CULTURAL GEOGRAPHY (C-ID GEOG 120)



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Cultural Geography (C-ID GEOG 120)

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1: INTRODUCTION TO CULTURAL GEOGRAPHY



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1.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

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Learning Objectives

1. Define Cultural Geography: Students will be able to explain what cultural geography is, including its focus on the study of cultural practices, landscapes, and spatial variations in human activities.
2. Identify Key Concepts: Students will be able to identify and describe key concepts in cultural geography, such as cultural landscapes, cultural diffusion, and cultural regions.
3. Analyze Cultural Interactions: Students will be able to analyze how cultural interactions shape geographical spaces, considering factors such as migration, globalization, and the influence of technology on cultural practices.



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1.2: Part 1- Introduction to Cultural Geography

Introduction: WHAT IS GEOGRAPHY?

Geography and Its Relationship to Other Disciplines

Geography is intricately connected to various academic disciplines, extending beyond just history. Any phenomenon that can be mapped and studied spatially falls under geography.

For instance, medical geography focuses on the spatial patterns of health aspects. Mapping the spread of a disease helps medical professionals understand its causes and transmission mechanisms. Cultural practices and environmental conditions, like the habitat for mosquito-borne diseases, also provide insight into disease processes. Economic geography examines economic activities in different places and their interactions. The location of a business, often critical to its success, can be analyzed using maps of transportation networks and customer populations.

Geography equips individuals with tools to ask questions, identify patterns, solve problems, and communicate solutions. This text aims to present geography as a dynamic discipline, encouraging students to think, question, and solve problems like geographers. By the end of the semester, students should be able to: 1) see the world through a geographer's lens, 2) ask geographical questions, 3) solve geographical problems, and 4) communicate geographical insights.

Unfortunately, geography is often misunderstood as mere trivia, perpetuated by media like the TV show Jeopardy. This misconception reduces geography to memorizing maps and capitals, similar to thinking historians only memorize dates. Geography education in K-12 curricula has historically echoed this trivial approach, leading to a lack of awareness about geography as a major and its robust analytical tools.

A geography degree offers numerous high-paying career options in various industries, nonprofits, and public agencies. Geography's diverse nature and its spatial perspective connect it to many academic disciplines. Understanding these connections and fundamental concepts is essential for delving deeper into the study of geography.

Explore more about careers in geography by visiting the Department of Labor, Bureau of Labor Statistics webpage.

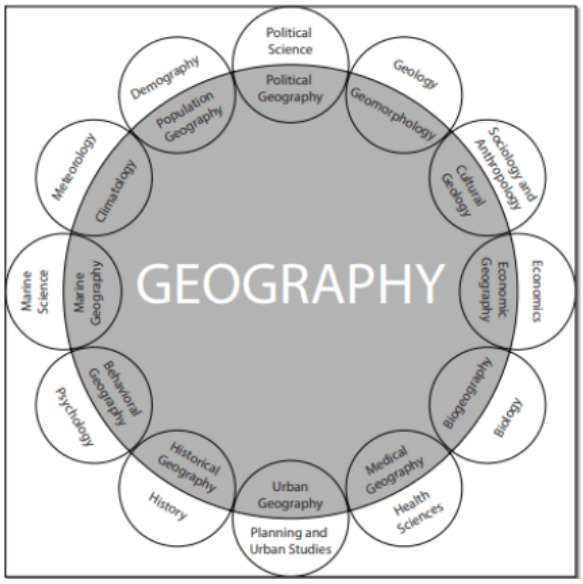


Figure 1.2.1: Geography Relationships Geography and its relationship to other disciplines.1 Author | Corey Parson Source | Original Work License | CC BY-SA 4.0

A Short History of Geography

Geography is sometimes called the “mother of all disciplines” because it has been around for so long. Although the discipline has undergone major changes in the last few decades, most people still have very old-fashioned ideas about geography. Those old-fashioned ideas dominate much K-12 instruction in Geography across the U.S and are partly a result of the tumultuous history of Geography.

Ancient Greek and Chinese scholars wrote massive “geographies” that defined the discipline for centuries. Until the 1800s, most “geographers” spent much of their time writing highly descriptive or ***idiographic*** narratives about various regions of the world. Descriptive geographies are interesting for those who have a healthy intellectual curiosity about the people, places, and cultures of the world, and descriptive geographies proved immeasurably valuable to imperialists, colonizers, and military planners. Unfortunately, in the context of schooling, descriptive geographies often tend to degenerate into an encyclopedic list of facts about a region or location.

Environmental Determinism

As the methodologies of science, and indeed social science, evolved during the 19th century, the production of *mere* descriptions of regions and locations fell short of what geographers (and others) thought worthy of true scholarship. Some geographers tried to make the discipline more scientific by seeking to identify and describe *causal* connections between group behaviors and local environmental conditions. In other words, they sought to understand the cause-and-effect relationship between culture and the physical environment. This type of geography became known as ***environmental determinism***. *Environmental determinists* sought to demonstrate how local conditions like climate, topography and soil characteristics were key *determinants*, or causes, behind the evolution of local or regional cultural practices. Perhaps not surprisingly, many environmental determinist scholars found that *their* culture group (i.e. Europeans) were products of *ideal* environmental conditions. Environmental determinists argued that the most advanced societies developed where favorable environmental conditions existed, i.e. North America, Europe. According to their logic, locations that were too hot, too cold, too rainy, too dry, etc., produced inferior societies and inferior people. For example, Ellen Churchill Semple wrote in 1911, "among mountains as among desert peoples, robbery tends to become a virtue; environment *dictates* their ethical code". The bigotry implicit and explicit in environmental determinism is clearer today than it was 100 years ago. Despite an inability to *scientifically prove* their theories, a few geographers, like Semple and Ellsworth Huntington commanded large audiences in the early 20th century.

Although many academic geographers forcefully rejected the ideas and concepts advanced by environmental determinists, it wasn’t really until World War II that a solid majority of people understood the horrifying implications that this brand of pseudo-scientific scholarship had upon the ***eugenics*** movement and the evolution of Fascism. Geography’s deep involvement with Environmental Determinism tainted the reputation of the discipline for decades.

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1.3: Paradigm Wars

Paradigm Wars – 1950-1990

The reaction to Environmental Determinism by a significant number of geographers was to turn away from *scientific methods* so ill-used by the Environmental Determinists. Some called for a return to the descriptive or *ideographic* geography of the past. Today, this type of geography is largely represented by an approach known as ***regional geography*****,** and it remains the dominant version of geography taught at the K-12 level. Done well, regional geography can be an exciting and intellectually stimulating exercise capable of providing a pathway to *understanding* the unique dynamics within regions, why various locations on earth differ from other places, and why many places have similarities. Unfortunately, regional geography in classroom settings often degrades into a "forced march" of endless memorization of facts about far-off locations. Most K-12 school curricula and many introductory college courses fall into this trap. Students in regional style courses often learn little about *why* places have become unique because poorly designed curricula fail to focus student attention on the *processes* driving the creation or evolution of regions. The dominance of the regional approach has generated the false, but the *popular perception* of geography as trivia, especially in America. In Europe, geography did not fall into that trap.

Want to know more? Check out the following links!
Hart, John Fraser. "The Highest Form of the Geographer's Art." *Annals of the Association of American Geographers* 72, no. 1 (1982): 1-29. -Perhaps the most famous defense of descriptive geography.

By the 1960s, Geography Departments were facing elimination from many college campuses. As a result, many geographers began adopting *legitimate* scientific methodologies via spatial statistics during a period known today as the ***quantitative revolution***, a major *paradigm shift* that continues to accelerate today, especially among users of Geographic Information Systems (GIS –see below). Today, most geographers seek to discover generalizable patterns, or even laws, that describe or govern society. This is the ***nomothetic*** approach. Coupled with accompanying revolutions in our ability to collect, store, manipulate and analyze spatial data, geographers today are engaged in complex, high-tech research on a wide array of pressing issues often using so-called "big data".

Beginning in the 1970s and accelerating rapidly in the 1990s, geographers also occupied leading roles in a thrilling expansion of spatially informed *theoretical* approaches attempting to explain how the world works. Important, economic, political and cultural theorists emerged from among the ranks of geography departments in the UK and the US, playing important roles in an overall flowering of ***critical geography***, during a period known as ***the cultural turn*** within geography. Many geographers today focus squarely on the complex, often subtle, mechanics that regulate the *production and maintenance of knowledge* itself, which is in some ways the final frontier of social science. Critical geographers work to uncover how and why societies and individuals believe what they do, and how those beliefs are manufactured, manipulated, distorted, maintained, subverted, appropriated or eliminated.

Today, geography is a very vibrant discipline offering to the uninitiated, a surprising number of avenues to understand the world, as well as multiple pathways to high-paying jobs in the public and private sectors. Geographers *make a difference* in the world.

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1.4: Geography as Discipline

Geography as Discipline – Key Aspects of the “Jedi Way”

Graves, Steven M. "Geography as a “Jedi” Discipline." *The California Geographer* Vol. 53 (2013).

If you go to the library at your college or university and head to the section housing books about geography, you may be disappointed to find there’s almost nothing there. You might mistakenly believe that geographers don’t write books, or that geography is exceptionally limited in its scope. Both assumptions would be wrong. Libraries have lots of books written by geographers, but because geographers can study almost any *subject,* books written by geographers are found scattered throughout the library, because libraries are organized *by the subject* of study, not the method by which subjects are studied and analyzed.

Geographers write books and publish scholarly articles about an astounding array of *subjects* – far too many to consider here. The main point for you to remember is that geographers can study almost anything *that takes place*. What are you interested in? If it exists some*place*, you can bet some geographer has studied it. The author of this text wrote a dissertation on innovation waves in pop music (rock, rap, country), but has since researched subprime lending, crime, health problems, gentrification, homelessness and other topics of interest.

The section that follows provides a unique, but basic, guide to help you better understand geography *as a discipline*. The entire text is designed around a set of guiding principles that characterize the way geographers tend to observe, query and analyze the world around them – and how we communicate findings and theories. To better help you learn to observe, question and analyze the world around you, this text leverages a variety of similes and metaphors from Star Wars movies. The text may refer to geographers as “Jedi” because geographers, like the Jedi in the Star Wars movies, have a special and powerful way of doing things (observing, questioning, analyzing, and communicating) that, at least in the academic and professional worlds, gives geographers unique abilities to gain insights often overlooked by others.



Figure Las Vegas NV. Casino landscapes often evoke exotic location to heighten the excitement of gamblers, who then are more likely to spend more prolifically once the landscape condition their mood properly

Geography is a Way to See the World: Jedi Goggles

The ability to “read” the landscape is the first skill of the Jedi-Geographer. It sounds simple enough, but *advanced* ability in ***landscape interpretation*** takes many years to develop. Generally, people are not aware that all landscapes, including both the human-built and the natural, physical environment, *can be read*, somewhat like you read text in a book. With some practice, you can develop a measure of ***landscape literacy***, which is the ability to “read” and understand a significant number of messages inscribed into the environment. All landscapes tell a story. Throughout this text, there are opportunities for you to learn to read them. This skill is referred to as using your “Jedi Goggles.” Noted scholar Aldo Leopold also thought this an important skill, noting,

"The objective is to teach the student(s) to see the land, to understand what [they see], and enjoy what [they] understand..."

Certainly, you already have some skill reading the landscape, but most non-geographers do not read the landscape well because they do not think to do it consciously or regularly. Like a Jedi without training, you have occasionally put on "Jedi Goggles" but maybe didn't think about what you were doing. For example, you have probably at some point found yourself driving in a dangerous neighborhood. Of course, there are no road signs at the borders of a high crime neighborhood warning, "Caution – Now Entering Dangerous Neighborhood". Still, you know to be cautious. Why? Because- you have developed some skill *reading the landscape* over the years. Rubbish on the street, graffiti, bars on windows and unkempt lawns are common landscape markers (visual cues) of a neighborhood that suffers from crime; your sense of self-preservation has prompted you to learn to interpret landscape symbols associated with danger. Many police and people who are "street smart" have well-developed "Jedi Goggles".



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Lewis, Peirce F. "Axioms for reading the landscape." The interpretation of ordinary landscapes 23 (1979): 167-187.

The first step you must take as you develop landscape literacy skills is to begin actively looking more closely at stores, rivers, houses, parking lots, road signs, empty lots, farm fields, hillsides and anything else that passes your windshield. As you look, think to yourself, "What is this landscape telling me?" There's no need to focus on "pretty" landscapes because beautiful, scenic, impressive or extraordinary landscapes are no more important than those that are boring, ugly or commonplace. The ordinary, everyday landscapes, called ***vernacular landscapes*** are, as Peirce Lewis noted, our "unwitting autobiography, reflecting our tastes, our values, our aspirations and even our fears in tangible visible form." There is a reassuring honesty one gets reading vernacular landscapes. The lack of *intentionality* makes landscapes a source of unvarnished truth about a place's history, unlike purposefully written histories that are often prone to biases and outright lies.



"erik korshagen, korshagehus, architect's own summerhouse, 1960, 1965 & 1986" by seier+seier is licensed under CC BY 2.0.

This text will help you learn to read the cultural histories of various places and regions as they have been *written* on the landscape. Hopefully, by the end of the semester, you'll find yourself asking "What does this scene tell me about this place?" Hopefully, you'll begin to see patterns you never noticed before and you'll be trying to guess what forces created that which you see. With luck, you may find yourself asking "Why is this here, and not elsewhere?" Each chapter in this book features multiple images of landscapes. Most images are captioned with a quick "reading" of the images. A large photographic database, available online at The American Landscape Project, has many thousands of the images used in this text and many feature robust captions to help you learn to confidently read landscapes.

Geography is a Way to Ask Questions – Jedi Mind Tricks

Geographers also have a unique way of knowing what we know. ***Epistemology*** is the study of knowledge and because geographers have a unique *way* of thinking about questions and arriving at answers, we have a unique epistemology. Most of the time, people don't think about *how they know what they know*. We don't think about our epistemological processes, biases, and tendencies. Therefore, we don't often know how we know, what we know. "I just know it!" is how you might respond if someone challenged you on your epistemology. For scientists, social scientists and other serious thinkers, "I just know it" is an unacceptable response. It's important to understand one's epistemological tendencies. *You must know **how** you know, **what** you know.*



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https://commons.wikimedia.org/wiki/Blind_men_and_an_elephant#/media/File:Blind_monks_examining_an_elephant.jpg

Geographers have a favored epistemology–it doesn't have a name, but it does begin with a simple strategy that leads us to learn and/or understand things differently than non-geographers. When geographers seek to understand the world around them better, we have a strong tendency to frame questions and answers *spatially*. In other words, when geographers want to know "Why?" or "How?", we first typically ask the question "Where?". Privileging spatial questions in a quest to understand the world is like "Using the Force" among Jedi warriors. When geographers "Use the Force," they ask "Where?" to understand "Why". By doing so, geographers often come to different conclusions than non-geographers. By asking "Where?" when you want to know "Why" or "How" is the most basic of all "Jedi Mind Tricks". Historians have a similar trick - they ask "When?" (rather than "Where?") while seeking understanding. Still, learning to ask questions about how the world works consistently is crucial to developing a "habit of mind"; itself a crucial element in developing a *disciplinary* epistemology – something all college students should work to develop. Faculty in many majors do not teach students to develop *disciplinary* habits-of-mind. The main goal of this course is to help you develop this habit-of-mind.

Most people don't use "The Force" and there are consequences for understanding our world. Consider for instance a conversation overhead by the author of this text some years ago on a large college campus in Illinois. I overheard two people discussing why most African-American students on that campus rode the elevator in a campus building while most white students used stairs instead. It was evident and obvious that this was occurring, but the *causal* reasons for this difference in behavior eluded those discussing the behaviors. One person in the conversation was quick to assign *ethnicity* as the primary causal factor motivating students to use or avoid elevators. A geographer using "The Force" would not have made this mistake because the geographer would have thought about the *spatial* aspects of the phenomenon *first*, and would have realized that ethnicity was probably not an important factor explaining why black and white students used elevators differently. Instead, a geographer would have asked, "***where*** are the students who use elevators from?" Had the people discussing the question asked "Where?", it may have occurred to them that many of the black students on that campus grew up in Chicago, where using elevators to reach the upper floors of tall residential apartment buildings was a daily ritual. The behavioral habits developed by students living in high-rise apartments lingered with students after they moved to campus, prompting them to select the elevator to navigate to upper stories on campus out of habit, even when the building was only two or three stories. Students from rural and suburban locations, on the other hand, typically lived in single-story or two-story houses, and were, therefore, more accustomed to reaching an upper floor by climbing stairs out of force of habit. To a geographer, those behavioral differences were not black and white – but *spatial*. Thinking that way, at least in this course, is called "Using the Force".

By privileging matters of place and space in their quest for knowledge, geographers may bias their conclusions – arguing that location, space or place is a significant causal variable in the outcome of various phenomena. Favoring one epistemology over others is nearly unavoidable, and it is acceptable if one recognizes the biases an epistemology creates. Historians, sociologists, political scientists, economists, etc. each have their own epistemological biases. If these competing means to comprehend reality can be given a fair audience, a robust, multi-perspectival or *interdisciplinary* understanding of our world is possible. There is danger in discounting epistemologies unfamiliar to you – and because the US school system does a poor job of developing students' *spatial epistemology*, taking a geography course and developing some measure of this unique habit of mind is a critical element in a quality, robust liberal arts education.



"Sedona Rock Stacks - Red Rocks" by future15pic is licensed under CC BY-NC-ND 2.0.

Geography is a Way to Solve Problems – Jedi Weapons

Geographers have a very powerful toolbox of problem-solving tactics and strategies. The tools in the geographer's toolbox are our *method*s and most of our methods are dependent upon our spatial epistemology, or way of knowing. There are dozens of methods used by geographers today. This is partly because geographers have adopted many methods used by scholars in the sciences, social sciences, and the humanities. The *scientific method* is widely used by geographers, but humanistic methods, like those employed by historians or even art critics, are also used by geographers. Generally, geographers alter these borrowed methods so we can use them effectively alongside our discipline's spatial epistemology. Taken together, the methods and the epistemology provide geographers with a series of ***methodologies***; or set of rules that govern the collection and analysis of a wide variety of data.

For example, if a geographer were to survey students about a new campus policy, many of the questions included in the survey would be the same as those used by a political scientist, historian or sociologist. However, a geographer would insist that the survey include a spatial question among the demographic questions. Instead of simply asking about each survey respondent's age, gender, and ethnicity; the geographer would likely insist on asking about each respondent's address, ZIP code, or at least "hometown".

Like many other disciplines, geographers use statistics. Often, we use statistics in a manner indistinguishable from the way they are used in other disciplines. Other times we have found a need to develop separate geography-friendly statistical tools more suited to answering spatial questions. For example, social scientists from other disciplines might start a statistical inquiry by calculating the mean, median and standard deviation of some data points. Geographers, on the other hand, might first plot the data on a map, and then calculate a *spatial mean*, *spatial median* and the *standard distance* of the same data. That's because geographers want to know where and why. There are a vast number of spatial statistics. Some are exceptionally complex and some quite simple. *Spatial Analysis* is the name of a subfield of geography which applies advanced mathematical analyses to spatial data. There are a lot of good jobs for people who can do spatial analyses of data.

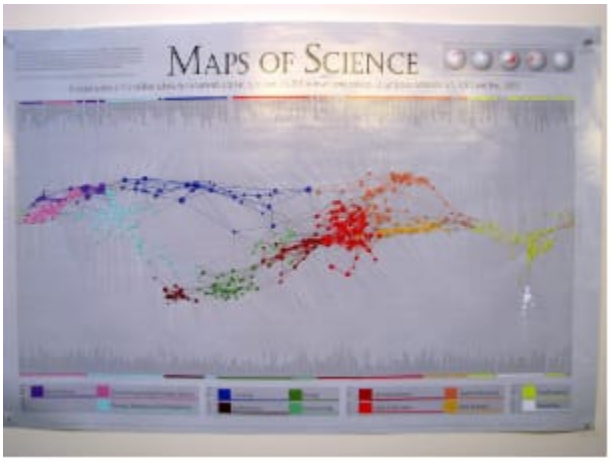
For the past few decades, the primary tool in the geographer's toolbox has been a suite of software products known as ***Geographic Information Systems*** or ***GIS***. GIS is the "lightsaber" of the modern geographer. Like the lightsaber used by Jedi in Star Wars movies, GIS is used by a select few (Jedis), and in the hands of a "master", GIS is both amazingly powerful and versatile. GIS software allows geographers to analyze data in a unique fashion, permitting geographers to ask spatial questions and solve problems using our special methods and while engaging our peculiar spatial epistemology. GIS allows geographers to sometimes solve problems that have proven intractable to those without GIS. People from other fields began to embrace GIS, but the techniques for using GIS have begun to emerge as foundational tools for modern geographers.

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1.5: Geography is a Way to Communicate Information

Geography is a Way to Communicate Information – Cartography the Jedi Language

Because you are reading this, you have some command of the rules that govern the English language. You no doubt can write in this language as well, another indication of your *textual literacy:* i.e. you can communicate *with a written language*. You probably are reasonably adept at communicating with numbers as well – so you are *numerate* or you have *numeracy* skills. Without these two key skill sets, you would not be in college. Geographers must be literate and numerate, but we also work to heighten our ability to communicate with non-textual, visual imagery, and/or graphics as well. Geographers who can both "read" graphics and create "readable" graphics have *graphicacy* skills and are considered *graphicate*. Persons who can read and create legible, communicative *maps,* are considered ***cartographicate*** and possess ***cartographica*** skills. Mapmakers are called cartographers.



"Map of Science" by Better Than Bacon is licensed under CC BY 2.0.

Cartography is the science and art of map-making and it is the specialized language of the geographer. The ability to communicate vast amounts of information, and/or ideas using maps is an excellent skill to develop. In the last decade, thanks to Google Maps/Earth, GPS and a massive increase in the value placed on spatial data by the government, military and private enterprise, *cartographica* has blossomed as a valuable type of literacy.

It makes sense that maps have re-entered the public's consciousness in recent years. Besides the explosion in spatial data available with which cartographers can create fun or informative maps, changes in the pace of our lives as well the tendency for us to be overwhelmed by data in the digital age have made well-constructed maps and graphics a welcome coping mechanism. Maps allow our brains to rapidly process far greater amounts of data than we could if we encountered the same data as text or in a massive spreadsheet. Maps allow us to see patterns and processes that would be difficult to discern otherwise.

Although some folks find maps innately easy to read, maps confuse others. Moreover, it can be very challenging to author a legible map. Good cartography is harder than it looks. Some colleges feature full programs in Cartography. Professional cartography is a great career path for the talented few who master this Jedi art. All geographers, even those whose specialty is not cartography, should endeavor to become reasonably adept at making maps. Thanks to GIS, most people who know GIS can create a tolerably good map using the software's built-in cartography templates.

Patterson, Tom. "Outside the Bubble: Real-world Mapping Advice for Students." *Cartographic Perspectives* 65 (2010): 7-15.



"Urban Cartography at SPUR" by Eric Fischer is licensed under CC BY 2.0.

Good Cartography?

Throughout this text, you should notice there are varying styles of cartography, with varying degrees of quality. This is purposeful. It affords students and instructors opportunities to discuss the communicative power of cartography. Look for maps that communicate effectively, and for those that do not. Hopefully, the author has indicated examples of poor cartography. Consider elements of color, scale, projection, and text that work to enhance or degrade the power of maps in this volume to communicate clearly and effectively.

Core Concepts

In addition to the core elements of the discipline of geography (observation, epistemology, methodology, and cartography) several basic concepts are useful to know to develop basic proficiency as a spatial thinker. These concepts appear throughout the text, so you should try to learn them well early in the semester.



Figure 1-5: Greenwich, England-The author- an admitted geo-geek-stands happily astride the Greenwich Meridian making zero degrees longitude. GPS measurements indicate this stripe should be a few yards to the east

Location

Location is the most basic concept in geography. Each physical object has an ***absolute location***. There are a variety of strategies

for expressing or communicating your absolute location. If you order a pizza, you will provide the delivery person your address. The property address system as we know it here in the United States was created by the government to help the postal service deliver letters and packages many years ago. It is a generally logical system, and most Americans have learned the logic behind it well enough to navigate their city, even without help from a GPS. If you were to travel to other countries, you may be surprised to find that some, like Japan, have very different address systems than the one used in the United States.

Want to know more? Check out the following links!
Mapping the Future: Cartography Stages a Comeback – Cool article from Wired Magazine about mapping in the digital age and the growing demand for geographers and cartographers.

Another common system for expressing absolute location uses a grid ***geographic coordinate system***. The most commonly used grid system is based on lines of latitude to express distance from the equator, and longitude to express distance from the Prime Meridian, an imaginary line running through a suburb of London England. Grid coordinate systems were devised thousands of years ago to aid in navigation and map-making. There are many dozens of coordinate systems, but the most popular system used today was invented by Eratosthenes, vastly improved by Ptolemy and formalized into a modern functional system by an Englishman, Sir George Airy in 1851. Many people own smartphones capable of calculating the phone's location (latitude and longitude) much like a ***global positioning system*** (GPS). Smartphones, and GPS devices (that use satellite data rather than cell towers or Wi-Fi) use the basic logic of the ancient coordinate system to help us find our way.

Another common concept used to express location is ***cultural region***. Each absolute location, like your address, can be mapped as a ***point***. Points are almost always situated within one or more containing locations known as regions. Your address is on a street/road – which is a ***linear region*** expressed as a ***line*** on a map. Your address is also (at least in the US) within a ZIP code, a county, a state, a country, etc. These locations are two-dimensional regions, so geographers map these regions using ***polygons*** on paper or in a GIS.

The location and boundaries of polygonal regions can be mapped using several different strategies. One strategy for designating an area as a "region" is to identify a characteristic that is common among multiple adjacent locations. So, for example, there's a part of the United States where most of the people are members of the Church of Jesus Christ of Latter-Day Saints. So, you could call that group of locations a region – perhaps the "Mormon Region". It is a region because locations within the region generally share a common *trait or a characteristic*. The general uni**form**ity of this characteristic among these locations is perhaps why this kind of region is called a ***formal region.*** Sometimes the formal region is homogenous (same) across the region, and sometimes a formal region will feature a ***core*** where the trait is more pronounced and a ***periphery*** where the trait is less common. That would be the case with the "Mormon Region".



Figure U.S by percent Mormon. Red areas on the map, because they have a higher percentage of Mormons, could be delineated as a formal region.

Another way of grouping locations together as a region is by identifying a shared relationship among multiple locations that are near one another. These kinds of regions are called ***functional regions*** because they function together in some fashion. For

example, a network of radio stations that all feature broadcasts of Cincinnati Reds baseball games would form a functional region of Reds baseball broadcasts. You could map that region. If there was a headquarters, or a "flagship station" for Cincinnati Reds radio broadcast stations, then some geographers would call that a ***nodal region***. The node is the point that functions to connect, and often control, the other points in the network that are subsidiary to the node.

These concepts are not mutually exclusive. Some regions are both a functional and formal region simultaneously. For example, Texas is a *formal* region because people who call themselves "Texans" largely live within the borders of Texas. They share a common trait. At the same time, all people living within the borders of Texas pay taxes that wind up in Austin – the ***node*** of a *functional* region that constitutes the State of Texas.

Even less well defined are ***vernacular regions*** because these regions exist mostly in the imagination of groups or even individuals. It is much more difficult to identify the boundaries of vernacular regions on a map because opinions about boundaries often vary wildly for vernacular regions, but such regions remain important because people *believe* they exist. A good example of a vernacular region is "*Dixie*", the name frequently applied to the American South. However, exactly which states, towns and counties are in "Dixie" is impossible to measure because there is no single variable capable of defining "southern". Is Kentucky part of Dixie? What about Missouri? New Orleans? Miami? That depends on what variable one chooses to use as the defining characteristic of "southern". Still, "Dixie" exists in the minds of millions of Americans, so it's important to recognize it even if we can't say for sure where it is. "So Cal", "The Midwest", "Cascadia" and even "New England" are other vernacular regions in the United States.



Figure US map this one possible version of the classic American vernacular region, Dixie

Diffusion

Want to know more? Check out the following links!
Tobler, Waldo R. "A computer movie simulating urban growth in the Detroit region." *Economic Geography* (1970): 234-240.

The core-periphery pattern that characterizes some regions is the result of the ***friction of distance***, which is perhaps the most fundamental force influencing the spatial behavior of people, their ideas and their institutions. In the simplest terms, there exists what might be best thought of as a force, almost like gravity, that impedes the spread or ***diffusion*** of ideas, behaviors, people, etc. The friction of distance creates patterns on the landscape which are characterized by ***distance decay***, a tendency of objects, ideas and behaviors to decrease in intensity or regularity as they move further from their original source – which is often at a region's *core*. This process is so pervasive and predictable that geographer Waldo Tobler called the effect of distance decay, "The *First Law of Geography*". Tobler explained the operation of this "law" thus: "Everything is related to everything else, but near things are more related than distant things". Put more simply, things that are near each other are often more similar than things that are far from each other. According to Tobler, the idea was so self-evident to him that he didn't realize that he had captured the essence of a fundamental principle when he wrote it down in 1970.

Though very simplistic, it is a useful notion to keep handy as you learn to think like a geographer. Tobler's first law appears in many guises throughout this text (e.g., "the neighborhood effect"), and it appears in many guises in your daily routine. If you seek a spot in the parking lot at your college nearest your first class of the day, you've experienced the friction of distance. If you notice fewer cars at the back of the parking lot, you're seeing distance decay. The cars parked in the closest spots in the lot are probably all driven by students who arrived early for an 8 AM class, confirming Tobler's First Law of Geography.

Want to know more? Check out the following links!
New York Times. How Connected is Your Community to Everywhere Else? A map of Facebook Connections

The First Law of Geography characterizes the process of diffusion. Think of an idea, invention or behavior of any sort. Then consider its origins. Somebody or some people must have invented or thought it up or acted in an innovative way. The location where the invention or innovation occurred first is known as the ***hearth-***which is a little-used synonym for "home" – especially the fireplace.

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1.6: Case Study- Origin and Diffusion of Hip Hop

CASE STUDY: The Origin & Diffusion of Hip Hop

Residents of the South Bronx, a neighborhood in New York City, invented hip hop music, dance, and graffiti in the mid-1970s. Therefore, the Bronx is the source region or ***cultural hearth*** of hip hop.



Figure Bronx, NY. This higher-rise up apartments buildings is probably the cultural hearth of hip hop since the first hip dances were hosted here

It took some years for people living outside the Bronx to discover hip hop, but it has spread or *diffused* around the globe since the 1970s. The diffusion of hip hop demonstrates several key spatial patterns and processes that characterize other cultural phenomena. First, hip hop music took nearly a decade for it to emerge from the Bronx. There were many ***barriers to diffusion*** preventing music fans, even those living just a few miles away in Manhattan, from hearing this newly created *genre* of music. Those barriers were largely social, economic and cultural, but those barriers kept the sound of Black and Latino youths living in the Bronx from reaching the ears of music fans (and music executives) in Manhattan for nearly a decade. It is worth noting that Motown Records, the most successful black-owned recording company of all time eschewed hip hop for many years, which in turn helped doom Motown Records. Ironically, Motown Records was eventually acquired by hip hop specialty company DefJam records.

During the 1970s and early 1980s, hip hop diffused slowly, spreading *first* to *nearby locations*, notably the other boroughs of New York City and to northern New Jersey. Only after about 10 years did hip hop artists from more distant cities, like Philadelphia and Boston on the radio or MTV. This pattern of near-first/far-later diffusion is a very common type of ***expansion diffusion*** known as ***contagious diffusion***. It gets its name because the pattern is similar to the manner in which contagious disease spreads from person to person, infecting nearby people first and distant people later. Almost all early rap acts from outside the Bronx were from Greater New York City - Queens, Harlem, Brooklyn, and Long Island. It wasn't until a hip-hop duo known as DJ Jazzy Jeff and the Fresh Prince (Jeffrey Townes and Will Smith) emerged from West Philadelphia around 1988, that an act from beyond greater New York City made it onto the record charts. In 1989, a bunch of hip-hop acts had hit records, and almost all of them were from Los Angeles, America's second-largest city.

Once hip hop leap-frogged across the US, from big cities on the East Coast to big cities on the West Coast, hip hop then exhibited a diffusion pattern known as ***hierarchical diffusion***. This is when innovations are adopted in the *largest cities first*, and smaller cities or rural areas much later. Like many inventions or innovations, hip hop began in a very large city, at the top of the ***urban hierarchy*** and from there it filtered down through other large cities, like Los Angeles, San Francisco, Atlanta, and Houston. After about 20 years, even small towns or rural areas had accepted hip hop and were producing home-grown hip hop artists. Hip hop has diffused internationally as well, rappers rap in hundreds of languages from rural areas of Asia, the Mideast, and Africa. Occasionally, an idea or practice comes from a small town and diffuses upward through the hierarchy. Geographers call this type of expansion diffusion ***reverse hierarchical diffusion***.

- Sugar Hill Gang Rapper's Delight Widely considered the first commercially successful rap song.

The original version of hip hop did not feature musicians playing traditional instruments. Instead, hip hop acts utilized a disc jockey or DJ who manipulated vinyl records on a turntable to create musical accompaniment for the vocalist, known as a rapper or MC (master of ceremonies). In the late 1970s, some young men from New Jersey, copying the rapping style they had learned while visiting friends in the Bronx made a record called "Rapper's Delight". They used trained musicians rather than a DJ for background music and beats. The alteration of an original *style* created in the Bronx, but *modified* after it was adopted in New Jersey is a great example of ***stimulus diffusion***. This kind of diffusion occurs when the principal element of an idea or behavior spreads but other elements are significantly modified by those who adopt it elsewhere. Rappers and DJs from locations beyond the Bronx have made numerous modifications on the original style of hip hop. For example, many of the early lyrics from hip hop pioneer Afrika Bambaataa were anti-gang; but when hip hop diffused to Los Angeles in the 1980s, LA-based rappers produced music that appeared to glorify gang membership and gang violence, earning some LA Rap the name "gansta rap". As ideas or practices spread, they adapt and change to fit local conditions or local preferences, and this is the essence of *stimulus diffusion*.

Had an MC or DJ from the Bronx *moved* themselves from the Bronx to take up residence in New Jersey or Los Angeles, they may have spread hip hop themselves personally. This process of spreading hip hop by a person is called ***relocation diffusion***. This kind of diffusion happens when an idea or practice moves with *a person* rather than through media, like records, radio or MTV. Relocation diffusion is not a type of expansion diffusion.



Figure Hollywood, CA- The Whiskey A Go Go is a landmark venue and serves as the cultural hearth for California-based hard rock and heavy metal music.

Though hip-hop is an international phenomenon today, there are a few places where you would have trouble buying a hip-hop CD, or hearing it on the radio because of effective ***impermeable barriers*** to the diffusion of hip hop. Some barriers might be technological (e.g., no electricity), cultural incompatibility, or some measure of bigotry or bias that prevents or slows adoption of new ways. Mostly though, places where hip hop is banned are largely where very serious religious or political costs are attached to the consumption of hip-hop music. For example, record stores have been bombed in Pakistan by conservative Muslims that support the Taliban. More often than not though, music (and other pop culture) "gets through" and becomes a source of resistance to authority.

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1.7: Cause and Effect

Cause and Effect

All scientists look for regularities and patterns while trying to figure out the *causal* forces behind them. One of the main points of science is that by understanding *why* things happen the way they do, we may better understand how to prevent what we dislike or maintain what we love. Geographers are no different, but we tend to look for regularities in the processes that create or destroy patterns *on the landscape*. Sometimes geographers simply observe phenomena, and try to make sense of it. Other times, geographers use maps to plot that which they observe, or are trying to observe. Once the map is constructed, then we begin to try to identify what is causing the pattern on the map.

Want to know more? Check out the following links!
Frontline News Magazine article about Hip-Hop music in Iran

Cultural Ecology

One of the oldest strategies geographers use to seek causality is to carefully consider the role of the *physical environment* in which phenomena occur. Geographers ask, “What is the effect of climate, weather, water, rocks, soils, etc. on politics, religion, language, culture, etc.?” The study of the interaction between various cultural practices and the physical environment is referred to as ***cultural ecology***. Sometimes the relationships between cultural practices and the natural environment are easy to identify, such as the relationship between the sport of ice hockey and cold winters. More often though, relationships between cultural practices and the environment are difficult to fully understand. Recall the discussion about Environmental Determinism from earlier in the chapter.



"Seminario Integrating Differences: Public Policies for Older and Newer Minority Groups, sobre los retos surgidos con la diversidad cultural, lingüística, étnica y religiosa en Europa" by deusto is licensed under CC BY-NC-SA 2.0.

Cultural Integration

Often there is no identifiable causal relationship between cultural practices and the environment, so geographers check for interrelationships between various cultural practices within a place or region. An understanding that many ideas, practices, and traditions from one cultural realm (religion, e.g.) may have an effect on other cultural practices (politics, e.g.) is the basic principle of the concept of cultural ***integration***. All cultural practices function like gears in a complex machine where movement by one gear, wheel or spring is likely to turn other gears, wheels and springs elsewhere So, weather, religion, politics, language, health, and crime all affect each other.

Plankton & Obama



Figure In the map on the left, the red line indicates the approximate shoreline of the ancient Gulf of Mexico responsible for the rich soil in the region today. On the right is an overlay map showing both intense cotton production during the 1800s (dots) and the election results of 2008 by county. Blue counties went for Obama and Red for McCain.

An excellent example of the complex nature of a *culturally integrated system* was uncovered and explained by clever geographer-types during the presidential elections of 2008 and 2012. The stunning finding of this study was that long-dead plankton helped Barack Obama get elected! Preposterous? Not to geographers. Consider that more than 100 million years ago, the shoreline of the Atlantic Ocean/Gulf of Mexico was far inland from where it is today. In the shallow seas that once covered what are today parts of Alabama, Mississippi, Georgia, and the Carolinas, there floated trillions of tiny plankton that upon dying, created rich, chalky soils along ancient beaches (the red line in the map below). This dirt, thousands of years later became a key element in a narrow region of agriculturally rich soils stretching across the American South, dividing a region where the soils are otherwise poor. Because these rich soils were very dark, farmers labeled the region the *Black Belt*. During the 1800s, people also called this area the *Cotton Belt*, because it had become the richest cotton farming region in the United States. Because African-Americans, enslaved on plantations grew most of the cotton, the term, *black belt,* acquired a new layer of meaning that it maintains today. In those counties, where the descendants of slaves still outnumber white people by a large margin, Barack Obama won more votes than his challengers John McCain and Mitt Romney.



"A Kabul Milli factory employee cuts out boot pattern layers to begin the boot manufacturing process" by NATO Training Mission-Afghanistan is licensed under CC BY-SA 2.0.

Process and Pattern

Geographers, especially in the last 40 years or so, have sought to not only explain why patterns emerge on the landscape but also to *make predictions* about when and how they will change. Geographers who make predictions based on evidentiary trends in data are, by their actions, scientists. One of the first steps in spatial science projects involves identifying ***clustering*** within spatial patterns evident either on maps or the landscape. Many phenomena cluster in space because the *friction of distance* affects everything, as suggested by the First Law of Geography. One way to verify the clustering of some phenomena is to plot

data on a map with points, as is done in the accompanying figures below.

Want to know more? Check out the following links!
Teach Spatial A website dedicated to teaching and learning spatial concepts.

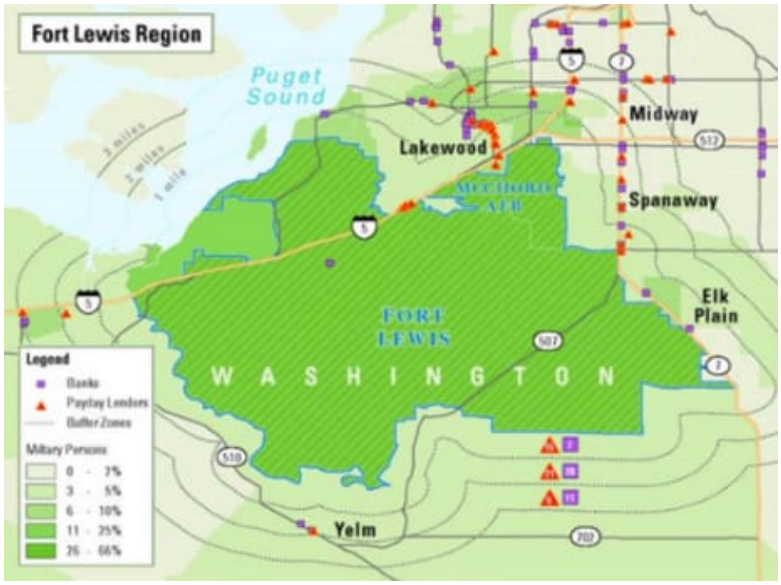


Figure Map- Fort Lewis , WA. This map shows significant clustering of payday lenders near the gates of this military facility in 2003. The map helped convince legislators of problems with the payday lending industry.

In the map below, payday lenders, represented by red triangles, appear to cluster in large numbers near the entrance of McChord Air Force Base/Fort Lewis in Washington. The pattern on the map strongly suggests that the payday lending industry focused on military personnel as an attractive *target demographic*. Representatives of the payday lending industry denied they were targeting soldiers and sailors before Congress, but the intense clustering of payday loan stores near military bases across the U.S. helped convince legislators in both Washington D.C. and Seattle, Washington that this industry was indeed targeting the military, and that stricter regulation of the payday lending industry was necessary to protect service members from the often-dangerous effects of short-term, high-cost loans.



Figure 1-12: The pattern of phenomena on the landscape may help us understand causality. Clustered, random and dispersed patterns can be measured stratistically by GIS software.

Often, it is easy to visually identify the clustering of points on a map with, as is the case in the map above. Sometimes though, it is not so easy to determine if points are clustering beyond what might happen randomly, or if a pattern of points is more clustered than another.

When patterns are difficult to see, geographers turn to *spatial statistics* to measure the distribution of points in space. One cool technique, known as ***nearest neighbor analysis***, compares the average distance between *actual points* on a map against an equal number of hypothetical points randomly dispersed on the same map. GIS software then compares the two patterns and calculates the likelihood that the distribution of the actual (observed) points is more (or less) clustered than a random distribution of the same points. See figures below:

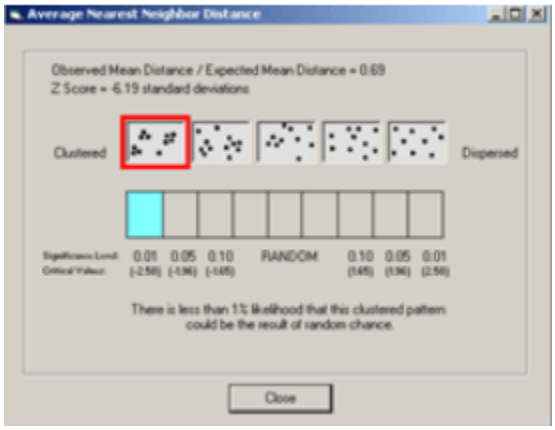


Figure GIS Software output window indicating a statistically significant clustering of points. Clusters of crime, disease or businesses provide decision makers with important tools.

Random, clustered and dispersed patterns each tell a story about the processes that are acting upon the mapped phenomena. The image in Figure 1:14 is a graphical report from a statistical test of payday lenders in Los Angeles' San Fernando Valley. As you can see, the level of clustering of this type of business is far greater than a randomly distributed set of points in the same space. Therefore, we can be quite certain that the locations of payday loan shops are not due to random processes. Clustered patterns of diseases, crimes, tornados, or any other phenomena, are of great interest because clustering helps us identify *causes*, and hopefully, solutions to problems. Highly dispersed point patterns are nearly as interesting. Dispersion suggests that for some reason points are being pushed away from one another. Schools, Fire Stations, and 7-Eleven stores would all likely show spatial *dispersion*.

Regions also may exhibit clustering. You can observe clustering on a ***choropleth map*** when data values associated with neighboring polygons (e.g. states) are more similar than the data values associated with non-adjacent polygons. Put more simply, clustering is evident when neighboring regions are more similar than non-neighboring regions. A special term, ***spatial autocorrelation*** is often applied to such patterns. Like the point clustering patterns discussed above, spatial statistics are available to geographers seeking to measure the degree of clustering, dispersion or randomness in a choropleth (polygon) map. *Moran's I* is a common statistic used to measure spatial autocorrelation, or clustering, on a choropleth map.



FIgure Electoral maps like the one above show clustering of like states. The Moran's I value would indicate significant clustering of like values.

