fueled the economies of the countries in that region for decades. The Middle East contains 66 percent of the world's proven oil resources, with Saudi Arabia holding 25 percent of the world's proven reserves and Iraq, 11 percent. The United States, which uses the most oil, contains only 2 percent of the world's proven oil reserves.

Global dependence on oil has given the oil-rich countries a great deal of leverage within the international economy. The world's reliance on these

countries became painfully evident in the 1970s, when the Organization of Petroleum Exporting Companies (OPEC) restricted oil exports from the Middle East and limited supplies throughout the world. Even today we see jumps in oil and gas prices whenever there is political unrest in the Middle East as oil producers and consumers become wary of how instability in that region will affect oil supplies. As we can see from this example, understanding the geography of resources and, simultaneously, the dynamics of the global economy can help to bring the complexity of resource issues into focus. While we only looked briefly at oil here, be sure to study the spatial distribution of coal and natural gas depicted on textbook pages 458 and 460 as well.

## The Consumption of Resources

When we study distribution and consumption rates, we also find an uneven global balance between the distribution of resources and the people using the majority of resources. The United States consumes the most energy per capita—25 percent of all resources consumed globally with only 5 percent of the world's population. China has the second highest consumption rate at a distant 10 percent of resources for 20 percent of the world's population, followed by Russia at 7 percent of resources for 2.5 percent of the world's population. Although many of the resources required to fuel U.S. energy consumption are found locally, the majority of resources are imported, which explains why the United States keeps a close watch on activities in the Middle East.

As countries develop, they usually increase their use of resources. So with rising development in LDCs, along with growing populations, global consumption of oil is expected to increase 50 percent in the next 20 years. Note that we previously stated oil will last only 40 years, but that number will decrease if global use of oil increases. We are increasing our use of oil at a much faster pace than we are finding new proven reserves, so it is logical to believe that oil will actually run out in fewer than 40 years.



## Alternative Energy Sources

If we are going to run out of nonrenewable energy resources, we must find new energy sources. Rubenstein discusses the merits and complications of the following six **alternative energy sources**:

- nuclear energy
- solar energy
- hydroelectric power
- geothermal energy
- biomass
- nuclear fusion

**Hydrogen** is another alternative energy source. While not covered in the textbook, it has received increased attention lately. Hydrogen is the most abundant element in the universe; for example, water is made up of two parts hydrogen and one part oxygen. Hydrogen can be used to power cars, and combustion of hydrogen produces no carbon dioxide or sulfur emissions. In fact, the only by-product is water vapor! Car companies have already created hydrogen-powered vehicles, but the costs are currently too high make them available for widespread public use. However, in the future hydrogen may replace gasoline.

## Global Resources and Pollution

The price we pay for unprecedented industrial growth and excessive consumption is the degradation of our environment. Our activities on Earth have created the problem of **pollution**, which occurs “when more waste is added than a resource can accommodate” (page 468). The resources that we rely on to remove waste are land, air, and water. We store solid waste in landfills, dispense liquid waste in water, and release gaseous waste into the air. Today we face the problem of pollution because we release more of these wastes than the land, air, and water can accommodate. Eventually this situation impacts our existence since we need clean water to drink, unpolluted air to breathe, and uncontaminated land to live on and produce our food.

Steps to reduce pollution include reducing use, recycling waste, and substituting wasteful practices with less polluting activities. The amount

of waste produced in the United States is staggering, and it could easily be lowered. The average New Yorker, for instance, produces more than 5 pounds of garbage per day! Think of ways that you and others can **reduce** the amount of waste you produce and the amount of energy you use. **Recycling** is certainly a step in the right direction, but not nearly as helpful as not producing the waste to begin with. Alternative energy sources are one way to **substitute** the highly polluting fossil fuels with less polluting energy sources, but more investment and development must be done in order to make these alternatives economically and technologically feasible.