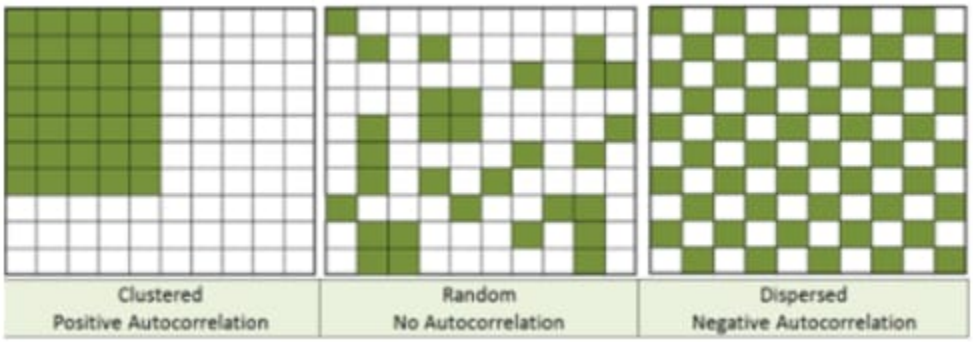


Figure Graphic - This series of checkerboard images represents various levels of spatial autocorrelation for polygonal features (regions). The Moran's I statistic could be used to determine the degree of clustering of spatial autocorrelation.

The well-known election map of 2000 shows a clear pattern of clustering that does not need statistical analysis to notice. However, if you wanted to compare the degree of clustering evident in that map against another election map, or against a map of something unrelated, like cancer rates, you would need a statistical tool. Using Moran's I, you could determine which pattern was more clustered; or if you were comparing voting patterns over many years, trends could be analyzed, perhaps allowing you to make predictions about future elections.

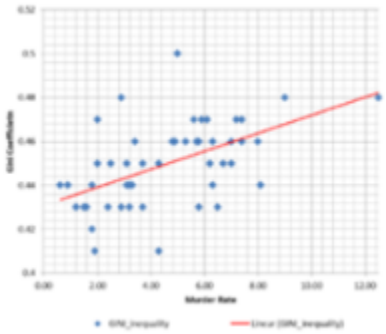


Figure Scatter Plot diagram - This diagram displays the same data in the map below. The correlation coefficient is r=.55,indicating a moderately strong relationship.

Co-location

Clustering is a type of ***co-location***. When things, behaviors or ideas (e.g. factories, payday lenders, auto dealerships) cluster, that is a form of co-location called ***agglomeration***. Co-location can also characterize the situation in which seemingly different things, behaviors or ideas are found in the same location. For example, Evangelical Christians and Trump Voters are found in the same states. Payday lenders and military personnel cluster in the same towns; and night clubs and college students are often found in the same neighborhoods.

When co-location among phenomena occurs then there exists a *spatial relationship* between the phenomena. Occasionally, persistent co-location indicates a *causal relationship*; where one thing in a location (an increase in air pollution) causes the other thing (an increase in lung cancer) to occur in the same location. Uncovering, measuring and explaining causal relationships is a major goal of geographers.

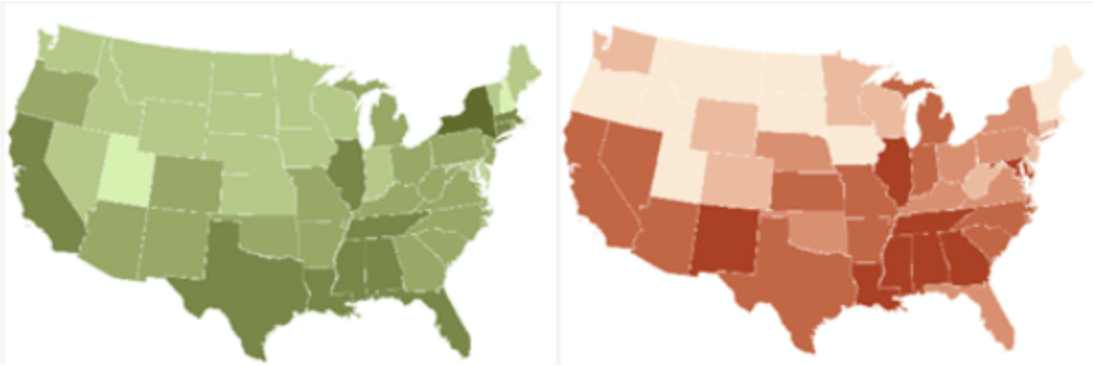


Figure 1-17: These maps represent income inequality (left) and murder rate (right) by states. You can see that about half the time, as one variable increases, so does the other. The correlation coefficient is r=.55.

Hypothetically, you may notice that there seems to be an unusual number of obese people living in neighborhoods where there are also many fast-food restaurants. If you were a geographer, you might hypothesize that living *near* fast-food restaurants increases residents' chances of gaining weight. You could test this hypothesis by collecting data from the local health department. Next, you could map the obesity rate by neighborhood (census tract or ZIP code perhaps). Then, you could map all the fast-food restaurants in each neighborhood so that a count of fast food outlets per neighborhood was possible. Then you could run statistical tests on the data to test your hypothesis.

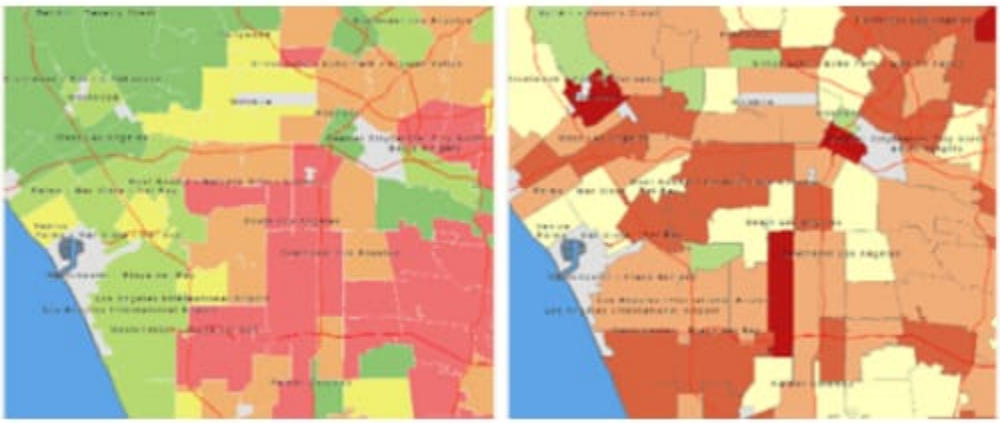


Figure Los Angeles - The map on the left displays the density of fast food outlets per business. A regression model was used to analyze the relationship of fast food availability to the percentage of children rating " healthy" on school fitness test. The map on the right shows the location where the regression model under-predicted to over-predicted healthy levels among school aged children in each Zip code. Other variables like income, ethnicity etc. were beheld constant by the regression model.

Often, geographers begin analyzing relationships by testing for the degree of ***correlation*** between variables (e.g., fast food vs. obesity rates per ZIP code), using a test statistic like *Pearson's Correlation Coefficient*. This test, and others like it, measure the amount of covariance, or dependence, between two variables. Put simply, correlation tests report how much one variable (like obesity rates) rises or falls as a second variable (restaurant density) rises and/or falls. You might find that as the density of fast-food restaurants goes up in neighborhoods around town, so do obesity rates in those neighborhoods, indicating a *positive correlation*. Negative correlations are possible too. You may find that as the miles of bike paths per city increases, the obesity rate goes down. Often you find that there's not much correlation at all. If you find strong negative or positive correlations between two variables in space, then you *may* have grounds to argue there is a *causal relationship*.

Want to know more? Check out the following links!
GIS PopSci.org Research and Instructional Materials for those interested in spatial statistics.

Unfortunately, correlation can be misleading. It's easy to accidentally misinterpret correlation statistics. You can mix up the direction of *causality*: maybe the fast-food restaurants are in certain neighborhoods because their owners build them where the population is known to love french fries. Maybe the density of fast-food restaurants and obesity rates are caused by a third less obvious thing, like poverty. These unknown variables are called *confounding factors*. Maybe the factors are completely unrelated, exhibiting a relationship that is purely by chance. These random relationships are known as *spurious relationships* and happen when phenomena rise and fall together but are causally unrelated.

The nature of relationships between cause and effect variables is most often measured using ***regression analysis*****,** a more complex statistical technique used by geographers to determine the strength and direction of causality between a dependent (effect) and one or more independent (causal) variables. So, for example, regression would help you understand not only if having lots of fast food joints in a neighborhood had an effect on obesity, but it would also allow you to better analyze the effect of ethnicity, income, access to parks, etc. on the dependent variable (obesity). Regression analysis, done with GIS software, also allows geographers to see quickly where trends are well predicted by the variables used in the analysis, and where there is less or more of the predicted variable.

No doubt, you have seen patterns on the landscape and wondered, "Why is that there?" The chapters that follow should help you answer those questions. Some of the techniques may seem challenging to you, but college students who have been exposed to geography should be able to observe patterns, ask questions about the observed patterns, and do a few basic analyses on data. Geographers have effective techniques for answering questions and solving problems. It is the major goal of this text to expose students to some of these techniques.

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1.8: Mapping the World

Part 2: Mapping the World

Original text taken from: 1 Dorrell & Henderson

The following is a remixed and adapted version of Chapter 1 Itnroduction to Human Geography by Dorrell and Henderson https://web.ung.edu/media/university-press/human-geography_v2.pdf?t=1700179494361

Mapping the World

Maps are fundamental to the discipline of geography and have been used by humans since before 6,000 B.C. Today's maps are much more sophisticated, complex, and precise, and are used by many people who employ GPS mapping systems in their vehicles. This technology allows motorists to navigate from place-to-place with relative ease, but the process by which these digital and other maps are created is exceptionally complex. Essentially, a map, which is a flat presentation of a place on Earth, is actually depicting a curved surface. The Earth, which looks like a sphere, is technically an oblate spheroid, which means that the "middle" of the Earth, around the equator, is slightly wider, and the north/south pole axis is slightly shorter, than a perfect sphere. When any curved surface is depicted on a flat surface, that process is known as projection, and many types of map projections exist. A fundamental characteristic of all maps is that they involve projections, and all projections have some sort of distortion inherent in them. The size, shape, distance, and direction of objects are distorted to various degrees on maps. The reason this distortion occurs can be visualized by simply imagining peeling an orange, and trying to flatten the peel on a table. If you drew the continents on that orange before peeling it, the continents would most certainly be distorted when you try to flatten the peel on the table. This analogy does not precisely describe how projections are created; the process is much more involved. However, the underlying principle still applies. An example of distortion is shown on the map of the globe below (Figure 1.2). Note, for example, in this Mercator projection that Greenland appears to be larger than South America, although it is, in fact, much smaller.



Figure | World Map World Map with Mercator Projection. Author | User "Strebe" Source | Wikimedia Commons License | CC BY-SA 3.0

Besides projections, another important characteristic of maps is the scale. The scale of a map is a ratio of the length or distance on the map versus the length or distance on the Earth or ground (actual). The amount of detail shown on a map will vary based on the scale. For example, a map with a scale of 1:100,000 (which means 1 in/cm on the map equals 1,000,000 in/cm on the ground) would show much less detail than a map at a scale of 1:10,000 (Figure 1.3). Besides showing scale as a ratio, it can also

be presented as a bar graph or as a verbal statement. Scale can also mean the spatial extent of some kind of phenomena. For example, one could examine migration at the global, national, state, or local scale. By either definition, however, each refers to the level of detail about the place that the geographer is researching. Examining the world from different scales enables different patterns and connections to emerge.

Identifying Locations on a Map

One of the most important pieces of information that maps provide is location. Knowing precisely where a place is in the world is fundamental to geography. While one can define a location simply by using a street address, not all places on Earth have such an address. Therefore, one of the basic ways to pinpoint a location on the Earth is using the geographic grid. The geographic grid is composed of meridians and parallels, which are imaginary lines and arcs crisscrossing the Earth's surface. Meridians are half circles that connect the north and south poles, and longitude refers to the numbering system for meridians. Parallels are circles that encompass the Earth and are parallel to the equator, and the numbering system for these circles is known as latitude (Figure 1.4). Where meridians and parallels intersect at precise locations (points) on the Earth on the geographic grid, a location can be known by its latitude and longitude.

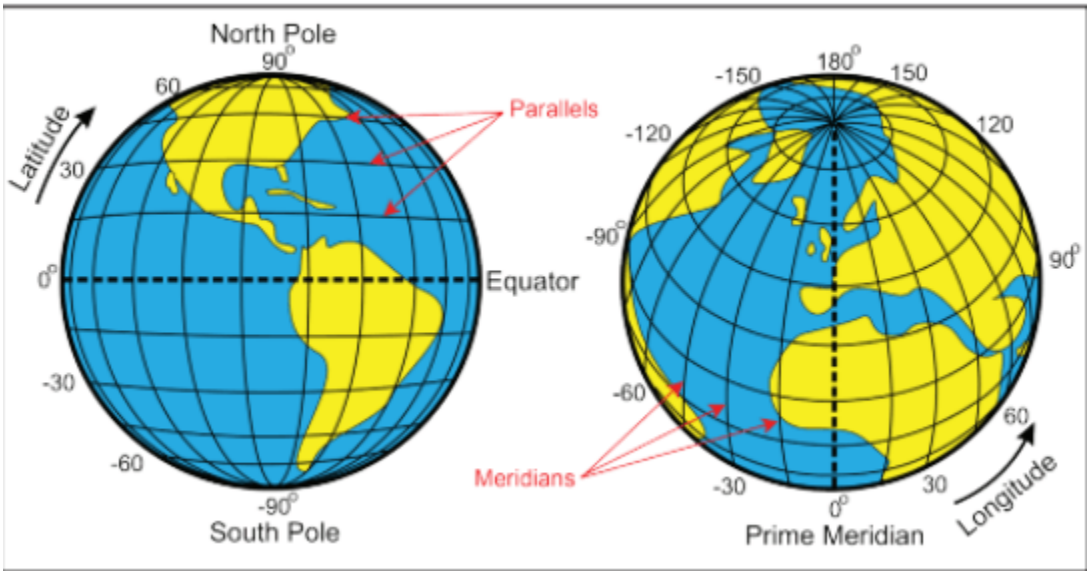


Figure | Longitude and Latitude The geographic grid comprises meridians and parallels with longitude and latitude. Author | User "Djexplo" and Corey Parson Source | Wikimedia Commons License | CC 0

A few meridians on Earth are of particular importance, one being the Prime Meridian located at 0o longitude, which passes through Greenwich, England. The other important meridian, called the International Date Line, follows roughly along 180 o longitude, and this meridian is on the opposite side of the world from the Prime Meridian (Figure 1.5). When a traveler crosses the International Date Line, the day of the week instantaneously changes. When moving westward, the day moves forward, and when traveling eastward, the date jumps backward one day. Fortunately, the International Date Line is in the middle of the Pacific Ocean, so disruptions to the daily calendar are minimal for most people in the world. Moreover, the International Date Line does not precisely follow the 180 o longitude line, and this accommodation allows countries and territories consisting of islands that straddle 180 o longitude to share the same calendar date.



Figure | Time Zones This world map shows the international date line and global time zones. Author | Central Intelligence Agency Source | Wikimedia Commons License | Public Domain

How do I Describe Where I am?

Defining a location by using the geographic grid is only part of the process of describing a place. Geographers are primarily concerned with two ways of describing a place: site and situation. Site refers to the physical characteristics, such as the topography, vegetative cover, climatic conditions, and the like. Situation, on the other hand, refers to the area surrounding the place, and is sometimes referred to as relative location. In other words, where is this place relative to other places, and how is it connected to its surroundings via transportation networks? New Orleans provides an excellent example of site versus situation. The site of New Orleans is not ideal for a city, as it lies below sea level and is prone to flooding. However, the situation of New Orleans is much better in that New Orleans is connected to a large portion of the Mississippi River's network of navigable waterways while also being close to the Gulf of Mexico and convenient to coastal traffic. Hence, the situation of New Orleans is why the city has not long since been abandoned, despite catastrophic flooding such as during Hurricane Katrina in 2005. As we examine various places around the world, both site and situation are key considerations in determining the "why" of where a place is located.

Geographic Data Collection & Analysis

In order to analyze and develop regions, describe places, and conduct detailed geographic analysis, two important tools have been developed that are of particular value to geographers. The first is remote sensing, or the acquisition of data about the Earth's surface from aerial platforms such as satellites, airplanes or drones. Images taken from these airborne machines can provide a wealth of valuable information about both the human and physical characteristics of a place. For example, satellite imagery can depict the extent of human impact on rainforests in the Amazonian rainforest of Brazil (Figure with greens and blues). Imagery can also depict information that humans cannot see with the naked eye, such as the temperature of the Earth's surface. One example is a thermal infrared image, which can show warm temperatures in red tones and cooler temperatures in blue tones (Figure below in red.).

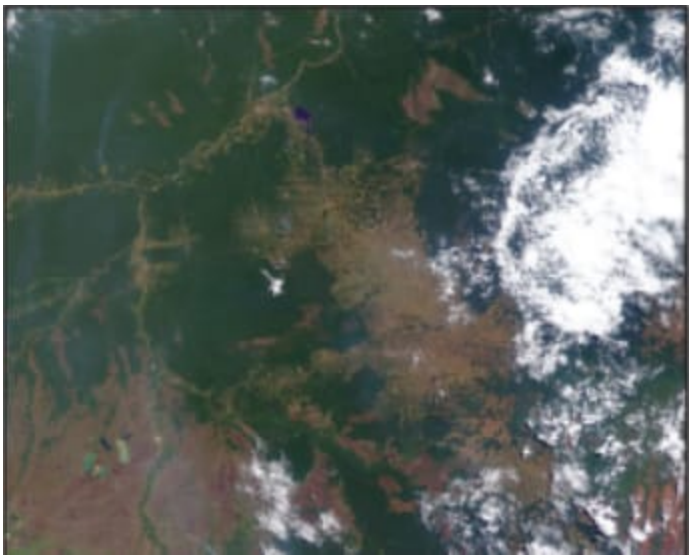


Figure | Deforestation Deforestation in the state of Rondônia, western Brazil. Author | NASA Source | Earth Observatory License | Public Domain

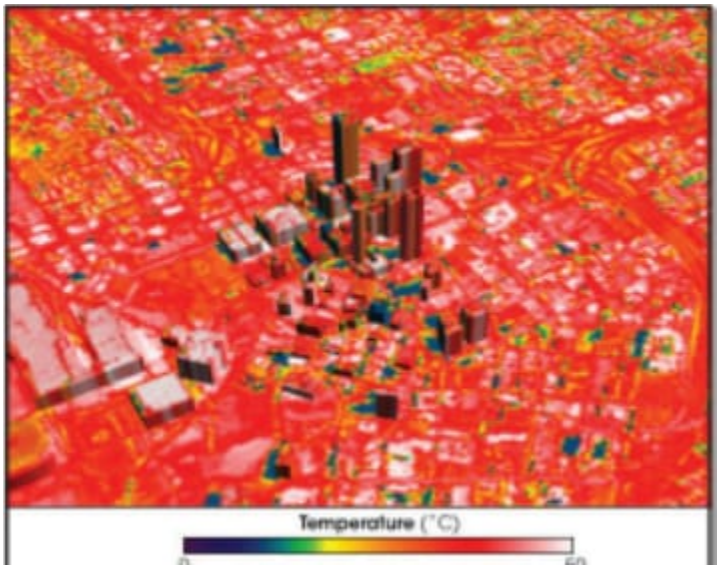


Figure | Thermal Imaging Thermal imagery of Atlanta, GA. Author | NASA Source | Wikimedia Commons License | Public Domain

Digital imagery like the one in figure directly below this, is in a format that can be entered into Geographic Information Systems (GIS), the second important tool employed by geographers. GIS combines computer hardware and software in a system that stores, analyzes and displays geographic data with a “computer mapping” capability. Geographic data is stored in layers, and these layers of data can be queried in a number of sophisticated ways to analyze some aspect of an area (Figure below). Each data point in a GIS is georeferenced to a precise location on the Earth’s surface (latitude and longitude, for example), and these data points have different attributes corresponding to the data layer they are associated with. Data layers can represent a myriad of characteristics about that data point, such as elevation, soils, the presence of water, per-capita income, ethnicity, etc. Overlaying the data layers can provide incredible insights into the connections between characteristics/ factors in places, such as the connection between per-capita income and ethnicity or the links between soil types and vegetative cover. GIS also has a vast suite of other capabilities such as least-cost path for transportation, line-of-sight perspectives from a particular location, or 3-D models of urban areas. Because of their multifaceted capacity to present geographic information, businesses and government agencies around the world use GIS to answer questions, plan development, chart delivery routes, and even monitor crime and first responder activity (Figure 1.12). It is not surprising that one of the fastest growing job markets is in GIS technology, as GIS jobs exist at the local, state, and national level as well as in many businesses in the private sector. Even the U.S. Census Bureau maintains an extensive GIS database known as Topologically Integrated Geographic Encoding and Referencing (TIGER).

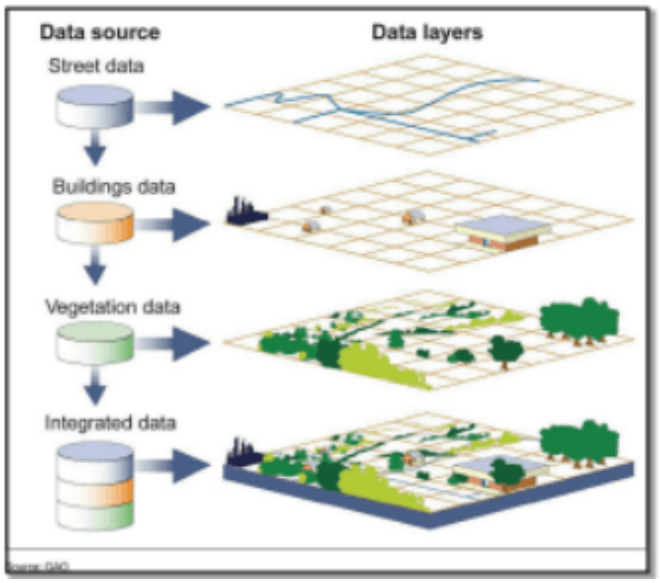


Figure | Data Layers Data layers in a Geographic Information System (GIS). Author | US Government Accountability Office Source | National Geographic License | Public Domain

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2: GEOGRAPHY OF CULTURE

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2.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

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Learning Objectives

- Understand what culture is
- Understand: the origins and diffusion of culture and globalization
- Identify cultural elements
- Examine the process of cultural diffusion
- Explain: how culture changes across space and time

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2.2: Geography of Culture

Chapter 2: Part 1: Geography of Culture

What is culture? When some people speak of culture, they are thinking of high culture (e.g. ballet or opera). Others may think of current, prominent topics (i.e. pop culture). Academic settings, though, are referring to something else. Culture is a learned behavior and a human construct. Culture exists to answer questions. Some of the questions that are answered are philosophical or ideological, for example, “Where did we come from?” or “What is acceptable behavior?” Other questions revolve around daily life. “How do we secure shelter, clothe ourselves, produce food, and transmit information?” Culture provides us with guidance for our lives. It both asks and answers questions. Children, from an early age, start asking “What is my place in the world?” Culture helps to answer that. The word culture itself comes from the Latin word cultura, meaning cultivation or growing. This is precisely what humans do with both their material and abstract cultural components. Humans, since early childhood, learn to shape, create, share, and change their culture. Culture is the very vehicle we use to navigate through our environments. Culture is a form of communication and it evolves. And as a type of compass, it leads.

Components of Culture

At the most simplistic levels, culture can be either concrete and tangible, or abstract. Either way, culture is used to express identity for both individuals and groups. And whether it is concrete or abstract, again it is a human construct used as a way to create a sense of belonging. People convey culture through various outlets such as festivals, food, and architecture. They are able to meet their worldwide fundamental needs while maintaining individual group qualities. Culture can be classified into three different categories: mentifacts (ideas or beliefs), artifacts (goods or technology), and sociofacts (forms of social organization). All cultures have underlying beliefs and thought processes. These beliefs include religion (Chapter 6) and language (Chapter 5) but go far beyond that. Other important beliefs include things like nationalism (see Chapter 8), customs or prejudices. These beliefs can be expressed through various avenues, using a variety of auditory, visual, and tactile means. For example, nationalism can be expressed through song, cuisine, dress, and public events. You can hear nationalism in the form of an anthem, see it in the form of a flag, taste it when you eat a dish that represents a group of people, and feel it in the form of a piece of jewelry. Technology is a human construct. From our earliest inventions (fire, weapons) to a supercomputer, the things that people build are products of their perceived needs, their technical abilities and their available resources. Technology includes clothing, foods and housing. Another name for technology is material culture. Think of material culture as the material that archaeologists study. The materials that we use are often left behind for later people to study, like the clay tablets the Sumerians used to record their writing or the remnants of an Iroquois longhouse used for shared living. Other components of culture (like ideas) leave fewer traces. We can find material culture related to burial practices that date back millennia but may not always have the material evidence to show how people grieve. Lifestyle is a component of culture that can be overlooked, but it is vitally important. In many cultures, a family is a very large unit and people can tell in great detail their exact relationship to everyone else in a place. In the modern context, a family could consist of a single parent and a child and it is possible to live in a neighborhood filled with unrelated people and not know the name of a single neighbor. Culture can be seen either through the lens of a microscope or through that of a telescope. Folk culture is local, small and tightly bound to the immediate landscape. Popular culture is large, dispersed, and globalizing. These two forms of culture are not totally separated. They are related and both currently exist in the world. Prior to about 2008, most people on Earth lived in rural communities, often practicing a folk culture. The world as a whole is moving toward popular culture.

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2.3: Cultural Reproduction

Cultural Reproduction

As human beings, we reproduce in two ways: biologically and socially. Physically we reproduce ourselves through having children. However, culture consists solely of learned behavior. In order for culture to reproduce itself, it has to be taught. This is what makes culture a human creation. How is culture transmitted? Human beings are natural mimics. This is the way we learn to speak, and it is the way we learn the rest of our culture as well. We learn through observation and, subsequently, through practice. At another scale, mimicry is the mechanism that drives cultural diffusion. Human beings copy the things we like. The old line "Imitation is the sincerest form of flattery," perfectly describes the human desire to incorporate successful adaptations.



Figure | Ribs restaurant in Madrid, Spain This restaurant is near one of the busiest tourist areas in the city, but it is on a side-street off the iconic Gran Vía. Could you imagine this restaurant on a street corner in the United States? Author | Dominica Ramírez Source | Original Work License | CC BY SA 4.0



Figure | Spanish restaurant in Tivoli Gardens, Copenhagen, Denmark Notice the use of yellow and red (the colors of the Spanish flag). Also, the bull and matador image is prominent. Is that the best way to promote churros, a typical fried food of Spain? Author | Dominica Ramírez Source | Original Work License | CC BY SA 4.0

How people have shared culture has changed drastically over time. This can partly be attributed to the channels in which we share culture. In the past, culture was shared orally and in person. Words eventually became written, the written became electronic, and we now have access to things from anywhere at any time. The debate over authenticity has also become a topic of debate. If culture is created, recreated, and is fluid, how can we define authenticity? Has culture become placeless? Placelessness or the irrelevance of place has become a central topic in the contemporary philosophy of geography. Can people have an All-American dining experience in the heart of Madrid, Spain? Can they experience Spanish street-food at a historic theme park in Copenhagen, Denmark? As the following pictures show, icons representing other places are now common in the landscape.

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2.4: Cultural Hearths and Landscapes

Cultural Hearths

Human beings have always had learned behaviors, it's one of the defining characteristics of human beings. Cultural evolution describes the increasing complexity of human societies over time. Our earliest cultures were simple. We lived in small groups, ranged across fairly large areas, and lived off the natural landscape. Human impact on the environment is less than it is now, but there was an impact. Earlier peoples burned forests to clear land and flush game, and in some places hunted the megafauna to extinction. Recognizable cultures have places of origin. The word culture refers to cultivation or growing. We care for something, we nurture an idea as it grows. All cultural elements have a place of origin. Some places have been responsible for a great deal of cultural development. We call these places culture hearths. Culture hearths provided many of the cultural elements (technologies, organizational structures, and ideologies) that would diffuse to other places and later times. Cultural hearths provide operational scripts for societies. Culture hearths are closely associated with the foods that they domesticated. Food is an important cultural element due to the fact that it is both a technology as well as form of expression. Although the preceding map shows areas of ancient civilization, these are not the only places that have contributed to contemporary cultures. Ideas can arise anywhere, but ancient ideas are collected in these places. Cultures incorporate pieces of other cultures. Some recognizable themes in creation myths are stories of great floods or other cataclysmic events, and these types of stories recycled through history. Languages without writing will often reuse another language's writing system. Once again, desirable characteristics get copied.

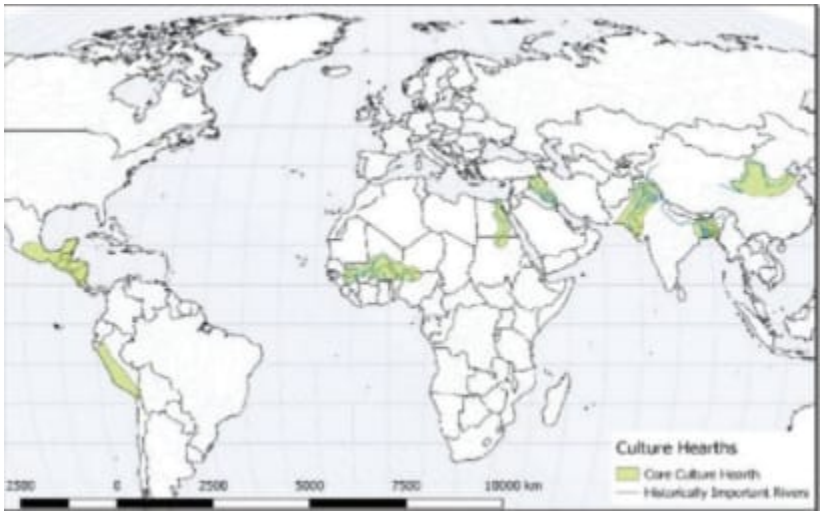


Figure | Depicts culture hearths and their associated rivers, where applicable1 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

The Cultural Landscape

Cultures' beings rely on natural resources to survive. In the case of rural cultures, those resources tend to be local. For urban cultures, those resources can either be local, or they can be products brought from great distances. Either way, cultures influence landscapes and in turn landscapes influence cultures.

The physical landscape consists of places like the Appalachian Mountains that stretch across a large portion of North America, the Mongolian-Manchurian grasslands, the Amazon river basin, or any other environment. These are landscapes that have been formed over thousands, if not millions of years by forces of nature. In order to live in places as different as these, humans have needed to adapt their lifestyles. The relationship between people, their culture, and the physical landscape is known as human-environment interaction. This relationship is reciprocal; culture adapts to a particular place, and that place is changed by people. Cultural ecology refers to the types of landscapes created by the interaction of people and their physical environment. Humans have been thinking about the relationship between people and their environments for a considerable amount of recorded history. In the book On Airs, Waters, and Places, the Greek philosopher Hippocrates wrote that different climates produced different kinds

of people. He believed that cold places produced emotionally distant people, and hot climates produced lazy, lethargic people. The ideal place (which coincidentally was his own place) was in the middle of the known world and produced the best kind of people. These ideas would now be considered environmentally deterministic. Remember that Environmental determinism is the idea that a particular landscape necessarily produces a certain kind of people. Ideas like this were still fashionable into the twentieth century. The problem with the idea is that it's simplistic and reductionist. A cold environment doesn't force people to be aloof. It forces them to invent warmer clothes. Technology is the difference, not behavior. Instead of determinism, the more common term to use is now possibilism. Physical landscapes set limits on a group of people that may or may not require a large adaptation, or a large modification of the environment itself. Humans can now survive in very inhospitable environments, most notably, the International Space Station. Landscapes are cultural byproducts. The way that we use the local resources generates the visible landscape. Architecture, economic activities, clothing and entertainment are all visible to anyone interested in looking at a place. Because the physical landscape varies across space, and because culture varies across space, then the cultural landscape is variable as well. Different people can have different adaptations to similar places. Conversely, places far from one another may have similar adaptations to climate or other factors. Cultural landscapes can be considered as both history and narrative. Power is written into the landscape. We make statues to commemorate the wealthy and the politically connected in rich places. We place garbage dumps and airports in poor places. Looking at the landscape as a record of history, power, and representation is known as landscape-as-text. The landscape can be read in the same way that a book can be read. The largest differences between landscapes that we see now are the differences between the rural and the industrial and between places that are less integrated with the rest of the world and those that are heavily integrated (globalized). Global places are becoming homogenized.



Figure | Helen, Georgia What is the narrative here? How have people changed/adapted the mountainous landscape of this region of Georgia, USA, to look like a town in mountainous Bavaria, Germany? Author | Dominica Ramírez Source | Original Work License | CC BY SA 4.0 Cultural Change

A sensible question to ask might be "Where did all the cultures come from?" As people moved into new places, they adapted and changed, and the new places were changed in turn. People change over time as well. Circumstances change in a place. Groups who move into a forest will need to adapt if they cut down all the trees. Groups that adopt a new crop will see their lives change. Divergence could be as simple as borrowing a word to describe an invention. All cultures change.

Cultural Regions

We can sort the world into regions based on cultural characteristics. A region is an area characterized by similarity or a cohesiveness that sets it apart from other regions. Regions are mental constructs, the lines between places are imaginary. When someone talks about the English-speaking world or Latin America, they are referring to culture regions.

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2.5: Cultural Case Study- Diffusion of Dancehall

Cultural Case Study: The Diffusion of Dancehall

A cultural attribute could diffuse just about anywhere, but that isn't how diffusion usually works. Some places are interested in innovation (new things) and some are not. The following example takes one narrowly defined cultural attribute and traces a path to other places. Dancehall, a form of reggae, developed in Jamaica in the late 1970s and grew over time to prominence on the island. One of Jamaica's main exports is music and Dancehall became an exported commodity like many other musical forms. In the case of Dancehall, the music is sufficiently defined to allow us to see where it has diffused to. Large markets like North America are visible to us and we see Dancehall in some of the music of Drake or Rihanna, but other places may seem less obvious. In Brazil, artists such as Lai Di Dai have taken the genre and adapted it to local tastes (which may or may not include changing the language of delivery).



Figure | Lai Di Dai from the video for "Chega na Dança" Author | Lai Di Dai Source | YouTube License | Fair Use

In Germany, the band Seeed has found great success with Dancehall. And in Denmark we find artists like Raske Penge. This musical style has moved far beyond its origin. Similar diffusion is found with other musical genres, from the earliest forms of pop music through to the present day.



Figure | Seeed from the live video "Live 2013 (Berlin + Mönchengladbach)" Author | Seeed Source | YouTube License | Fair Use

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2.6: Folk Culture

Chapter 2: Part 2: Folk Culture

The term folk tends to evoke images of what we perceive to be traditional costumes, dances, and music. It seems that anything with the prefix folk refers to something that somehow belongs in the past and that is relegated to festivals and museums. The word folk can be traced back to Old Norse/English/Germanic and was used to refer to an army, a clan, or a group of people. Using this historic information, folk culture (folktales, folklore, etc.) can be understood as something that is shared first among a group of people and then with the more general population. It is a form of identification. Folk is ultimately tied to an original landscape/geographic location as well. Folk cultures are found in small, homogeneous groups. Because of this, folk culture is stable through time, but highly variable across space. Folk customs originate in the distant past and change slowly over time. Folk cultures move across space by relocation diffusion, as groups move they bring their cultural items, as well as their ideas with them. Folk culture is transmitted or diffused in person. Knowledge is transmitted either by speaking to others, or through participating in an activity until it has been mastered. Cooking food is taught by helping others until an individual is ready to start cooking. Building a house is learned through participating in the construction of houses. In all cases, folk cultures must learn to use the resources that are locally available. Over time folk cultures learn functional ways to meet daily needs as well as satisfy desires for meaning and entertainment. Folk cultures produce distinctive ways to address problems.

Houses tend to be similar within a culture area, since once a functional house type is developed, there is little incentive to experiment with something that may not work. Food must be grown or gathered locally. People prefer variety, so they produce many crops, plus relying on only a few foods is dangerous. Clothing is made from local wool, flax, hides, or other materials immediately available. Local plants serve as the basis of folk medicinal systems. People are entertained by music that reinforces folk beliefs and mythologies, as well as reflects daily life. Folktales or folklore exist as foundational myths, origin stories or cautionary tales. Holidays provide another form of entertainment. Special days break the monotony of daily life. A holiday such as Mardi Gras, which has its roots in the Catholic calendar provides an occasion to flout cultural norms and relieve tension. Another way of providing escape from monotony is provided by intoxicants. Although often not considered when discussing culture, human beings have been altering their own mental states for millennia. The production of alcohol, cannabis, tobacco or coca demonstrates that folk cultures understood the properties of psychoactive substances. Later these substances would be commercialized into modern products. As folk cultures have receded there has been a return to valuing the folk. The Slow-food movement and the growth of cultural tourism has largely been driven by the desire to experience elements of folk culture. As early as the German Grimm Brothers (19th Century Germany) people have wanted to preserve and promote folk culture. John Lomax (1867-1948) traveled the United States trying to record as many folk songs and folk tales (including slave narratives) as they faded from human memory. Folk culture can also be expressed as craftsmanship versus factory work. Hand production of goods requires a great amount of knowledge to select materials, fabricate components, assemble and finish a product. Contrast this with industrial production in which workers need to know very little about the final product, and have little relationship with it. This difference in modes of production was first discussed by Ferdinand Tönnies and Gemeinschaft and Gesellschaft. These two words denote the relationship between people and their communities, and by extension, their landscapes. Gesellschaft is the way life is lived in a small community. Gemeinschaft is the way that life is lived in a larger society.

The Changing Cultural Landscape

It is understood that folk culture has been declining in the face of popular culture for some time. What is driving this decline? There are many things, with different underlying processes. Politically, in the last few centuries many places have been incorporated into states. These states have often pursued nationalistic policies that made life difficult for minorities of nearly every variety. The growth of a state-sanctioned national culture is the beginning of popular culture. Something as innocuous as public schooling or an official language can serve as a vehicle for promoting national values. Even if there is some overlap between the old culture and the new, the old has been prised loose from its central position in communal life. Economics also plays a role. Small, rural communities have been shrinking globally for centuries, since the beginning of the Industrial revolution. Leaving the spatial confines of a folk culture makes reproducing that culture very difficult, due to its close connection to place. When people migrate to places practicing popular cultures, the pressure to acculturate and assimilate is tremendous. Changes in infrastructure have also aided the diffusion of popular culture. Roads bring in outside people, as well as reduce the friction of leaving a place. The internet has dramatically reduced the friction of distance regarding the diffusion of popular culture. It took decades for tomatoes to diffuse from the Americas to Italy, but we know about a new iPhone months before it even gets released. The United States is a huge laboratory of cultural interchange. Innumerable distinctive folk cultures were already in the Americas

when the Europeans arrived. Waves of people from folk cultures arrived for decades, and they changed the larger culture of the United States. Places of folk culture aren't the only places that are changing. Many places with an established popular culture are subject to interaction between different pop culture spheres. At one time immigrants to the United States came from folk cultures. Now they are often from areas of popular culture. The Spanish-speaking world has its own pop music stars, and chart-topping musicians from different countries will often collaborate together garnering airplay and sales around the world. World regional cuisines are subject to becoming fads as well.

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2.7: Popular Culture

Popular Culture

Popular culture is culture that is bought. Think about your daily life. You work to buy food and clothing, pay your rent, and entertain yourself. The origin of each ingredient in your food could be hundreds or even thousands of miles in either direction. Your clothing almost certainly wasn't made locally, or even in this country. Your house might look just like any house in any subdivision in North America, placeless and with little connection to local resources. Popular culture is driven by marketing. Entire industries exist to convince us that our desires and needs will be best met through shopping. Why is this? Because without sales, the companies that produce pop culture will go bankrupt. Popular culture industries must continuously reinvent themselves. Being popular today is not a guarantee of longevity. In order to convince consumers that last year's t-shirt is now unacceptable, it is necessary to promote fashion. Fashion is not just a concept related to clothing. It is the reason that automobile companies make cosmetic changes to their products every year. It is why fast food restaurants continually change some parts of their menus. Without the cachet of fashion, consumers may feel socially disadvantaged. This explains why some people with very limited incomes will spend money on expensive luxuries.

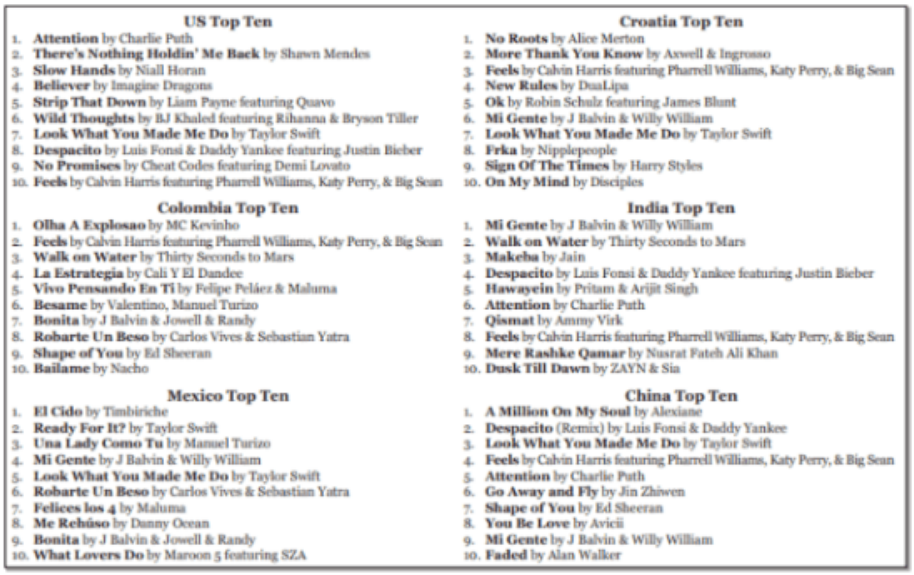
In terms of popular culture holidays are simply reasons to sell merchandise. The commercialization of Christmas has been increasing for over a century in western countries. Now it is possible to see Christmas displays in Japan or China, places with few Christians, but many available consumers. The same sort of marketing can be seen in the expansion of Halloween globally, and in the growth of Cinco de Mayo in the United States. Hierarchical diffusion plays prominently in popular culture diffusion. Larger places tend to generate many of pop culture's hit songs, clothing styles, and food trends. Diffusion in popular culture is highly related to technology. Although it wasn't invented as such, the internet has become a venue for advertisement. Clickbait headlines and ad revenue have created an atmosphere where every conversation is a sales pitch. This hierarchical diffusion means that innovations tend to diffuse from large, well-connected places to other large-well-connected places first, then trickle-down to smaller and smaller places. The gap in time that it takes for a new idea or product is known as cultural lag. In some places, there is almost no cultural lag. To very remote places, some innovations take a very long time to arrive. Bear in mind that there are places in the United states that still have no internet service. Popular culture covers large populations with access to similar goods and services, but the pressing need to sell drives almost incessant modification, generally at a superficial level. Because of this we usually describe pop culture as stable across space, but highly variable across time.



Figure | Fast Food Restaurant Where is this fast food restaurant? It could be almost anywhere on Earth. In this case it is in Malmö, Sweden. Author | Dominica Ramírez Source | Original Work License | CC BY SA 4.0

The commodification of folk intoxicants mentioned earlier has had a decided effect on the modern world. Low alcohol beers have a minimal effect on the human body compared to commercial distilled spirits. The opium poppy, dangerous enough in its raw form, can be processed into heroin. The same can be said of coca (now used to produce cocaine) or tobacco. In folk form, these substances tended to be used for ritual purposes. In the context of popular culture, they are used in great quantities. Nevertheless, old folk patterns are still visible in the pop culture landscape. Italians still drink wine, a product they have produced for centuries, only now it might be bought from somewhere else. The Russian climate was good for producing grain and potatoes,

which eventually was distilled into vodka. Selling culture goes well beyond just food and clothing. Popular music and other forms of entertainment (video games, movies, etc.) are huge commercial entities marketing products well outside their places of origin. Movies made in the United States are often being made with the understanding that their international box office sales will be larger than their domestic sales. This is also true of other mass media products. These products are often related to other pop culture products. Companies rely on the familiarity consumers will have with a movie character in order to sell clothing, toys, video games, conventions and more movies in that series. When Marshall McLuhan wrote that "The medium is the message" he meant that television would be able to sell itself. The same expression could be expanded to pop culture in general. The following graphic shows the top ten music charts for the week of September 10-16, 2017. Look closely at them.



US Top Ten

1. **Attention** by Charlie Puth
2. **There's Nothing Holdin' Me Back** by Shawn Mendes
3. **Slow Hands** by Niall Horan
4. **Believer** by Imagine Dragons
5. **Strip That Down** by Liam Payne featuring Quavo
6. **Wild Thoughts** by BJ Khaled featuring Rihanna & Bryson Tiller
7. **Look What You Made Me Do** by Taylor Swift
8. **Despacito** by Luis Fonsi & Daddy Yankee featuring Justin Bieber
9. **No Promises** by Cheat Codes featuring Demi Lovato
10. **Feels** by Calvin Harris featuring Pharrell Williams, Katy Perry, & Big Sean

Colombia Top Ten

1. **Olha A Explosao** by MC Kevinho
2. **Feels** by Calvin Harris featuring Pharrell Williams, Katy Perry, & Big Sean
3. **Walk on Water** by Thirty Seconds to Mars
4. **La Estrategia** by Cali Y El Dandee
5. **Vivo Pensando En Ti** by Felipe Peláez & Maluma
6. **Besame** by Valentino, Manuel Turizo
7. **Bonita** by J Balvin & Jowell & Randy
8. **Robarte Un Beso** by Carlos Vives & Sebastian Yatra
9. **Shape of You** by Ed Sheeran
10. **Bailame** by Nacho

Mexico Top Ten

1. **El Cido** by Timbiriche
2. **Ready For It?** by Taylor Swift
3. **Una Lady Como Tu** by Manuel Turizo
4. **Mi Gente** by J Balvin & Willy William
5. **Look What You Made Me Do** by Taylor Swift
6. **Robarte Un Beso** by Carlos Vives & Sebastian Yatra
7. **Felices los 4** by Maluma
8. **Me Rehúso** by Danny Ocean
9. **Bonita** by J Balvin & Jowell & Randy
10. **What Lovers Do** by Maroon 5 featuring SZA

Croatia Top Ten

1. **No Roots** by Alice Merton
2. **More Thank You Know** by Axwell & Ingrosso
3. **Feels** by Calvin Harris featuring Pharrell Williams, Katy Perry, & Big Sean
4. **New Rules** by DuaLipa
5. **Ok** by Robin Schulz featuring James Blunt
6. **Mi Gente** by J Balvin & Willy William
7. **Look What You Made Me Do** by Taylor Swift
8. **Frka** by Nipplepeople
9. **Sign Of The Times** by Harry Styles
10. **On My Mind** by Disciples

India Top Ten

1. **Mi Gente** by J Balvin & Willy William
2. **Walk on Water** by Thirty Seconds to Mars
3. **Makeba** by Jain
4. **Despacito** by Luis Fonsi & Daddy Yankee featuring Justin Bieber
5. **Hawayein** by Pritam & Arijit Singh
6. **Attention** by Charlie Puth
7. **Qismat** by Ammy Virk
8. **Feels** by Calvin Harris featuring Pharrell Williams, Katy Perry, & Big Sean
9. **Mere Rashke Qamar** by Nusrat Fateh Ali Khan
10. **Dusk Till Dawn** by ZAYN & Sia

China Top Ten

1. **A Million On My Soul** by Alexiane
2. **Despacito** (Remix) by Luis Fonsi & Daddy Yankee
3. **Look What You Made Me Do** by Taylor Swift
4. **Feels** by Calvin Harris featuring Pharrell Williams, Katy Perry, & Big Sean
5. **Attention** by Charlie Puth
6. **Go Away and Fly** by Jin Zhiwen
7. **Shape of You** by Ed Sheeran
8. **You Be Love** by Avicii
9. **Mi Gente** by J Balvin & Willy William
10. **Faded** by Alan Walker

Figure 4.11 | Top Ten Charts for Select Countries Notice the amount of repetition from one chart to the next? Not every chart is a copy of the others, but the similarities certainly bear out the idea of an international music industry. Compiled By | David Dorrell Source | Original Work License | CC BY SA 4.0

The Interface Between the Local & the Global

The basis of popular culture is commerce. As long as a product can be sold, it can survive in the marketplace. This brings up an interesting process. Commodification is the process in which a cultural attribute is changed into a mass-market product. Bear in mind that the mass-market product may not resemble the original product very much. Using a similar fast-food model as McDonald's, Taco Bell sells ostensibly Mexican products across the world with the notable exception of Mexico. Panda Express is similar for Chinese food. These chains are not in the business of making hamburgers, tacos, or orange chicken. They are in the business of making a profit. Authenticity is irrelevant, and probably harmful in the drive to sell more. The reverse of this process also applies. One aspect of marketing is the incorporation of global products into the local market. Companies will change their products or their entire product lines, if doing so is cost-effective and generates a good return on investment. There is even a Central America-based fried chicken chain in the United States. Brands like Sony and Hyundai are highly visible in the American landscape. K-Pop bands tour suburban arenas that also host Celine Dion and Paul McCartney.

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2.8: Global Culture

Chapter 2: Part 3: Global Culture

Globalization is the integration of the entire world into a single economic unit. This is associated with frictionless movement of money, ideas, and (to a lesser extent) people. This growing reality has created a newer type of popular culture, global culture. Historically, popular culture was restricted to areas the size of States, or at the very most areas within culturally related spheres (e.g. the English-speaking world). United States culture was defined by a set of characteristics (language, law, settler colonial history, etc.) that translated to a few other places, such as Canada or Australia, but mostly remained place bound. This is no longer the case. As was mentioned previously, video games are designed in one country to appeal to a global market. The same is true of music, movies, clothes, smartphones and office productivity software. At a superficial level at least, the components of life are becoming more homogeneous across large parts of the world. National popular culture producers are merging into international producers, and these international producers have global ambitions. Any sizable popular culture content distributor (EMI Records, Sony, Vivendi Universal, AOL Time Warner and BMG) is a transnational corporation. In fact, the five listed global record labels account for 90% of global music sales. Starbucks, Toyota, Wyndham and others have helped reduce the friction of distance by reducing spatial variation. They aren't doing this to help people, or to hurt them. Although they will cater to local needs to some degree, they are not in the business of promoting local flavors.

William Gibson wrote "The future is already here, it's just not evenly distributed." In terms of globalization, he was correct. There are still people living in remote areas practicing something similar to a paleolithic lifestyle. On the other end of the scale there are people with great wealth who have access to powerful technologies and are able to live anywhere they desire. Sometimes globalization even has an effect on folk culture. In many places, economic realities have forced people to perform religious activities or relive special events for tourist dollars. Attending luaus in Hawaii or watching voladores in Veracruz in a quest for authenticity is in itself changing the folk culture that is the center of attention. This assessment may seem particularly bleak for folk culture, but it isn't necessarily completely bad. People survive, and they try to keep the practices that are most valuable to their lives. Folk cultures have a much longer timeline than pop cultures, and have proven to be resilient.

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2.9: Cultural Groups, Regions, Practices and Landscapes

Cultural Groups, Regions, Practices and Landscapes

Folk Regions

Contemporary American society was built from the ideas and practices of at least four major folk cultures, and a handful of smaller folk cultures. Though many of the behaviors that once characterized the thoughts and actions of people within these regions are largely extinct, the long-term effects of those folk cultures are still very prominent in the lives of Americans today. ***Hearth*** areas and isolated locations within the old folk regions retain more folk traits than urban zones and areas peripheral to the old folk regions. These extinct folk practices are nevertheless evident in contemporary religious practice, political beliefs, musical tastes, and foodways. The following sections delve into some of these practices to help you see the connections between our folk past and our modern lives.



Folk regions are defined by the ideas and behaviors of their core or *hearth* areas. Folk regions are defined by traits (such as foodways) and as such examples of ***formal regions***. The core area is often the ***cultural hearth***, where cultural practices were invented and remain most undiluted. At the periphery, or near the borders of folk regions, cultural practices are often diluted or modified through a process known as ***cultural hybridization*** where folk practices of one region mix with cultural practices from an adjacent region.

Within each of the major folk cultural regions, there may be dozens of sub-regions. Consider the map of Louisiana's folklife regions (figure 2.3). Even within a small state like Louisiana, a rich tapestry of folk practices evolved, thanks in large part to successive waves of immigration and several significant barriers to travel, including the Atchafalaya Swamp.

The map of Louisiana's folk regions demonstrates the complexity of cultural practices. Too often, people tend to assume individuals are beholden to cultural ideas and behaviors of some larger group. You probably know making assumptions of that nature leads to *stereotyping.* In geography, mistakenly assuming that regions are uniform, or homogeneous, may lead you to commit the ***ecological fallacy***, the erroneous assumption that there are no variations within a formal region. For example, a map of the US showing religion would show California as a Catholic region, but you would be very wrong to assume that all Californians are Catholic. In other words, to avoid the ecological fallacy, do not assume that sub-regions are exactly like parent regions, much the same way you should not assume that all individuals within a group (e.g. Koreans) conform to group tendencies. There are many dozens of artifacts we could study to learn more about the historical and environmental roots of our modern culture. This text focuses on folk housing, folk music, and sports. The chapter on Food and Agriculture provides some additional insights into the folk cultural roots of our foodways.



Figure Map- Folk Regions of Louisiana Sources



Figure Chillicothe, Oh. This house was built using handhewn heavy timbers with brick infill. This method of construction was replaced by the mid- 1800s in the US by new popular techniques.

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2.10: Folk Housing

Folk Housing

The houses Americans built before the introduction of mass-produced housing in the mid-19th century is an excellent way for students to begin learning about folk culture. Folk houses are those houses designed and built by people with no formal architectural training. The design of these houses is the product of generations of trial and error that usually resulted in structures well suited to local conditions and local resources. Consequently, houses built with factory-made 2x4 studs using balloon framing techniques are not likely to be of folk design and construction.

Folk houses also provide an ideal subject to practice using both observational skills and spatial thinking. Small details in the design of folk houses require a sharp eye and design features invite us to think carefully about cause-and-effect relationships between climate, economics, ethnicity, and even religion in the production of something as ordinary – but vitally important – as old houses. Folk housing elements from the four major regions are explored in the sections below.



Yankee

The northernmost US folk culture has its hearth in Boston, and it diffused outward across New England, and westward into the Great Lakes region. People who live in these areas were long called *Yankees* by Americans. The term Yankee is now sometimes used to reference *any* American, particularly by persons not from the US. However, to cultural geographers, the term is applied only to people from the northeastern reaches of the United States. Yankee cultural traces are easily found in New England, but it's also the dominant relic subculture of many communities in the northern reaches of Pennsylvania, Ohio, Indiana, and Illinois. Some areas of southern Michigan also fall within the Yankee subcultural region.

The Yankee region fades quickly as you move west toward Chicago. There are several reasons why you don't find much evidence of Yankee folk culture west of Chicago. First, because subcultures diffuse outward from their hearth, they suffer from the effects of *distance decay*, much like any other phenomena. Places distant from the Yankee *cultural hearth* in Boston were less likely to adopt Yankee practices in the first place. Secondly, many settlers that moved to the Upper Midwest (Minnesota, Dakotas, etc.) were less likely to share the British ancestry common among early settlers to New Englanders. Instead, Minnesotans and Dakotans were more often the descendants of German, Russian, Ukrainian and Scandinavian immigrants. Finally, by the time the European settlers began moving into the Upper Midwest in the early 19th century, many folk practices, including how people constructed houses, were beginning to be abandoned in favor of popular culture practices. So, not only will you not find a large supply of Yankee folk housing in the Upper Midwest, you won't find much folk housing at all, because people rarely built houses *themselves*. Instead, by the mid-1800s houses were more likely to be designed and built by professionals who used non-local materials and were inspired by fashionable trends from Europe – all *popular culture* practices



Figure Keena. NH Temple front house with attached barns. This house features a series of attached barns. Consider the dangerous benefits of this design strategy. Note the sap buckets hanging from the tree in the foreground.

The earliest inhabitants of New England, like the Pilgrims that landed at Plymouth Rock, were not Yankees. They were English, and for several generations, built houses using folk traditions brought from England. Because the weather in New England was far colder than it was in Europe, these colonists were forced to adapt to local conditions. Building supplies, economic conditions, and the political environment were all different, so new design features crept into home construction. Eventually, they built houses using local materials that were well suited to their new environment. As the English settlers learned to cope with the harsh winters of the region, many of which were especially brutal during the colonial era, also known as the ***Little Ice Age***, architectural designs evolved. The New England Yankees built houses with steeply pitched roofs, massive central chimneys, and extra-large rooms. These features helped them stay comfortable during long, cold winters. The designs also permitted families living in these houses to continue to function as an economic unit during long winters. Families living in these spacious houses were often farmers, and the large houses permitted them space to complete indoors a variety of chores necessary to their survival, like preparing food, sewing, craftworks, etc. – even during a blizzard.



Figure Keene, NH Saltbox House Note the asymmetry of the gable end roofline and large central chimney.

Yankee folk house types are mostly variations on a single floor plan featuring four or five rooms arranged around a large central chimney. The smallest version is called a ***Cape Cod House***. Not surprisingly, it is very common in and around Cape Cod, Massachusetts. ***New England Large*** houses are also very common in the region. They are in many ways a two-story version of the Cape Cod House, which are a story-and-half.



Figure Buzzards Bay, MA Cape Cod House This mode was updated with roof dormers and a “mudroom” to meet the demands of contemporary families adequately.

In the early 19th century, many built New England Large houses with the gable end facing the street, which gave it a more stylish appearance. Those versions are called ***Temple Front House*** and if an additional room was added to one side, the house was called an ***Upright and Wing***. The later versions are more frequently found further west as popular *style* elements crept into the more purely functional design of New England folk houses of the 1700s. The Yankees also built a model called a ***Salt Box House***. Its odd name comes from the unusual, asymmetrical roofline that defines the gable ends of the house that mimic the side profile of boxes used to store salt in kitchens during the Colonial Era.

Mid-Atlantic and Midwest

Immigrants that settled *Middle Atlantic* states, like Delaware, Pennsylvania, Virginia, and Maryland were more likely to come from continental Europe (Germany, Scandinavia, Holland, etc.) than those early immigrants into New England and the Deep South. People of African ancestry also contributed to the development of Mid-Atlantic folk culture. Perhaps because this region had a greater diversity of cultural inputs than elsewhere, the Mid-Atlantic folk culture, and the Midwestern folk culture that evolved from it foreshadowed many elements (e.g., language, politics, religion) of what has become known as the “mainstream” of contemporary American culture.



Figure Chillicothe, OH, Hall and Parlor House. This house would originally have been two rooms wide. The extension at the rear would be later addition,

Folk housing of the middle US evolved in the Middle Atlantic States. It diffused from the Mid-Atlantic westward into central Ohio, Indiana, Illinois, and Iowa. Some also diffused southward toward the Carolinas as well. Good examples of Mid-Atlantic housing are easy to find in the *Piedmont* region as far south as Charlotte, North Carolina. Pioneers attempting to migrate westward from coastal Atlantic regions often found their route blocked by the *Appalachian Mountains*, and so turned south, settling in the Great Shenandoah Valley and into even Western North Carolina, where the settlers also adopted or invented elements of Upland South folk culture. The Appalachian Mountains became a somewhat permeable ***barrier to diffusion*** and these houses offer excellent

evidence of historic migration patterns.

Folk housing of the Mid-Atlantic and Midwest tends to be simple in design, and only two related house types are widespread. There were a few additional (log) types once, but they are largely extinct today. By far, the most common remaining folk house types from this region are the single-story ***Hall and Parlor*** house and its two-story cousin known as the ***I-house***. Archeologists suggest that the hall and parlor, a two-room house might be the archetype of all European-based folk housing because evidence of this house design, both in terms of size and layout, is evident in archeological digs all over Europe. American examples of the Hall and Parlor house and I-houses are two rooms wide with gable end chimneys.



Figure Williamsport, OH I House. This brick house includes a porch but has windows on its gable ends.

I-houses, are probably the most common folk house on the landscape of the Midwest and Piedmont regions. Reputedly, this house type was given its odd name by geographer Fred Kniffen after he noticed how common this house type was in states that began with the letter I: **I**owa, **I**ndiana, and **I**llinois. You can find I-houses in urban settings, but during the 18th and 19th centuries, the I-house was essentially synonymous with "farmhouse" in the Midwest. This building can be read as evidence of membership in a vast agricultural middle class. Its unusual dominance on the landscape of the Midwest is a strong indicator of how many thousands of families owned prosperous farms during the 19th and early 20th centuries. The I-house can be *read* as an important landscape symbol that communicates volumes about the culture, economics, and politics of the region where it is so very common. The next chapter discusses how principles of *Jeffersonian democracy* influenced the distribution of quality farming lands among homesteading pioneers, and how those principles helped an agricultural middle-class to thrive.



Figure French Camps MS, Cabin and Porch. This one room (pen) house is the foundation upon which more complex models in the Upland south derived.

Upland South

In Southern Appalachia and parts of the American South, most European settlers came from England, Ireland, and Scotland. This

region is known as the ***Upland South***. Poor farming conditions in this region discouraged plantation agriculture and slavery. So, unlike the Lowland South, the Upland South's folk culture has fewer African elements.

This is the "white" South, though it has never been devoid of black people. One might also call it the *Hillbilly South*, though some might find the term "Hillbilly" offensive in certain contexts. The Upland South is similar to, but distinct from, the Lowland or Deep South in a variety of ways. Because soils were frequently poor for crop agriculture and the region was somewhat isolated from principal trade routes, people of the Upland South have tended to be among the poorest Americans for generations. As a result, their folk dwellings were also modest and largely built of locally abundant hardwood timber.

The most basic Upland South house type is known as a ***cabin and porch***. Essentially, it is a one-room house, cabin if it has a dirt floor, featuring an attached porch and a single chimney. Ideally, settlers on the Appalachian frontier constructed a one-room house upon setting up a homestead. If conditions proved good enough to remain in the location, additional rooms, called "pens" in the local dialect, would be added.



Figure Mt. Pleasant, TN Dogtrot House. This Dogtrot was without porch and but was well restored and situated at touristy plantation home.



Figure Dubach, LA Dogtrot House. This house was built of massive pine logs, raised on stone piers and featured a second half-story

If the homeowner built a second pen (room), a second chimney for the new pen and connected the two pens with a single roof that created a central breezeway between the two rooms, then the building was called a ***Dogtrot House***. The colorful name for this type of house seems to have come from the fact that a hound could walk, or "trot", between the two main rooms of the house. The warm southern climate makes the central breezeway of the Dogtrot House an ideal "room" where family members could do chores or simply relax.

Alternatively, a single-pen cabin could be expanded by attaching the second pen directly to the first pen and sharing a single, central chimney. This allowed the homeowner to build one fewer wall, and use a single fireplace to heat both pens. This type of house, called a ***Saddlebag House***, references the appearance of a packhorse laden with cargo bags.



Figure Blackwell, VA Saddlebag House. This house utilized a single central chimney to serve both “pens” A lengthy veranda porch would have served the family as important living space.



Figure Melrose LA, Saddlebag House. These were once slave quarters and are located just within the French region of Louisiana, suggesting a diffusion of style from the upland south into the Lowland/Creole region.

Interestingly, most saddlebag houses do not have an *internal* doorway allowing people to pass directly between the two pens. Instead, inhabitants must go outside through the front doorway of one pen to enter the adjacent pen. Luckily, the weather is generally mild in the Upland South. Still, most Saddlebag Houses had a wide porch, called a *veranda*, to provide shade on sunny days and shelter on rainy days.

Lowland South

The area of the American South where slavery was more prevalent is known to geographers as the ***Lowland South***. More colloquially, this area is known as the *Deep South*. The earliest Europeans to settle the region were English, but the Spanish and the French also settled parts of Florida and Louisiana. Far outnumbering Europeans though were people of African descent, brought as slaves to work in agricultural industries. In some parts of the region, over 90 percent of the population was of African descent. Many African cultural practices survived the ordeal of slavery and continue to have an outsized effect on the culture of the Deep South. Today, the legacy of these folkways remains strong, deeply influencing religion, politics, language and the economy, especially in places most *isolated* from outside influences.

The economic structures of the Deep South, deeply intertwined with the legacy of slavery and *Jim Crow Laws*, are reflected in the folk housing of the region. Unlike in the Midwest, where the most common folk house (the I house) was a substantial two-story home, or in New England where large comfortable houses were common, the Deep South featured only two types of housing - those custom-built for the wealthy and folk houses built by poor people. Houses built for the wealthy are rarely considered “folk housing” because they were generally designed by architects, often used non-local materials and do not regularly reflect local environmental concerns. Architect designed homes also reflect changing styles and fashions. The architectural “plans” of folk structures, on the other hand, were maintained only in the *collective memory* of ordinary people from the region and they evolved over generations to deal with local environmental conditions and local resource availability. Considerations for “style” are often minimal in folk structures, and where style elements are found, they reflect local or regional taste preference, rather than national

or international taste preferences



Figure Key west FL-Shotgun house is raised on piers to minimize termite and wood rot damage persistence in humid locations.

Folk housing in the Deep South, like New England, evolved to suit a challenging climate. Building techniques, before the age of electricity and air conditioning, attempted to minimize the effects of the oppressive heat and humidity of the Deep South. In the 18th and 19th centuries, folk builders also combatted termites, wood rot and flooding, by building many houses using ***pier and beam*** construction, a technique that raises the floor several feet above the ground on platforms of stone or brick. This strategy keeps flooring and framing from touching the soil, where the timber framing would quickly be destroyed by termites and wood rot. Pier and beam construction also allows cooling breezes to pass under the house – as well giving a place for dogs to nap during the day.

The harsh climate also affected the choice of building materials. Where it was available, wood from Cypress trees was prized for building houses, and especially for roofing and siding material. Cypress trees grow in some abundance in swampy locations in the Deep South and so its wood is naturally resistant to rot and insects. Most houses though were built with far less durable Pine because it was widely available and very inexpensive, which helps explain why many examples of folk architecture in the South have disappeared from the landscape.

Surely, the most common folk house of the Lowland South is the ***Shotgun House***. The design was probably introduced to the US by African-Haitians via South Louisiana and Florida. Experts disagree about the origins of the colorful name, and no argument satisfies completely. One theory stems from the fact that if you open the front door, back door and the interior doors of a shotgun house, you can see all the way through the house. Theoretically, you could fire a shotgun through the front door and pellets would fly out the backdoor. Another theory suggests that English speakers may have misinterpreted the African-Haitian word for house, "*togun*", as "shotgun", and the mistaken interpretation stuck in the lingo of the region.

The design of the shotgun house is simple. Most often, they are one room wide, a single story tall, and three to five rooms long. This rectangular, Afro-Caribbean design was perfectly ***culturally pre-adapted to the*** European *long lot* *cadastral system* commonly used to divide property in French Louisiana. (see Chapter 3 for more) Shotgun houses proved so versatile and utilitarian, they diffused outward to many other parts of the United States, where they can be found in many neighborhoods where large numbers of African-American migrated, or where "company housing" was built by industrial concerns to attract and retain workers. As they diffused outward, shotgun houses entered the realm of popular culture.

There are multiple variants of the shotgun house. Some families modified their Shotgun house by building a second, parallel shotgun house that shared a common center wall, roof, and porch to produce a *double shotgun*. Other families modified their shotgun house by adding a second story to the rear portion of the house, creating what is known as a *camelback shotgun*. Interestingly, these second-story rooms were only added to the *rear* portions of the houses in an attempt to avoid incurring additional property taxes in places where they were calculated by estimating the square footage of the house *facing* the street.



Figure Monroe LA- Shotgun Houses These houses built closely together suggest that they were “company houses' ' for the railroad that once employed many people in this neighborhood.

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2.11: Ethnic Folk Landscapes

Ethnic Folk Landscapes

There are a handful of locations in North America where folk landscapes reflect cultural practices of specific (non-Anglo) ethnic groups, rather than broader regional trends. These locations are often smallish ethnic enclaves, and each offers interesting clues into the cultural values and norms of the ethnicity that constructed them, as well as differences in the adaptive strategies used by the ethnic group versus the wider host culture. A discussion of these houses could easily be presented in the chapter on Ethnic groups, but for the sake of consistency, they are discussed below.

Franco-American Landscapes

A variety of landscape clues tell of the significant legacy of French speakers in North America. In addition to their habit of naming all of their settlements after a saint, and allotting farmland to settlers in narrow strips called *long lots*, the French built houses, barns and other structures unique in appearance and construction technique.



Figure Vincennes, In This Creole Folk House is in Indiana, one of the outposts of French settlement in the US. It has a flared roof, double ensconced porches and raised foundation.

The French attempted to colonize many parts of North America, establishing settlements in the interior of the United States well before the British. Cities like St. Louis, Detroit, and Des Moines have French histories, but the heart of French settlement in the early colonial period was in Canada, especially in the St. Lawrence River Valley, Nova Scotia and along the shores of Lake Ontario. The British also claimed these territories, and the two colonial powers fought several wars for control of these regions. The easternmost parts of Canada, known as *the Maritimes*, fell under British control in 1710. French settlers in Canada, known as *Acadians* were allowed to remain, but most refused to sign an oath of loyalty to the British crown. Frustrated with the Acadian's persistent loyalty to France, the British expelled thousands of French speakers from the Maritime Provinces in 1755. Known today as the *Great Expulsion*, Acadians were deported from Canada. Many moved to regions now within the United States, where they were often unwelcome. Some Acadians expelled during a subsequent wave of deportations migrated to Louisiana, another former French colonial possession that was controlled by Spain. The descendants of the Acadians are generally called *Cajuns*. Another group of French speakers migrated to Louisiana after a slave revolt in the French colony of Saint-Domingue (now Haiti) in the late 1790s. Many of the French-speaking descendants of these immigrants are call themselves *Creoles*.



Figure Cut off, LA Creole Cottages such as this one line the “River Road” that runs alongside the Mississippi River South of Baton Rouge. Note the pier and beam construction, and ensconced porch

Because many Cajuns and Creoles were isolated from outside cultural influences by the vast swamps of southern Louisiana, ensuring that many of their ancient folk practices survive today. South Louisiana can claim many folk-inspired practices found nowhere else in the world. Among the traditional practices that are unique are Cajun and Creole cooking, Cajun and Zydeco music, the Cajun French language and a variety of construction techniques and housing types. These distinguishing features mark South Louisiana as culturally distinct from the rest of the Lowland South.

The scattering of French people across North America invited the invention of several folk house types. The *Québécois*, those that stayed and today dominate Quebec, developed unique folk adaptations to combat the harsh winters of Canada using local materials. The French who migrated to Louisiana built houses with similar features, yet altered them significantly to meet the needs of the very hot and humid South. This adaptation is an example of *stimulus diffusion*.



Figure Natchez LA Restoration of this Creole Cottage revealed vertical timbers filled with bousillage

The most common of the Franco-American house types is the ***Creole Cottage***, also sometimes called the *Grenier House*. The most distinctive feature of the Creole Cottage is the built-in or ***ensconced porch***. Unlike porch construction prevalent elsewhere in the South where porches are simply attached to the front of houses, ensconced porches are integral to the house (see images above). Many Creole Cottages are two rooms wide, with two front doors, but without an *interior* doorway connecting the two rooms. They are built using pier-and-beam construction, much like their southern neighbors. Early models sometimes used a ***post-in-ground*** or *poteaux en terre* construction technique in which builders pounded *vertical* timbers supporting the walls into the ground. This technique differs greatly from most log houses which are built with *horizontally* stacked timbers. Many French folk houses also feature walls filled with a mixture of dried mud and Spanish Moss called ***bousillage***, that is similar to the earthen material used to fill wall cavities elsewhere known as *wattle and daub*.



Figure Thibodaur, LA This Creole church features many of the same design elements as French folks housing Including the galley porch and the gablet hipped roof.

There are several variations on the Creole Cottage common in Francophone America, especially where immigrants brought construction ideas from the Caribbean. Several things to look for are the common use of *dormers*, little windowed roof structures that allow light and air into the sleeping quarters in the "attic". The French were also quite creative with roof construction. In addition to the common flared ***bell-cast*** roof, you can find a variety of *hipped-roof* construction techniques. The French were also fond of large gallery or ***veranda porches*** that sometimes wrapped around the entire house. Large floor-to-ceiling doors and windows were also common features of French-built homes, and these, like the other design features in the Deep South, were an adaptation to help residents cope with the heat and humidity of the region. Large, multi-windowed doors, especially when placed built side by side are frequently called "French Doors", another example of a folk artifact that remains with us today.



Figure Yellowstone National Park, WY this photo features "square notching" corner of a log house with white chinking A variety if chinking and notching styles were used across the country

Germanic-American Folk Landscapes

So many Germans came to the United States that today they constitute America's largest single ethnic group. Germanic people came so early, and in such great numbers to America, their impact on the landscape is at once profound and sometimes hidden because so many German folk practices are today considered "American", especially in the Midwest.

Germans and Scandinavians introduced several house types in the early colonial period, but the most common was the quintessential home of the American frontier, the ***log cabin***, and its more permanent cousin called a *log house*. These simple structures were often built almost exclusively of wood because timber was widely available and metal nails were scarce during the colonial era. Log houses were built by stacking partially hewn logs horizontally upon one another. Corners were held tight by a variety of interlocking *notching* techniques. Cracks between logs were filled with a mixture of mud and plant material called

chinking. Log buildings were so well adapted to the frontier resources and local climate conditions that other ethnicities adopted log cabin designs during in the 18th and 19th centuries. By the mid-1800s, log cabins had become an important national symbol. For several generations, American politicians would claim they were “born in a log cabin”. Andrew Jackson, Abraham Lincoln and U.S. Grant were among those who proudly announced their log cabin roots. Think about why log cabins became a powerful symbol embraced by Americans.



Figure Gettysburg, PA -A classic Pennsylvania forebay barn nestled against a small slop allows farmers to access at least two floors

German farmsteads were also unique. The most well-known Germanic farm buildings are the massive ***Pennsylvania Forebay*** barns. Their size allowed farmers to complete many activities (animal husbandry, dairying, crop storage, food processing) in a single building. However, the size of these barns also made them immovable, unlike small the barns built by Scots-Irish farmers who were known to dismantle their barns to transport them to new locations when soils were exhausted. The permanence of German barns seems to indicate a far greater commitment to the long-term husbandry of farm soils than evident in other ethnic groups.

Pennsylvania forebay barns were frequently built into an embankment, allowing farmers to access both the animal pens on the ground floor and the *threshing* floor above. A hayloft generally occupied the top floor. The “forebay” is an extension (overhang) of the second floor over the ground floor, providing shade, and perhaps some protection from the elements for the livestock stabled on the ground floor. Pennsylvania easily has the greatest collection of barns in the US. Pennsylvania’s state government established a commission to inventory and protect folk landscapes, partly because they have become valuable tourist attractions.



Figure Saint Augustine, FL Several of the Spanish era bundling were constructed of coquina locally available sedimentary rock, making this a folk practice. It turned out to be an ideal materials withstanding naval bombardment

Spanish Landscapes

It's sometimes easy to forget that the Spanish were the first Europeans to settle in the United States. Because Spain didn't have the same dire population pressures as the Irish, British and Germanic peoples, they, like the French, migrated in smaller numbers than their European rivals to the US. Spanish influences are most obvious in the American Southwest, but they are also evident in a few places in Florida and Louisiana.

Founded in 1565 by Spanish colonists, Saint Augustine, Florida is the oldest town in the United States, predating the English colony in Jamestown by around 40 years. If you visit St. Augustine today, you will have no trouble seeing the impact of Spanish people on the landscape there. The massive *Presidio* (fort) is of a classic Spanish design. Several dozen well-preserved colonial homes also feature Spanish design elements as well, but since they are constructed from *local* materials, especially those made from the peculiar *coquina* stone, these homes qualify as *Spanish-American folk* dwellings, rather than Spanish houses.



Figure New Orleans, LA- The beautiful wrought-iron gallery porches on this building in the French Quarter were popularized during the period when Spain ruled Louisiana Note the effective shade the porches provide to the building

The Spanish also occupied Louisiana for several decades following the defeat of France in the Seven Years' War. During that time, the Spanish greatly influenced the landscape. Ironically, the graceful wrought-iron balconies that characterize numerous buildings in New Orleans' *Vieux Carré* (old quarter), known by tourists as the French Quarter, are actually Spanish. This part of town burned and was rebuilt during the period of Spanish occupation of New Orleans. It was the oldest part of town, which is why it's called the *Vieux Carré*, but when it was rebuilt, the buildings were constructed according to Spanish tastes – not the older French styles. The Spanish also probably introduced to the US the peculiar tradition of interring the dead in *above-ground vaults*. Because New Orleans is famous for these kinds of cemeteries, above-ground burial is often mistakenly associated with the French. However, historical and geographical evidence strongly suggests that the Spanish brought this burial technique to the New World.



Figure Natrchez, LA- Above ground burials are common in French settled areas and mistakenly thought to be the product of high- water tables. They seems to be Spanish in origin, and have little to do with flooding.



Figure Los Angeles, CA - The Avila Adobe is reputed to be the oldest house in Los Angeles. It is remarkably cool inside even on very hot days. It's museum now on Olvera Street, a tourist district near downtown.

Lots of people also assume that above-ground burials are a folk adaptation introduced to counter the threat of flooding in New Orleans, where shallow water tables and frequent rains are common. Clearly, this folk burial practice is well-adapted to swampy southern Louisiana, but historic geographers point out that above-ground cemeteries *also* can be found in older Spanish settlements in desert locations, and on high ground where flooding is rare. The common element suggesting that *above-ground burials* are an *ethnic* practice rather than simply a *folk practice* is that they are found in many locations in the United States where the Spanish settled, but are rare elsewhere.

Spanish influences on the landscape are perhaps most profound in California. Folk houses in the American Southwest were mostly constructed of ***adobe***, but the Spanish can only take partial credit for the popularity of Adobe houses. Clearly, buildings made of sun-dried mud bricks were popular in Spain, many indigenous people of the American Southwest and Mesoamerica also built homes in the adobe style before the arrival of the Spanish.

Adobe construction is ideal for people who live in desert and semi-desert, Mediterranean climates of both the American Southwest *and* Spain. The walls of adobe houses are generally several feet thick and windows are small. These design features insulate the interior from hot winds and the burning sun during the day. The adobe simultaneously stores the sun's energy and

radiates it into the house during the evening when it gets colder outside.

Traditional adobe houses usually have nearly flat roofs built by laying timber beams across the top of the walls. Generations ago, flat roofs were ideally suited to those living in dry climates because they helped homeowners catch rainwater or morning dew. Steeply pitched roofs also capture heat unnecessarily while wasting scarce lumber resources. Adobe houses would not be feasible in the rainier or snowy parts of the world. Mud walls need to be painted, or whitewashed regularly to prevent them from melting away during rainstorms. Flat roofs are vulnerable to collapse under heavy snowfall. Although infrequent rains are not a serious threat to well-maintained adobes in California, earthquakes destroyed most of California's once numerous adobe houses.



Figure Fort Stockton, TX This house built in the mid -19th century has fallen hard times Adobe Bricks deteriorate when exposed to rain.

Perhaps the biggest contribution made by the Spanish to the landscape of the US is not a folk architecture *type*, but rather an architectural *style* called ***Mission Revival***. This style gets its name from the fact that it was used in the construction of the 23 Franciscan Missions built in California between 1769 and 1823. Though they were largely derelict by the time California became part of the United States, thousands of architects resurrected the look of the old missions and the Spanish Colonial haciendas to create a pop-culture style. Mission Revival style has been applied to everything from the simplest of homes, to fast-food restaurants, to major urban landmarks. Mission Revival is popular in part because it is evocative of California's colonial history, but like many nostalgic symbols, it requires the erasure of the less pleasant realities of history – in this case the devastation wrought upon California's indigenous people. Most people don't really think about the genocidal horrors of Spanish colonization when they see Mission Revival buildings. In the popular imagination of most Americans, Mission Revival evokes notions of the leisurely lifestyles enjoyed by wealthy people living in upscale Coastal California cities, like Santa Barbara, Laguna Niguel or Carmel, where Mission Revival architecture dominates the landscape.



Figure San Gabriel CA- Missions like this server as the inspiration for thousands of buildings in Southern California and beyond. There nostalgic romance associated with Mission Revival architecture. What does it signify to you?

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2.12: Folk Music to Popular Music

Folk Music to Popular Music

Music is another significant part of our lives heavily influenced by the folkways of our ancestors. Folk music is homemade music, produced by unschooled musicians for local audiences. The instrumentation, lyrical content and performance techniques are, like other folk practices, conditioned by local conditions. The ethnicity of the musicians and their audiences also play a significant role in the evolution of musical form. There are thousands of folk music genres scattered across the globe, but this text will explore only briefly a few American folk music styles, focusing on the geographic factors that have shaped the sonic landscape of the United States.

Perhaps the oldest known American folk music, brought from Scotland and performed mostly in churches was a vocal form called ***lining out*** or "line singing". Introduced to New England during colonial times, this style diffused to other parts of the US. Lining out, and its African-American cousin, ***call and response*****,** evolved during a time when few people could read a hymnal, so instead relied upon a church leader to sing each stanza first, whereupon the congregation would sing it back, repeating both lyrics and melody. White churches and black churches both adopted this style of singing in the Deep South. This style died out in New England when literacy became widespread. In *isolated* rural locations, where illiteracy lingered and liturgy has changed little, lining out can be heard in a few churches.

Work songs and spiritual tunes crafted by slaves and free blacks in the South also have a long folk history in the United States. The musical styles that developed among blacks in the South was a product of inherited musical traditions, locally available instruments and the living conditions forced upon them. African influences upon American music are many, but an emphasis on percussion and syncopated rhythms, along with bent or blue notes. From the earliest folk-art forms, evolved better known musical genres, like jazz, blues, and gospel.

In almost all folk music traditions, lightweight, homemade instruments or *a capella* singing is the norm. Pianos and other large and/or expensive instruments are rarely used by folk musicians, except by those who happened to live in a port city. Indeed, most of the great piano-based musical traditions in the US are along the Mississippi River (New Orleans, St. Louis, etc.), where pianos could be transported more easily. In mountainous regions or out on the plains, easy-to-carry instruments are used. Therefore, harmonicas, violins, guitars, and banjos were common. Other "instruments" like jugs, washboards, spoons, etc. were used along with handclaps, whistles, and other vocalizations. It was also not uncommon for musicians to build their own instruments from locally available materials. Gourd banjos and cigar box guitars are excellent examples. Musical instruments, and the style in which they were played before the introduction of amplifiers, also shaped the nature of folk music. For instance, musicians who played for audiences at barn dances found that some instruments were far louder than others, so the music evolved to fit the venue. Drums were too big to carry, so banjos (they have a resonator to make them louder), fiddles (violins) and guitars became popular. The dulcimer, a common Appalachian instrument, but it couldn't be heard at a barn dance, so it was never widely used by dance-oriented bluegrass groups. The mandolin is similarly quiet, so bluegrass players often play it rhythmically and percussively, to increase the volume. *Consider how these adaptive strategies echo the development of early hip hop in the Bronx, New York.*



Figure Stephen Foster American Original pop star managed to expertly blend African and European Musical traditions into many hits. His childhood home in Pittsburgh made this possible.

American music has nearly always been a product the *hybridization* of European and African musical traditions, with occasional Latin American inputs as well. Perhaps the earliest example of European-African musical hybridization was produced in the 19th century by Stephen Foster of Pittsburgh. As a youth, Foster would hang out along at the boat docks in Pittsburgh near where he lived. He became enamored with the music of the Lowland South, as performed by African American boatmen who had come north on steamboats from New Orleans and Memphis. Foster blended those sounds with what he learned taking music lessons from his classically trained, German music teacher to produce something uniquely American and wildly popular during his day. Foster's music began as a type of "folk music" because it was a product of his *local* conditions, but it is fair to label Stephen Foster "America's Original *Pop* Star" because his music grew internationally famous. Oh Sussana, Nellie Bly, Camptown Races, Old Folks at Home, Massa's in the Cold Cold Ground, My Old Kentucky Home, Beautiful Dreamer count among his major hits. You know almost all these melodies, even if you don't really know the songs because their popularity has lingered into the 21st Century. Tragically, Foster died penniless and alone at age 37. The formula used by Foster to blend African and European musical ideas and traditions established a precedent that has been repeated many times since by the creators of the blues, jazz, country, western, bluegrass, swing, R&B, rock n' roll, and hip hop.

Memphis – The Crossroads Home of Rock n' Roll

Probably, the most famous American musical invention is rock n' roll music, and like all other musical forms, its sound is rooted in the time and place of its invention. Rock n' roll was invented in Memphis, Tennessee, a crossroads location, where the youth living there in the 1950s could be influenced by various musical traditions popular both locally, and regionally. Kids growing up in Memphis in the post-war era could hear on the radio blues from the nearby Mississippi Delta, bluegrass from Kentucky, jump from St. Louis, and western swing from Texas. Of course, gospel singing was ubiquitous in the South. If you lived in the right neighborhood, you probably had friends whose parents listened to (or played) one or more of these musical styles. Like Stephen Foster, the kid from Pittsburgh who was influenced by multiple musical inspirations, kids from the Memphis region were also hearing lots of musical styles.

Elvis Presley is the most famous youths to come out of Memphis during this time. Presley was an expert at blending gospel, blues, bluegrass, country, western and R&B styles. Memphis' Sun Records company produced Presley's first record in 1954. It had only two songs. On the "A-Side" was "That's All Right", an R&B tune previously released by Arthur "Big Boy" Crudup in 1946. On the "B Side", was another song from 1946, "Blue Moon of Kentucky", a *bluegrass* song written by bluegrass inventor Bill Monroe. In hindsight, Presley's first record seems an incredible mashup of regional musical styles that may have been nearly impossible to create elsewhere in the US.



Figure Memphis, TN. The Million Dollar Quartet demonstrates the power of place in the information of Memphis most famous musical innovation.

Presley was a musical genius in his own right, but clearly, geography played a role allowing that genius to develop. Special circumstances in the Memphis region may have allowed for a greater measure of musical interaction between blacks and whites than elsewhere in the United States – fermenting musical innovation. Geographers point to numerous notable rock n' roll stars that emerged from the Memphis area in the same year as evidence that location played a significant role in the evolution of rock n' roll. Carl Perkins, Johnny Cash, and Jerry Lee Lewis, other famous early rockers, also got their start in the northern Delta and recorded for Sun Records.

As children, each of these performers had significant contact with African American musical mentors, without which, rock n' roll may not have emerged when and where it did. Carl Perkins, for example, grew up the son of a sharecropper on a cotton plantation, where his father built him a homemade cigar box guitar. After later acquiring a factory-built guitar, he took informal lessons from his neighbor, a black man named "Uncle" John Westbrook. At nights Perkins listened to the "Grand Ol' Opry" the nation's most famous country and western radio program, broadcast from Nashville, Tennessee where he learned how to play country music. As a result, Perkins' most famous song, "Blue Suede Shoes" so confused the record-buying public, that it topped the country, R&B and pop charts simultaneously. Blacks, whites and bubblegum pop teenagers all embraced the song. Reputedly, black audiences were surprised to learn that Perkins was indeed a white guy (see also the story of Charlie Pride, the first African American country music star).

The musical education of African American rockers from the Mid-South was often similar. Chuck Berry, the most famous and influential black rock star of the early era of rock n' roll was from St. Louis. Like Memphis, St. Louis is a river town in the middle of the United States blessed with opportunities for young musicians to absorb musical influences from multiple nearby folk and pop music traditions in neighboring regions. Berry simply reversed the standard pattern of influence (i.e., white boys listening to R&B). Berry borrowed from western swing to created his own brand of blues-based rock n' roll. "Maybellene", a huge rock n' roll hit for Berry in 1955 was an R&B adaptation of Bob Wills' 1938 Western Swing tune "Ida Red", itself an adaptation of a traditional mountain song of unknown origins, recorded in the 1920s.

Seattle's Grunge Rock – Geography of Isolation

A more contemporary example of a folk-like, regional musical innovation evolving into an international pop-culture sensation was Seattle's so-called ***grunge rock*** that enjoyed exceptional popularity during the early 1990s.

Surf Rock was the first subgenre of rock music to emerge from the Pacific Northwest. It rose and fell during the 1960s. According to music geographers who researched the evolution of the sound, bands competing to attract massive teenaged dance hall audiences realized that their singers couldn't be heard in the noisy dance halls, so lyrics and the even singers themselves became progressively less important to audiences. Listen to the songs of bands like Kingsmen (Louie Louie) and the Ventures (Walk Don't Run) and you'll see (hear) how the performance venue shaped the sound. The Surf Rock sound died out around 1970, and for a generation, very few rock bands or musical artists emerged from the Seattle region. Talent scouts for the big record companies never thought to look for "the next big thing" in Oregon or Washington.