## Global Warming

Currently there is a debate about the possibility that our use of fossil fuels is causing the earth's atmosphere to warm; scientists call this effect **global warming**. Greenhouse gases, such as carbon dioxide and methane, absorb energy that keeps the earth warm enough to sustain life. In a process called the **greenhouse effect**, releasing more carbon dioxide and other greenhouse gases into the atmosphere through burning fossil fuels for energy creates an overabundance of greenhouse gases. More greenhouse gases in the atmosphere mean more energy will be absorbed and emitted back to earth, causing global warming.

Evidence supporting global warming includes an increase in carbon dioxide concentrations in the atmosphere that mirror a rise in global temperatures by 2° Fahrenheit over the past 100 years. Estimates of future temperature increases range from 2° to 8° Fahrenheit over the next 100 years. Possible effects include rising sea levels that will flood coastal cities, altered climate patterns that may make some places wetter and others drier (causing agricultural problems), and increased intensity and frequency of strong storms like hurricanes.

In 1992 the Rio de Janeiro Earth Summit attempted to address this problem by getting countries to agree to reduce their carbon dioxide emissions. But few countries followed through with the requirements, and the United States, which accounts for 33 percent of global carbon dioxide emissions, did not even sign the agreement. The 1997 Kyoto Protocol requires MDCs to reduce their carbon dioxide emissions but allows LDCs to wait until they become "developed" before they reduce their emissions.

One hundred four countries responsible for 55 percent of the world's carbon dioxide emissions signed the protocol. The United States originally signed the protocol, but pulled out of it in 2001, claiming that it was unfair and would hurt the U.S. economy.

The debate over global warming is a contentious one, but it demonstrates how human geography and physical geography intersect: human actions impact the physical environment. It will take human decisions, which are influenced by economic and political concerns, to come up with a solution.

While the attempts to reduce carbon dioxide and other greenhouse gas emissions have been considered a failure, positive examples of how human decisions can solve human created environmental problems exist. For example, the 1987 Montreal Protocol to solve the problem of **global-scale ozone damage** has been considered a success; evidence suggests that the ozone layer is replenishing itself.

## Conclusion

When examining the impacts that human activities have on the environment, a geographical approach offers keen insight. Many of the most publicized endangered natural resources are located in the developing world: tropical rain forests, oil reserves, major rivers, and vast deserts. But the people who consume and deplete the majority of these resources are from the more developed and highly industrialized societies, a situation which raises important questions about who has the right and the power to make decisions that destroy or preserve the environment. Do people in the United States have the right to tell Brazilians not to cut down their rain forest? Who is responsible if General Motors dumps toxic chemicals into a river in Mexico? Of course, protecting the environment is very complex—if the decisions were easy, then viable solutions would already be in place.

Environmental issues are truly a global problem because the environment knows no boundaries or borders. Pollution emanating from East Germany, for example, becomes the problem of Scandinavian countries, and carbon dioxide emissions in the United States (and other places) threaten the world's energy balance. While we can take actions at the local level to reduce our impacts, no solution will be complete unless it has a global reach.

## Written Assignment

Answer the following questions as completely as the readings allow. I encourage you, when possible, to draw on outside sources or personal knowledge. Either type and double-space your answers or neatly handwrite them.

If you have Internet access, you may complete the Web Quest rather than answering question 5.

1. What fossil fuels are being depleted from the earth? What alternatives exist to take the place of these energy sources?
2. Many countries are highly dependent on imported petroleum and have gone to war over petroleum. Where is petroleum distributed? How does this distribution affect the global market?
3. How does the energy consumption rate in the United States vary from that of other countries? Identify ways in which consumption in the United States can be reduced. Use examples from your daily activities.
4. What is the difference between global warming and global-scale ozone damage? What negative impacts do each cause? What solutions have been proposed to solve these problems?
5. How are we polluting the land? In what ways can we lessen the negative environmental impacts?

### **Web Quest**

**Note:** If you have Internet access, you may complete this activity rather than answering written assignment question 5.

In this Web Quest you will visit Environmental Defense's Scorecard Web site to find out about pollution in your community. Go to their Web site now at the following address:

<http://www.scorecard.org/community/>

Enter your community's ZIP code. If you are not a U.S. resident, enter 47408 for Bloomington, Indiana, or the ZIP code of a community that interests you. Then answer the following questions using the information you get from the Web site. You may need to navigate through the Web pages a bit to answer the questions fully. Also feel free to draw on information from the textbook and your own personal knowledge.