By the mid-1980s, aspiring rock musicians from the Pacific Northwest usually moved to Los Angeles if they wanted to "make it big". Seattle was considered a backwater by record company talent scouts. As was the case in the early 1960s with the Surf Rock

bands, Seattle-area hard rock bands working in the 1980s contented themselves with competing for local audiences and very little pay. By playing for local audience *only* they created a sound and look unique to the peculiar *local* taste preferences of the Pacific Northwest. They created a type of *folk music*. While local audiences might have liked it, the emergent grunge sound and look, was very different from that considered marketable by music executives in Los Angeles, and few predicted what would happen.

After several years of incubating the "grunge" style in *isolation*, a remarkable number of bands emerged in the region who played a brand of style hard rock that featured a distinct punk-rock aesthetic. Lyrically, grunge-type bands eschewed themes common to Los Angeles-based hard rock (e.g., girls/cars/partying). Instead, their lyrics took political stances, engaged topics like mental illness, child welfare or the dark side of drug dependency. Sonically, there wasn't a strict grunge formula, although many Seattle-area guitarists detuned (lowered by an octave) their guitars to get a heavier sound. Several bands featured baritone vocalists and many played more slowly than their counterparts in Los Angeles, where up-tempo songs were common. Seattle bands also looked different. They often wore beards and long hair with unremarkable clothing (e.g., flannel shirts, work boots, jeans). This stood in stark contrast to either both the spandex-and-makeup "hair metal" bands, and the pirate/biker-gang looks that dominated Hollywood-based bands in the early 1990s.

After the Seattle-based band Soundgarden proved the grunge sound and look was marketable to a *national* audience, a slew of other Seattle bands (Nirvana, Pearl Jam, Alice in Chains, etc.) signed major label record contracts. During the early 1990s, record company executives were clearly using *location* to evaluate the market potential of new bands from Seattle. Record company talent scouts operated on the logic, "...if one band from Seattle sold millions of records, there must be more bands there!" Soon, the *isolation* that had been critical to the development of the Seattle sound and look was replaced by intense attention from the international music industry. No longer playing just for local audiences and a few beers, Seattle based bands suddenly found themselves playing in front of record executives for the chance to make millions of dollars recording songs in Hollywood or New York and going on tours around the world. Recognizing the role of geography in the music industry, aspiring rock artists from all over the US suddenly moved to Seattle, hoping to land a recording contract. Bands that couldn't move to Seattle began aping the grunge sound and look in hopes of attracting attention from record company talent scouts. *Local had become global*. Folk music had become popular music.

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2.13: Geography of Sports

The Geography of Sports

Sports are a big deal. In many parts of the world, participating and/or watching athletic events is a significant part of people's lives. Sports are a multi-billion-dollar industry worldwide. In America, many NFL, NBA and Major League Baseball teams are worth more than a billion dollars. Several major soccer teams in Europe are as well. The reason why sporting teams are so valuable lies beyond their simple entertainment value. Association with a team helps build the identity of individuals and creates a sense of community. Supporting a team, for many people, functions as a kind of "*tribal* affiliation" in an anthropological sense. Teams help build a sense of community belonging, making sports of intense interest to geographers.

Participation in Sports and Physical Geography

Where people play a specific sport is a fascinating entry point for students of geography. Answering "why?" by first asking "where?" is an effective means of understanding numerous, important cultural dynamics. An analysis of sports offers us important clues into how cultural behaviors, far more important than games, evolve within societies



Figure Los Angeles Ca water polo is a more popular part in the US where the diamates permit year- round play.

Climate is a significant factor in the geographical variation in sports participation. Ice Hockey, for example, is clearly a more favored sport among those living in northern climates, although as indoor hockey facilities open in warmer parts of the world, there is sure to be an increase in participation outside of the Frost Belt. Frigid, but smallish, Norway has won more medals in the Winter Olympics than any other country but has won only about half the number of medals in the Summer Olympics (281 vs 148), despite having more than triple the opportunities to win medals in the summer games. Golf, baseball, and water sports are more popular where warm winters permit year-round play.

Participation in some sports is conditioned by topography. The Austrians and Swiss dominate Olympic downhill skiing partly because those countries are situated in the Alps. Olympians from flat countries wouldn't have much chance to practice those sports, so it makes sense that a Ukrainian has never won a downhill skiing medal. Various styles of auto racing seem to follow topographic cues as well. Drag racing is more suited to flatlands. Dirt track racing on small ovals is far more popular in Appalachia where building drag racing courses would be challenging.

Space is another key geographic element. Some sports require enormous amounts of space. For example, equestrian events, especially cross-country eventing and polo, require huge fields of play and so would be unlikely sports to gain popularity in either mountainous or urban regions. One bizarre exception to this trend is the famous polo series played at 12,200 feet in the Shandur Pass in Pakistan.



Figure Santa Ynez, CA. Some equestrian events require hundreds of acres and expensive equipment. Here a rider competes in a dressage competition.

On the other side of the coin are the world's most popular sports, like soccer, cricket, and basketball. Each sport requires little space and few resources. Full-sized cricket/soccer pitches and basketball courts are not necessary, especially for children to play these games. Equipment is minimal for each sport, players can create homemade goals, balls, and other equipment. Vacant lots, streets, parking lots and small parks are all capable of serving as fields of play.

Basketball

In the United States, basketball is the most common sport *played* by Americans. It was invented in Springfield, Massachusetts in 1891, so it's hardly surprising that the United States dominates this sport internationally. However, basketball is not uniformly popular in all parts of the United States. Certain states, like Indiana and Kentucky, have a special passion for basketball that is difficult to explain. It appears that Indiana developed a love affair with the sport from its earliest days. For many years, Indiana also hosted a statewide tournament for high school teams that attracted far more attention than similar tourneys did in other states. Perhaps, as a result, top athletes in Indiana have been drawn to the notoriety to be gained playing basketball versus that gained playing other sports. Indiana, and indeed most other top basketball regions, around Kentucky, Illinois, and New York, are relatively weak in other sports, especially football.

Analyzing basketball participation at the state level though hides another process that becomes evident viewed at a finer geographic resolution. Since the 1950s, most top basketball talent in the US has come from *big cities*. It stands to reason that athletes in large cities would be attracted to basketball more than other sports because baseball, football, golf, etc. each require much space and may be too costly for poorer inner-city families (and their school systems). Many large cities, especially on the East Coast and in the Midwest, have high percentages of black residents, which helps explain why African-Americans dominate professional basketball. Non-geographers might suggest that *biological* factors account for the predominance of African-Americans in the NBA, but to those who think spatially, location has more compelling explanatory power. In recent years, white players from big cities in Europe, Canada and Australia have become more common in the NBA in recent years, while suburban and rural whites from the US have dwindled.

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2.14: Biology vs Geography

Biology vs Geography

Geographers will readily admit that biology probably does explain a small part of the racial biases evident in sport, but mapping the origin of world-class athletes in various sports strongly supports an alternate theory. In *places* where a passion for a particular sport motivates large numbers of people to hone a specific skill, exceptional athletes in that sport almost inevitably emerge. Once "stars" are identified from a region, aspiring youngsters (and their parents) from those regions quickly identify local role models, prompting legions of youth to attempt to emulate their local heroes. When a local star athlete (or rock star, or movie star) emerges from a region, it provides critical information about necessary strategies for success. As the number of entrants into a talent pool increases, competition creates pressure to excel, creates additional knowledge about viable success pathways, and invites again more entrants. The pattern has a tendency to create a local ***virtuous circle***; a type of ***positive feedback loop***. Processes such as this are of great interest to geographers studying a wide variety of subjects.



Figure Berlin, Germany. The Jamaican 4x100 meter relay team won gold in the world championship demonstrating the power of the cultural obsession with sprinting in Jamaica.

Jamaica and Sprinting

Evidently, a *virtuous circle* has emerged in Jamaica where numerous world-class sprinters competing in track and field events have emerged. A lot of people have offered explanations how a tiny country like Jamaica could come to dominate sprinting events. Of course, some would suggest genetics. One study pointed to the effects of the high concentration of aluminum oxides in Jamaican soils. However, a study of high-profile US and Jamaican athletes found that neither group had an unusual genetic profile. The popular statistician/journalist Malcolm Gladwell makes a far more compelling *spatially* based argument. He notes that since running has the lowest entry barrier of any sport, it is attractive to people in the world's poorest countries. What sets Jamaica apart is the national passion for the sport. One of the first great runners from Jamaica, Arthur Wint, became a national hero in the 1940s, and his popularity encouraged tens of thousands of young Jamaicans to copy him. The United States, with a population more than 100 times greater than Jamaica's, dominated sprinting for much of the 20th century, but in recent years, exceptionally speedy American youngsters (especially boys) increasingly have other, more lucrative, pathways to success. Fast boys in the US are more likely to play football than to run track. American girls rarely dream about playing in the NFL, and the monetary rewards for competing in Olympic sports are so small that in the US, the logical thing to do is to focus on getting good grades.

Athletic people everywhere are drawn to sports because they enjoy playing them, but the lure of fame, and especially fortune, create additional incentives to excel. An analysis of the origins of pro football and basketball players strongly suggests that sports are viewed as a viable path to economic security in places where opportunities to move up the socio-economic ladder are limited and/or poorly understood. Maps of per capita production of NFL and NBA players demonstrate significant over-representation of players from poor and working-class locations. Factory towns in the Midwest, inner-city locations and impoverished rural areas in the Deep South produce a disproportionate number of professional football and basketball players.



Figure Agoura CA. Many of the exceptionally athletic boys in the US often play youth football, baseball or basketball because there is a chance to play in college or professionally, however unlikely

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2.15: Fandom

Fandom

Football, baseball, basketball, and hockey are the most popular American sports. Soccer is increasing in popularity rapidly. Auto racing, especially NASCAR, has declined in popularity recently. Each of these sports has regions of the country where it is more popular. Certainly, specific teams have fans inhabiting specific locations.

Recently, geographers have made clever use of information culled from Twitter, Facebook, and other social media sources to create a series of interesting maps, and other infographics, about sports, politics, music, etc. Their series on college football is interesting on several levels for a geographer or anyone interested in sports, marketing or the politics of regional identity.

Several compelling trends are evident in these maps, and the story told by these maps goes well beyond what is immediately obvious. Click on the maps below and ponder the role of *state* borders on the pattern of fandom for some sports. The effect of borders on the college football fandom is fascinating. It appears that in much of the United States, college football fans won't cheer for a team from another state. People living near state borders seem to be a minor exception. Also, because there is some *neighborhood effect*, when fans do cheer for a team, it's usually in a neighboring state. *Why do you think this pattern is so evident and persistent?*



Figure Infographics on the left is a map of dan preferences for specific college football teams. The map on the right is a map of the intensity of the fandom.

There are a couple of important exceptions. In much of the Pacific Northwest, including parts of Northern California, the Oregon Ducks are more popular than teams from the "home state". What does that indicate about how people in Northern California identify as Californians? Fans of Notre Dame's football team are found in both northern Indiana and the Chicagoland area in Illinois, as well as other scattered spots around the US where there is no strong affiliation with another school, and there exists many Catholics or Irish-Americans. The University of Texas also is claimed by fans well into New Mexico, a state without much of a college football history.

The intensity of fandom (map on the right above) for college football seems to be a product of the success of the teams on the field and the availability of other outlets for attention (see map on right in figure 2.37) Alabama appears to have the highest percentage of people identifying with a college football team. This isn't surprising. The University of Alabama has a long, rich tradition of success in college football.

In recent years, both of Alabama's major football factories (University of Alabama and Auburn) have won "national championships", certainly intensifying the effect. Other states, including Nebraska, Oklahoma, Arkansas, Mississippi, South Carolina, and Iowa also have strong fan support for college teams. The intensity of fandom may be related to the lack of a professional football franchise to split the loyalty of fans. Louisiana and Ohio are the two states that seem to have a love for both college and pro football.

Just as interesting are locations with a *low* interest in college football. An affinity for other college sports, especially basketball, may explain the relative lack of interest in college football in places like Kansas and Indiana. New Englanders don't seem to like college football much either. No championship-caliber college team has come from New England since the 1940s, and combined with their deep affection for the New England Patriots, a successful professional team, may account for New Englanders' lack of interest in the college game.

Californians also don't seem very interested in college football, even in Southern California where the University of Southern California (a private school) has had a long tradition of gridiron success, and until recently no NFL team to compete for loyalties. Perhaps the ethnic mixture of California helps undermine interest as well since most players are non-Hispanic whites or blacks. The lack of interest in American football may change as Latinos and Asians become more fully assimilated into American culture, and Asian and Latino football stars emerge in the NFL.

> *Consider the degree to which the patterns of fandom conform to age-old patterns of folkways discussed earlier in the chapter.*



Figure infographic Maps- On the left, note the effects of county boulders on fanhood. On the right, state borders seem to have little sway on baseball fanhood.

Similar patterns of fandom exist in other sports, and the patterns seem to have connections across a broad range of non-sporting behaviors. The maps below, also from the *New York Times'* infographic service called "The Upshot" demonstrates how county borders, at least in Southern California, determine affiliation for supporters of the two local pro baseball teams. People living in Orange County are much more likely to be Angels fans than Dodgers fans, even though the border is largely invisible on the landscape, and the Angels have tried hard to attract fans from L.A. County in recent years.

In Ohio, where fan loyalty for the local Ohio State Buckeyes college football team is well-defined by state borders, the same cannot be said of support for local baseball teams. In this instance, it seems that fan loyalties follow more of a *contagious diffusion* pattern. Fans generally root for the team closest to home, without regard to state borders. *Consider why college football and Major League Baseball fan maps look very different.*

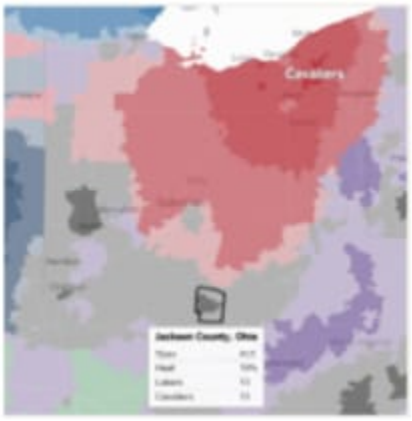


Figure Maps- NBA Fanhoods by county 2014

Another very compelling element of the maps presented on these pages is the methodology used to secure the data. Consider how you might use data from social media sites like Twitter and Facebook to explore cultural practices, ideas, and fads. How might data culled from social media sources be unreliable, or corrupt? What misinterpretation might occur if you used this sort of data? One example comes from The New York Times' Upshot infographic department's 2014 map of NBA fan affiliation. Their data, collected from Facebook, suggests that many people in Ohio were rooting for the Miami Heat, a team located over 1,000 miles from Columbus. Why would this be the case? Geographers who know something of sports might point to the fact that LeBron James, the most famous Ohio-born basketball player played for the Heat for some years before returning home to play

for his hometown NBA franchise, the Cleveland Cavaliers. For a time, the fans' loyalty to the team from Ohio was overwhelmed by their devotion to their favorite player from Ohio: LeBron James. A similar map produced in 2019 might suggest that basketball fans in Ohio are rooting for the Los Angeles Lakers, where LeBron James plays in 2019. Astute consideration of the data source might also suggest that a significant percentage of those Ohioans probably switched loyalties to the Cavaliers upon the return of LeBron James, or to the Lakers upon James' re-exit from Cleveland, but fan have yet to update their loyalties on Facebook.

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2.16: End of Chapter Synthesis

Further Reading and Exploration

Campanella, Richard. Feb. 12, 2014.
Shotgun Geography: The History Behind the Famous New Orleans Elongated House
Times-Picayune

Web Version

PDF Version. What is the link referring to?

Take a minute to listen to the similarities and differences between the original versions and Elvis Presley's rendition of the same song. Note how Presley, perhaps because of his upbringing in Memphis at the intersection of the music from the lower Mississippi Delta (Crudup's blues) and Kentucky (Monroe's bluegrass), absorbed influences from both regions, hybridizing them into a single style that for a time was relatively unique to the Memphis region.

Arthur "Big Boy" Crudup "That's Alright" 1946 – Clarksdale, MS ORIGINAL VERSION

Elvis Presley "That's Alright" 1954 – Memphis, TN COVER VERSION

Bill Monroe "Blue Moon of Kentucky" 1946 – Rosine, KY ORIGINAL VERSION

Elvis Presley "Blue Moon of Kentucky" 1954 – Memphis, TN COVER VERSION

Additional Links:

YouTube: Appalachia Clog Dancing Video: https://youtu.be/vJB_HGdGfic

YouTube

A demonstration of the use of bousillage in traditional Cajun construction.

YouTube “Amazing Grace” sang in Lining Out style, Old Regular Baptist, Kentucky

YouTube “Long John“ This song is an example of "call and response" singing that characterized many African-American work songs from the Lowland South.

YouTube “Camptown Races” A typical Stephen Foster song demonstrating a popular 19th-century hybridization of African and European musical traditions.

Gordon, Robert.
It came from Memphis.
Simon and Schuster, 2001.

Take a minute to listen to these various clips of music. Blue Suede Shoes topped the pop, R&B and Country Music charts simultaneously. Chuck Berry’s Maybellene represents a similar hybridization of styles but represents a reversal of the direction of ethnic appropriation. Berry was an African-American who borrowed elements from white musicians.

Carl Perkins
“Blue Suede Shoes”
1955 – Memphis, TN
ORIGINAL VERSION

Chuck Berry
“Maybellene”
1955 – St. Louis/ Chicago
COVER VERSION

Bob Wills
“Ida Red”
1938 – Dallas, TX
COVER VERSION

Fiddlin Powers Family

“Ida Red”

1924– Western Virginia

Temple of the Dog - "Hunger Strike",
a classic example of the Seattle-based rock music style known as grunge.

Poison
"Talk Dirty to Me”
a significant hit and classic example of Los Angeles-based "Hair Metal" from the late 1980s. Compare the aesthetics of this video to the Temple of the Dog video.

Bell, Thomas
“Why Seattle? An Examination of an Alternative Rock Culture Hearth"
Journal of Cultural Geography (1998): V18:1.

Deadspin
Infographic

Where Do Pro Basketball Players Come From?

https://twitter.com/ReubenFB

Cool Graphics about Sports and Politics.

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2. *OER (2of 2): Introduction to human Geography A Disciplinary Approach 3rd Edition by Graves. Published California State University Northridge Department of Geography https://sites.google.com/site/gravesgeography/introduction-to-human-geography*

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3: RACE AND ETHNICITY

3.1: Chapter Introduction and Objectives

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3.9: Housing

3.10: Environmental Racism and Justice

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3.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

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Learning Objectives

1. Understand the differing bases of ethnic identity.
2. Explain the relationship between ethnicity and personal identity.
3. Describe the degrees of relevance of ethnicity in a society.
4. Connect ethnicity, race, and class as they relate to political power.
5. Analyze the historical and contemporary reasons for ethnic residential clustering and segregation.
6. Examine the impact of environmental racism on minority communities.
7. Discuss the concept of environmental justice and its implications for different groups.
8. Identify examples of how ethnic enclaves and ghettos have been used to segregate and marginalize minority populations.
9. Assess the role of political representation and economic factors in environmental injustice.
10. Evaluate the ongoing challenges and efforts towards achieving environmental justice.

3: Part 1: Race & Ethnicity



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3.2: Race

Race

Human appearance does vary across the planet and geography plays a role. Human phenotypes evolved over thousands of years to help humans thrive in various climates and environments. Skin pigmentation is the most noticeable adaptation. The traditional theory, which explains the process, known as ***directional selection,*** holds that dark skin is an evolutionary adaptation that helps protect people from the damaging effects of the sun's ultraviolet radiation. The theory suggests that darker-skinned people had an evolutionary advantage over lighter-skinned people in sunny locations, so they became more numerous in sunny regions. However, dark skin may be disadvantageous in sunlight-deprived areas, like northern Europe, where darker skin prevents the body from producing adequate amounts of Vitamin D from sunlight. Vitamin D is an essential dietary nutrient, especially for lactating mothers, so pale skin provides an advantage in places where it is frequently cloudy or where winters are long and days are short for much of the year. Some evidence suggests that the variations in skin pigmentation may have taken as few as 100 generations to appear in humans. There is evidence that the process is reversible as well. There is also some emerging theory to suggest this old theory may not be valid.

The ability to absorb vitamin D into the human body may also have influenced the development of lactose *tolerance*, and the evolution of dairy agriculture culture in Europe. Most adult mammals cannot drink milk because of an inability to produce lactase, an enzyme that metabolizes lactose. Most Europeans *can* drink milk. Traditional thinking suggests this is because thousands of years ago, Europeans who had a genetic mutation that made them lactose *tolerant* had an evolutionary advantage over those who were lactose *intolerant*. In any case, ***where*** was, and continues to be, a foundational, causal variable in the construction and maintenance of our ideas about *who* we are, *what* we do and *why* we do it.



Figure Tamil Nadu, India – People from Southern India tend to have darker skin, but also share many phenotypes with Europeans and are generally lactose tolerant. Source: Wikimedia

The central question around race is simple: "Does race even exist?" Depending on how the question is framed, the answer can be either yes or no. If race is being used in a human context in the same way that species is used in an animal context, then race does not exist. Humans are just too similar as a population. If the question is rephrased as, "Are there some superficial differences between previously spatially isolated human groups?" then the answer is yes. There are genetic, heritable differences between groups of people. However, these differences in phenotype (appearance) say very little about genotype (genetics). Why is that? The reality is that human beings have been very mobile in their history. People move and they mix with other groups of people. There are no hard genetic lines between different racial categories in the environment. As a consequence of this, racial categories can be considered socially constructed.

Cultural factors also play a role in the evolution of our physical appearance. Some of our physical characteristics, like skin tone, height, or body morphology have been influenced by long-standing regional standards for physical attractiveness. This process is known as *sexual selection*. For Thousands of years, standards of “beauty”, that are sometimes very local, even random fascinations, have lent themselves to regional evolutionary changes in body morphology that have contributed to human *phenotypes*.

Across the globe, differences emerged in what men and women consider attractive in the opposite sex. For example, for many generations, many Chinese men were attracted to women with tiny feet. The feet of some young Chinese women were *bound*. Presumably, tall women with naturally big feet were considered less desirable than short women with small feet. Did the presence of this sexual preference help make the Chinese much shorter on average, than, say, the Dutch where that particular sexual preference was uncommon?

In West Africa, where maternal societies and a cult of fertility characterized the religion of many cultures for untold generations, a *preference for large buttocks*, especially on females, emerged. In places where food insecurity threatened the lives of infants, a large *derrière* may have been interpreted as a sign of good health and some insurance to men seeking mates that their mate would produce many healthy children. In Japan, a place with a vastly different agricultural and religious history from West Africa, this taste preference for large buttocks is muted or even reversed.

In the United States, especially during the 1970s and 1980s, many white people worked to darken or “tan” their skin to meet an evolving standard of beauty. Generations earlier, pale women sought instead to remain as pale as possible to ensure beauty. A geographer might explain this shift in cultural practice by arguing that in agricultural societies, darkly tanned skin was a sign of poverty because agricultural field laborers worked long hours in the sun. Starting with the Industrial Revolution, poor white people were more likely to live in cities and work in factories, and as a result, were kept pale by spending long hours indoors. The wealthier classes finding themselves now indistinguishable from the impoverished classes began to tan to signify their status via their ability to engage in outdoor leisure activities, like going to the beach. A good tan became a marker of wealth and exclusivity – which are desirable characteristics. In recent years, however, the threat of skin cancer and shifting demographics have confounded this American beauty standard once again.

> This video cartoon, inspired by the Dr. Suess story, "The Sneetches" cleverly captures the desire of many groups to build an exclusive identity, largely by creating "the other" through reference to physical appearance. Read the Wikipedia article (12:09 minutes)

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3.3: Racial Identifiers

Racial Identifiers

The language used to identify racial groups has changed as well. For example, in broad terms of ethnicity, people of Asian descent who were born in the United States are now referred to as Asian Americans, although the census racial category is still Asian. The term Asian implies a relationship with Asia and no relationship with America. Asian American explicitly tie this group to America.

People who trace their ancestry to Africa have a different problem. This problem is a function of American history. The first census label for this group was simply Black. Over time other labels were used, such as Negro (which means black), and eventually the term African American was adopted. This term is meant to provide a relationship between a population of people and a place of origin. In other words, it explicitly ties a group to their ancestral origin.

Although Native American is used in common speech in the U.S., the Census category is still American Indian, which is not the same as Indian-American (peoples associated with South Asia). The continued use of American Indian is somewhat outside the trend toward more descriptive categories.

Space Makes Race

Geographers like to argue that “space makes race” because spatial processes are ultimately responsible for the emergence of racial and ethnic categories. In the early history of humankind, there were no ethnicities. Everyone belonged to a single, very small group. Consider for example that the Chinese character for “China” also means “middle” or “center”. This symbol suggests that the Chinese, like many other ancient civilizations, thought of themselves as the center of the world; they were “the people”. As our species ventured out of Africa, languages evolved, multiple religions were established and humans’ bodies changed in response to random mutations, as well as changes in climate and environment. For millennia, humans’ inability to move quickly across the globe, to meet and breed with people from distant lands created, then maintained regional differences in our appearances, as well as the varied cultural practices that today mark the myriad ethnic identities.



Figure: The Chinese character for China is a stylized world globe.

The Age of Exploration (15th-17th centuries) began a process of moderating the effects of space, and perhaps began eliminating the “races”. Today the erasure of space continues to accelerate with improvements in transportation, but imagine what would happen if someone invented an app that could instantly transport you to any spot on the planet, thus removing the friction of distance from our lives. If everyone had that app, within a few generations, racial and ethnic intermarriage would accelerate

rapidly and the regional differences in our appearance and cultural ways would begin to fade. A single world language would begin to emerge. Perhaps a single world religion would begin to emerge as well. Maybe, we would begin to think of ourselves as earthlings or Terrans, rather than “Americans”, “Germans”, “Chinese”, etc. Or maybe not. Perhaps there is some psychological reason compelling humans to think of themselves as part of some group, or at the very least, to identify groups to which we are not a member.

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3.4: Ethnicity

Ethnicity



"Kuy women in traditional attires" by Louistrinh is licensed under CC BY-SA 4.0.

A common question asked in introductory geography classes is “What is ethnicity and how is it different from race? The short answer to that question is that ethnicity involves learned behavior and race is defined by inherited characteristics. This answer is incomplete. In reality, both race and ethnicity are complex elements embedded in the societies that house them. The relationship between race, ethnicity and economic class further complicates the answer.

Other students have asked, “How is this geography? Ethnicity and race have strong spatial dimensions. Both races and ethnicities have associated places and spatial interactions. A person’s ability to navigate and use space is contingent upon many factors-wealth, gender, and race/ethnicity. Anything that sets limits on a person’s movement is fair game for geographic study. Numerous geographic studies have centered on the sense of place. Race and ethnicity are part of a place. Signs are written in languages, houses have styles, people wear clothing (or not!) and all of these things can indicate ethnicity.

Ethnicity is identification through language, religion, collective history, national origin, or other cultural characteristics. A cultural characteristic or a set of characteristics is the constituent element of an ethnicity. Another way of thinking of an ethnicity is as a nation or a people. In many parts of the world, ethnic differences are the basis or political or cultural uprisings. For example, in almost every way the Basque people residing on the western border between France and Spain are exactly like their non-Basque neighbors. They have similar jobs, eat similar foods, and have the same religion. The one thing that separates them from their neighbors is that they speak the Basque language. To an outsider, this may seem like a negligible detail, but it is not. It is the basis of Basque national identity, which has produced a political separatist movement. At times, this movement has resorted to violence in their struggle for independence. People have died over the relative importance of this language. The Basques see themselves as a nation, and they want a country.

The ethnicities of dominant groups are rarely ever problematized. Majority ethnicities are considered the default, or the normal, and the smaller groups are in some way or another marginal. Talking about ethnicity almost always means talking about minorities.

There are three prominent theories of Ethnic Geography: amalgamation, acculturation, and assimilation. These theories describe the relation between majority and minority cultures within a society. Amalgamation is the idea that multiethnic societies will eventually become a combination of the cultural characteristics of their ethnic groups. The best-known manifestation of this idea is the notion of the United States as a “melting pot” of cultures, with distinctive additions from multiple sources.

Acculturation is the adoption of the cultural characteristics of one group by another. In some instances, majority cultures adopt minority cultural characteristics (for example the celebration of Saint Patrick’s Day), but often acculturation is a process that shifts

the culture of a minority toward that of the majority.



"Saint Patrick's Day Parade" by Dmitry Djouce is licensed under CC BY 2.0.

Assimilation is the reduction of minority cultural characteristics, sometimes to the point that the ethnicity ceases to exist. The Welsh in the United States have few, if any, distinct cultural traits.

When we look in other parts of this book- Language, Religion, and now Ethnicity, we have explored subjects that are often the core of a person's identity. Identity is who we are and we, as people, are often protective of those who share our collective identity. For example, ethnicity, and religion can be closely tied, and what can appear as a religious conflict may be in fact a politicized ethnic disagreement or a struggle over resources between ethnicities that has become defined as a religious war. Muslim Fula herders and Christian farmers in Nigeria aren't battling over religious doctrine; they're two different peoples fighting for the same land and water resources.

One of the enduring ideas of modern political collectives is that we consider everyone within the boundaries of our country as "our group." The reality has not lived up to that concept, however. Many modern countries are wracked by ethnic struggles that have proven remarkably resistant to ideas of ethnic or racial equality.

Models of Ethnicity

Different places have different conceptions of ethnicity. In the United States, we separate race from ethnicity, and we have exhaustive lists of ethnicities collected by the census. France collects neither racial nor ethnic data, under the belief that every French citizen is ethnically French. This doesn't include linguistic minorities such as the Bretons, the Basques or the Alsatians, all of whom are indigenous to France and whose ideas about their own ethnicities are different from that of the state.

In other places, ethnic identity is the most significant impediment to state cohesion. In Nigeria, no less a person than Nobel Prize winner Wole Soyinka wrote," There is no such thing as a Nigerian." He wasn't saying that Nigerians are a figment of the imagination. He was stating that in his country, few people would identify first as a Nigerian, but instead as Igbo, Yoruba, Hausa or many others. This is another concept that will be addressed in the next chapter.

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3.5: The Ethnic Landscape

The Ethnic Landscape

Urban ethnic landscapes are often immediately recognizable. Signs in other languages advertising exotic products, ethnic architecture, and even local tourism reveal the ethnic fabric of a place. Most people in the US do not live in large cities with obvious ethnic architecture. The majority of Americans, including many ethnicities, live in the suburbs and smaller towns. Instead of obvious population clusters, ethnic populations here can be widely dispersed. Instead of living within walking distance of their local store or religious structure, people will simply drive to such a place. Ethnicity has sprawled along with the rest of America. Waves of migration to U.S. cities and suburbs have created landscapes of tremendous ethnic difference embedded in architectural homogeneity.



"my first real taste of small town Main Street" by incendiarymind is licensed under CC BY-NC 2.0.

Ethnic Festivals and the Idealized Homeland

One of the ways that ethnicities represent themselves is through festivals. People wear traditional clothing, play music from the old country, eat food previously reserved for holidays, dance the old dances, and promote their culture to others. Festivals are a way of reproducing a sense of home in emigrant communities. They are also a way of keeping children participating in activities that would otherwise be forgotten.

Places represented in ethnic festivals in the United States are often not representative of those places now. Traditional Czech clothing at a Kolache Festival in Oklahoma represents a place/time that no longer exists, except perhaps to market “Czech-ness” to tourists.

How are ethnicity and race different?

People tend to have difficulties with the distinctions. Let’s start with the easiest racial category in the United States- African American. Most people understand that the origin of the African American or Black population of the United States is African. That is the race part. Now, the ethnic part appears to be exactly the same thing, and it almost is, but only for a particular historical reason. If Africans had been forcibly migrated by group, for example large numbers of BaKongo or Igbo people were taken from Africa and brought to Virginia and settled as a group, then we would be talking about these groups as specific ethnicities in the same way we talk about the Germans or Czechs in America. The Germans and Czechs came in large groups and often settled together, and preserved their culture long enough to be recognized as separate ethnicities.

That settlement pattern did not happen with enslaved Africans. They were brought to the United States, sold off effectively

at random, and their individual ethnic cultures did not survive the acculturation process. They did, however, hold onto some general group characteristics, and they also, as a group, developed their own cultural characteristics here in the United States. Interestingly, as direct African immigration to the United States has increased, the complexity of the term African American has increased, since it now includes an even larger cultural range.

The United States is a multiethnic and multiracial society. The country has recognized this from the very beginning, and the U.S. Census has been a record of ethnic representation for the U.S. since 1790. Here are the current racial categories (Figure 7.1)

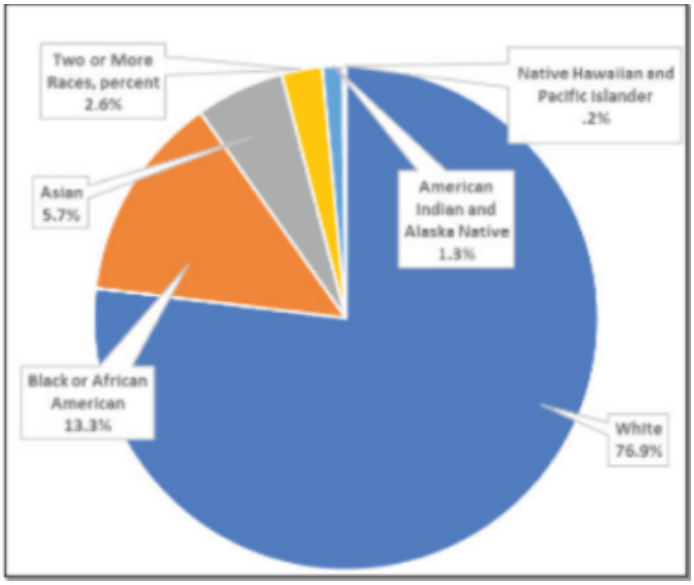


Figure | U.S. Racial Makeup according to the United States Census of 2016 1 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

There are many ethnicities in the United States, and data are collected to a granular level, but in many ways, the ethnic categories are subsets of the racial categories. The idea is that race is a large physical grouping, and ethnicity is a smaller, cultural grouping. Thinking about the data this way helps understand why African American is both an ethnicity and a race (Remembering that there are African-Americans who come directly from Africa). Another, more complete example is the numerous ethnicities within American Indian. Within the race category of American Indian and Alaska Native are dozens of individual nations (Figure 7.2).

American Indian Nations			
Apache	Comanche	Menominee	Seminole
Arapaho	Cree	Navajo	Shawnee
Assiniboine Sioux	Creek	Osage	Shoshone
Blackfeet	Crow	Ottawa	Sioux
Cherokee	Delaware	Paiute	Tohono O'Odham
Cheyenne	Hopi	Pima	Ute
Chickasaw	Houma	Potawatomi	Yakama
Chippewa	Iroquois	Pueblo	Yaqui
Choctaw	Kiowa	Puget Sound Salish	Yuman
Colville	Lumbee		

Figure 7.2 | Federally recognized American Indian Nations 2 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

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3.6: Racial-Ethnic Relations in the United States

Racial-Ethnic Relations in the United States

The importance of race and ethnicity is variable both across space and across time. Historically, divisions in the United States along ethnic or racial lines have been the norm. but now these divisions based on race or ethnicity are not as prevalent as they have previously been. From the earliest days of the country and codified in the US Constitution, slavery created a profoundly divided society, particularly between the free, white population and the enslaved Black population. Free people of color provided a small degree of linkage between the groups.

These were not the only divisions in the US, however. The dominant group were people of English descent. In geographical terms, we refer to them as a charter group. The charter group does not refer to the first people to come to a place; they are people with the first effective settlement. This is an academic way of saying that they are the first group with political dominance. English settlers produced laws that furthered their own interests. They promoted their own language (English), religion (Protestant Christianity) and governance. Groups coming in later found themselves in a place where many of the cultural questions had already been answered. The pressure to assimilate in the United States applies to everyone. There can be political pressure; for example, during World War One German Americans largely stopped speaking German. The pressure can be social; for example, young children at school can feel isolated when they cannot speak the majority language. Particularly, the pressure can be economic. Without conforming to general social (majority) norms, it can be difficult to navigate the employment market. A lack of English, unawareness of the norms of formal dress or behavior, or just the inability to recognize social cues can make life difficult for those who have not acculturated.

The charter group also changed. For example, the definitions of “whiteness” and “blackness” have not been historically constant. Consider the history of the United States. Initially, the U.S. population was made largely of Protestant British white people and African black people. Adding people from other places required that definitions be amended.

Would Catholic Italians be considered “White?” In the past, many Americans would have said no. For that matter, neither would the Irish (because of their Catholicism) or Jews (because they aren’t Christian), but over time, these groups were generally included into the white category. Whiteness broadened to include more people. It became less of an ethnic category and more of a racial category.

Definitions of blackness evolved as well. In the American South, there eventually arose a legal framework that defined blackness as having any African ancestry. It would be possible (and relatively common) to be phenotypically white and legally black. Historically, mixed-race Creole people in Louisiana did not consider themselves to be black or white; they were another category altogether.

People attempting to emigrate from Asia, particularly China, were subject to their own set of exclusionary laws, which severely limited their migration to the United States. As late as World War II, it was considered acceptable for the government to intern (imprison) American citizens of Japanese descent over questions of their racial origins and loyalty.

One of the current interesting ethnic questions in the United States is the status of Hispanic people in the existing racial categories. Since Hispanic is not itself a racial category, people within this ethnicity can choose what label they feel is most appropriate. It appears now that Hispanics are identifying themselves as white in the U.S. census. This has an impact on projections for the future U.S. population. If Hispanics identify as white, then the U.S. will remain majority white for quite some time. If they do not, the U.S. will have no racial majority in a few decades.

Although race and ethnicity in the U.S. were largely associated with state mandated identification, restrictive laws, and onerous obligations, today both race and ethnicity are self-identified for the census. Whereas at one time being Irish could be enough to deny someone employment, now it is a slogan to place on your welcome mat and celebrate once a year in March.

Ethnic diversity in the United States

Like all predominantly immigrant countries, the United States is ethnically diverse, but the range of ethnicities has varied over time as new groups arrive and previous groups acculturate and eventually assimilate. A male of Italian descent in the United

States will sometimes just say, “I’m Italian.” This may be a person who speaks no Italian, isn’t Catholic, and never been in Italy in his entire life. What then, does this statement mean? It just signals an historic connection with an ethnicity, even if the connection has faded over time. This isn’t to single out Italian Americans. Generally, as groups assimilate, their distinctive ethnic markers fade. Comparing Polish-Americans with Mexican-Americans may involve people who speak the same language (English), have the same Catholic religion, and live very similar lifestyles. The label has faded to a marker, with food being the one of the last cultural elements.

One of the ways groups demonstrate ethnicity is through food. One of the most obvious hallmarks of the arrival of an ethnicity into the United States, or any other country, is the diffusion of a food from the group of origin. Pizza in the United States, curry in the United Kingdom, and doner kebab in Germany all exemplify the degree to which a food brought by immigrants can reach the status of adopted national cuisine. Food is also the cultural element that is most accessible to outsiders. Foodways are used to construct a spatial sense of one location as a reflection of the entire world.

Foodways refer to the types of food that people eat, the ways they are prepared, and the cultural factors that surround and contextualize the food. Food is the most resilient cultural artifact. In countries undergoing language unification, foods can define ethnic groups. In mostly monolingual countries like the United States, foods may indicate geographical origins or social class. Food is easily bought, tried and accepted, or rejected. As such, it is the most accessible cultural element.

In many ways, the consumption of a food and its production have been divorced from its roots by the modern restaurant industry and international food conglomerates. Americans have eaten foods they consider Chinese or Mexican for generations, while few know the histories of said foods. Questions of whether or not a food is authentic are difficult to answer when the cooks in a restaurant are of a completely different ethnicity from the stated cuisine.

We can compare foodways between places and groups. Quantities of food, the ratio of prepared foods, and consumption of tobacco and alcohol all help us get inside the lives of people in different places, at different states of technological development, and different socioeconomic classes.

Hispanic Ethnicity in the United States

Since 1976, the United States government has required the collection and analysis of data for only one ethnicity: “Americans of Spanish origin or descent.” The term used to designate this ethnicity is Hispanic. It is a reference to the Roman name for what is now modern Spain. Hispanics, however, are generally not Spanish; they are people who originate in one of the former colonies of Spain. Another term that is used is Latino, which is another reference to the Roman Empire. Both of these labels are very vague. Generally, people identify with the country of their ancestors (Mexico, Thailand), and not with a label generated by the Census Bureau for the purposes or recordkeeping.

Hispanics can be of any race. It is important to note that all racial and ethnic information is self-reported. This means that the person who decides if you are African American, Hispanic, or any other category is you. One final detail is that native people of hispanophone countries, even if they themselves do not speak Spanish, will often be considered Hispanic.

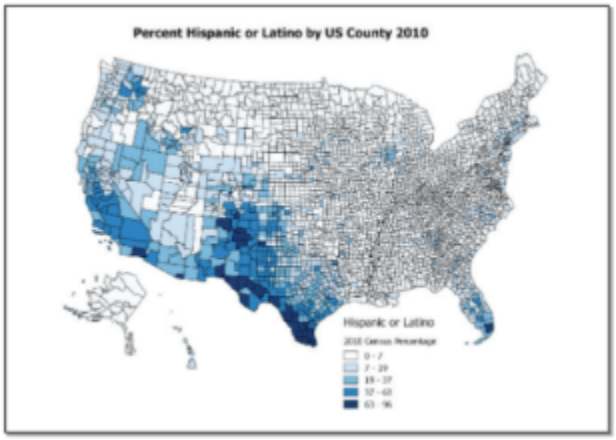


Figure | The Distribution of the Hispanic Population 4 Author | David Dorrell Source | Original Work License | CC BY SA 4.0



"La Fiesta: Camp Zama celebrates HIspanic American Heritage Month" by usarjnco is licensed under CC BY 2.0.

African Americans in the United States

African Americans in the United States are still heavily southern. Their distribution (Figure 7.3) dates to the beginning of the United States and the forced importation of millions of Africans. Starting in the early twentieth century, many African Americans migrated out of this region, but most did not. In the last decades of the twentieth century and the beginning of the twenty-first, there has even been a reverse migration of African Americans back to Southern cities and suburbs.

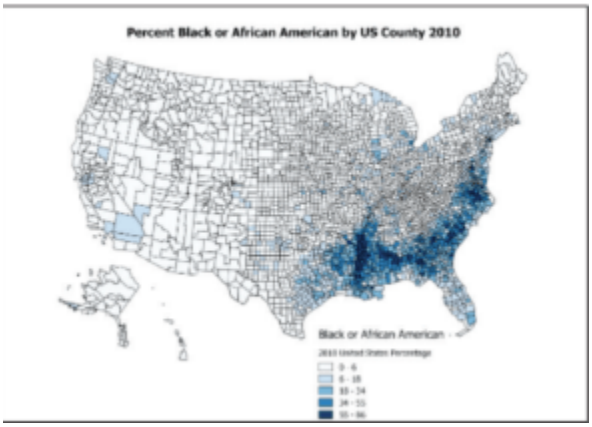


Figure | The Distribution of the African American Population 3 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Blackness in America

In the US, the two main ethnic categories are black and white, though these categories have evolved. Early on, and in some regions of the US, there were multiple ideas about what made a person black or white. For example, racial categories such as octoroon, mulatto, and high yellow, once commonly used in the 19th century to describe Americans of mixed ethnic or racial backgrounds, are unused today. During the late 19th and early 20th century, at the height of the Jim Crow era, new “blood laws” were enacted that redefined “blackness”. Some states declared specific percentages (one-fourth, one-eighth) of ancestry as a legal limit to be considered legally white or black. In some places, there was an official policy that ruled that any person with any ancestry from Africa was considered African-American, regardless of their physical appearance. These were known as “one drop” rules. It is interesting to note that before the great period of European migration in the late 1800s and early 1900s, a large percentage of Americans were of mixed African, European, and Native ancestry. In 1930, the US Census Bureau even stopped

using the designation “mulatto” to indicate people of mixed ancestry. Subsequent censuses (1940-1960), black (“negro” back then) and white were the only options, officially eliminating the mixed-race options from earlier eras.



Figure Cumberland Posey, a famous baseball and basketball player from Homestead, Pennsylvania was considered "black" because local people knew of his family’s African ancestry. He played baseball in the "Negro Leagues" and basketball in the Black Fives league. His first cousins, (right) moved to Ohio in the 1920s, and passed for “white” in another town where their family history was less well known. The younger men in the photo fought in World War II in all-white units and attended white schools. They moved and became white. Mr. Posey did not move and stayed black.

Many Jim Crow laws remained intact until the late 1960s when the Supreme Court struck them down. These laws were necessary back then because other laws and regulations required people to be categorized as either black or white. For example, the US military was segregated by race until 1948. Blood rules forced the military to render a judgment on each soldier or sailor so the military could assign each individual into a race-based unit. Similar laws, known as blood quantum rules may still be applied to determine membership in various American Indian tribes. It wasn’t until the 2000 census that the government again allowed people of mixed heritage to identify by more than a single category.

The effect of these laws remains strong in the United States. Persons of mixed ancestry generally are pressured by society to identify themselves with a single heritage, especially if they have even an identifiable percentage of African ancestry. This is probably because black people were the group most often targeted by the old blood laws. Those definitions linger. According to DNA tests, African-Americans are on average about 20% “white”. About 10 percent of African-Americans are more than half white in terms of ancestry, yet they still identify (or are identified) as “black”. Even very well-known people of mixed ancestry, like President Barack Obama and golfer Tiger Woods, are forced to identify as a single ethnic category, sometimes over their very public objections. Woods is considered black in America, but he calls himself Cablinasian, a word he made-up to characterize his ancestry that includes Caucasians, Black, American Indian, and Asian. In Thailand, Tiger Woods is embraced as “Thai”, the home country of his mother. The unfortunate lesson here is that it frequently doesn’t matter what you think you are if everyone else insists that you are something different.



Figure Born of a European mother and an African father, Barack Obama is widely considered simply "black". It shows that even the "most powerful man on the planet" is unable to overcome the cultural notions of race in the US. Source: Wikimedia

In South Africa, where race-based apartheid government policies lasted until the mid-1990s, officials devised a variety of tests to determine an individual's inclusion as a white, coloured or black. Consider, for example, the so-called pencil test in which a pencil was stuck in an individual's hair. If the pencil did not fall out easily, the individual might be classified as black. In one famous case, a girl, whose parents were both legally recognized as white, was reclassified as coloured, and subsequently removed from her all-white school, though her parents remained white.

Light-skinned black people could move from the United States or South Africa and suddenly find themselves white. For example, in many places in Latin America or the Caribbean, light-skinned persons of African ancestry who would be black in the US are considered white in the Caribbean or South America. Brazilians who were considered white in their home country often find themselves black once they move to the United States. Such migrants must navigate a potential minefield of bigotry. Americans may simply consider these immigrants "black" without reflecting much about the way the person from Brazil might self-identify. Discrimination could ensue. If the immigrants deny their African heritage by claiming that they are white, then American blacks may be off-put or upset because the metrics for determining who is "black" is different here.

Race Counts.org

This cool website has a load of stats and graphics about inequity in California and beyond, comparing different ethnicities' quality of life.

Asian Americans in the United States

Asian Americans also have a distinctive distribution based on history. The western United States, and in particular, Hawaii, are physically the parts of the United States that are closest to Asia. A proximity effect similar to that of Hispanics is in play here. Figure 7.5 shows their distribution.

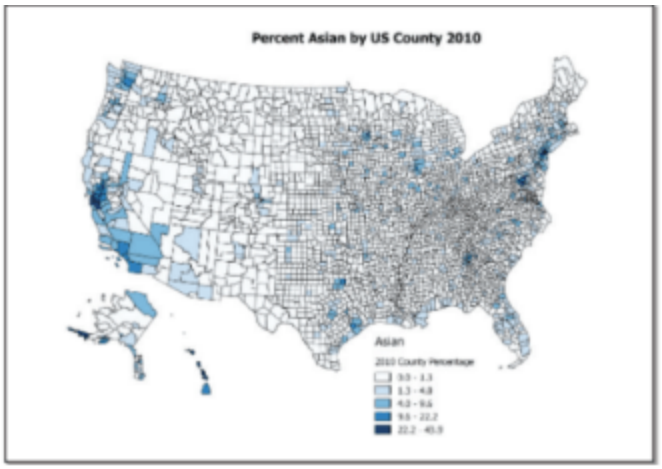


Figure | The Distribution of the Asian American Population 5 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

American Indian and Alaska Natives

At one time, all of the current territory was occupied by Native Americans. Due to the influence of disease, genocidal wars, and poverty they have been reduced to roughly 2 percent of the overall population of the United States. Some live on reservations, but most do not (Figure 7.6).

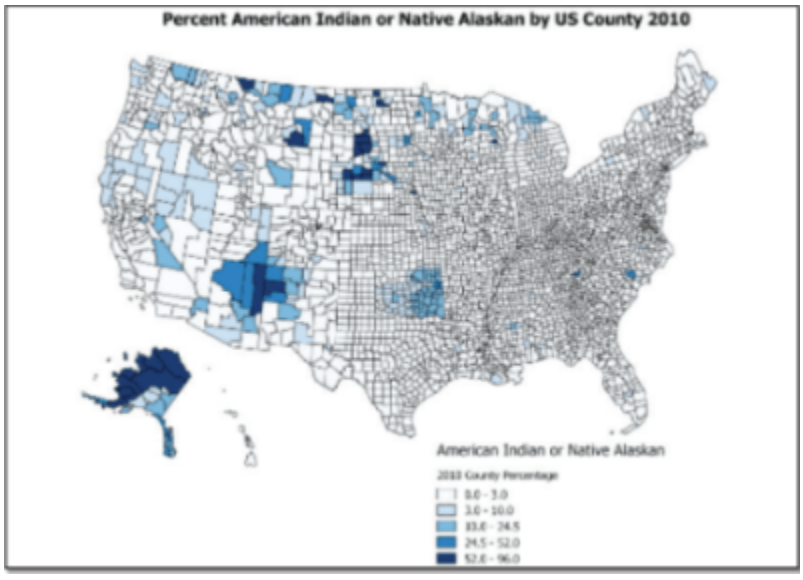


Figure | The Distribution of the American Indian Population 6 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Native Hawaiian and Other Pacific Islander

Hawaii at one time had been an independent kingdom. Other territories in the Pacific were taken during wars with other dominant regional powers. Many of these groups have migrated to the mainland of the United States (Figure 7.7). In the same way that American Indians are a minority in every state, Native Hawaiians are a minority in Hawaii.

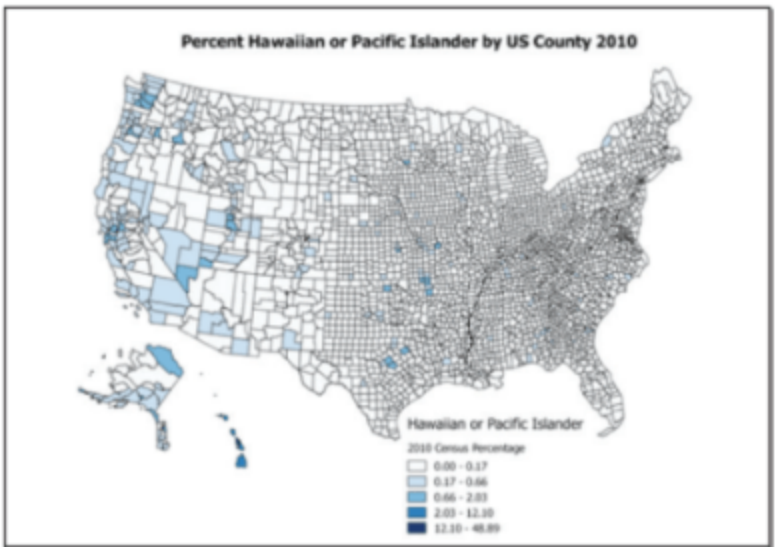


Figure | The Distribution of the Native Hawaiian or Pacific Islander Population 7 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

American-American?

Some people reject inclusion in one of the numerous hyphenated American identities. What do people call themselves who would rather not be classified or those who think they're being left out? What about the millions who aren't sure what to check off on the "ethnicity" or "national origin" question? What about the people whose ancestry is mixed? The simple identity "American"is an option that a lot of white people chose on the US Census form, especially in the Appalachian South. This could be interpreted as an act of xenophobia, but for families from that region (the author included), many of whom trace their American roots back to the 1600s, the number of ethnicities, and national origins represented in the family tree is so numerous, so varied, and generally lost to time, to call oneself anything other than simply "American" defies logic. Anyone living in the United States with a complex family tree is perhaps best defined simply as "American".

During the 2000 and 2010 census, there was an effort by small, politically-motivated groups in some southern states to make Confederate-American or Southern White as an official ethnic designation. This effort seems an outgrowth of the racially charged, anti-Federal politics still quite common in the South, but there may be a less nefarious logic to doing so as well. Groups of people who share a common identity should perhaps be allowed to label themselves as they see fit. Certainly, many of the official and unofficial strategies we use to place people in an ethnic category are illogical and unhelpful. One could argue that because many people in the American South share a unique dialect, religious beliefs, politics, and social customs that they may indeed be entitled to call themselves whatever they want.

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3.7: Ethnicity and the Economy

Ethnicity and the Economy

Your ethnicity may also guide (not determine!) how you navigate many life choices and obstacles. Students on multi-ethnic campuses see this process unfolding across the university campus. Certain ethnicities are easier to find in engineering and business buildings. Some ethnicities are particularly rare in majors like Anthropology or Agriculture. Gender biases compound these tendencies further. Students chose majors in part because of the values placed on certain career paths by their family and/or community. These biases play out in many areas in the economy.

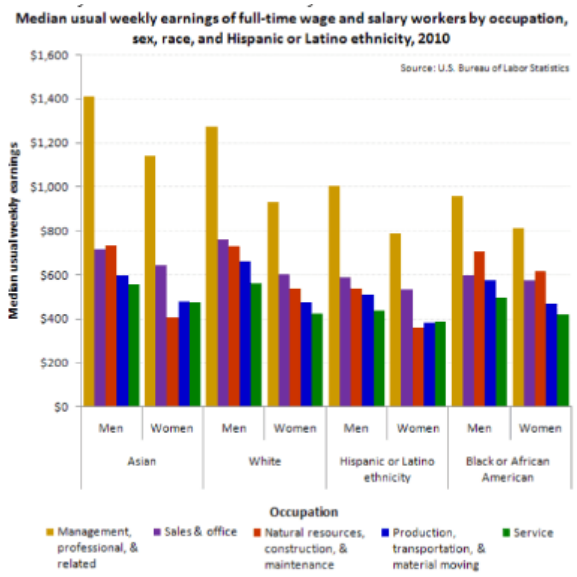


Figure : A graphic from the Bureau of Labor Statistics. Note the significant differences in occupation by gender and ethnicity. Source: Bureau Labor Statistics

Differences in the choice of major or career are partially a result of variations in values among various ethnic groups. Some groups seem to value high-paying careers. Other groups seem to value prestigious occupations. Still others value occupations that have intrinsic rewards or those with specific fringe benefits, like ample vacation time, or good health care packages. Some folks just hate to have a boss, and so chose to be self-employed. In the US, About 13% of white males are self-employed. Black males are about half as likely to be self-employed. Men from Israel or Korea are mostly like to be self-employed at around 30% of the time. Immigrants come to America sometimes pre-equipped with specific skills – especially if they are coming from a distant land. Because it can be expensive to get into the US, groups including Koreans and Israelis often have some business experience before arriving in the US. Other migrant groups, especially those from nearby countries like Mexico or Honduras, generally have a shorter, less costly journey to America, allowing them to arrive in the US with fewer skills. Again, location factors into a robust understanding of why things are the way they are.



Figure : Prague, Czech Republic. In Europe, many Asian immigrants are self-employed as they are in the US. Migrants from more distant regions tend to bring more skills than migrants from neighboring countries.

Other elements of occupational choice are a bit more mundane. You may get a job in a field because some relatives helped you get started. Particularly in big cities, where robust ethnic employment niches develop, you'll find specific job categories or businesses dominated by a single ethnicity. A great example is the motel or hospitality industry where South Asian-Americans operate about half of all US motels. Interestingly, most of these South Asians are Gujaratis, a linguistic ethnic group spread across the India-Pakistan border. So strong are family connections in this process that a single name dominates this area of the hospitality industry, lending itself to the catchphrase used to describe these lodgings: "Patel Motels." It appears that a single Gujarati man, who opened a sort of youth hostel in the US during the 1940s, may have started a snowballing process. He was able to demonstrate that a farmer from India could succeed in this industry, inspiring others from the same region. Many of the others that tried, and succeeded in running a motel, invited friends and relatives to work for them; and naturally, after a few years, those employees ventured out and started running a motel for themselves. The hospitality industry has built-in advantages for impoverished immigrants seeking a better life for their family, including built-in housing, and an opportunity for women to stay-at-home with children.

Other sectors of the economy may have a less random origin. For example, Korean-Americans own almost all stores that sell hair-care products designed for the African-American market. It is a somewhat bizarre reality, but it can be traced to a few international trade policies adopted by the US and South Korea decades ago that made Korean wig manufacturers and distributors more competitive than those from other countries. Korean-Americans came to dominate the industry, and the web of familial and linguistic ties (and barriers) has made it difficult for non-Koreans (including African-Americans) to break into a business that largely caters to African-Americans.

Relevance of Race & Ethnicity in Other Places

Although the social implications of race or ethnicity in the United States have eroded over time, this does not mean that that is no longer relevant. It also does not mean that ethnicity is not relevant anywhere else. In many places, it is still very important. In much the same way as race defined the early United States, it defined South Africa, Brazil and other settler colonies. There were important differences between these places. Whereas white people who made up the racial majority ruled the United States, South Africa was ruled by a white racial minority. In order to preserve power for themselves, South African whites developed a system known as apartheid, which divided the population into a number of legally-defined categories. Similar to the U.S. development of Indian reservations, the South African state also developed ethnically-based "Homelands" which were used as a means of denying citizenship to black South Africans.

Sustaining such a system required the use of a police state that eventually became unsustainable. In 1994, full and open elections were held, and the black majority gained political power. The state policy of separating people ended, but this did not immediately transform South Africa into a new kind of state. It has continued to negotiate the relationship between the outside world and internal political and economic struggles between differing factions in the country.

Brazilian society was far more racially mixed from the beginning. This simply changed the social equation from a binary black/white relationship to a society stratified by skin tone and migration status. As was the case in many colonies, people born in the colonizing state (in this case, Portugal) continued to enjoy elevated social standing well after the colonial era ended. In the same manner of the United States and South Africa, social standing was related to being part of the charter group.

In other places, purely ethnic differences have had violent consequences. In the 1990s in Rwanda and in Yugoslavia, ethnic tensions flared into open warfare and genocidal massacres. A new term was coined—ethnic cleansing—which denoted an attempt to completely expunge traces of another population from a place. In both of these places, it would have been difficult for an outsider, and sometimes even a local, to tell the differences between the two groups. Remember that ethnic differences can be based on historical groups that may now be very similar.

It should be noted that the massacre of opposing ethnicities and the appropriation of their territories was not a product of the twentieth century. The colonial phase of world history was largely defined by the massacre and marginalization of indigenous people around the world by people of European descent.

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3.8: Ethnicities and Nationalities

Ethnicities and Nationalities

Some countries have only one ethnicity and are called nation-states (remember that an ethnicity can also be called a nation) Most places are not like this and contain many ethnicities. Some ethnicities are minorities solely by a political boundary. Many groups have found themselves on the wrong side of an imaginary line. Sometimes this is due to outside forces imposing a boundary, for example the Hausa in Nigeria and Niger, but sometimes it is a product of state creation itself. When the state of Germany was created, there were pockets of ethnic Germans scattered all over Europe. It would have been impossible to incorporate them all, since they were spatially discontiguous.

In the former Union of Soviet Socialist Republics (USSR), attempts were made to make political boundaries match ethnic boundaries. Kazakh people had the Kazakh SSR, Uzbek people had the Uzbek SSR, and so forth. It was an idea based on ease of administration, but it wasn't based on the actual distribution of the ethnic groups. The distributions were far too messy to draw clear, neat lines between them. This didn't matter as long as the USSR was still functioning, but when it collapsed, it created another landscape of minorities on the wrong side of a boundary. Irredentism is when your ethnic group has people on the wrong side of a boundary, and it's necessarily destabilizing. The following chapter on political geography will go into greater detail regarding this, but suffice it to say that split nations do not like being split.

Some ethnicities are numerous, but find themselves minorities in several countries. Kurds, Balochs (Figure 7.8), and Sami are all nations who are distributed across several countries. Such groups often harbor strong desires to create their own independent political entities to the detriment of currently existing states.



Figure | Pakistan Major Ethnic Groups, 1980 This map details the politically fragmented spatiality of the Baloch people, separated into Iran, Pakistan, and Afghanistan. Author | U.S. Central Intelligence Agency Source | Wikimedia Commons License | Public Domain

As places unify politically and develop industrially, ethnicity often declines. Moving populations into cities and stirring them around in schools, militaries, and jobs fosters intermarriage and acculturation to the larger, national norms. Rural places tend to be more diverse, and somewhere like Papua New Guinea is probably the most diverse, due to the fact that smaller villages still predominate. Somewhere like South Korea, which was already relatively ethnically homogenous, has become almost fully so due to economic development.

National Heritage

Ethnic identity can also be tied to an association with an ancestral homeland or an ancestral group. Often, we call this type of

ethnic identity nationality. Many Americans use nationality as their preferred marker of ethnicity. Many other Americans cannot even identify their national ancestry. Most of the time in the US, nationality-based ethnicities are expressed by the use of a hyphenated term, such as Chinese-American, Mexican-American, Persian-American, etc.

It is rare for Americans of European descent to self-identify as “English-American” or “German-American”, even though England and Germany have each been a significant source of migrants. One reason for the erosion of these identities as distinct is the long history of intermarriage between persons of European descent. This process is captured by the partially true myth of the American Melting Pot which suggests that over many generations European national identity has been overwhelmed by a generic American identity. Because Anglo and German migrants were so numerous, many of their cultural norms have become so thoroughly woven into the fabric of American life that together American culture is largely Anglo-German.

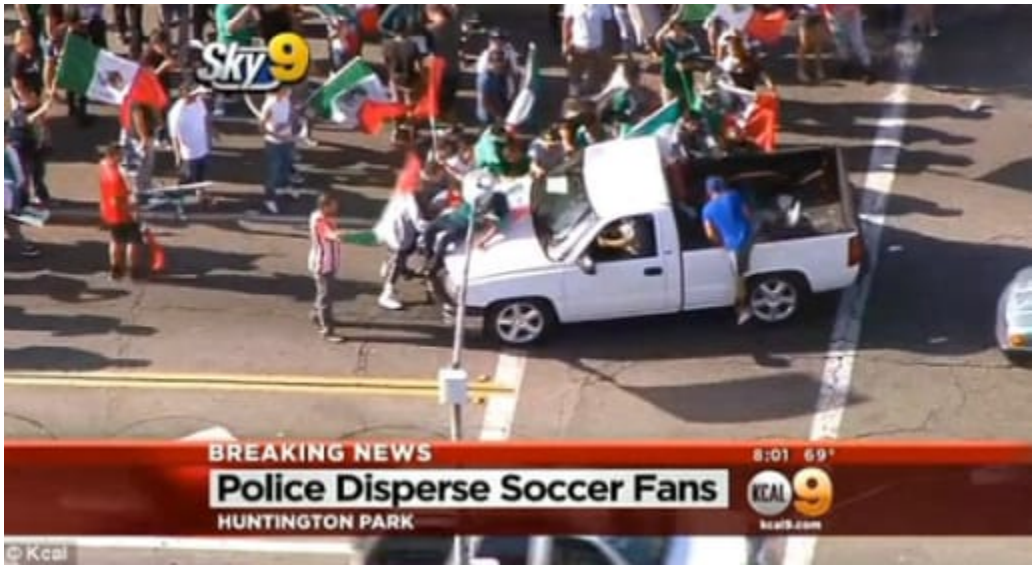


Figure : Huntington Park, CA - Fans of Mexico's men’s national soccer team celebrate in a Los Angeles neighborhood in a display of pride for a nationality-based ethnicity. Source: Daily Mail, UK

Is Diversity Good?

Diversity in developed countries is often promoted as a self-evident benefit, but there are some downsides to increasing diversity. Studies have shown that ethnic diversity decreases political participation. This is likely due not only to factors such as difficulties in communication, but also simple mistrust of other groups of people, known as xenophobia. This mistrust can apply to all parties in the relationship. There are places in the world with very low levels of diversity. South Korea, Japan and Finland are all highly productive economies with very little cultural or ethnic variability and high levels of social cohesion.

There are benefits to diversity. Aside from the benefits to genetic diversity (a reduction in recessive-gene disorders) ethnic diversity opens citizens to a wider range of experiences. Without pizza, sushi, tacos, stir-fry, or hamburgers, the United States would be a cultural wasteland forced to subsist on our British inheritance of boiled lunch and steak and kidney pie. Diversity has made our lives more pleasant, and it has made our ability to relate to others broader.

Immigration and Ethnicity

The United States is not the only place to receive immigrants or to have ethnic diversity. In fact, many places have far more ethnic diversity, even places that have little history of immigration. India, China, and Russia are all countries that have had diverse populations speaking different languages and living different lifestyles for a very long time.

In many ways, the impact of immigration on the ethnic fabric in Europe is the same as it has been in the United States. Due to the relative strength of their economies, European countries have been receiving large numbers of immigrants for some time. These immigrants are usually culturally distinct from the host population. In many instances, the immigrants come from places that had previously been colonies of European powers. The increase in immigrants with backgrounds dissimilar to the host

country has triggered a rise in nationalistic or xenophobic activities, and in some places, a rise in political parties dedicated to reducing immigration or even repatriating current immigrants. The separate category of guest worker has created an even more complicated ethnic relationship. Guest workers are temporary workers who are contracted for a set period of time with the understanding that they will leave when the period of work has ended. By and large, that is not what happens due to the economic realities of short-term employment. People are reluctant to return to poverty.

Acculturation and Assimilation

When ethnic minorities live among a larger "host" population, they tend to begin to adapt to the beliefs and practices of the larger group. This process is called acculturation. Intermarriage is the most effective means by which ethnic groups become members of the host culture, or assimilate into the dominant or host culture. Barriers to intermarriage among peoples of different European ethnicities have been generally lower than for those seeking a union between a European-American and a person whose ancestors were from elsewhere. For many years, in the US, anti-miscegenation laws against interracial marriages made it more difficult for minority groups to assimilate.



Figure : Location unknown - This soccer jersey features the colors and symbols of both the US and Mexico, in recognition of the transnational identities held closely by many Mexican-Americans living in both the US and Mexico. Source: MLS. (dead link)

In the absence of legal or cultural barriers to intermarriage, time, and distance factor into how quickly and completely migrant families assimilate. After a few generations, most immigrant groups fully integrate into American culture, especially if the distance between the ancestral country of origin is great, making it difficult for migrants to remain connected to ancestral ways.

Cheap international travel and even cheaper digital connections (TV, internet) have made it possible for migrants to retain connections to distant places, creating in some persons transnational identities. Transnationalism may arise when an immigrant either chooses not to assimilate; and/or is discouraged from assimilating by the host group. It is interesting to observe the rooting interests of recent immigrant groups during the Olympics and/or the World Cup soccer tournament. These events provide a window into the processes affecting identity construction and maintenance. Though not always a reliable measure of national identity, most fully assimilated Americans who identify simply as "American" would have trouble cheering for any country other than the United States in a contest involving Americans.

Racism in the United States

Although racism and ethnic discrimination are similar, they are not the same thing. Although ethnic markers (generally) diminish over time, physical differences do not.

Exclusionary racial policies existed in the United States from the very beginning and have continued beyond the Jim Crow era of the twentieth century. From the US Constitution that counted slaves as 3/5 of a person to restrictive housing covenants in the 1960s, the country has had a history of racism that did not end in the Civil Rights era. This exclusion has not solely been limited

to African Americans. Many groups have been subject to racist laws and acts. The indigenous people of the United States were not fully considered citizens until 1924. In the past, voting rights, access to housing and even union membership had racialized politics directed at many marginalized groups.

This is not to say that ethnically-based discrimination does not exist. Such discrimination has been prevalent in United States history, but it tends to subside as the host population absorbs the immigrant population.

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3.9: Housing

Housing

Historically, ethnic groups tended to live near one another in spatially contiguous areas. Many cities have Chinatowns or Little Italy. These are known as ethnic enclaves. There are many reasons why groups cluster; some reasons are voluntary and some are not. In the United States, it was not uncommon for cities to restrict where African American citizens could live. These restrictions were either through the force of law, or through unwritten behavioral norms that resisted renting or selling houses to African American families outside of certain areas. This residential, spatial segregation was accompanied with educational, social, and economic segregation. African American communities were often known as ghettos, places where a certain population is forced to live. The word ghetto is older than the United States itself. Ghetto was an Italian name for the area that Jews were forced to live in. Although the word is Italian, the idea of forcing minority populations to live in designated areas has unfortunately had wide historical appeal. Legal housing segregation ended in the United States in 1968, but behaviors change more slowly than laws.

Many ethnic communities have arisen from less coercive means. There are numerous reasons that an ethnic community would choose to live close together. Mutual support networks, the ability to develop schools and businesses catering to their own needs, a sense of safety, and the ability to retain their own cultural connections are examples of positive reasons. Institutionalized poverty, marginalized political representation, and active discrimination are negative reasons.



"California-06338 - Chinatown" by archer10 (Dennis) is licensed under CC BY-SA 2.0.

Ghettoization

Ethnic ghettoization is a more organized effort by multiple parties to enforce the maintenance of established ethnic identities and structures of power that benefit one group over others. Historically, the term ghetto has been used to identify areas of a city where specific minority groups were forced to live. In recent years, the term has been largely used by Americans in reference= only to poor African-American neighborhoods. It is important to recognize that ghettos have a very long history, can be found in almost every country on earth, and any minority group may be ghettoized. Certainly, the Chinatown districts in many US cities qualified as ghettos during much of the 19th and 20th centuries, before legal changes made housing discrimination unlawful. The Nazis confined Jewish people to ghettos during their reign of terror across Europe. Today, the less value-laden term, ethnic enclave is used by social scientists to describe neighborhoods dominated by a single ethnicity. Some more well-off ethnic enclaves are called ethno-burbs. The large concentration of Asians in Los Angeles' San Gabriel Valley is a good example of an ethno-burb.



Figure : Altgeld Gardens: Chicago, IL. This public housing project built after World War II to house black veterans after the war was built on an abandoned landfill. It remains a black neighborhood and numerous toxic hazards remain in the vicinity.

It is reasonably easy to understand why a group of people invested in racist/bigoted ideologies and/or sheer ignorance would seek to isolate people who are different from themselves. Keeping groups geographically separate makes it easier for groups in power to maintain the status quo. Residential integration of various ethnic groups invites children from different groups to become friends, maybe fall in love, make babies or just learn from one another. Perhaps the most important thing ghettoization discourages is marriages between people of different ethnicities or races. Bigots fear any dilution of the “purity” of identity, whatever that identity is based upon (race, religion, nationality, language, etc.), and residential proximity threatens that. More importantly, allowing people from different groups to live together makes it difficult for people from a dominant group to exercise and maintain political and economic power over the subjugated group(s). Isolating subjugated groups is the best way to perpetuate the ignorance that is the ultimate source of racial and ethnic prejudices the spatial concentration of minorities creates situations that affected groups have leveraged to their advantage.

First, diversity is preserved via ghettoization, just as those who engineered these elements of cities hoped. By undermining the prospects of intermarriage and assimilation, excluded groups remain somewhat distinct from the host culture. If every minority group melted perfectly into the host culture, then everyone would be robbed of many of the magnificent cultural aspects of a diverse society. Large cities are exciting and enriching precisely because they have diversity. Certainly, lots of people enjoy the wide variety of ethnic foods in cities where ethnic identities remain strong, but there’s far more at risk should the distinctiveness of ethnic populations erode. Minority religious traditions, languages, philosophies, arts, and economic practices would all suffer if complete assimilation were to occur.

Other benefits may accrue to ethnic groups who remain near each other. Mutual support, in a variety of forms (economic, political, recreational, etc.) is easier when members of an ethnic cluster together. A reduction in some types of conflict may occur if people of like values and traditions are neighbors. Opinions regarding how late a party should go, or what a proper lawn should look like may vary less in neighborhoods where residents come from a common background. Recent immigrants, even those seeking to shed their ethnic heritage, often find ethnic enclaves easier places to begin the acculturation and assimilation process than a neighborhood dominated by the host culture group.

Ethnic minorities seeking to preserve their traditions and identities also stand a greater chance of exercising political power if they live together; concentrating voting power in specific areas. Many voting districts are gerrymandered to help promote (or deny) the interests of specific ethnicities. Even simple pleasures, like finding someone who also likes to play games, like dominoes or cricket; or finding a bakery that makes an ethnic-specialty food (e.g., pan de muerto, king cakes, laffa bread or knishes) is easier when people who share an ethnic identity clusterin space.

Positives

While many of the effects of ghettoization undermine the quality of life of minority groups, it must be noted that there are positive

outcomes from ghettoization as well. This is not to justify the official and unofficial discriminatory practices (see the section below), but to argue instead that the spatial concentration of minorities creates situations that affected groups have leveraged to their advantage.

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Restrictive Covenants

Following the Civil War, a wide variety of strategies were developed to limit the geographic distribution of African Americans in the United States. Early on, very simple legal measures were enacted that restricted African Americans to certain locations, especially in the Jim Crow South. Such laws were declared unconstitutional by the US Supreme Court in 1917 (Buchanan v Warley). As a result, more sophisticated segregation methods quickly emerged. Restrictive or exclusionary covenants were written into the deeds of sale for many homes sold during the next 50 years. Deed restrictions typically prohibited owners from doing mundane things like building garages, fences, or porches, but they sometimes also forbade the sale of the house to specific ethnicities. Black people were frequently the target of these discriminatory deeds, but Jews, Catholics, Chinese, and other ethnic groups also found themselves the target of restrictive covenants. It was once illegal to sell or rent property to Jewish people in Beverly Hills.

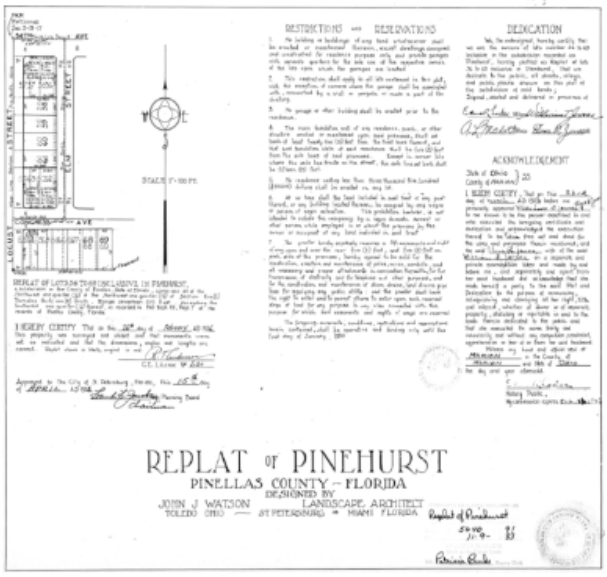


Figure : A homeowner's deed containing restrictive and exclusionary covenants, sold in Ohio for housing in Florida.

One of the most controversial practices, known as blockbusting was used to some effect, especially in cities in the Industrial Midwest. Realtors engaged in blockbusting would convince white homeowners in a majority white neighborhood that the arrival of a black family into the neighborhood had eroded the value of all the houses in the neighborhood. If the realtor could convince the white owners of this argument, the realtor would buy the property at below actual market value from the white home owner , and often seek to sell it to a prospective black homeowner at above market value. Real estate speculators, land developers, and lenders all made substantial profits from the scam. White and black homeowners alike lost money. The Fair Housing Act of 1968 outlawed blockbusting, but only after most of the damage was done. Blockbusting no doubt accelerated the most common, legal, process of ethnic segregation, known as white flight, in which white people moved from heterogeneous inner-city locations to homogenous, largely white suburbs and exurbs. Court-ordered desegregation busing of students during the 1970s may have accelerated white flight and invited even greater residential segregation in many U.S. Cities.



9-22: This sign was erected in 1942 near a proposed housing project in Detroit. Rioting followed. Note the use of the American flag, during World War II. Eventually the National Guard arrived to protect the black residents.

Steering

More benign, perhaps even subconscious, actions also create and maintain ethnic neighborhoods. One realtor behavior called steering may be still widespread today. Steering happens when a realtor, trying to sell a prospective buyer a house, focuses the buyer's attention on houses in neighborhoods predominated by persons of the prospective buyer's ethnicity. Whether this is always a purposeful, discriminatory act, or simply a logic geared to help find people homes in neighborhoods where they "feel at home" is less clear.

Public Housing

Even some of the actions taken by national and local governments seem to have contributed to the ghettoization of minority groups. There is some debate about the intentionality of the government and the overall long-term effects of American public housing policy, but it does seem clear that public housing projects designed to offer affordable housing to inner-city residents did, at the very least, contribute to the maintenance of ethnically segregated neighborhoods in many cities where "projects" were built. Public housing projects were by the 1970s emblematic of the ghettoization of African-Americansin the United States. Other government policies, including the Interstate Highway Act, redlining and Federal Housing Authority policies are discussed later.

Black Ghetto Typology

Because ghettos develop in different places and at different times, they are not all the same. Geographers Larry Ford and Ernst Griffin developed a typology of black ghettos in the United States based on their morphological evolution. By mapping the patterns of black ghettoization, one can gain valuable insight into the different methods of discrimination in the United States, and the peculiar differences in black-white relations across the US.

Larry Ford and Ernst Griffin. “The Ghettoization of Paradise.” Geographical Review, Vol. 69, No. 2 (Apr.1979), pp. 140-158 Article DOI:10.2307/214961 http://www.jstor.org/stable/214961

Early Southern

Before the Civil War, most African Americans lived in the Lowland South. Most were slaves. Most enslaved blacks lived on farms, but a substantial number of slaves lived in cities, like Charleston, New Orleans, and Atlanta. Urban slaves living in the South during this period were largely domestic servants and because most were enslaved, they were required to live with the white slaveholders. Enslaved blacks and the “Free People of Color" were typically quartered on the property of white employers/slavers, generally in a small house, or stable facility at the rear of the main house, along the alley, or as they say down South, “in the lanes.”

The close physical proximity combined with the exceptional differences in economic and social status produced a peculiar type of ghetto where blacks and whites lived together, but very much apart at the same time. Intense day-to-day sharing of space inevitably leads to cultural exchange and even fondness, but in a system that demanded at least the appearance of separation, and maintained the potential for horrific consequences for the enslaved.

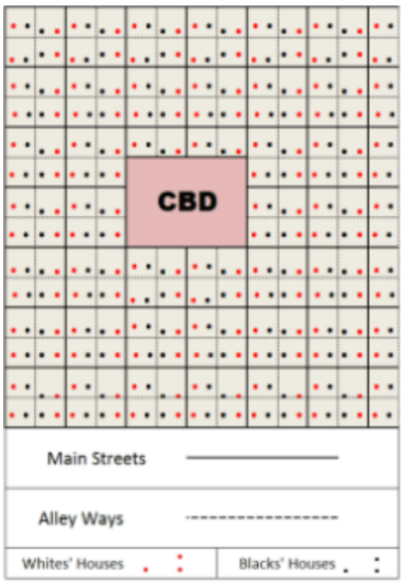


Figure : Early Southern Ghetto. Black people lived on the same property as whites, often in small houses along alleyways before the Civil War.

Classic Southern

During the Civil War, slavery was abolished, but most freed black slaves continued to live on farms or plantations for years afterward, often share-croppers. As the industrial revolution unfolded in the late 1800s, blacks (and poor whites) moved in ever-increasing numbers to cities in both the North and the South. In southern cities, where blacks were sometimes in the majority, Jim Crow segregation laws forced black people to live in specific areas of the city, thus creating the second type of American black ghetto known as the Classic Southern ghetto. In the Lowland South, where black people often outnumbered whites, as much as half a city or town was set aside for African-Americans. Often, the dividing line between Whites and Blacks was a rail line giving rise to the expression “other side of the tracks”. Many cities around the South fit this model still today.

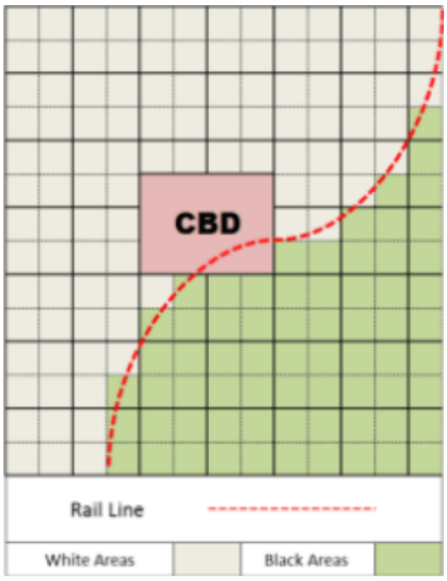


Figure : Classic Southern Ghetto. Black folks following the Civil War were required to live on "the other side of the tracks"

Early Northern, Classic Northern

Outside of the slaveholding regions of the South, the pattern of black ghettoization evolved quite differently. In the 19th Century, African-Americans were often a very small minority in northern cities. Like others, they competed for precious housing space near downtown with other minority populations, most of whom were recent immigrants to America. In the figure below, you can see African-Americans, along with Anglo- Americans and two other minority groups represented by the blue and peach colors (Irish and Greeks?). This pattern represents the Early Northern ghetto. Over the years, European immigrants, less restricted by law and custom from moving to newly built neighborhoods, moved from inner-city regions of northern cities. African-Americans, restricted from moving out of the inner city more than other groups eventually came to dominate the entire inner-city, especially when migration from the Lowland South accelerated during the late 19th and early 20th century. By the 1980s, African Americans were outsized majorities in the inner cities of many places in the Industrial Midwest and Northeast. The intensity of black ghettoization is extreme in cities with Classic Northern style ghettos. Cities like Cleveland, Detroit, Chicago, and Milwaukee have much higher segregation index scores than counterparts in the west or the southern United States.



Figure Chicago, IL. Vast crowds, dressed in green, line streets for the Saint Patrick's Day parade, a jubilant celebration of an Irish heritage that was once ghettoized in the United States, in places like Chicago.



Figure Housing Projects in St. Louis (left) and Chicago's Robert Taylor Homes in the mid-1990s. These well-intentioned public housing efforts concentrated poor blacks into small areas of the inner city, reinforcing the “Classic Northern” style ghetto. Crime and other social dysfunction afflicted these projects and their host neighborhoods. Large-scale housing projects are far less common today, and the racial segregation created by these projects has diminished since the 1990s.

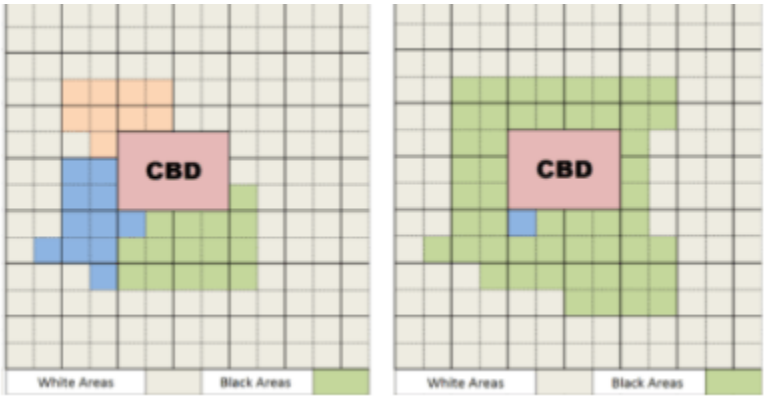


Figure 9-27: Early Northern (left) and Classic Northern (right) Black Ghettos. Typical of the pattern of black ghettoization in cities in the Industrial Midwest and Northeast, blacks occupy an ever-increasing portion of the inner city. Note that other minority groups occupy parts of the inner city in the Early Northern model and farless in the Classic Northern model.

New City

In the western United States and parts of the Sunbelt, a different type of black ghetto evolved during the age of the automobile. The morphology of these black ghettos reflects the importance of the highway and interstate system that evolved with the car and the city itself. These new cities grew rapidly after 1920 but had intense growth during and immediately following World War II. Los Angeles is a classic example. Good jobs in defense industries attracted large numbers of African Americans from the South, Midwest, and East during the war and black neighborhoods grew rapidly along major highway corridors.

In cities new cities like Los Angeles, Dallas, and Phoenix that built without efficient public transportation systems, dense inner-city cores never developed. Therefore, most families bought single-family homes. Multi-family apartment complexes that attracted inmigrants of all ethnicities were built near highways, where accessibility was greatest. As a result, ghettos in automobile friendly locations are known as New City Ghettos. These ghettos tend to be linear, stretching along a highway outward from downtown. In some cities, several distinct “black corridors” developed. In some cities, Latin American and Asian groups are large enough to create additional linear “ghettos” also along important highway corridors extending outward from the central business district (CBD).

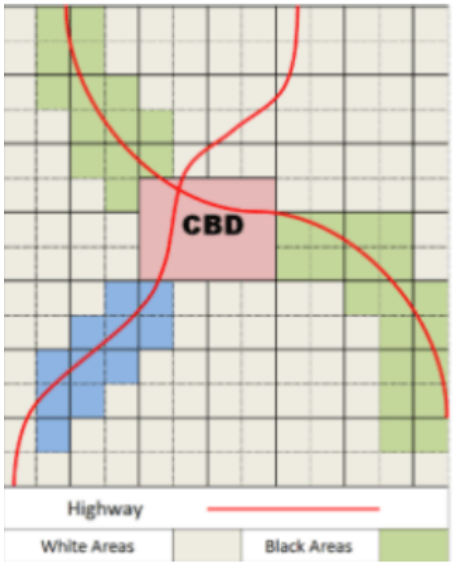


Figure New City Black Ghetto: In this model ethnic ghettos evolve along corridors established by major streets or highways. The blue areas may represent a Mexican- American neighborhood.

Kay J. Anderson. 1987. Annals of the Association of American Geographers. The Idea of Chinatown: The Power of Place and Institutional Practice in the Making of a Racial Category. Vol. 77, No. 4, pp. 580-598

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3.10: Environmental Racism and Justice

Environmental Racism

In addition to keeping specific groups of people residentially separated, ghettos seem to serve a variety of other unpleasant functions as well. Ghettos have been used for many years as dumping grounds for a variety of social ills and civic disamenities. For example, Chinatown regions across the West Coast hosted brothels, opium dens, and gambling houses – not because the Chinese embraced those activities any more than any other ethnic group, but because city leaders permitted/encouraged those activities, as long as they were in Chinatown. Rather than engendering pity for the Chinese that were left without protection from the law, the lack of police enforcement in these regions of the city reinforced negative stereotypes about Chinese people.

Ghettos are also frequently subject to industrial disamenities; health hazards not found elsewhere in the urban environment. Air, water, and ground pollutants are frequently worst in poor, minority neighborhoods leading to the evolution of what some call environmental racism. Historically, laundry activities were considered a nuisance – soap making was hot, dirty, and often foul-smelling, so "washhouses" were often confined to Chinese ghettos – giving rise to the institution of the Chinese Laundry. Many similar conditions exist today. Black and brown people in many cities suffer from higher rates of environmental health issues like asthma and obesity than non-Hispanic whites. These statistics may be caused partly by ethnic cultural practices and poverty, but it is also clear that poor minority people are least able to move away from polluted neighborhoods, most of which were established long before the Civil Rights era. Minority groups also have more trouble defending their right to a healthy neighborhood via political processes.

In addition to the obvious toxic pollutants, other environmental hazards in the form of things like payday lenders, fast food restaurants, loud traffic, and even poor disaster planning may undermine the ability of residents living in minority neighborhoods to live as long and as well as fellow citizens across town. For example, during Hurricane Katrina (2005), black residents of New Orleans were neglected by the city's hurricane evacuation plan because the plan was designed to cater to people who owned automobiles. A significant percentage (100,000 people) of the city's black population relied on public transport and were therefore not part of the city's hurricane evacuation plan.

Environmental Justice

One of the spatial manifestations of racism and ethnic discrimination is the difference in levels of political representation. Another one is the location of unpleasant environmental activities. Landfills and airports tend to be built in places inhabited by less-powerful groups, while dominant groups rarely if ever have to organize to prevent such things being built in their neighborhoods. Some groups find their economic situations limited by underfunded schools or inadequate infrastructure. The idea that different groups should have access to decent places to live is called environmental justice.