- WQ1. What is the name of your community?
- WQ2. What air pollution issues does your community face? Who is polluting your air?
- WQ3. What waste pollution issues does your community face? Who are the major waste polluters in your community?
- WQ4. Under Agricultural Pollution in the Waste category, how does your community compare to others in your state?
- WQ5. Are there any superfund sites in your community? If so, summarize the site description for one of these superfund sites by following its link.
- WQ6. What water pollution issues does your community face?

Please attach the assignment cover sheet to your work and use the label for lesson 11.



# 12

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## Tips for the Final Examination

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When you have completed lessons 7 through 11, you will be ready to apply for the final examination. Before applying to take the exam, please read the material about arranging exams at the end of this lesson. You'll need to make arrangements with a suitable proctor, set a time and a date, and mail the application form to the Independent Study Program in the envelope provided. **Be sure to attach the proper lesson label to the exam application.** Or you may phone, e-mail, or fax your application. See your *Student Handbook* for details.

Just as with the midterm exam, I suggest that you study your graded assignments, the discussions for lessons 7 through 11 in this learning guide, the textbook reading assignments, and the key terms at the end of each textbook chapter. The final examination is **not** comprehensive, so focus on the course material for lessons 7 through 11.

The final exam follows the same general format as the midterm. It consists of multiple-choice questions, true/false statements, and several essay questions from which you will choose four to answer. The exam is worth one-third of your final grade.

**Note:** To be in compliance with the Independent Study Program's academic policies, your exam grades must average at least a D– in order

Lesson 12  
Geography G110

for you to pass a course. Even if your written assignment grades are excellent, you will not pass a course unless you fulfill this requirement.

You will be allowed two hours to complete the exam; however, it should not take you that long. You will not be permitted to use your textbooks, learning guide, study notes, or any other supplementary materials when taking the exam.

I hope that you enjoyed this class and learned a great deal by taking it.

Do your best!



## About the Examination . . .

### **When can I take an exam?**

You may take your examination at anytime during the year. However, your exam application will not be processed until the grades for all the preceding lessons have been posted to your record.

### **How do I arrange for an exam?**

As soon as you have sent the last lesson before the examination, complete the application on the next page. Put the correct lesson label on the application, and send it in the envelope marked *examination request*. Applications are processed as received after all grades for preceding lessons and exams have been posted to your record. You should allow for a *minimum of 10 days* between the dates your grades are posted and the date you plan to take the exam. Keep in mind it is your responsibility to contact the appropriate examination site beforehand to arrange for your exam date and time. *Any cost involved in examination supervision/ proctoring is the responsibility of the student.*

### **Who may supervise my exam?**

If you live in Indiana, you may take the exam at an Indiana University Examination Center (see next page) or at the Independent Study Program office in Bloomington.

Exams taken at other locations must be administered under the supervision of an administrative officer or designee of an accredited college or university, or a high school principal or principal's designee. We suggest that you contact the student services, continuing education, testing, or counseling office of your local college or university to ask how you can be assigned an exam supervisor. Military personnel should arrange to have their education officer supervise exams. High school students must take exams under the supervision of a *principal or counselor*. Relatives may not be used as examination supervisors. We send exams only to institutions, never to private residences. *Please make certain that you have made an appointment with your exam supervisor.* Your supervisor will require adequate identification, so come prepared.

### **How soon will I get my grade?**

The Independent Study Program will report your exam grade approximately two weeks after we receive your exam.

Most scheduling problems occur when many students' graduations are at stake. We cannot always arrange to have your exam graded immediately at these times, since our instructors are busy then. Consequently, you may fail to make your graduation deadline if you wait until the end of a semester to take an exam.

### **I have a question . . .**

Please consult the *Student Handbook* for more information. You may also write to the Independent Study Program, Examination Department, Owen Hall, 790 E. Kirkwood Avenue, Bloomington, IN 47405, or call our toll-free number listed on the back of this page and ask for the examination department.