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3.11: End of Chapter Synthesis

Section Summary

Ethnicity is key to our identity. It can be formed around a variety of nuclei historical ties, national origin, language, religion, or any admixture thereof. Ethnicity creates a feeling of belonging to a group. Ethnicity, of course, can also be a source of exclusion to those who do not belong to the group that holds power in a place. Discrimination and prejudice often have a root in ethnicity, although other factors, like economics generally play a part as well. Race (and racism) are closely related to ethnicity, in that both ethnicity and race have been used to separate people, and some ethnicities can be associated with particular races. The next chapter also deals somewhat with human identity and delves further into nations and nationality.

Chapter 3 Key Terms & Definitions

Acculturation: Cultural change, generally the reconciliation of two or more culture groups.

Discrimination: Mistreatment due to perceived difference.

Diversity: Having a range of different people.

Enclave: Self-enforced separation for a racial or ethnic group.

Environmental Justice: The concept that environmental benefits and burdens should be equally shared across different socio-economic groups.

Ethnic cleansing: An attempt to completely expunge or remove traces of another population from a place. May or may not relate to genocide.

Ethnicity: group of people sharing a common cultural or national heritage and often sharing a common language or religion.

First effective settlement: Doctrine in which the first group able to assert dominance provides the template for the future society.

Foodway: The cultural, social, and economic practices relating to the production and consumption of food.

Genocidal: having the purpose of exterminating an entire people.

Ghetto: Area of externally forced and legally-defined ethnic or racial separation.

Immigration: Incoming migration to a place.

Jim Crow: A set of laws enforcing racial segregation and disenfranchisement in the southern United States in the poet Civil War era.

Majority: A group making up more than half of a population.

Minority: A group making up less than half of a population.

Nation: An ethnicity or a people.

Race: The categorization of humans into groups based on physical characteristics or ancestry.

Segregation: The spatial and/or social separation of people by race or ethnicity.

Xenophobia: fear of the different

FURTHER READING

Link Locker

• James Allen and Eugene Turner's website featuring outstanding maps and data regarding ethnicity, especially in Los Angeles and Southern California: http://www.csun.edu/~hfgeg005/eturner/books.html

• Washington Post, America is more diverse than ever — but still segregated: https://www.washingtonpost.com/graphics/2018/national/segregation-us-cities (excellent interactive mapping tool)

• 'Normal America' Is Not A Small Town Of White People | FiveThirtyEight

• 160 years of US immigration trends, mapped - Vox

• From Ireland to Germany to Italy to Mexico: How America's Source of Immigrants Has Changed in the States, 1850 – 2013 | Pew Research Center

• Two Centuries of US Immigration Visualized

• So What Exactly Is 'Blood Quantum'? : Code Switch : NPR

• Segregation map: America's cities 50 years after the Fair Housing Act of 1968 - Washington Post

• How Cambodians became the kings of beloved South L.A. fried chicken chain - Los Angeles Times

• Flower Mound, TX | McMansion Hell

• Studies Find Redlining Linked To More Heat, Fewer Trees In Cities Nationwide: NPR

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4: GEOGRAPHY OF LANGUAGE

4.1: Chapter Introduction and Objectives

4.2: Language as a Mental Capacity

4.3: Language as Cultural Practice

4.4: Diffusion of Languages

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4.8: Language and the Discourse of Advertising

4.9: Language and the Digital World

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4.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

Learning Objectives

- Identify how language spreads from one geographic location to another.

Chapter 4: Part 1: Geographies of Language

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- Dorrell 5, 6

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The Geography of Language

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Section Learning Outcomes:

By the end of this section, the student will be able to: 1. Understand: the diffusion and extinction of languages 2. Explain: the relationship between language, identity and power 3. Describe: the distributions of world languages 4. Connect: cultures with their linguistic components

4: Part 1: Introduction to Language

Language is central to daily human existence. It is the principal means by which we conduct our social lives at home, neighborhood, school, workplace and recreation area. It is the tool we use to plan our lives, remember our past, and express our cultural identity. We create meaning when we talk on the cell phone, send an e-mail message, read a newspaper and interpret a graph or chart. Many persons conduct their social lives using only one language. Many others, however, rely on two languages in order to participate effectively in the community, get a job, obtain a college degree and enjoy loving relation- ships. We live in a discourse world that incorporates ways of speaking, reading and writing, but also integrates ways of behaving, interacting, thinking and valuing. Language is embedded in cultural practices and, at the same time, symbolizes cultural reality itself.

The language we use is perhaps the most important element of our culture. Language, dialect, and even accents are extraordinarily powerful markers of identity. Language shapes our worldview, both constraining and liberating what we can know and feel. Language is often embedded in the landscape, where it can be read, interpreted and its power over us analyzed.

What we speak and how we speak are powerful indicators of who we are. Language marks us as individuals, but it is perhaps the primary marker of our group identity as well. Language both limits and liberates our thoughts and feelings, in turn creating a

battlefield where various interests compete to control the chains of meaning attached to words and phrases. Power is exercised *through* language. Consider the phrase, "Make America Great Again". Stripped of context, those four words seem reasonably benign, but the way the phrase was used by Ronald Reagan's campaign in 1980, and since the presidential campaign of 2016, has changed the meaning of those words. "MAGA" has become laden with many overlapping, often competing, layer of meaning that are complex and continue to evolve. The pen, or the turn of phrase, is indeed mightier than the sword.

A ***language*** is a system of communication that persons within a community use to convey ideas and emotions. ***Linguistics*** is the study of language. *Geolinguistics* is a subfield in both geography and linguistics where the interests of geographers and linguists intersect. Most of the time, people who speak (or sign) the same language find themselves able to communicate with each other. People who communicate *easily* with each other typically are using a *similar version* of a common language, known as a ***dialect***. On the other hand, dialects within a single language can become so different from one other that people using different dialects find it nearly impossible to understand one another. When that happens, ***mutual intelligibility***, which is the ability for two or more people to understand each other, degrades. When mutual intelligibility fails completely, then people are said to be communicating with different *language*s.

Explore further on your own
Voting Rights - Stacking, Cracking and Packing YouTube Video – Watch and listen to a couple on a Scottish television program. Their dialect is so different from American English that one can argue that they speak a different language.

A breakdown of mutual intelligibility may qualify the Scottish dialect of English as a separate language called *Scottish English*. Certainly, many speakers of *American English* find some Scottish people very difficult to understand, especially if the Scottish people are from the working class or from rural districts. Part of the problem is the difference in ***accent*** or the *way* Scottish people pronounce common English words. For example, the Scottish "roll" their tongues when they pronounce words with the letter R. Americans do not"roll their R's". Americans also pronounce the word "to" as"tū" and the Scottish pronounce it "tae". The Scottish *dialect* is certainly characterized by a unique *accent*, but it also features a lot of terms and phrases unused by Americans. So, for example, a Scotsman might use the phrase "wee bairn" to describe a small child, where Americans might say "little kid" instead.

There are other forms and uses of language as well. In places where two or more languages are spoken, a ***pidgin language*** may develop. A pidgin language is a simplified version of a language, sometimes with elements of another language, that is used by people especially in matters of trade or business. Lots of pidgin languages have formed around the world, especially in border areas and in places where colonial empires were built. It's easy to hear pidgin English spoken in the US among immigrants just learning to speak English, especially when the immigrants come from different linguistic backgrounds. Some Hawaiians also speak pidgin English. Sometimes a pidgin will evolve, becoming more complex over the years until it becomes a language in its own right. Linguists call these formalized pidgins ***creole languages***. Most creole languages remain unofficial, but a few, like *Haitian Creole*, a blend of French and West African languages, have become official languages with rules about spelling and syntax, used by schools and governments.

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4.2: Language as a Mental Capacity

Language as a Mental Capacity

To understand the nature of human language, one needs to approach the concept as a complex system of communication. An important distinction should be considered when using the term language. It can be viewed as an internal mental capacity (language) as well as an external manifestation through speech (parole). As human beings, we are able to produce and understand countless number of utterances which are characterized by the use of grammatical elements such as words, phrases and sentences.

With a limited number of language forms, we can produce numerous utterances that can be easily understood by other members of the speech community who share a similar cultural background and language knowledge. This underlying mental capacity is embodied in the concept that language is rule-governed creativity, operating at different grammatical levels in the formation of utterances or sentences.

To illustrate, many examples of utterances or sentences can be derived using a limited set lexical and grammatical words as listed below.

Lexical Words	Grammatical Words
Nouns (book, class, pencil, student/s, teacher)	Prepositions (on, of, for, from, with)
Verbs (forms of “to be”, have, want, write)	Conjunctions (and, but, which)
Adjectives (big, good, red, green)	Determinants (a/an/the, her/their, my, this/that)
Adverbs (far, near, where, very, no/not)	Pronouns (I, he/she/it, you, mine/yours)

Some possible grammatical sentences based on the list of lexical and grammatical words are noted here:

> The pencil is near the book. / The student is near the teacher. / The teacher writes with a pencil. / T
>
> The green pencil is not far from the book. / I want to be a teacher. / The red pencil is mine. /
>
> She wants to write a good book for her students. / This is my book, but I want you to have it. /
>
> No, the red pencil is not mine. / The teacher wants her students to have a good class./ Where is the teacher? / The book is where? / My class has many students. /

Language as a Means of Communication

A salient aspect of language involves the use of the communication system to perform a broad range of conversational acts/ functions in “face-to-face” situations. Four major types of conversational acts have been proposed:

- assertives (speaker informs/answers/agrees/confirms/rejects/suggests)
- directives (speaker directs/ invites/ questions/orders someone else to do something),
- commissives (speaker makes an offer/promise involving some future action),
- expressives (speaker apologizes/evaluates/greets/thanks/expresses opinion/reacts).

Minor secondary acts consist of language use that serves to emphasize (repetition of words/phrases), expand (add additional

information) and comment on on-going talk. Complementary acts can function as conversational fillers (“you know”), starters (“well”), stallers (“uh”), and hedges (“I mean”).

Participants in a conversation tend to follow culturally specific norms. Speaker A (greets, gives an order, asks a question, apologizes, bids farewell) and Listener B (responds accordingly, and uses appropriate conversational language, necessary to maintain the dialogue). Cultural norms specify “What to say /not say in a particular conversational situation?” “How to initiate/ end the conversation?” “With whom to talk/not talk during a conversational encounter?” “What locations are appropriate/not appropriate for the use of certain language forms?

Language use is joint action carried out usually by two people. Its use may vary due to such factors as the personal characteristics of the participants (friends, strangers, native/non-native speakers, family members, age/sex differences). The conversation may also be influenced by the location (home, school, work, shopping center, political meeting) and the topic of conversation (advice, complaint, news about the family, plans for the weekend).

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4.3: Language as Cultural Practice

Language as Cultural Practice

Speakers view language as a symbol of their social identity. As the sayings go: “You are what you speak” and “you are what you eat.” The words that people use have cultural reality. They serve to express information, beliefs and attitudes that are shared by the cultural group. Stereotype perceptions come into play when we think about race (Asian, African, European, Native American), religion (Christian, Muslim, Jewish, atheist), social status (working class, middle class, wealthy, upper class) and citizenship status (US born, visa holder foreigner, undocumented worker). Cultural stereotypes are formed by extending the characteristics of a person or group of persons to all others, as in the belief that “all Americans are individualists and all Chinese are group-followers, collectivists.”

Along with cultural beliefs about groups of people, individuals manifest specific views regarding languages themselves. Some make judgments about Language X as being “difficult to learn”, “not useful in society” and “too boring”. Others might view Language Y as the means “to get ahead”,“to make friends”, “to complete a college requirement” or “to participate in the global marketplace”.

According to royal court gossip in the 16th century, King Charles V of Europe had definite opinions about the languages he spoke: French was the language of love; Italian was the best language to talk to children; German was the appropriate language to give commands to dogs; Spanish was the language to talk to God.

Cultural meanings are assigned to language elements by members of the speech community who, in turn, impose them to others who want to belong to the group. Expressions such as “bug off”, “you know”, “you don’t say” and “crack house” have a common meaning to members of a cultural group. Members in a speech group tend to share a common social space and history and have a similar system of standards for perceiving, believing, evaluating and acting. Based on one’s experience of the world in a given cultural group, one uses this knowledge (cultural schemata) to predict interactions and relation- ships regarding new information, events and experiences.

Schemata function as knowledge structures that allow for the organization of information needed to perform daily cultural routines (eating breakfast, going shopping, planning a party, visiting friends). We can examine cultural patterns of behavior in relation to cultural scripts. The concept of cultural scripts is a metaphor from the language of theater. They are the “scripts” that guide social behavior and language use in everyday speaking situations.

“Attending a wedding”, for example, calls for a variety of speech situations (locations and occasions requiring the use of different styles of language). First, there are a series of initial activities (dressing with proper attire, driving to the ceremony, greeting other persons attending the ceremony), then the actual wedding ceremony (participating in the diverse wedding rituals), and finally the post-wedding activities (attending the wedding banquet, engaging in the different activities—eating, dancing, toasting the wedding couple, interacting with other attendees, and taking leave at the end of the festive celebration.

Each speech situation may consist of a range of speech events, different ways of speaking involving various genres/styles: colloquial/informal language, reading of a text, song, prayer, farewell speech.

At the same time, each speech event might encompass a broad range of conversational acts such as greetings, questions, suggestions, advise, promises and expressions of gratitude. For individuals who live in a bilingual or multilingual world, verbal behavior is even more dynamic since questions such as Who speaks What language to Whom, When and Where come into play during most conversational situations.

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4.4: Diffusion of Languages

Diffusion of Languages

Language, like any other cultural phenomenon, has an inherent spatiality, and all languages have a history of diffusion. As our ancestors moved from place to place, they brought their languages with them. As people have conquered other places, expanded demographically, or converted others to new religions, languages have moved across space. Writing systems that were developed by one people were adapted and used by others. Indo-European, the largest language family, spread across a large expanse of Europe and Asia through a mechanism that is still being debated. Later, European expansion produced much of the current linguistic map by spreading English, French, Spanish, Portuguese, and Russian far from their native European homelands.

Language is disseminated through diffusion, but in complex ways. Relocation diffusion is associated with settler colonies and conquest, but in many places, hierarchical diffusion is the form that best explains the predominant languages. People may be compelled to adopt a dominant language for social, political or economic mobility. Contagious diffusion is also seen in languages, particularly in the adoption of new expressions in a language. One of the most obvious examples has been in the current convergence of British and American English. The British press has published books1 and article 2 decrying the Americanization of British English, while the American press has done the same thing in reverse3 . In reality, languages borrow bits and pieces from other languages continuously.

The establishment of official languages is often related to the linguistic power differential within countries. Russification and Arabization are just two implementations of processes that use political power to favor one language over another.

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4.5: Classification of Languages

Classification of Languages

There is no precise figure as to the total number of languages spoken in the world today. Estimates vary between 5,000 and 7,000, and the accurate number depends partly on the arbitrary distinction between languages and dialects. Dialects (variants of the same language) reflect differences along regional and ethnic lines. In the case of English, most native speakers will agree that they are speakers of English even though differences in pronunciation, vocabulary and sentence structure clearly exist. English speakers from England, Canada, Australia, New Zealand and the United States of America will generally agree that they speak English, and this is also confirmed with the use of a standard written form of the language and a common literary heritage. However, there are many other cases in which speakers will not agree when the question of national identity and mutual intelligibility do not coincide.

The most common situation is when similar spoken language varieties are mutually understandable, but for political and historical reasons, they are regarded as different languages as in the case of Scandinavian languages. While Swedes, Danes and Norwegians can communicate with each other in most instances, each national group admits speaking a different language: Swedish, Danish, Norwegian and Icelandic. There are other cases in which political, ethnic, religious, literary and other factors force a distinction between similar language varieties: Hindi vs. Urdu, Flemish vs. Dutch, Serbian vs. Croatian, Gallego vs. Portuguese, Xhosa vs Zulu. An opposite situation occurs when spoken language varieties are not mutually understood, but for political, historical or cultural motives, they are regarded as the same language as in the case of Lapp and Chinese dialects.

Languages are usually classified according to membership in a language family (a group of related languages) which share common linguistic features (pronunciation, vocabulary, grammar) and have evolved from a common ancestor (proto-language). This type of linguistic classification is known as the genetic or genealogical approach. Languages can also be classified according to sentence structure (S)ubject+(V)erb+(O)bject, S+O+V, V+S+O). This type of classification is known as typological classification, and is based on a comparison of the formal similarities (pronunciation, grammar or vocabulary) which exist among languages.

Language families around the world reflect centuries of geographic movement and interaction among different groups of people. The Indo-European family of languages, for example, represents nearly half of the world's population. The language family dominates nearly all of Europe, significant areas of Asia, including Russia and India, North and South America, Caribbean islands, Australia, New Zealand, and parts of South Africa. The Indo-European family of languages consists of various language branches (a collection of languages within a family with a common ancestral language) and numerous language subgroups (a collection of languages within a branch that share a common origin in the relative recent past and exhibit many similarities in vocabulary and grammar.

Indo-European Language Branches and Language Subgroups:

Germanic Branch

- Western Germanic Group (Dutch, German, Frisian, English)
- Northern Germanic Group (Danish, Swedish, Norwegian, Icelandic, Faeroese)

Romance Branch

- French, Portuguese, Spanish, Catalan, Provençal, Romansh, Italian, Romanian)

Slavic Branch

- West Slavic Group (Polish, Slovak, Czech, Sorbian)
- Eastern Slavic Group (Russian, Ukrainian, Belorussian)
- Southern Slavic Group (Slovene, Serbo-Croatian, Macedonian, Bulgarian)

Celtic Branch

- Britannic Group (Breton, Welsh)
- Gaulish Group (Irish Gaelic, Scots Gaelic)

Baltic-Slavonic Branch

- Latvian, Lithuanian

Hellenic Branch

- Greek

Thracian-Illyrian Branch

- Albanian

Armenian Branch

- Armenian

Iranian Branch

- Kurdish, Persian, Baluchi, Pashto, Tadzhik

Indo-Iranian (Indic) Branch

- Northwestern Group (Panjabi, Sindhi, Pahari, Dardic)
- Eastern Group (Assamese, Bengali, Oriya)
- Midland Group (Rajasthani, Hindi/Urdu, Bihari)
- West and Southwestern Group (Gujarati, Marathi, Konda, Maldivian, Sinhalese)

Other languages spoken in Europe, but not belonging to the Indo-European family are subsumed in these other families: Finno-Ugric (Estonian, Hungarian, Karelian, Saami, Altaic (Turkish, Azerbaijani, Uzbek) and Basque. Some of the language branches listed above are represented by only one principal language (Albanian, Armenian, Basque, Greek), while others are spoken by diverse groups in some geographic regions (Northern and Western Germanic languages, Western and Eastern Slavic languages, Midland and Southwestern Indian languages).

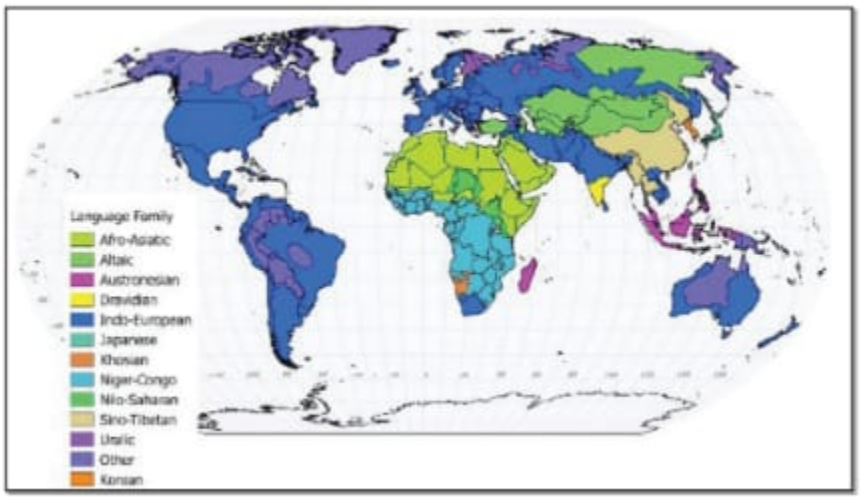


Figure | Language Families of the World4 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Major Language Families of the World by Geographic Region:

Europe

- Caucasian Family
- Abkhaz-Adyghe Group (Circassian, Adyghe, Abkhaz)
- Nakho-Dagestanian Group (Avar, Kuri, Dargwa)
- Kartvelian Group (Kartvelian, Georgian, Zan, Mingrelian)

Africa

- Afro-Asiatic Family (Arabic, Hebrew, Tigrinya, Amharic)
- Niger-Congo Family (Benue-Congo, Adamawa, Kwa)
- Nilo-Saharan Family (Chari-Nile, Nilo-Hamitic, Nara)
- Khoisan Family (Sandawe, Hatsa)

Asia

- Sino-Tibetan Family (Chinese, Tibetan, Burmese)
- Tai Family (Laotian, Shan, Yuan)
- Austro-Asiatic Family (Vietnamese, Indonesian, Dayak, Malayo-Polynesian)
- Japanese (an example of an isolated language)

Pacific

- Austronesian Family (Malagasy, Malay, Javanese, Palauan, Fijian)
- Indo-Pacific Family (Tagalog, Maori, Tongan, Samoan)

Americas

- Eskimo-Aleut Family (Eskimo-Aleut, Greenlandic Eskimo)
- Athabaskan Family (Navaho. Apache)
- Algonquian Family (Arapaho, Blackfoot, Cheyenne, Cree, Mohican, Choctaw)
- Macro-Siouan Family (Cherokee, Dakota, Mohawk, Pawnee)
- Aztec-Tanoan Family (Comanche, Hopi, Pima-Papago, Nahuatl, Tarahumara)
- Mayan Family (Maya, Mam, Quekchi, Quiche)
- Oto-Manguean Family (Otomi, Mixtec, Zapotec)
- Macro-Chibchan Family (Guaymi, Cuna, Waica, Epera)
- Andean-Equatorial Family (Guahibo, Aymara, Quechua, Guarani)

The number of language families distributed around the world is sizable. The linguistic situation of specific member groups of the language family might be influenced by diverse, interacting factors: settlement history (migration, conquest, colonialism, territorial agreements), ways of living (farming, fishing, hunting, trading) and demographic strength and vitality of the speaker groups. Some languages might converge (many local varieties becoming one main language), while others might diverge (one principal language evolves into many other speech varieties). When different linguistic groups come into contact, a pidgin type of language may be the result. A pidgin is a composite language with a simplified grammatical system and a limited vocabulary, typically borrowed from the linguistic groups involved in trade and commerce activities.

Tok Pisin is an example of a pidgin spoken in Papua New Guinea and derived mainly from English. A pidgin may become a creole language when the size of the vocabulary increases, grammatical structures become more complex and children learn it as their native language or mother tongue. There are cases in which one existing language gains the status of a lingua franca. A lingua franca may not necessarily be the mother tongue of any one speaker group, but it serves as the medium of communication and commerce among diverse language groups. Swahili, for instance, serves as a lingua franca for much of East Africa, where individuals speak other local and regional languages.

With increased globalization and interdependence among nations, English is rapidly acquiring the status of lingua franca for much of the world. In Europe, Africa and India and other geographic regions, English serves as a lingua franca across many national-

state boundaries. The linguistic con- sequence results in countless numbers of speaker groups who must become bilingual (the ability to use two languages with varying degrees of fluency) to participate more fully in society.

Some continents have more spoken languages than others. Asia leads with an estimated 2,300 languages, followed by Africa with 2,138. In the Pacific area, there are about 1,300 languages spoken and in North and South America about 1,064 languages have been identified. Europe, even with its many nation-states, is at the bottom of the list with about 286 languages.

Language	Family	Speakers in Millions	Main Areas Where Spoken
Chinese	Sino-Tibetan	1197	China, Taiwan, Singapore
Spanish	Indo-European	406	Spain, Latin America, Southwestern United States
English	Indo-European	335	British Isles, United States, Canada, Caribbean, Australia, New Zealand, South Africa, Philippines, former British colonies in Asia and Africa
Hindi	Indo-European	260	Northern India, Pakistan
Arabic	Afro-Asiatic	223	Middle East, North Africa
Portuguese	Indo-European	202	Portugal, Brazil, southern Africa
Bengali	Indo-European	193	Bangladesh, eastern India
Russian	Indo-European	162	Russia, Kazakhstan, part of Ukraine, other former Soviet Republics
Japanese	Japanese	122	Japan
Javanese	Austronesian	84.3	Indonesia

Ten Major Languages of the World in the Number of Native Speakers:

Other important languages and related dialects, whose total number includes both native speakers and second language users, consist of following: Korean (78 million), Wu/Chinese (71 million), Telugu (75 million), Tamil (74 million), Yue/ Chinese (71 million), Marathi (71 million), Vietnamese (68 million) and Turkish (61 million).

Language Spread and Language Loss:

- English does not have the highest number of native speakers, but it is the world's most commonly studied language. More people learn English than French, Spanish, Italian, Japanese, German and Chinese combined.6 Of the top 20 languages of the world, all these languages have their origin in south or east Asia or in Europe. There is not one from the Americas, Oceania or Africa. The absence of a major world language in these regions seems to be precisely where most of the linguistic diversity is concentrated.

- English, French and Spanish are among the world's most widespread languages due to the imperial history of the home countries from where they originated.

- Two-thirds (66%) of the world's population speak 12 of the major languages around the globe

- About 3 percent of the world's population accounts for 96 percent of all the languages spoken today. Of the current living languages in the world, about 2,000 have less than 1,000 native speakers.

- Nearly half of the world's spoken languages will disappear by the end of this century. Linguistic extinction (language death) will affect some countries and regions more than others.

- In the United States many endangered languages are spoken by Native American groups who reside in reservations. Many languages will be lost in the Amazon rainforest, sub-Saharan Africa, Oceania, aboriginal Australia and Southeast Asia.

- English is used as an official language in at least 35 countries, including a number of countries in Africa (Botswana, Kenya, Namibia, Sudan, Tanzania, Uganda among others), Asia (India, Pakistan, Philippines), Pacific Region (Fiji, Solomon Islands, Vanuatu, New Zealand), Caribbean (Puerto Rico, Belize, Guyana, Jamaica), Ireland and Canada.

- English is not by law (de jure) the official language in the United Kingdom, United States and Australia. English does enjoy the status of “national language” in these countries due to its power and prestige in institutions and society.

Dialects of English in the United States:

At the time of the American Revolution, three principal dialects of English were spoken. These varieties of English corresponded to differences among the original settlers who populated the East Coast.

Northern English

These settlements in this area were established and populated almost entirely by English settlers. Nearly two-thirds of the colonists in New England were Puritans from East Anglia in southwestern England. The region consists of the following states: Massachusetts, New Hampshire, Maine, Connecticut, Rhode Island, Vermont, New York and New Jersey.

Southern English

About half of the speakers came from southeast England. Some of them came from diverse social- class backgrounds, including deported prisoners, indentured servants, political and religious persecuted groups. The following states comprise the region: Virginia, Delaware, North Carolina, South Carolina and Georgia.

Southern English

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Dialects of American English have continued to evolve over time and place. Regional differences in pronunciation, vocabulary and grammar do not suggest that a type of linguistic convergence is under- way, resulting in some type of “national dialect” of American English. Even with the homogenizing influences of radio, television, internet, and social media, many distinctive varieties of English can be identified. Robert Delaney (2000) has outlined a dialect map for the United States which features at least 24 distinctive dialects of English. Dialect boundaries are established using diverse criteria: language features (differences in pronunciation, vocabulary and grammar) settlement history, ethnic diversity, educational levels and languages in contact (Spanish/English in the American Southwest). The dialect map where is the dialect map? does not represent the English varieties spoken in Alaska or Hawaii. However, it does include some urban and social (ethnolinguistic) dialects.

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General Northern English, spoken by nearly two-thirds of the country:

New England Varieties

1. Eastern New England
2. Boston Urban
3. Western New England
4. Hudson Valley
5. New York City
6. Bonac (Long Island)

Inland Northern English Varieties

1. San Francisco Urban
2. Upper Midwestern
3. Chicago Urban

Midland English Varieties

1. North Midland (Pennsylvania)
2. Pennsylvania German-English

Western English Varieties

1. Rocky Mountain
2. Pacific Northwest
3. Pacific Southwest

Southwest English:

South Midland Varieties

1. Ozark
2. Southern Appalachian (Smoky Mountain English)

General Southern English Varieties:

Southern

1. Virginia Piedmont
2. Coastal South
3. Gullah (coastal Georgia and South Carolina)
4. Gulf Southern
5. Louisiana (Cajun French and Cajun English)

Multilingualism in the United States:

Language diversity existed in what is now the United States long before the arrival of the Europeans.

It is estimated that there were between 500 and 1,000 Native American languages spoken around the fifteenth century and that there was widespread language contact and bilingualism among the Indian nations. With the arrival of the Europeans, seven colonial languages established themselves in different regions of the territory:

English along the Eastern seaboard, Atlantic coast:

- Spanish in the South from Florida to California
- French in Louisiana and northern Maine
- German in Pennsylvania
- Dutch in New York (New Amsterdam)
- Swedish in Delaware
- Russian in Alaska

Dutch, Swedish and Russian survived only for a short period, but the other four languages continue to be spoken to the present day. In the 1920's, six major minority languages were spoken in significant numbers partly due to massive immigration and territorial histories. The "big six" minority languages of the 1940's include German, Italian, Polish, Yiddish, Spanish and French. Of the six minority languages, only Spanish and French have shown any gains over time, Spanish because of continued immigration and French because of increased "language consciousness" among individuals from Louisiana and Franco-Americans in the Northeast.

The 2015 Census data for the United States reveals valuable geographic information regarding the top 10 states with the extensive language diversity.

- California: 45 percent of the inhabitants speak a language other than English at home; the major languages include Spanish, Chinese, Korean, Vietnamese, Arabic, Armenian and Tagalog.
- Texas: 35 percent of the residents speak a language other than English at home; Spanish is widely used among bilinguals; Chinese, German and Vietnamese are also spoken.
- New Mexico: 34 percent of the state's population speak another language; most speak Spanish but a fair number speak Navajo and other Native American languages.
- New York: 31 percent of the residents speak a second language; Chinese, Italian, Russian, Spanish and Yiddish; some of these languages can be found within the same city block.
- New Jersey: 31 percent of the state's residents speak a second language in addition to English; some of the languages spoken include Chinese, Gujarati, Portuguese, Spanish and Italian.
- Nevada: 30 percent of the population is bilingual; Chinese, German and Tagalog are used along with Spanish, the predominant second language of the Southwest.
- Florida: 29 percent of the residents speak a second language, including French (Haitian Creole), German and Italian
- Arizona: 27 percent of the residents claim to be bilingual; most speak Spanish as in New Mexico while others use Native American languages.
- Hawaii: 26 percent of the population claims to be bilingual; Japanese, Chinese, Korean and Tagalog are spoken along with Hawaiian, the state's second official language.
- Illinois and Massachusetts: 23 percent of their respective populations speak a second language at home; residents of Illinois speak Chinese, German, Spanish and Polish, especially in Chicago; residents of Massachusetts speak Spanish, Haitian Creole, Chinese, Portuguese, Vietnamese and French.

Top Ten Languages Spoken in U.S. Homes Other Than English:

Data from the 2015 American Community Survey ranks the top ten languages spoken in U.S. homes other than English. The data highlight the size of the speaker population, bilingual proficiency (fluency in the home language and English) and degree of English proficiency (LEP, limited English proficiency).

Rank	Language Spoken at Home	Total	Bilingualism %	Limited English %
1.	Spanish	64,716,000	60.0	40.0
2.	Chinese	40,046,000	59.0	41.0
3.	Tagalog	3,334,000	44.3	55.7
4.	Vietnamese	1,737,000	67.6	32.4
5.	French	1,266,000	79.9	20.1
6.	Arabic	1,157,000	62.8	37.2
7.	Korean	1,109,000	46.8	53.2
8.	German	933,000	85.1	14.9
9.	Russian	905,000	56.0	44.0
10.	French Creole	863,000	58.8	41.2

Chinese includes Mandarin and Cantonese. French also comprises Haitian and Cajun varieties. German encompasses Pennsylvania Dutch.

While a record number of persons speak a language at home other than English, a substantial figure within each immigrant group claimed an elevated command of English. Overall, some 60 percent of the speaker groups using a second language at home were also highly fluent in English. Limited fluency in English among young children ranged from a high of 55.7 percent in the Tagalog speaker group to a low of 14.9 percent in the German group which included Pennsylvania Dutch users.

Most immigrant language groups have tended to follow an intergenerational language shift in the United States. This first generation is basically monolingual, speaking the native language of the group. The second generation is bilingual, speaking both the home language and English. By the third generation, the cultural group is essentially monolingual, speaking only English in most communicative situations.

More recently, some immigrant groups, particularly those with advanced training and degrees in professional fields (technology, health sciences and business), come to the United States with a high degree of fluency in English. At the same time, the variety of English these persons speak is usually marked by the country of origin (India, Philippines, Singapore among others). With globalization “new Englishes” have emerged (Indian English, Filipino English, Nigerian English) which challenge the notion of a Standard English variety (British or American) for use around the world.

This third part of the chapter will enable you to comprehend the uses of language across different environments. Three major questions are addressed in this section:

1. How is language used to indicate place in the physical landscape?
2. How is language exploited for the purpose of advertising products and services?
3. How is language employed in the digital world to connect multiple senders and recipients in diverse techno formats?

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4.6: Ethnicity and Dialect

Ethnicity and Dialect

Ethnicity is frequently expressed through dialect, and conversely, a dialect may be a marker of ethnicity. Geographers contend that both are products of the particular spatial experience of each group. Each of the dialects spoken in the United States, or anywhere for that matter, bears the mark of the ethnicities and therefore source points of the people who once lived there. So for example, the dialects of New York City bear the imprint of the many thousands of Italian, Irish, and other *second-wave immigrants* that moved there in the mid-19th century. They learned to speak American English but retained some elements of the languages and dialects they brought across the Atlantic. Intermarriage and decades of living and working together no doubt created dialects that *hybridized* elements of speech into a new working whole. Consider also the speech patterns in regions of the US that border Mexico. They reflect the influence of the many Spanish-speaking residents that live there so that many places it is easy to find people speaking a *hybridized* English called *Spanglish*.



Figure Los Angeles, CA - T shirt. Questions of which words are appropriately applied to ethnic groups represents a struggle for power. This t-shirt was for sale on Olvera Street, a tourist destination. It's mostly printed in English. How Southern is your Accent? Take a Quiz

African American Vernacular English, popularly known as *Ebonics*, demonstrates not only the power of place but perhaps also the stubbornness of cultural change. Ebonics was a source of some controversy in the 1990s. The school board in Oakland, California passed a *resolution* recognizing Ebonics as a sort of language in 1996. This sparked outrage among socially conservative politicians and some media pundits, many of whom considered Ebonics as mostly lazy, street slang. The primary motivation of the Oakland School Board was to find additional funding to help students in their district better master standard American English by tapping into funds used to teach English as a second language to students that spoke English as a second language. Linguists were generally sympathetic to the argument made by the Oakland School Board and weighed in with studies that show that a proper understanding of a student's home dialect *or* language was useful to teachers.



Figure : Tangier Island, VA: People living on this island in the Chesapeake Bay have one of the most unusual dialects in the US. How does the location of this island affect the maintenance of this dialect, which is said to echo the dialect of the 1600s?

The Ebonics controversy generated numerous interesting dynamics for geographers. First, a dialect is a great example of an everyday practice that stubbornly resists cultural change. In this case, Ebonics demonstrates that some elements of *African* language systems continue to appear in the dialects of many African-Americans, many generations after the end of the Trans-Atlantic slave trade. Many African-Americans proudly seek to preserve speech patterns because dialects help create and preserve ethnic identity. Second, the controversy highlighted the importance of geography in the creation, maintenance, and diffusion of dialects. The long history of social and spatial ghettoization of Blacks has helped preserve some relic elements of languages brought from Africa. The linguistic effects of isolation, noticeable among people living on islands, mountains, and in swamps has been partially replicated within the African-American community because Blacks have been spatially isolated in the US via racist policies and cultural traditions. It is also apparent to anyone who has listened to the speech of southerners, or white people who live among large numbers of African-Americans, that speech patterns easily transcend racial and ethnic lines. The Ebonics controversy of the mid-1990s was depressing because so many rushed to judgment despite their ignorance of geo-linguistics. The vitriolic response in the media to a suggestion that teachers might treat teaching students with strong dialects like students learning a second language. The dimensions of the controversy highlighted the importance of language in the politics of ethnic identity.

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4.7: Language and Place Names

Language and Place Names

The names people give to their physical environment provide a unique source of information about the cultural character of various social groups. Place names often reveal the history, beliefs and values of a society. Toponymy is the study of place names, and the names people assign to specific geographic sites offer us the opportunity to recognize a country's settlement history, important features of the landscape, famous personalities, and local allusion to distant places and times. Place names can change overnight, often depending on political factors and social considerations. The change of Burma to Myanmar and Zaire to Congo are two recent examples of changes due to political developments. In the United States, interest in changing the names of places associated with Civil War heroes from the South is an on-going effort, at times with dramatic confrontations between different social groups.

Toponyms provide us with valuable geographic insights about such matters as where did the settlers come from, who settled and populated the area, and what language did the early settlers speak. Many of the place names found in the United States can be classified in terms of the following major categories:

natural landscape features (hills/mountains, rivers, valleys, deserts, coastline)

Hollywood Hills, Blue Ridge Mountains, Chattahoochee River, Rio Grande, San Fernando Valley, Monument Valley, Mohave Desert, Biscayne Bay,

- urbanized areas (cities, towns, and streets)

Williamsburg, VA; Lawrenceville, GA; Chattanooga, TN; New Iberia, LA; Buford Highway, GA; Martin Luther King, Jr. Drive, Ponce de Leon Avenue

- directional place names (East, North, South, West)

North & South Dakota, West Virginia, North & South Carolina, South Texas

- religious significant names (saints, Biblical names)

San Antonio, Santa Fe, St. Louis, Sacramento, Santa Barbara, Los Angeles; Bethany, AK; Canaan, VT; Jericho, IA; Shiloh, OK

- explorers and colonizers (French, English, Spanish, Dutch setters

Columbus, OH; Coronado, CA; Balboa Park (San Diego), CA; Cadillac, MI; Hudson, NY; Bronx, NY; Raleigh, NC; Henrico County, VA

- famous persons (presidents, politicians, Native Americans)

Lincoln, NE; Mount McKinley, WA; Austin, TX; Washington, D. C.; Jackson, MS; Tuscaloosa, AL; Pensacola, FL; Arizona, Mississippi, Utah

- culturally based names (immigrant's homeland, famous locations

New Orleans; New Mexico; New Amsterdam, NY; Troy, NY; Rome, GA; Oxford, MS; Athens, GA; Birmingham, AL; Toledo, OH

- business oriented names (wealthy individuals, politicians, corporate sponsors)

Sears Tower, Wrigley Stadium, Trump Towers, Gwinnett County, Dolby Theater, Verizon Center, Sun Trust Park

A classification scheme proposed by George Stewart (1982) focuses on ten basic themes which dominate North American toponyms. These include the following categories: descriptive (Rocky Mountains), associative (Mill Valley, CA), commemorative (San Diego, CA), commendatory (Paradise Valley, AZ), incidents (Battle Creek, MI), possession (Johnson City, TX), folk (Plains, GA), manufactured (Truth or Consequences, NM), mistakes (Lasker, NC), and location shift (Lancaster, PA).

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4.8: Language and the Discourse of Advertising

Language and the Discourse of Advertising

Commercial advertisement occupies a noticeable expanse in the cultural landscape. An individual text (use and arrangement of specific language forms) is designed to promote or sell a product within a social context. A commercial text may be accompanied by music and visual depictions. The text may also be accompanied by paralanguage features of oral language (gestures, voice quality, facial expressions) and written language (choice of typeface, letter sizes, range of colors).

The advertisement itself brings up several discourse concerns: Who (seller) is communicating with Whom (consumer) and Why (inform/convince/persuade about the product' importance/usefulness/ uniqueness)? The participants in the discourse may include various message senders/participants: the actor/s in the TV commercial along with the supporting role of the advertising agency and the studio production staff. The receivers may be a specific target group or anyone who sees the advertisement.

Highway billboards, store signs and product advertisements provide a visual representation of commercial language use in a community. Most billboard structures are located on public spaces and display advertisements to passing motorists and pedestrians. They can also be placed in other locations where there are many viewers (mass transit stations, shopping malls, office buildings and sports' stadiums). Some billboards may be static, while others may change continuously or rotate periodically with different advertisements. In addition, there are product promotions within a retail store, which often involve product placements at the end of aisles and near checkout counters.

Novelty ads can appear on small tangible items such as coffee mugs, t-shirts, pens and shopping bags. They can be distributed directly by the advertiser or as part of cross-product promotion campaigns. Advertisers use the popularity of cultural celebrities in the worlds of sports, music and entertainment to promote their products. Even aircrafts, balloons and skywriting are used as moveable means to display advertisements.

Store signs and highway billboards can be viewed as a visual language trail, stretching point A to point B on highway X in a specific geographic area. Depending on the population characteristics of a location, diverse forms of advertisement are used to convince the customer that a company's services or products are the best in quality and price, most useful and socially desired. A drive through various roads and highways across Gwinnett County Georgia, for example, might indicate how advertisers respond to the diverse population characteristics.

Ethnolinguistic Diversity in Gwinnett County Georgia 11

The American Community Survey, aggregate data, 5-year summary file, 2006 to 2010, provides the following profile of ethnolinguistic diversity.

Language in Use	Ages 5 years and Above	Percentage of Population
English	484,134	67.80%
All languages other than English	229,932	32.20%
Spanish	124,331	17.41%
Korean	17,911	2.51%
Vietnamese	12,692	1.78%
Chinese	9,184	1.29%
African languages	8,750	1.23%
Serbo-Croatian	5,097	0.71%
Gujarati	4,725	0.66%
French	4,713	0.66%
Other Indo-European languages	4,232	0.59%
Hindi	4,227	0.59%
Other Asian languages	4,181	0.59%
Urdu	4,088	0.57%
Russian	2,487	0.35%
French Creole	2,344	0.33%
German	2,127	0.30%
Arabic	2,038	0.29%
Tagalog	1,539	0.22%
Persian	1,289	0.18%
Mon-Khmer, Cambodian	1,265	0.18%
Japanese	1,198	0.17%
Other Slavic languages	1,038	0.15%
Polish	886	0.12%
Other Pacific Island languages	864	0.12%
Portuguese	781	0.11%
Laotian	645	0.09%
Thai	411	0.06%
Other West Germanic languages	395	0.06%
Hmong	379	0.05%

Some important questions regarding language use can be addressed within this multilingual context:

- What type of products are marketed to different ethnolinguistic communities?
- What type of services are advertised to different ethnolinguistic communities?
- What type of products are marketed bilingually or in the language of the ethnolinguistic community?
- What type of services are advertised bilingually or in the language of the ethnolinguistic community?

The visual content and design of an advertisement aimed to draw attention to a specific product might focus on customer needs such items as food, clothing, furniture, restaurants, home and garden, cosmetics and beauty care, auto maintenance, fitness and recreation, travel and hotels, communication and computers. The advertising style for product promotion often tends to be laudatory, positive and emphasizing the uniqueness. The vocabulary is usually vivid and concrete, involving play-on-words and commercial slogans in some cases. Ads rely primarily on language, and it is the visual content and design that creates an interest in the product and persuades people buy it.

The advertisement of services for the general population and targeted ethnolinguistic communities might encompass health services (doctors, dentists, hospital and emergency care), financial institutions (banks, credit unions, home and car loans, bail bonds), legal services (lawyers, notary public, public defenders) and community resources (schools, libraries, museums, parks). Customer needs usually dictate what services are available in a specific geographic area. Interest in niche marketing or ads targeted to a specific social group represents the strong relationship that exist between cultural and technological changes in contemporary US society.

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4.9: Language and the Digital World

Language and the Digital World

Social media are computer-mediated technologies which allows multiple senders and receivers to create and share information, ideas, career interests and other forms of expression via virtual com- munities and communication networks. Social media use relies on web-based technologies such as desktop computers, smartphones and tablet computers to create highly interactive formats which allow individuals, communities and organizations the possibility to share, co-create, discuss diverse topics and comment on content previously posted online. Social media allows for mass cultural exchanges and intercultural communication among people from different regions of the world.

The term social media is often used to indicate that many senders and receivers can communicate almost simultaneously across space and time. At the same time, the term social media is used to mean social networks (relationships and contacts among many individuals). If one is using the term to mean social networks (who interacts with whom in the linguistic community), then the researcher can “observe” and document the interactional patterns or the researcher can “interview” the participants to determine the type of social networks. Social networks, from a sociolinguistic perspective, can be differentiated on the basis of whether they are “dense” or “loose”. In dense networks all members know each other. In loose networks not all members know each other. Networks can also be distinguished with the quality of ties (connections) that exist among the members. In uniplex ties, individuals are connected by one type of relationship (participate in the same swim club, take same courses at a college, work in the same business). In multiplex ties, members know each other in several different roles (student/friend/classmate; parent/co-worker/neighbor).

The term social media is usually associated with different networking sites such as the following:

- Facebook, an online social network which allows users to create personal profiles, share photos and videos and communicate with other users.
- Twitter, an internet service that allows users to post “tweets” (brief messages totaling 140 characters) for their followers to see in real-time.
- LinkedIn, a network designed for the business community allowing users to create professional profiles, post resumes, and communicate with other professionals and job-seekers.
- Pinterest, an online network that allows users to send photos of items found in the web by“pinning” them and sharing comments with others in the virtual community.
- Snapchat, an application on mobile devices that allows users to send and share photos of themselves performing daily activities. 12

Social media takes many other forms including blogs, forums, product/services reviews and social gaming and video sharing. The social networking world has changed the way individuals and organizations use language to communicate with each other. Research findings indicate the significant impact that social media is having on society in the United States and elsewhere.

- Nearly 80 percent of American adults are online and nearly 60 percent of them use social media.
- Among the adolescent population, 84 percent have a Facebook account.
- Over 60 percent of 13 to 17-year-olds have at least one profile on social media, with some spending more than two hours a day on social network sites.
- Internet users spend more time on social media sites than any other type of web-based sites. The use from July 2011 (66 billion minutes) to July 2012 (121 billion minutes) represents a 99 percent increase.
- Young adults, some 33 percent, get their news from social media.
- More than half (52 percent) of internet users use two or more social media sites to communicate with their friends and

family.

- In the United States, 81 percent of users look online to get news about the weather, 53 percent for national news, 52 percent for sports news, and 41 percent for entertainment or celebrity news. 13

There are both positive and negative effects associated with social media. The positive effects include the ability to document memories, learn about and explore different topics, advertise oneself and form many friendships. On the negative side, social media often invades on personal privacy, fosters information overload, promotes isolation, affects users' self-esteem and creates the possibility for online harassment and cyberbullying.

Mapping actual language use in the context of the digital world is problematic. It is a complex communication universe. Unlike the geography of place names and the discourse of advertisement, social networking occurs in a virtual environment, involving many senders/receivers and different computer-mediated technologies. Data "mining" is a technique employed to analyze large-scale social media data fields to establish general patterns regarding the content/topics that emerge from people's actual online activities. Usage patterns in social media interest many advertisers, major businesses, government organizations and political parties. Research methods from the social sciences have been used to establish user's activities with different types of social media technologies. These include pencil-and-paper questionnaires, individual/group oral interviews and focus group sessions. These methods involve language-driven interactions with a limited number of users who may or may not reveal their actual social media patterns of behavior.

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4.10: End of Chapter Synthesis

Chapter Summary of Language

Language is a mental capacity that allows members of a speech community to produce and understand countless number of utterances which include grammatical elements like words, phrases and sentences.

Language as a means of communication makes use of different communicative acts (orders, questions, apologies, suggestions) performed during conversational situations across varied social contexts. Language is a symbol of social identity and serves to express ideas, beliefs and attitudes shared by a cultural group. It is reflected in cultural stereotypes, notions about different languages, and behaviors during speech situations which presuppose the use of cultural schemata and cultural scripts.

Languages are commonly classified according to membership in a language family such as Indo-European, Sino-Tibetan, Indo-Pacific, Mayan, Niger-Congo. Members within a family are further subdivided into branches (Germanic, Slavic, Finno-Ugric, Indo-Iranian) and the branches into subgroups (English in the Germanic branch; Spanish in the Romance branch).

The distribution of languages around the world is influenced by numerous factors: settlement history, demographic strength, ways of living and contact with other ethnolinguistic groups. Some languages become more dominant and as a result displace others that may eventually become extinct, leading to language death. The world's ten most widespread languages include Chinese, Spanish, English, Hindi, Arabic, Portuguese, Bengali, Russian, Japanese, and Javanese.

The number of dialects or varieties of American English have changed over time due to settlement histories, political changes (Louisiana Purchase, Mexican American War, Spanish-American War, territory annexation). Language diversity and multilingualism continue to be prevalent in the United States. Recent 2015 Census data reveal extensive language diversity in states like California, Texas, New Mexico, New York, New Jersey, Nevada, Florida, Hawaii, Illinois and Massachusetts.

Place names provide us with cultural insights about the significance of geographic locations, important features of the landscape, the recognition of famous personalities, and local reference to distant places and times. Diverse forms of advertisement are used to inform and convince customers that the products and services offered are the worthiest in the marketplace.

The use of different social media technologies (Facebook, Twitter, LinkedIn, Snapchat, among others) allows for online interaction between many senders and receivers. Users can create and share information, ideas, photos, career interests, and other concerns via virtual communities and networks.

Geographic mapping of the use and users of web-based technologies (desktop computers, smart phones and tablet computers) is unattainable at this time. Research methods from the social science (questionnaires, oral interviews, focus group sessions) may reveal some insights about the pervasive ways individuals, communities and organizations communicate in the virtual world.

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5: GEOGRAPHY OF RELIGION

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5.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

Aggregated from Chapter 6 in David Dorrell OER (1 of 2): Introduction to Human Geography edited by Dorrell & Henderson, Published by University of North Georgia University Press. https://web.ung.edu/media/university-press/human-geography_v2.pdf?t=1700179494361

Learning Objectives

By the end of this section, the student will be able to:

1. Understand: the significance of religion as a historical spatial phenomenon
2. Explain: the significance of sacred spaces and places to understandings of culture locally, regionally, and globally
3. Describe: the hearths and diffusion patterns of the major religions of the world
4. Connect: religious belief and values to trade, colonialism, and empire

Chapter 5: The Geography of Religion

Introduction

Religion is a significant cultural characteristic, closely tied to individual identity. It can foster a sense of community, provide moral standards, and influence architecture. Conversely, it can also lead to social discord and political instability. Beyond metaphysical explanations, religion serves as a governing philosophy and an organizing cosmology.

Global Distribution of Religions

There are many different religions across the globe. Some are more influential, covering a greater geographic area, than others. Christianity and Islam comprise over half of the world's population, while the unaffiliated category includes a large, diverse group of people who do not identify with any religion. Hinduism is primarily concentrated in the Indian subcontinent. We also have a number of folk and traditional religions that encompass various indigenous practices, and "Other" categories that include newer and less prevalent religions. Judaism, though small in numbers, is significant due to its historical influence on Christianity and Islam and its prominence in Israel.

Religion and Society

In some regions, religion is intertwined with daily life and governance, while in others, it is a distinct element of civil society. Religions, such as those in Denmark and Saudi Arabia, have varying degrees of influence on societal practices and legal systems. For example, blasphemy laws in countries like Pakistan reflect the close ties between religion and state power.

Types of Religions

Religions can be classified based on their approach to gaining new members and their beliefs about deities. Proselytic religions actively seek converts and are often universal, such as Christianity, Islam, and Buddhism. In contrast, ethnic religions like Judaism and Hinduism generally do not seek converts and are typically confined to specific ethnic or cultural groups.

Another way of dividing religions is into the categories of polytheistic (many gods) and monotheistic (one god). Although

the difference between monotheistic religions and polytheistic religions seems unbridgeable, there are religions that have managed to combine elements of polytheism and monotheism into the same religion. For example, in Voudon (Voodoo), entities that had previously represented African gods are recast as Catholic saints, who themselves are semi divine in the Catholic cosmology. Combining two religions to create a new religion is known as syncretism. Some religions focus less on deities and more on personal spiritual practices or achieving a beneficial afterlife through good deeds.

Recognizing Religions

Religions vary in visibility and structure. Christianity, for example, is easily recognizable through congregational worship in churches. Other religions may not have regular group meetings or purpose-built worship structures. Additionally, some secular belief systems exhibit religious characteristics, such as sacred texts, rituals, and holidays.

Denominations and Subdivisions

Within many religions, there are numerous denominations and sub-divisions, each with unique interpretations and practices. The term "cult" is often used derogatorily to describe smaller or less mainstream religious groups, though it can have a neutral connotation in academic contexts.

Understanding the diversity and complexity of religions is crucial for appreciating their role in shaping cultures and societies worldwide.

Different Kinds of Religions

Scale and Predominant Religion

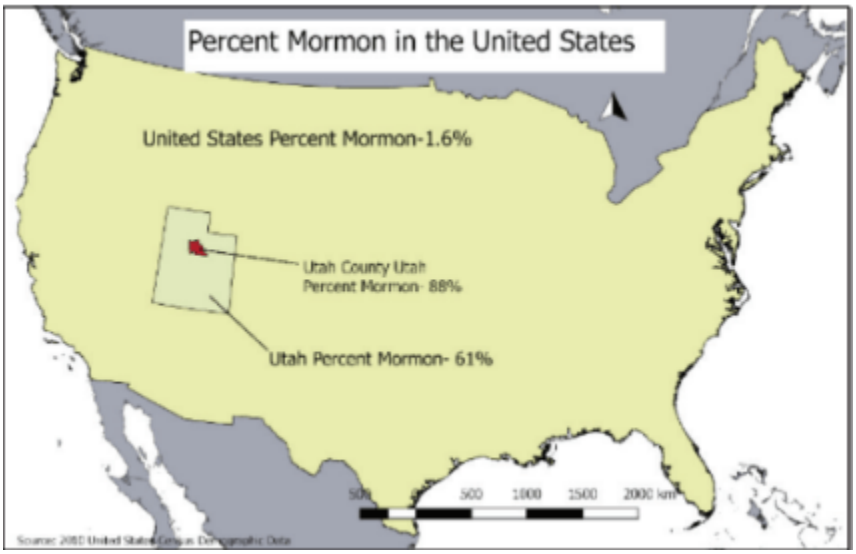


Figure | Percent Mormon aggregated to the County, State, and National level 3 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

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5.2: Religions in History and Cultural Identity

Religions in History

The current religious map of the world is best thought of as a snapshot. The religious landscape has been continuously changing throughout human history and will continue to change in the future. New religions are founded and old ones die out.

New religions are often made using pieces of older religions; Christianity and Islam deriving in part from Judaism and Buddhism deriving from Hinduism are not aberrations, but instead are examples of a common occurrence.

Within the relatively recent past, it has been possible to watch the creation and diffusion of several new religions just within the United States. Mormonism, the Jehovah's Witnesses, Seventh Day Adventism, and Scientology are all religions that were founded in the U.S. in the relatively recent past.

Religion and Cultural Identity

Religions are not isolated social phenomena. They exist within a cultural complex that nurtures and sustains them, or conversely, demeans and undermines them. Religion can be closely bound to other elements of identity -language, or nationality. In many societies, the boundaries between religion and social life, family structure, and law and politics are nonexistent. Religion in those places is the center of all life and everything else revolves around religious concepts. A place that is purely governed by a religious structure is known as a theocracy. There are very few of these in the modern world, although many states have strong religious influence. Many modern societies have built barriers between religious influence and political life. These places are called secular and are much more common in the developed world.

Religion, along with ethnicity and language, are very often core components of an individual's identity. It can define the way a person sees the world, what clothing is appropriate, gender roles, employment, and even your position within the greater society. As such, it has tremendous cultural influence, and this influence is visible in the landscape.

Esthetics and religion

Religion has a motivating factor that few other social phenomena can match. When people are doing something for God, they generally have fewer limits than in other spheres of life. One of the ways this lack of limits is manifest in the landscape is through religious architecture.

Sacred spaces can be religious structures, but they can also be historic battlefields, cemeteries, mountains, or rivers. Anything that humans use to generate a sense of the divine can be considered a sacred space. Sacred spaces have expectations of behavior. In some places, it is still possible to claim sanctuary in a sacred place. The small altars that mark roadside fatalities in the United States can be considered sacred spaces, as could a closet that is used as a prayer room.

Elements of culture may be manifest in different types of churches, temples on the landscape, as well as clothing, the food grown, and small home devotionals. Another way that religion manifests in the visible sphere is through codes of acceptable dress as well as acceptable public behaviors.

A less obvious way that religions may influence the landscape is through religious influences on dietary choices. Food production can be influenced by religions. Many religions have doctrine regarding what is acceptable food, and what is not. Halal, Kosher and Ital are all representative of food restrictions. Religions that prohibit the consumption of pork will probably not have swine farms. Cattle wander through the countryside in India, since they are religiously protected from harm. Another effect that religion has on the landscape is the effect of pilgrimage. Many religions have an activity that requires gathering at a particular place. Probably the best-known pilgrimage is the Hajj of Islam, but this isn't actually the largest in the world. That would be the Hindu Kumbh Mela. The Camino Santiago is a well-known Christian pilgrimage that ends in Santiago de Compostela, Spain. Pilgrimage is not just visible through the pilgrims, but in the entire infrastructure that develops to support the pilgrims.

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5.3: World Major Religions and Diffusion

Chapter 5 part 2: World Major Religions & Diffusion

Pulled from Graves chapter 6 OER (2 of 2): Introduction to human Geography A Disciplinary Approach 3rd Edition by Graves. Published California State University Northridge Department of Geography https://sites.google.com/site/gravesgeography/introduction-to-human-geography

Billions of people on the planet have some belief in supernatural events. Most consider those sacred. Those beliefs help people cope with the stresses and joys of life. In the past, those stresses and joys were very often a product of people's interaction with the natural environment. Today, religion continues to reflect and condition our interaction with the natural environment, as well as many other aspects of our daily lives.



Figure Mecca, Saudi Arabia - The Kaaba is the holiest location in Islam. It is the destination for millions of Muslims from around the world participating in the Hajj, the holy pilgrimage. Source: Wikimedia.

Occasionally, the site of a particularly public tragedy will be treated as sacred space; inviting religious-like pilgrimage and even ***dark tourism***. The *ground zero* location in New York City, Dealey Plaza in Dallas and Ford's Theaterin Washington, D.C. may be considered sacred space by some because people come to remember, grieve and ponder metaphysical questions. Behavior in such locations often approximates that which is regularly observed in formally recognized sacred spaces. For example, people tend to talk in hushed tones, they walk and gesture slowly etc. Some monuments that are ostensibly sacred, like the Lincoln Memorial in Washington D.C., also (almost imperceptibly) invite visitors to treat the space as sacred.

Diffusion of Religions

Religion uses nearly all forms of diffusion to reproduce itself across space. Hierarchical diffusion generally involves the conversion of a king, emperor, or other leader who then influences others to convert. Relocation diffusion, often through missionary work, brings "great leaps forward" by crossing space to secure footholds in far-away places. Contagious diffusion is most often seen in a religious context as the result of direct proselytizing. All these forms of diffusion produce patterns of diffusion that are complex. It is impossible to know why certain religions have appeal in particular times or places, but they do, and that appeal can wear off over time.

Another important thing to remember is that the religious landscape is just a snapshot. In the same way that it has always changed, it will continue to do so. These maps can reinforce this idea in that they demonstrate the historical nature of current

religious distributions. Remind yourself that these religious expansions occurred at different times. This will help explain why some places will become Buddhist or Christian at one point in history, but become Muslim at another.

Buddhism originated near the current Nepalese-Indian border. Like many other religions, it spread in other directions, particularly to the south and east (Figure 6.12).

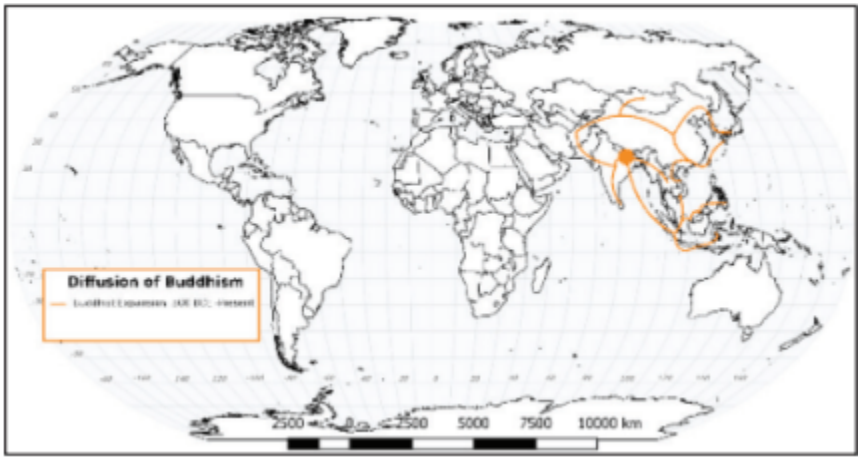


Figure | Diffusion of Buddhism 12 This map shows the distinct waves of the diffusion of Buddhism. Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Due to its position as the oldest large, universalizing religion, Buddhism is a good example of the lifecycle of a religion. From its origins, the religion spread across what is now India and Nepal. It spread in all directions but looking at a current religious map reveals that the process did not end 1500 years ago. Much of its territory on the Indian subcontinent would become mostly Hindu or Muslim. To the east and south, however, the religion continued and expanded. It is not unusual for a religion to prove popular far from its place of origin. In fact, that is the key to a successful universalizing religion.

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5.4: Christianity and Diffusion

World Major Religions

Christianity and Diffusion

Christianity was founded in the eastern Mediterranean, although much like Buddhism, its greatest successes were found in other parts of the world (Figure 6.13). Christianity initially grew in areas dominated by the Roman Empire, but it would adapt and thrive in many places. With the collapse of the Empire, Christianity became the only source of social cohesion in Europe for centuries. Later, Christianity was promoted through the process of colonialism, and as such, it was modified by the process that distributed it. The spread of Christianity helped drive the process that created the modern world.

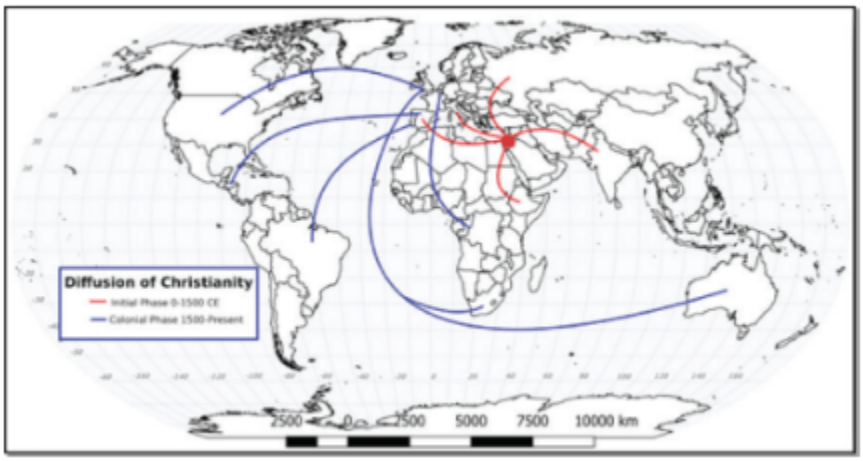


Figure 6.13 | Diffusion of Christianity 13 This map shows the distinct waves of the diffusion of Christianity, the initial wave from its foundation, and the subsequent wave associated with European Colonialism. Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Christianity is a monotheistic religion centered on the life and teachings of Jesus of Nazareth. It dates to some time in the first century AD since the Western world uses the Christian calendar. Christianity began as an offshoot of Judaism, and includes the Hebrew Bible (known to Christians as the Old Testament) as well as the New Testament as its canonized scriptures. It has three main branches: Catholic, Orthodox, and Protestant (Figure 6.4). Catholic and Orthodox Christianity split roughly one thousand years ago, while the Protestant/Catholic Schism began in the sixteenth century. The split between the Orthodox and Catholic hierarchies centered around whose authority in the church was final. The split between Protestantism and Catholicism mostly centered on practices conducted by the Catholic Church that the future Protestants did not believe were suitable for a religious organization.

The three branches of Christianity have their own spatiality, with a great deal of overlap between them. Orthodox Christianity is mostly seen in Russia, Eastern Europe, and Southern Europe with notable examples in Africa (Ethiopia) and in places where large numbers of people from these places have migrated (the United States, Canada). Catholic Christianity is seen in a wider range of places. It largely formed around the historic Roman Empire, then spread to the north and west of Europe. Catholicism did not stop there, however. The age of colonial expansion transplanted Catholicism to such widespread places as the Philippines, much of the Americas and Caribbean, and large parts of Africa. Protestantism is the most recently developed Christian branch, but it has also diffused widely. The initial Protestant countries were in northern Europe, but again due to colonialism, Protestant Christianity was exported to places like the United States, South Africa, Ghana, and New Zealand. The current expansion of Christianity, particularly in Asia, is largely due to the growth of Protestantism

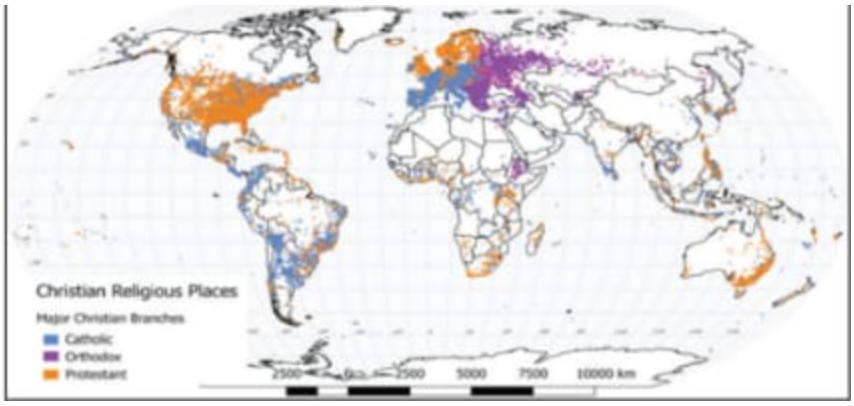


Figure | Christian Places 4 This dot map shows structures designated as Christian from OpenStreetMap. Note how it varies from Figure 6.2 in that it shows a religious landscape that is more fragmented and interspersed. Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Each Christian branch has developed a distinct appearance in the landscape. Orthodox churches are meant to invoke a sense of the divine. Buildings are elaborate, both inside and outside. Catholic churches also tend to be elaborate, in a similar vein to Orthodox churches, but with a different architectural tradition. This is understandable due to the fact that these two branches of Christianity arose in different places with different ideas of architectural grandeur and beauty. Protestant churches as a collective are less elaborate that their close relatives. This is a reflection of the early history of Protestant churches, which were often specific rejections of the elaborate ceremony and ostentatious display of the Catholic Church

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5.5: Islam and Diffusion

Islam & Diffusion

Islam is a monotheistic religion originating with the teachings of Muhammad (570-632), an Arab religious and political figure. The word Islam means “submission”, or the total surrender of oneself to God. An adherent of Islam is known as a Muslim, meaning “one who submits (to God).” Both Islam and Christianity inherited the idea of the chain of prophecy from Judaism. This means that figures such as Moses (Judaism) and Jesus (Christianity) are considered prophets in Islam. Muslims believe that Muhammad is the very last in that chain of prophecy. Islam has two main branches, and many smaller ones. Of the two main branches -Sunni and Shi’a, Sunni is much larger, comprising roughly 80% of all Muslims (Figure 6.5). The split between the two largest branches of Islam centered around the question of succession, that is to say, who would be the rightful leader of the Muslim world. Currently, there is no single voice for the global Muslim community. Other forms of Islam include Sufi (mystical) Islam and Ahmadi Islam. India is the number three Muslim country, but there are five times as many Hindus in India as there are Muslims.

The Diffusion of Islam

The most recent of the world’s largest religions, Islam is also the one that is expanding the fastest (Figure 6.14). This is not necessarily through conquest or conversion, but mostly through current demographics. Islam provides a blueprint for most aspects of life and as such, has often been associated with rapid expansion driven by military conquest. Although military conquest occurred in the past, military campaigns have been rare since the fall of the Ottoman Empire. The relative distributions of Buddhists, Christians, and Muslims have in fact changed little in half a millennium. Although there has been some migration of Muslims into western Europe, the percentages of Muslims in each country is small. France has the largest percentage of Muslims at 7.5%. To keep this in perspective, that is much lower than the percentage of Muslims in Spain in 1492.

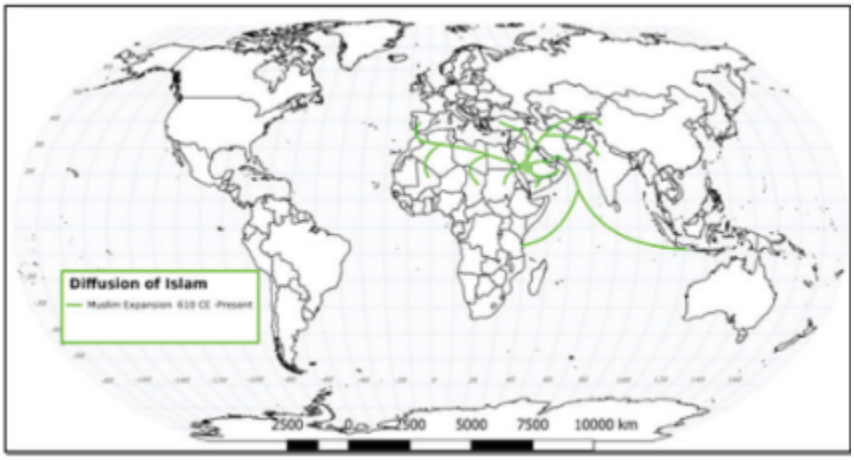


Figure | Diffusion of Islam 14 This map shows the distinct waves of the diffusion of Islam. Author | David Dorrell Source | Original Work License | CC BY SA 4.0

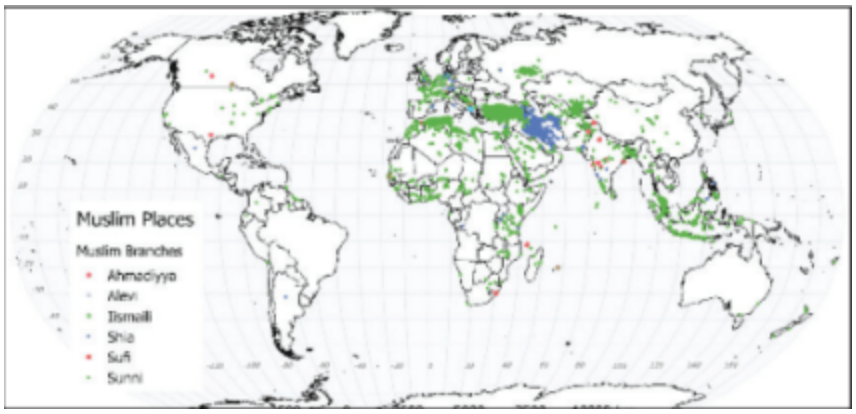
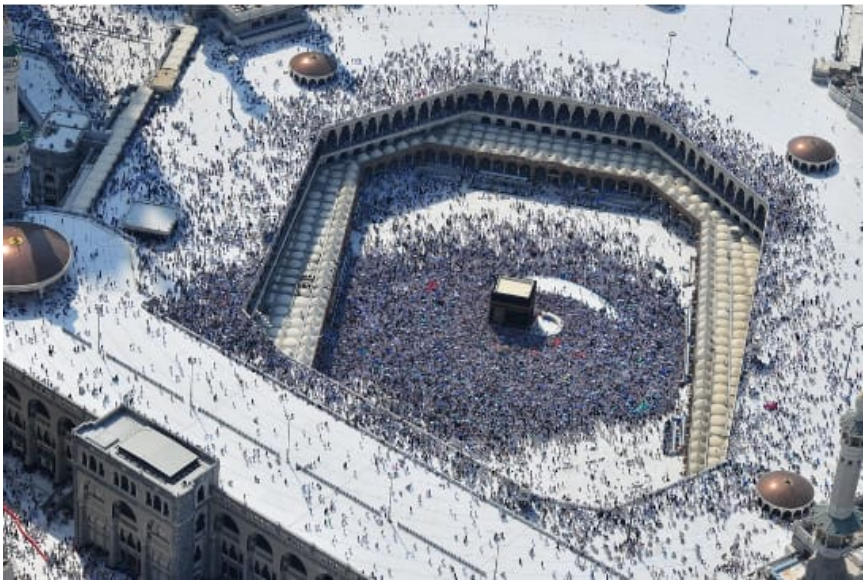


Figure | Muslim Places 5 This dot map shows structures designated as Muslim from OpenStreetMap. The distribution of the different branches (particularly Sunni and Shia) belie any hard lines in the religious landscape. Author | David Dorrell Source | Original Work License | CC BY SA 4.0

The Muslim world is somewhat more contiguous than the Christian world. This is mostly due to the fact that the Muslim expansion did not occur in two phases in the same way that Christianity did. As can be seen in the following map, Sunni and Shi'a countries are somewhat spatially separated. Only the countries of Iran, Iraq, Azerbaijan, and Bahrain are majority Shi'a. There are sizable minority Muslim sects in the world. Many of these groups, such as the Ahmadiyya, are subject to discrimination by other Muslim populations and/or governments. The world's most theocratic governments are Muslim, particularly those of Iran and Saudi Arabia. This is notable in that these two countries are also regional rivals and the two most powerful states in the Muslim world.



"After their time in Mina has passed, pilgrims head back to Mecca." by Al Jazeera English is licensed under CC BY-SA 2.0.

Five Pillars of Islam

Islam is *strictly monotheistic*. To them (and Jews), the Christian's doctrine of the *Holy Trinity* (Father, Son, Holy Spirit) is not strictly monotheistic. Observant Muslims must adhere to an expansive set of Islamic laws covering many aspects of daily life, so it a discussion of that would be unwieldly, but non-Muslims should be familiar at least with the *Five Pillars*, which represent the core religious duties for observant Muslims.

First, Muslims must "take the *Shahada*", meaning they must recite an oath as a basic profession of faith to become a Muslim. The Sunni version of the Shahada translates roughly thus: "There is no God but Allah and Muhammad is the prophet of Allah". The Shahada is repeated many times, frequently as part of the second pillar, called *Salat*, which the act of praying five times daily. Prayers are often recited at a mosque, where Muslims worship, but any place will suffice when it is time to pray. The third pillar is

alms giving, or donating to money to help the poor and other people in need. It's not exactly charity, because Muslims who can afford it are obliged to give a certain percentage of their wealth as *zakat*. Pooled together these monetary obligations made by Muslim likely exceed all other sources of aid to the needy worldwide. The fast (*sawm*) of *Ramadan* is the fourth pillar and it requires Muslims of faith and good health to fast (no food or water) from sunrise to sunset for the entire month of Ramadan. There is good food and fellowship at sunset each day during the fast, and a holiday, *Eid al-Fitr*, marking the end of the fast of Ramadan. Some Muslims observe a shortened work day during Ramadan, but basketball fans may recall Muslim NBA players Hakeem Olajuwon and Kareem Abdul Jabbar who played exceptionally well during the fast. The final pillar is the *Hajj* a pilgrimage to *Mecca*, Islam's holiest city. All Muslims, if they are able, must travel at least once in their lifetime to Mecca at a specific time of year and engage in a series of rituals alongside as many as three million other Muslims. Clearly, it is one of the world's greatest spectacles, but the size of the crowds in recent years has challenged Saudi authorities to ensure the safety of pilgrims. Interestingly, the Arba'een Pilgrimage in Iraq attracts as many as 20 million Shia Muslims, but for various reasons is largely unknown in the United States.

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5.6: Buddhism and Hinduism

Buddhism

Buddhism is an offshoot of Hinduism that dates to the fifth century BCE. It was founded by Siddhartha Gautama near the modern border between Nepal and India. The three largest branches of Buddhism are Theravada, Mahayana and Vajrayana (Figure 6.6). The main differences between the branches are their approaches to canonized doctrine.

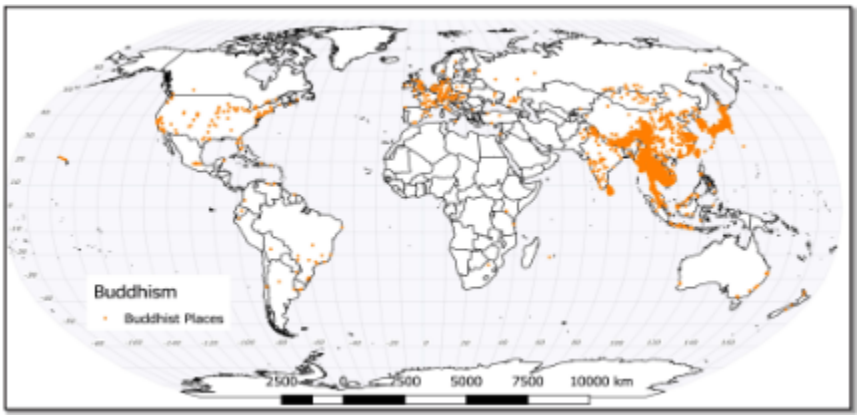


Figure | Buddhist Places 6 This dot map shows structures designated as Buddhist from OpenStreetMap. It does not break Buddhism into its major branches of Theravada, Mahayana, and Vajrayana. Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Hinduism

Hinduism is a religious tradition that originated in the Indian subcontinent (Figure 6.7). Its origins can be traced to the ancient Vedic civilization (1500 BCE), a product of the invasion of Indo-European peoples. A conglomerate of diverse beliefs and traditions that assembled organically over a period of centuries, Hinduism has no single founder. Due to its concurrent growth with Indian civilization, Hinduism has historically been tightly bound to the caste system, although the modern Indian state has worked to ameliorate the more damaging effects of this relationship.



Figure Malibu, CA - Hindu Temple. Extraordinary architectural elements mark this Hindu temple near Los Angeles. Architecture is a common means by which religions communicate their commitment to their faith.

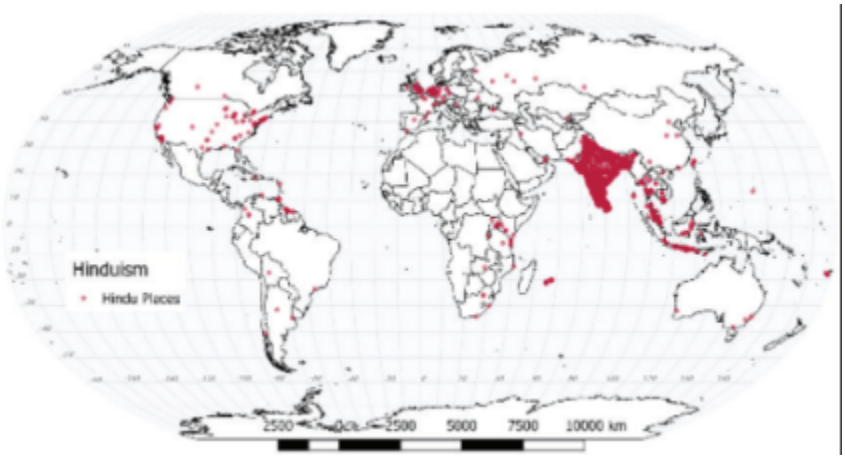


Figure | Hindu Places 7 This dot map shows structures designated as Hindu from OpenStreetMap. Although heavily associated with the modern Indian state, large numbers of Hindus now live elsewhere. Author | David Dorrell Source | Original Work License | CC BY SA 4.0

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5.7: Chinese Religions

Chinese Religions

Not strictly located in China, Chinese religions are closely tied to Daoism (a nature religion), Confucianism (a philosophy of living), and ancestor worship. Chinese religious structures are associated with people of Chinese descent within and external to China. Because of the diversity of religious practices and beliefs, this category is best thought of as a complex of beliefs, rather than a defined set of beliefs and practices.



Figure Los Angeles, CA - The Thien Hau Temple near downtown LA functions as a religious temple for the Vietnamese and Chinese communities in Los Angeles is officially a Taoist shrine, but associations with Buddhism and local religions are evident. Source: Wikimedia

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5.8: Sikhism

Sikhism

Sikhism is a 15th Century amalgamation of Islam and Hinduism. It is in many ways emblematic of syncretic religions. Syncretic religions are created by the combination of two or more religions, with the addition of doctrinal elements to create cohesion between the disparate pieces. Founded by Nanak Dev Ji (1469 – 1539) Sikhism reconciles Hinduism and Islam by recasting Hindu gods as aspects of a single god, in a manner similar to the Catholic Trinity. Although heavily associated with the Punjab region of the Indian subcontinent, Sikhism has spread widely through relocation diffusion (Figure 6.8). It has about 26 million adherents.

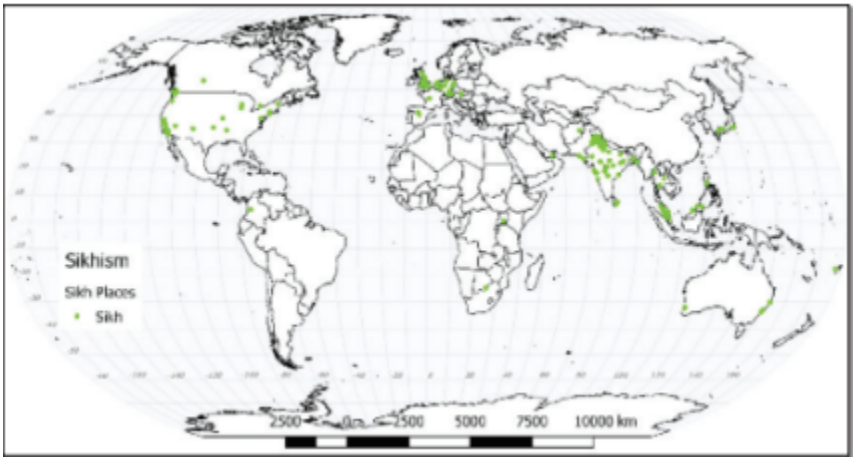


Figure | Sikh Places 8 This dot map shows structures designated as Sikh from OpenStreetMap. Although originating in the Punjab on the Indian Subcontinent, it has diffused widely. Author | David Dorrell Source | Original Work License | CC BY SA 4.0

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5.9: Judaism

Judaism

Judaism is a monotheistic religion originating in the Bronze Age in the eastern Mediterranean (Figure 6.9). Although it has no single founder, it holds the Torah as its holy book. In the modern context of Judaism, there are three major forms—Orthodox, Conservative and Reform—each with their own set of interpretations of correct practice. Judaism, as the initial Abrahamic religion, influenced other religions (particularly Christianity and Islam).

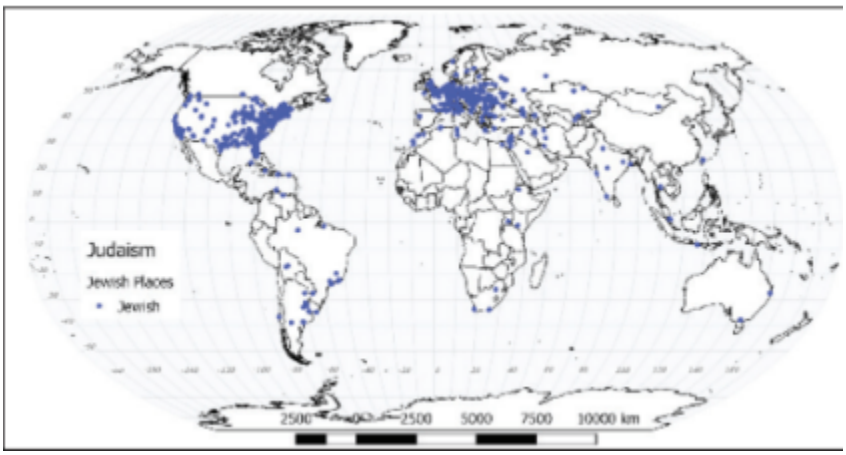


Figure | Jewish Places 9 This dot map shows structures designated as Jewish from OpenStreetMap. It does not break Judaism into Orthodox, Conservative and Reform. Author | David Dorrell Source | Original Work License | CC BY SA 4.0

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5.10: Animism, Jainism, Bahai, Shinto and Others

Animism, Jainism, Bahai, Shinto and Others

This catch-all category combines together religions that are all quite different. They are here due to their similar ties to places or ethnicities, not because they share any doctrinal or historical connections. Before continuing on a discussion of the following religions, it is important to make a point clear. It is possible to practice more than one religion. Many people in the world practice two or more religions with no sense of contradiction. In many parts of the world, pre-Christian or pre-Islamic beliefs persist alongside the newer religions.

Animism is a broad category, found in a variety of environments (Figure 6.10). The underlying theme is the idea that almost anything in the environment, mountains, rivers, rain, etc. is alive and worthy of recognition as such. Animism is frequently practiced with other ideologies or philosophies.

Baha'i was founded by Mirza Husayn Ali Nuri (1817-1892) in 1863. Baha'i was an offshoot of another religion, Babism, that in itself was a derivative of Islam. Although traditional Muslims believe that Muhammad was the last of the prophets (the seal of the prophets) many religions have been founded on the idea that there could be other, later people who also spoke for god. Baha'is believe that new messengers would be sent to humanity to remind people of their universal relationship to god and one another. The late date and historic context of this religion informed a religion that explicitly rejected racism and nationalism. One of the notable characteristics is that although Baha'is are not one of the larger religions on Earth, they have a temple on every permanently inhabited continent.

Jainism is another ancient religion that arose in India. It is best known for its concept of ahimsa, or nonviolence.

Shinto, the ethnic religion of Japan is often practiced in conjunction with Buddhism. It is polytheistic and dates back centuries. The most important consideration of Shinto is that the rituals are so ingrained in Japanese national identity that the religion can either be considered vibrant and relevant, or moribund and ritualistic, depending on the perspective of the viewer.

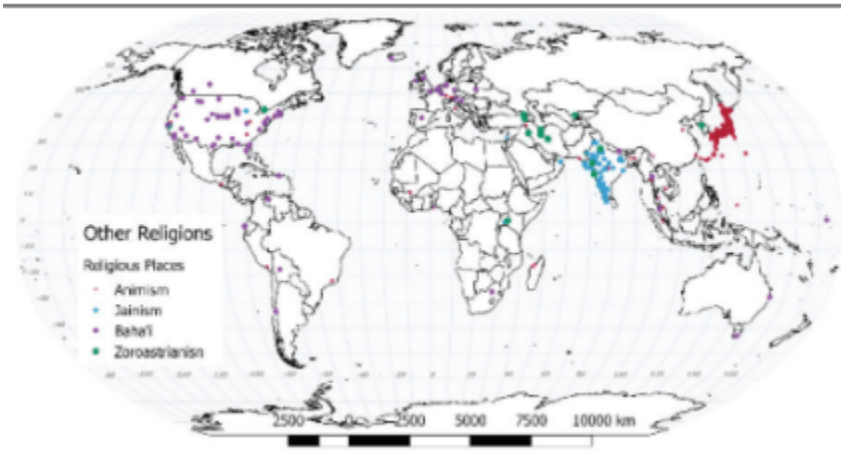


Figure 6.10 | Other Religious Places 10 This dot map shows some structures designated as Animist, Jain, Baha'I, and Zoroastrian from OpenStreetMap. Author | David Dorrell Source | Original Work License | CC BY SA 4.0

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5.11: Syncretic Religions

Syncretic Religions

Syncretic religions are formed by the combination of two or more existing religions to produce a new religion (Figure 6.11). Some of the larger syncretic religions have already been mentioned, such as Baha'i or Sikhism.

Cao Dai is a religion founded in twentieth century Vietnam. It has strains of Taoism and Buddhism and represents an attempt to reconcile many diverse religious traditions into a single religion.

Voodoo arose in French Caribbean colonies as a combination of Catholicism and the beliefs of another set of West African peoples, the Ewe and the Fon. Practitioners speak to God using intercessors called loa that function as saints do in both the Catholic and Sufi worlds.

Candomble is a syncretism formed from many West African religious traditions and Catholicism. It has existed in Brazil for centuries. It believes in a creator god (Oludumare) and a series of demi-gods (Orishas).