## EXAMINATION CENTERS IN INDIANA

Indiana University Bloomington	Independent Study Program Owen Hall 002 790 E. Kirkwood Avenue Bloomington, IN 47405	(812) 855-2292 Bloomington (800) 334-1011 Nationwide
Indiana University —Purdue University at Columbus	IUPUI Columbus 4601 Central Avenue Columbus, IN 47203	(812) 348-7222
Indiana University East	Division of Continuing Studies 2325 North Chester Boulevard Richmond, IN 47374-1289	(765) 973-8203
Indiana University —Purdue University at Fort Wayne	Career Services Kettler Hall 232 B 2101 Coliseum Boulevard East Fort Wayne, IN 46805	(260) 481-6599
Indiana University —Purdue University at Indianapolis	Testing Center Union Bldg. Room G003 620 Union Drive Indianapolis, IN 46202-5167	(317) 274-2620
Indiana University at Kokomo	Continuing Studies 2300 S. Washington P.O. Box 9003 Kokomo, IN 46904-9003	(765) 455-9395 (800) 991-1459
Indiana University Northwest	Continuing Studies 3400 Broadway Sycamore Hall #300 Gary, IN 46408	(219) 980-6828
Indiana University Southeast	Student Development Center 4201 Grantline Road New Albany, IN 47150	(812) 941-2312
Indiana University South Bend	<b>South Bend:</b> Division of Continuing Education Administration Building 1700 Mishawaka Avenue P.O. Box 7111 South Bend, IN 46634	(574) 237-4261
	<b>Elkhart:</b> IUSB Elkhart Center 2930 S. Nappanee Street Elkhart, IN 46517	(574) 294-5550 (800) 321-7834

There is no charge for supervision of examinations by any of these Indiana University offices. Supervision charges by other institutions are the responsibility of the student.

## Final Examination Application

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- When you have turned in all the preceding lessons, complete this application and mail it in the examination envelope provided.
- Be sure to allow sufficient time—including possible postal delays beyond our control—for the processing of your application. Your exam will not be mailed until all the preceding lessons' grades have been posted to your record.
- Examinations cannot be faxed.

ATTACH LESSON LABEL HERE

GEOG G110

Lesson 12

\_\_\_\_\_  
Student's Name (please print)

\_\_\_\_\_  
Address

\_\_\_\_\_  
City, State, and Zip Code

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Student's Signature

\_\_\_\_\_  
Preferred Date and Time for Examination

Check one:

- Please schedule the exam at the Independent Study Program office in Bloomington on the date and time given above.
- Please send the exam to the person named below by the date given above.

\_\_\_\_\_  
Supervisor's Name (please print)

\_\_\_\_\_  
Official Title

\_\_\_\_\_  
Name of Institution

\_\_\_\_\_  
Institution's Address

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City, State, and Zip Code

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# Selling Your Textbooks

If your textbooks are still used by the Independent Study Program, you may sell them back for a substantial portion of the list price. Package them securely. Complete this form and enclose it with the books. Send to:

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Foster Quad/Gresham  
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## Contact Information

Independent Study Program  
School of Continuing Studies  
Indiana University  
Owen Hall 001  
790 E. Kirkwood Avenue  
Bloomington, IN 47405-7101

### Telephone

9 a.m. to 9 p.m., Monday through Friday  
Nationwide: 800-334-1011  
Bloomington and outside the toll-free area: 812-855-2292

### E-mail

[scs@indiana.edu](mailto:scs@indiana.edu)

### Fax

812-855-8680

### World Wide Web

<http://scs.indiana.edu>

### Business Office Hours

8 a.m. to 5 p.m. EST, Monday through Friday

### Contacting Your Instructor

We will transfer your calls to your instructor during his/her office hours. To learn your instructor's office hours, call 800-334-1011, 9 a.m. to 9 p.m. EST, Monday through Friday. If your instructor is available via e-mail, we can also give you his/her e-mail address.