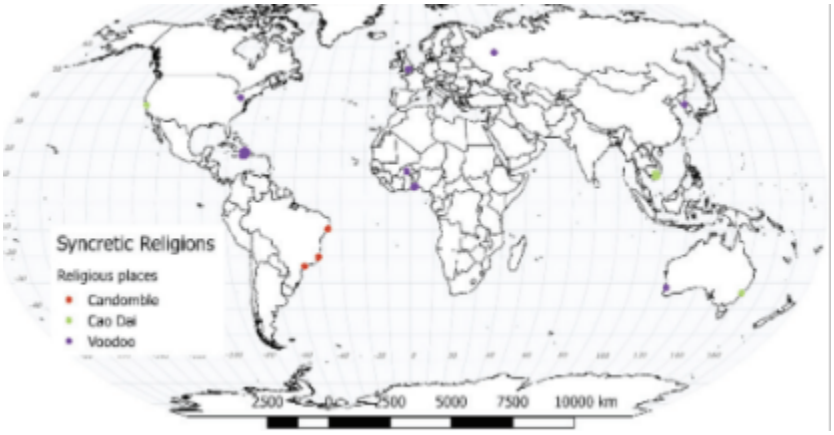


Figure | Syncretic Religions 11 This dot map shows structures designated as Candomble, Voodoo, or Cao Dai from OpenStreetMap. Notice that Cao Dai has diffused from its origin in Vietnam to Australia and the United States. Author | David Dorrell Source | Original Work License | CC BY SA 4.0

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5.12: New Religions

New Religions

Much like any other human phenomena, new religions are formed continuously. They are usually adaptations or combinations of existing religions. It is impossible to list the most recent arrivals. This category includes such religions as Scientology, the Unification Church, Seicho no Ie and Wicca.

What about the Nonreligious?

Sometimes the nonreligious are considered a religion unto themselves. This is generally not true. The nonreligious category is amorphous. There are no documents of beliefs that all nonreligious people must abide by. There is no overarching nonreligious creed. It is another catch-all category that contains a large, diverse population with divergent beliefs and practices. Within these categories, however, there are notable manifestations. First, there are those places which are officially atheistic or non-religious. This label is problematic. It provides only the perspective of the government of these places. In many places that officially have no religions, practitioners simply do not advertise their religious affiliations. In other places, religious attendance has declined to a point that many people have no connection to a particular religious tradition. The label agnostic refers to the idea that the existence of a higher power is unknowable. It is important to point out that religions do not necessarily require the existence of a god-like force. Daoism relies on nature as its driving force.

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5.13: The Landscapes of Religion

The Landscapes of Religion

Religious practice shapes the landscape in myriad fashion. The landscape can reveal a great deal about the belief systems and values both dominant and minority religious groups. In turn the religious landscape affects the beliefs and religious practices of the adherents.

Christian churches are the most obvious part of the religious landscape of the United States. *Sacred architecture* may be grandiose, like many Catholic Churches, or simple like the buildings used by the Amish. Though both groups use the same basic religious text, their various interpretations of the Christian Bible have led different groups to conclude that worship services should be conducted in very different buildings. Many religions have temples, shrines and other houses of worship that pass unrecognized as sacred spaces by Christians. Dozens of other places on the landscape are believed to have special sacred functions or meanings, including cemeteries, certain mountains, rivers, etc.

The architecture of churches and temples often reflect the desire of religious people to glorify their God(s). Worshippers attempt to create, as best they can, a monument worthy of their religion. Catholic churches are frequently monumental because many Catholics think of churches as the "House of God". Inspiring architecture may also help people feel the presence of the supernatural, and motivate them to behave in accordance to religious guidelines. Architecture sometimes is educational too. This was especially true when literacy was rare. The magnificent stained-glass artwork of many churches was used to teach many of the stories from the Bible. Architecture may be used to recruit new converts. Consider the impact of even the modest mission churches of California upon prospective converts in the late 18th century. To Californians today, mission chapels may seem mundane, but to the Native Californians in the late 1700s, they may have seemed the most amazing buildings they had ever seen. Architecture, and landscape in general, can be a very powerful media for communicating ideas and emotions.



Figure Prague, Czech Republic - Massive cathedrals are important markers of the prestige of many cities with large Catholic populations. The grandeur of these buildings reflects specific denominational beliefs about architecture.

Approaching in size and grandeur of Catholic churches are many *megachurches*, which have become popular in the United States among Evangelical Christians. These churches, which are sometimes mockingly called "Six Flags Over Jesus" by the local towns people, may feature multiple buildings: gymnasiums, classrooms, coffee shops, and bookstores, in addition to the more common chapels and rectories. Megachurches offer a variety of services for the convenience of their congregations, and function as great *recruiting* tools for congregations seeking to grow. Some claim that because these buildings bring people to the faith, they are worth the cost and effort. Still, the extravagance of the building programs has created some controversy. Some argue that spending millions of dollars on extravagant buildings, rather than the needs of the poor, is a sinful waste of money. Some also worry mega-churches threaten to shut down smaller churches without the money to compete for the favor of adherents. Government officials and businesses have also occasionally questioned the tax-exempt status of churches that appear to operate

in successful business enterprises or are overly active in politics.

Elaborate church buildings also draw the scorn of those who believe that Christian doctrine calls the faithful to “humble yourself before the Lord” in all areas of life. The *Amish* and certain orders of the *Mennonites* are the two groups in the US that best embody these ideas. Some of the more conservative Amish groups do not build church buildings at all, but instead gather to worship in private homes because they choose to focus on a passage in the Bible that notes that God “does not dwell in temples made with hands”.

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5.14: Shrines and Other Sacred Spaces

Shrines and other Sacred Spaces

The practice of turning profane, secular, or ordinary locations into sacred spaces where worship activities may transpire is commonplace. The process by which a location becomes sanctified or ordinary spaces become hallowed or holy is not as easy to understand. Holy persons, such as priests, may perform a ***consecration*** ceremony upon buildings or grounds. Buildings or spaces can also be *deconsecrated* through a ritual. The aggressive destruction of a holy or sacred site by vandals, or sometimes by rival religious groups, is known as *desecration*.

Clearly though, there are many sacred sites that have become holy through a less formal process. In areas where Catholicism is prevalent, small folk-art shrines, generally dedicated to the *Virgin Mary*, and enclosed in an artificial grotto are easily spotted. These shrines are sometimes fashioned out of old bathtubs, prompting some to humorously label such a shrine a "*Bathtub Mary*", or a "*Madonna on the Half Shell*". Similar are the impromptu, and frequently temporary, shrines erected to victims of car crashes or other accidents. Mourners often place candles, crosses, crudely painted bicycles (ghost bikes) and other memorabilia at the site of an accident, temporarily creating a sacred space for mourners who may have known the victim.



Figure: Los Angeles, CA - This house in a residential neighborhood also serves as a temple for these Buddhists who are celebrating the end of a fasting period. It also violates several zoning laws.



Figure Chicago, IL - The Saint Patrick's Day Parade mixes ethnic, religion and civic functions into a single event, blurring the lines between church and state; public and sacred space.

Other examples of the uneasy intersection of church and state occur when public funds are used to promote, organize or otherwise regulate large religious festivals. Mardi Gras, a celebration preceding the start of the Catholic Lenten fasting season, attracts huge crowds, many of whom are tourists, to New Orleans each year. Many other towns in the Gulf Coast regions have public celebrations, frequently including a parade that costs taxpayers a great deal of money. St. Patrick's Day parades, Halloween festivals and many other such celebrations require significant public endorsement, but seem to pass without controversy.

Cemeteries:

Cemeteries are common landscapes that function often as religious or sacred space, though they too are often regulated and maintained by the public. How a society treats corpses, and how they treat the places where the dead are buried (if they bury their dead) may reveal a great deal about the religion of the people who build them.



Figure : Prague, CZ: Very old cities, like Prague, struggle with how to balance religious practice with pressing needs for living space.

The Abrahamic faiths generally have a similar set of beliefs about the "end of time" in which humans, and the remains of humans,

shall reconcile with the divine. For this reason, it is tradition for people in these religions to bury their dead so that the remains of the deceased may be brought back to life, or resurrected in some form at the end of time. Muslims tend to bury their dead facing their holiest city, Mecca. Christians tend to bury people facing east, so that the dead may rise to face Christ on Judgment Day. Burying millions of people in perpetuity has multiple implications for geographers, not the least of which is the amount of territory given over storing the remains of the dead, especially in large cities like New York; or very old cities like Cairo. Some cultures hold these grounds inviolable. Other traditions are more flexible, allowing for the removal of remains from gravesites so that the space may be re-used or recycled. Some burial sites may add new corpses to existing mausoleums, or crypts; particularly when a family “owns” a particular site.

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5.15: Religion and Politics

Religion and Politics

In the United States, as is the case elsewhere, religious affiliation is a good predictor of political behavior. In the US, Evangelical Christians and Mormons rank among the most politically conservative voters in the US year after year. For nearly 100 years after the Civil War, many Southern Baptists were fervent supporters of the Democratic Party (Abraham Lincoln was a Republican). The so-called “Reagan Revolution” of the 1980 created a much-energized alliance between Republicans and conservative Christians. Certainly, part of the switch was motivated by the Democrats’support of Civil Rights for African Americans, but hot-button religious issues, particularly abortion, drove many Evangelicals to the Right (Republican). Leading the charge were several high-profile television ministers, such as Jerry Falwell and Pat Robertson. The new alliances, particularly with the pro-business/anti-taxation element of the Republican Party forged during the Reagan era have caused some Evangelical Christians some discomfort however. The numerous Biblical restrictions on usury, for example, have made it difficult for some Evangelicals to fully support Republican policies calling for de-regulation caps on the interest rates charged to people taking out loans.

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RELIGIOUS CONFLICT

Human beings have struggled against one another for a variety of reasons. Religious disagreements can be particularly intense. Sectarian violence involves differences based on interpretations of religious doctrine or practice. The struggles between the Catholic and Orthodox churches, or the wars associated with the Protestant Reformation and Counter Reformation, are examples of this form of conflict. The current violence seen between Sunni and Shia Muslims is also in this category. Closely associated with this kind of conflict is religious fundamentalism. Religious fundamentalism rests on a literal interpretation and strict and intense adherence to the basic principles of a religion. The conflict arises when religious fundamentalists see their coreligionists as being insufficiently pious. Extremism is the idea that the end of a religious goal can be justified by almost any means. Some groups that are convinced that they have divine blessing have few limits to their behavior, including resorting to violence.

Another form of religious violence is between completely different religions. Wars between Muslims and Christians or Hindus and Buddhists have been framed as wars for the benefit or detriment of particular religions. What is described as religious strife, however, is often not. Although some religions are fighting over doctrinal differences, most conflict stems from more secular causes- a desire for political power, a struggle for resources, ethnic rivalries, and economic competition.

The Israel/Palestine conflict is a struggle over territory, resources, and political recognition. The Rohingya crisis in Myanmar has less to do with religion and more to do with differences in ethnicity, national origin, and post-colonial identity. Massacres in Sahelian Africa are better framed as farmers versus herders. The long running violence between Protestants and Catholics in Northern Ireland is better framed as a violent dispute between one group who holds allegiance with the Republic of Ireland and the other who holds allegiance with the United Kingdom.

This is not to say that religious violence does not exist. It does. The most obvious example of this in recent years has been the emergence of Islamic State. This organization carries all the worst examples of religious extremism- sectarianism toward other Muslims (the Shi’a), attempted genocide of religious minorities (Yazidis and Christians), and brutal repression through the apparatus of the state.

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5.16: End of Chapter Synthesis

Chapter Summary

Religion can be key to a person's identity. It manifests both as an internal sentiment as well as in structures in a landscape. The religious world is always changing, but at a pace that is generally very slow. New religions are created, while other religions may fade away, or change. The general historical trend has been toward a small number of universalizing religions gaining ground over local, ethnic religions. Religious differences can lead to conflict, although many conflicts presented as religious in nature have their roots elsewhere. Just like language, religion is another way of sorting people into groups, either for good or bad. Another such way of sorting people is ethnicity, the subject of the next chapter.

Chapter Key Terms Defined

Agnostic: The belief that existence of the supernatural is unknown or unknowable.

Atheistic: The belief that there is nothing supernatural.

Branches: A large division of a religion.

Canonized doctrine: The officially recognized documents or ideas of a religion.

Ethnic religions: A religion associated with a particular ethnic group.

Monotheism: The belief in one god.

Pilgrimage: A journey to a sacred place.

Polytheism: The belief in many gods.

Prophecy: Communication with a supernatural power.

Proselytizing: Seeking converts to a religion.

Religious fundamentalism: The belief in the absolute authority of a religious text.

Sacred spaces: Places associated with a sense of the divine.

Sanctuary: A haven or place of safety, often defined by law.

Schism: The fracturing of an organization.

Sectarian violence: Violence between different sects of the same religion.

Secular: A condition of separation between a state and any religion.

State religion: The official religion of a state. This is not the same as theocracy.

Syncretic religion: A religion formed by the combination of other religions.

Theocracy: A state ruled by religious principles.

Universalizing religion: A religion that seeks converts.

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BBC: The Surprising Story of the Basque Language

Chapter 5: Key Terms & Definitions

Speech community: People who share a similar cultural background and language knowledge.

Langue: The internal mental capacity for language.

Parole: The external manifestation of ideas through speech.

Creole: A blended language differentiated from a pidgin language by its more complex grammar and its status as a first language.

Cultural schemata: A system of standards for perceiving, believing, evaluating and acting.

Speech situations: Locations and occasions requiring the use of different styles of language.

Cultural scripts: The “scripts” that guide social behavior and language use in everyday speaking situations.

Language branch: A group of languages which share common linguistic and have evolved from a common ancestor.

Language family: A collection of languages within a family with a common ancestral language.

Proto-language: An historic language from which known languages are believed to have descended by differentiation of the proto-language into the languages that form a language family.

Dialect: Variants of the single language.

Pidgin: A composite language with a simplified grammatical system and a limited vocabulary.

Lingua franca: A language used to make communication possible between people who do not share a native language.

Bilingual: Being able to use two languages with varying degrees of fluency.

Toponymy: The study of place names.

Text: The use and arrangement of specific language forms.

Typological classification: Classification based on the comparison of the formal similarities in pronunciation, grammar and vocabulary which exist among languages.

Official language: A language that is given a special legal status over other languages in a country.

Intergenerational language shift: A linguistic pattern of acculturation found in US immigrant groups in which a group shifts from being non-English monolingual to English monolingual.

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6: POPULATION

6.1: Chapter Introduction and Objectives
6.2: Thinking About Population
6.3: Population and Development
6.4: Measuring the Impact of Population
6.5: Population and Health
6.6: End of Chapter Synthesis

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6.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

By the end of this section, the student will be able to:

Learning Objectives

1. Understand: the spatial organization of the human population

2. Explain: the dynamics of population as they are reflected in fertility, morbidity, and mortality

3. Describe: the relationship between population and other spatial phenomena such as living standards, agriculture, and health

4. Connect: development, migration and population as a fluid self balancing system

Chapter 6: Part 1: Population

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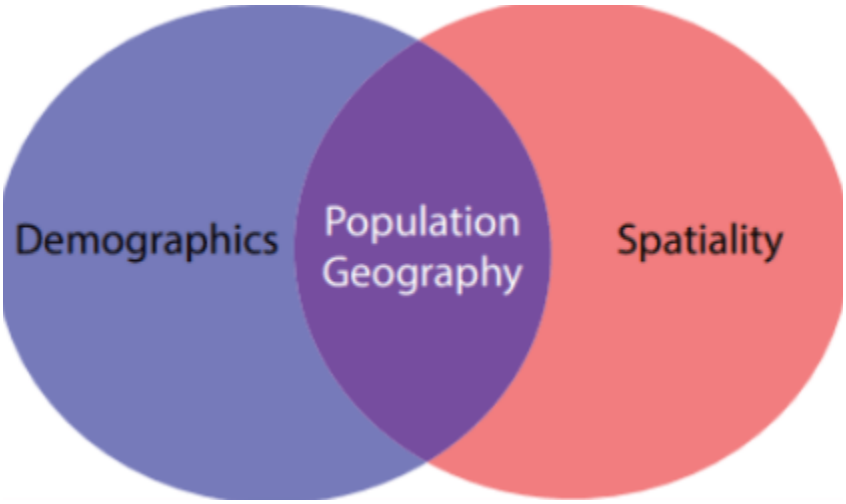


Figure 5.1 | Population Geography Author | Corey Parson Source | Original Work License | CC BY-SA 4.0

Part 1: Population

Introduction to Population

“You are one in a million, there are 1700 people in China exactly like you.”

In this chapter we will look at the human population. We’ll look at the size of it, and whether it may be growing or shrinking. We’ll explore the role of scale. We’ll look at differences between countries. And we’ll do all of this through the lens of spatiality.

The human population is at 7.5 billion, an all-time high. In the space of a few centuries it has gone from less than one billion to more than seven, with projections of several billions more in the relatively near future (Figure 2.2).

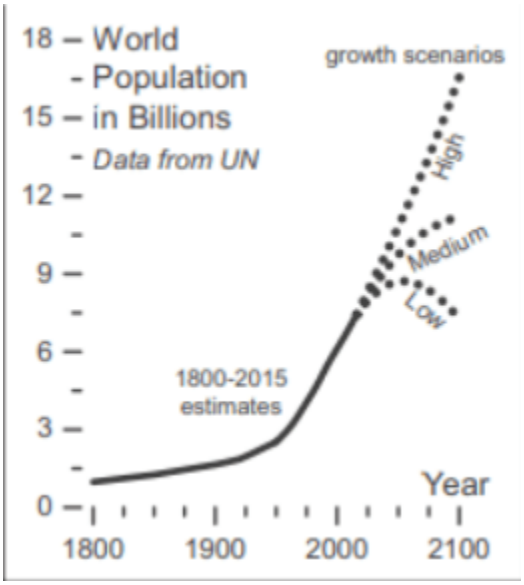


Figure | Historical World Population This graph depicts human population growth from the year and includes three possibilities for the future of human population.1 Author | User “Bdm25” Source | Wikimedia Commons License | CC BY-SA 4.0

At the global level we can talk about population without consideration of migration, since the earth is a closed system in this regard, but when we discuss countries, it is useful to separate the natural increase rate—the rate of population change only accounting for births and deaths—from the effect of migration. A full discussion of migration occurs in Chapter Three. The following map shows a choropleth map of countries of the world categorized by population (Figure 2.3). Notice Bangladesh, the small country nearly surrounded by India. Now look at Russia.

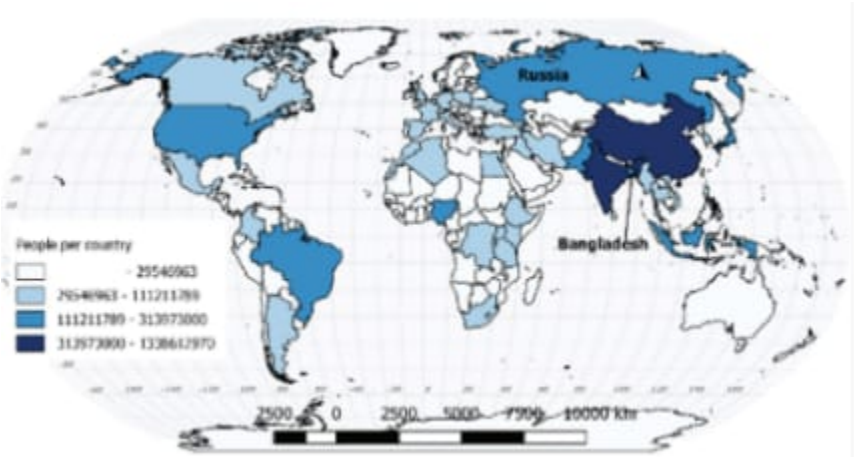


Figure | Countries by Population 20151 Author | David Dorrell Source | Original Work License | CC BY-SA 4.0

Hold that in your mind while you look at Figure 2.4. Although they are vastly different in size, the population of Bangladesh is almost 20 million larger than Russia. Not only that, but the population of Russia is shrinking and the population of Bangladesh is growing!

Rank	Country	Population as of July 2016
1	China	1,382,323,332
2	India	1,326,801,576
3	Unites States	324,118,787
4	Indonesia	260,581,100
5	Brazil	209,567,920
6	Pakistan	192,826,502
7	Nigeria	186,987,563
8	Bangladesh	162,910,864
9	Russia	143,439,832
10	Mexico	128,632,004

Figure 2.4 | Top Ten Countries by Population2 Author | David Dorrell Source | Original Work License | CC BY-SA 4.0

As Figure 2.3 showed there are some spatial patterns that present themselves, but there is a great deal of noise in the signal. Many of the countries with large populations are physically large themselves. Places like China and India have had comparably large populations for a long time. Very often, explorations of population growth are short circuited by discussions of religion or levels of development. Although religion and development are not irrelevant, they are not as important as is often assumed. Individual characteristics have come to mean less than they have in the past.

The most obvious characteristic that often leads to higher population growth is poverty. There are many reasons for this, two of which were mentioned previously, but there are others. The effect of infant mortality drives some people to have a large number of children in the hope that some of them survive to adulthood. Another is the effect of migration, which can boost incomes by sending some population to other countries to work, but depopulate the places that are sending migrants.

In almost all countries, the rate of population growth has slowed. Two countries, China and India, account for 36 percent of the world's population. Any change in these two places will have a large impact on the values for the entire planet. According to the World Bank for 2013, the population of China is growing .5 percent per year, India is growing 1.2 percent per year, the United States is growing by .7 percent per year, and Indonesia is growing by 1.2 percent per year. The rates for all these countries have been falling for decades, even Indonesia and India.

The populations of the countries of Japan, Russia, Germany, Spain, and Ukraine are all shrinking whereas the populations of Nigeria, the Democratic Republic of Congo, Iraq, and Kenya are expanding rapidly (Figure 2.5). In developed countries, population decline has implications for social programs such as retirement, which is funded by a shrinking pool of workers. In very advanced societies, a worker shortage is driving rapid development of robotics. In poorer places rapid population growth can trigger large-scale migration and social disruption.

Why is it so difficult to find one characteristic that explains the population dynamics of a particular country? Because places matter. Each place is a unique combination of factors, and their interactions.

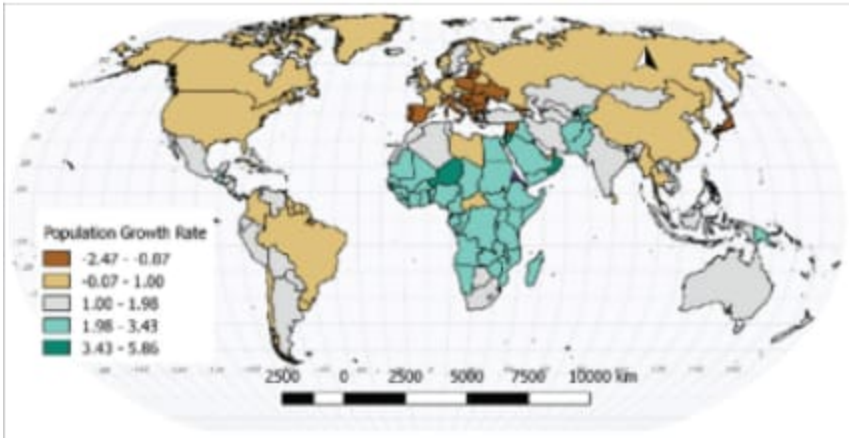


Figure | Countries by Population Growth Rate 20153 Author | David Dorrell Source | Original Work License | CC BY-SA 4.0

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6.2: Thinking About Population

Thinking About Population

The Greeks and Ecumene

No discussion of population is complete without a brief history of the philosophical understanding of population. This discussion starts as it often does, with the ancient Greeks. The Greeks considered that they lived in the best place on Earth. In fact, they believed in the exact center of the habitable part of the Earth. They called the habitable part of the Earth ecumene. To the Greeks, places north of them were too cold, and places to the south were too hot. Placing your own homeland in the center of goodness is common; many groups have done this. The Greeks decided that the environment explained the distribution of people. To an extent, their thinking persists, but only at the most extreme definitions. Many places that the Greeks would have found too cold (Moscow, Stockholm) too hot (Kuwait City, Las Vegas) too wet (Manaus, Singapore) or too dry (Timbuktu, Lima) have very large populations.

Modern Ideas About Population

Thomas Malthus (1766-1834) “Population, when unchecked, increases in a geometrical ratio.” 4

Ester Boserup (1910-1999) “The power of ingenuity would always outmatch that of demand.” 5

Modern discussions of population begin with food. From the time of Thomas Malthus (quoted above), modern humans have acknowledged the rapidly expanding human population and its relationship with the food supply. Malthus himself was a cleric in England who spent much of his time studying political economy. His views were a product not only of his time, but also of his place. In Malthus’ case his time and place were a time of social, political, and economic change.

Karl Marx (1818–1883) took issue with Malthus’ ideas. Marx wrote that population growth alone was not responsible for a population’s inability to feed itself, but that imbalanced social, political, and economic structures created artificial shortages. He also believed that growing populations reinforced the power of capitalists, since large pools of underemployed laborers could more easily be exploited. The post-World War II period saw a flurry of books warning of the dangers of population growth with books like Fairfield Osborn’s Our Plundered Planet and William Vogt’s Road to Survival. Perhaps most explicit was Paul and Anne Ehrlich’s The Population Bomb.

These books are warnings of the dangers of unchecked population growth. Malthus wrote that populations tend to grow faster than the expansion of food production and that populations will grow until they outstrip their food supplies. This is to say that starvation, war, and disease were all predictions of Malthus and were revived in these Neo-Malthusian publications. Some part of the current conversation of environmentalism regards limiting the growth of the human population, echoing Malthus.

A common theme of these books is that they all attempt to predict the future. One of the advantages we have living centuries or decades after these books is the opportunity to see if these predictions were accurate or not. Ehrlich’s book predicted that by the 1970s, starvation would be widespread because of food shortages and a collapse in food production. That did not happen. In fact, the global disasters predicted in all these books have yet to arrive decades later. What saved us?

Perhaps nothing has saved us. We have just managed to push the reckoning a bit further down the road. If we have been saved, then the assumptions inherent in the predictions were wrong. What were they?

1. Humans would not voluntarily limit their reproduction.

2. Farming technology would suddenly stop advancing.

3. Food distribution systems would not improve.

> 4. Land would become unusable from overuse.

All of these assumptions have proven to be wrong, at least so far. Only the most negative interpretation of any particular factor in this equation could be accepted.

On the other hand, Ester Boserup, an agricultural economist in the twentieth century, drew nearly the opposite conclusion from her study of human population. Her reasons for doing so were manifold. First, she was born one and one -half centuries later, which gave her considerably more data to interpret. Second, she didn't grow to adulthood in the center of a burgeoning empire. She was a functionary in the early days of the United Nations. Third, she was trained as an economist, and finally, she was a woman. Each one of these factors was important.

Let's Investigate Each One of These Assumptions

In preindustrial societies, children are a workforce and a retirement plan. Families can try to use large numbers of children to improve their economic prospects. Children are literally an economic asset. Birth rates fall when societies industrialize. They fall dramatically when women enter the paid workforce. Children in industrialized societies are generally not working and are not economic assets. The focus in such societies tends to be preparing children through education for a technologically-skilled livelihood. Developed societies tend to care for their elderly population, decreasing the need for a large family. Developed societies also have lower rates of infant mortality, meaning that more children survive to adulthood.

The increasing social power of women factors into this. Women who control their own lives rarely choose to have large numbers of children. Related to this, the invention and distribution of birth control technologies has reduced human numbers in places where it is available.

Farming technology has increased tremendously. More food is now produced on less land than was farmed a century ago. Some of these increases are due to manipulations of the food itself—more productive seeds and pesticides, but some part of this is due to improvements in food processing and distribution. Just think of the advantages that refrigeration, freezing, canning and dehydrating have given us. Add to that the ability to move food tremendous distances at relatively low cost. Somehow, during the time that all these technologies were becoming available, Neo-Malthusians were discounting them.

Some marginal land has become unusable, either through desertification or erosion, but this land was not particularly productive anyway, hence the term marginal. The loss of this land has been more than compensated by improved production.

At this point, it looks like a win for Boserup, but maybe it isn't. Up to this point we have been mixing our discussions of scale. Malthus was largely writing about the British Isles, and Boserup was really writing about the developed countries of the world. The local realities can be much more complex.

At the global scale there is enough food, and that has been true for decades. In fact, many developed societies produce more food than they can either consume or sell. The local situation is completely different. There are developed countries that have been unable to grow food to feed themselves for over a century. The United Kingdom, Malthus' home, is one of them. However, no one ever calls the U.K. overpopulated. Why not? Because they can buy food on the world market.

Local-scale famines happen because poorer places cannot produce enough food for themselves and then cannot or will not buy food from other places. Places that are politically marginalized within a country can also experience famines when central governments choose not to mobilize resources toward the disfavored. Politically unstable places may not even have the necessary infrastructure to deliver free food from other parts of the world. This is assuming that food aid is even a good idea (a concept revisited in the agriculture chapter). These sorts of problems persist to this day and they have an impact on the population, although often in unpredictable ways, such as triggering large-scale migration or armed conflict.

To recap, at the global level, population has not been limited by food production. However, people do not live at the "global level." They live locally with whatever circumstances they may have. In many places the realities of food insecurity are paramount.

Although discussions of population tend to start with food, they cannot end with it. People have more needs than their immediate nutrition. They need clothing and shelter as well. They also have desires for a high standard of living- heating, electricity, automobiles and technology. All of these needs and desires require energy and materials. The pressure put on the planet over the last two centuries has less to do with the burgeoning population and more to do with burgeoning expectations of quality of life.

Scale and the Ecological Fallacy

Numbers can be a little bit misleading. You may read that the “average woman” in the United States has 1.86 births and wonder, “What does this tell me about a particular woman?” And the answer is . . . it tells you nothing. Remember that number is an aggregate of the data for the entire country, which means it only works at that scale; it only tells you about the country as a whole. The Ecological Fallacy is the idea that statistics generated at one level of aggregation can be applied at other levels of aggregation.

Similarly, one of the biggest problems with maps is that they can make us think that a place is the same (homogenous) within a border. We see a country like the United States, and it has one color for the entire area on the map and we tell ourselves that the U.S. is just one place. And it is. But it’s made of many smaller places. It’s fifty states, and those states combined have 3144 counties (and county-like things). And each one of those things is a level of aggregation. It looks a bit like this (Figure 2.6).

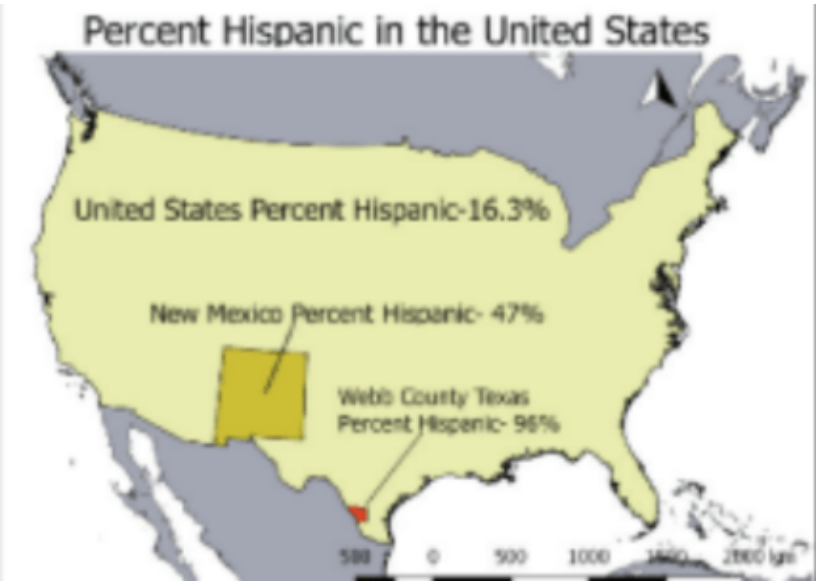


Figure | Percent Hispanic aggregated to the County, State, and National level6 Author | David Dorrell Source | Original Work License | CC BY-SA 4.0

Webb County only uses the data from one county. New Mexico uses the data for its 33 counties, and the U.S. uses the data for all its counties. Each level of aggregation has its calculated value. They are all different. And they still tell you nothing about an individual person.

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6.3: Population and Development

Population & Development

We can return to the diverging ideas of Malthus and Boserup. Does population growth spur innovation or starvation? Is population growth good or bad?

Population growth has spurred innovation, but interestingly enough, not usually in the places that are experiencing that growth right now. If population growth is dramatically higher than economic growth, the result will not be new technologies and paradigm shifts; it will be emigration or civil unrest.

A country like Russia with a large land mass and a relatively small population may be underpopulated compared to its neighbor, China (Figure 2.7). Having large tracts of uninhabited land has historically invited the attention of outsiders. Underpopulation is not normally the problem that most people would associate with population. When we think of population problems, we generally think of overpopulation. What is overpopulation? Like so many other questions we have asked so far, the answer depends. Overpopulation means an inability to support a population with the resources available.

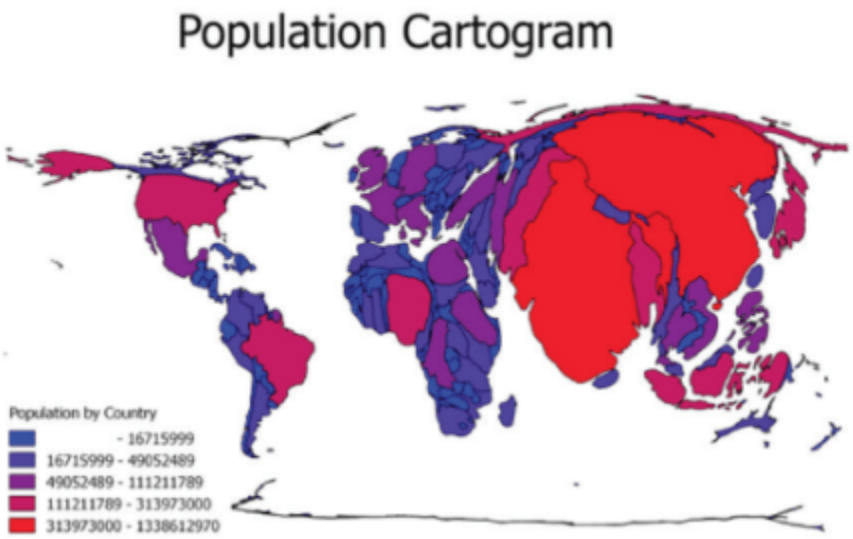


Figure | Population Cartogram7 This population cartogram takes the borders of each country and adjusts the size of the country by the size of the population. What happens to China and India? What happens to Canada and Russia? What does this tell you?
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Population is Dynamic

Although the world's population is still growing, the overall growth has slowed and the growth has become very uneven. Some places are still growing very rapidly. Others are growing much more slowly and some are shrinking in terms of population. We can compare differences between places using a series of different rates. Rates are ratios that divide the occurrence of a phenomenon with the population hosting the phenomenon. For example, the crude birth rate is calculated as the number of births per 1000 people in a particular place in a particular year. The crude death rate is similar. It is calculated as deaths per 1000 people in a particular place in a particular year. These numbers can be used to compare places, but they have great limitations.

For one thing, they are aggregated variables describing the entire country; they tell you nothing about individuals within the country. Just because the average woman in a country has 2.3 children tells you nothing about a particular woman. The ecological fallacy is the idea that aggregated data tells you anything about individuals. It does not because it cannot. Once the data are lumped together, they lose their individual characteristics.

The rates do not necessarily relate to one another, either. The crude birth rate doesn't tell you anything about the average number of children born per woman, at what stage in their lives women tend to have children, etc. The crude death rates don't separate deaths of elderly people from deaths of infants. High rates of death are often found in developed societies; in many ways it's a sign of development, since developed countries tend to have older populations. A high rate of infant mortality (children under 1 year of age) is a near-universal sign of underdevelopment. The countries with the highest crude birth rates tend to be low income (Figure 2.8).

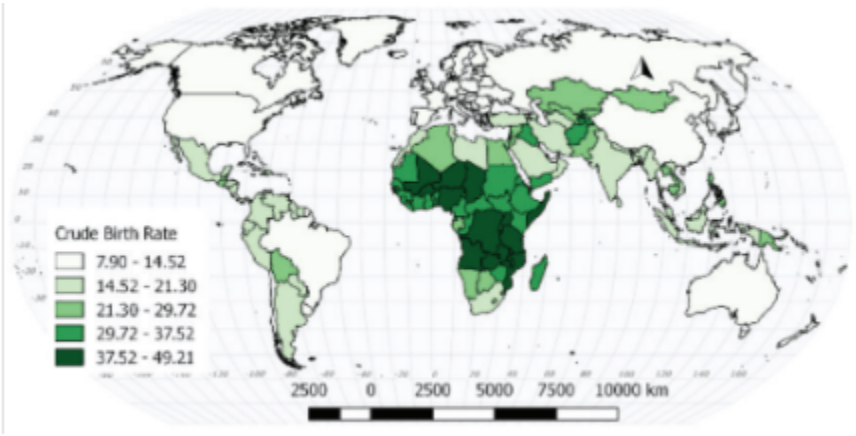


Figure | Crude Birth Rate 20158 Author | David Dorrell Source | Original Work License | CC BY-SA 4.0

The crude death rate is more nuanced (Figure 2.9). Some countries on the map, for example, Chad, have a high crude death rate due to a high rate of infant and child mortality. Russia, on the other hand, has a rapidly aging population and a partially collapsed social security network.

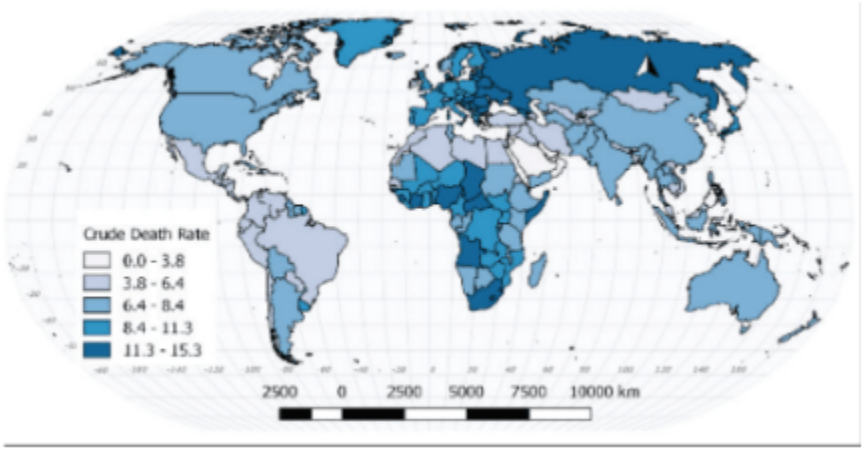


Figure 2.9 | Crude Death Rate 20159 Author | David Dorrell Source | Original Work License | CC BY-SA 4.0

The replacement level of a population refers to the number of births that are necessary to offset deaths. This is often referred to in terms of average fertility of women. In modern societies, on average, women need to produce 2.1 children in a lifetime to keep a place demographically stable. This number is derived by counting a mother and her partner, and accounts for those who never reproduce.

Places with a fertility rate below 2.1 will shrink over time. Those places above that will grow, and those well above that will grow quickly (Figure 2.10). The preceding graphic demonstrates that in the same way that many places are growing very rapidly, many places are at or below replacement. The United States is below replacement. It is demographically buoyed by immigration.

What kinds of places are growing fastest? These are places that are poor or economically or politically unstable. This may seem counterintuitive. Why would people have children in places that are already so poor? Remember that individual families have

children. Children can seem like a mechanism for surviving bad situations. What kinds of places are declining? This is more complicated, but in general the more educated and empowered the female population is, the lower the birth rate. This isn't a perfect, linear relationship, but it's useful as a start. Why is there so much variability? Because places matter. Uganda has a government advocating population growth, while Afghanistan and Somalia have little governance at all. Russia and Australia have similar fertility rates, and few other similarities.

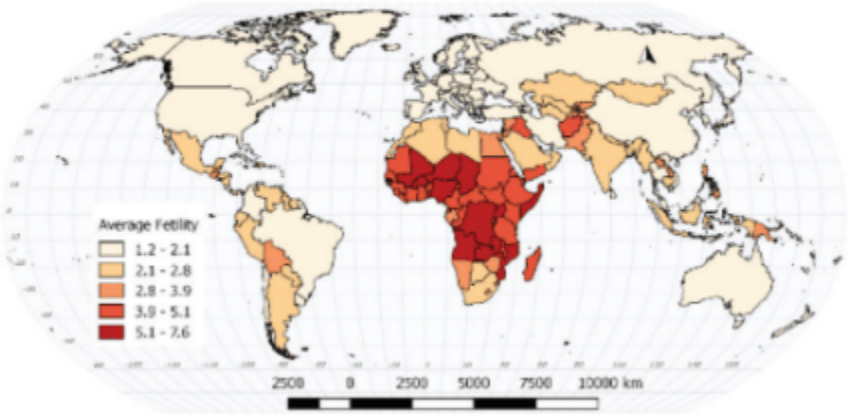


Figure | Countries by Average Fertility 201510 Author | David Dorrell Source | Original Work License | CC BY-SA 4.0

General measurements of population are useful, but often it is useful to know the age and gender structure of a population. This is shown using a population pyramid. A population pyramid breaks the population into groups sorted by age ranges, called cohorts, as well as by sex. The resulting shape tells you a great deal about the population dynamic of the country. If the shape is actually a pyramid, then the country has a high birth rate and a high death rate. Countries with stable populations look like a column. Some countries even have their greatest population in the older cohorts with comparably few young people. Figure 2.11 shows some examples of current populations. Some examples of estimated future populations are shown in Figure 2.12.

First, it is important that you understand that all these numbers are estimates. Current population numbers are good enough for general comparison. As you can see, the differences between places becomes more pronounced as we look toward the future. The world population increases by over two billion people, but what is interesting are the shifting dynamics between countries. China shrinks by more than 30 million, the US grows by 64 million, and Niger- a poor Saharan country grows by 52 million, more than double its current size! One of the most useful measures of population is doubling time, which is how much time it would take at current levels of population growth for a population to double. According to Figure 2.2, most of human history saw very slow growth with doubling times measured in centuries. During the 19th and 20th centuries, doubling time at the global level fell to as short as 35 years.

This has numerous implications. At the global level, those extra billions will need food and water, houses and clothing. That is to say that they will require resources. They will also have desires that require even more materials and energy expenditure. In places like Niger, this will be very difficult, if not impossible, to meet.

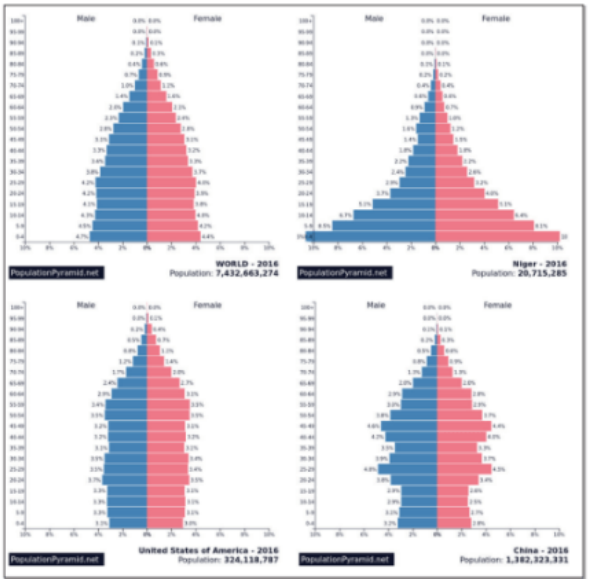


Figure | Population Pyramids for select countries 2016 Authors | Martin de Wulf, David Dorrell Source | PopulationPyramid.net License | MIT License

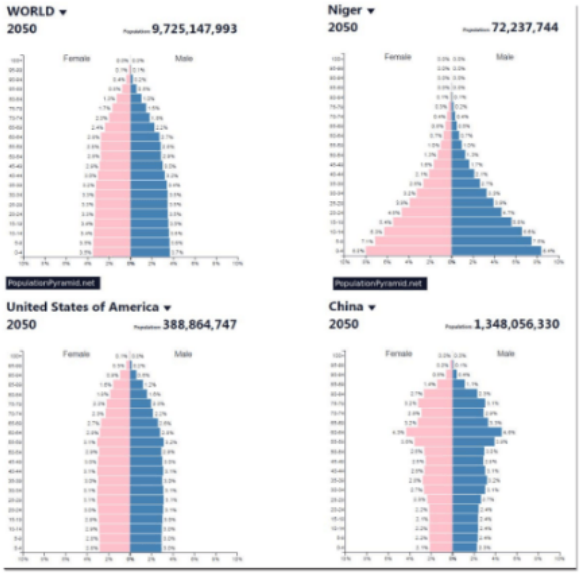


Figure | Population Pyramids for select countries 2050 Authors | Martin de Wulf, David Dorrell Source | PopulationPyramid.net License | MIT License

In places like China, a completely different problem presents itself. These populations are both shrinking and aging. Life expectancy, the average lifespan in a country, has been increasing for decades in developed and some developing countries. At the same time, birth rates have fallen for a variety of reasons. This means that as time passes, the elderly portion of the population has grown. Many countries will see their populations age until large percentages will be unable to work. Societies for the past several centuries have prepared themselves for population growth, and much of modern society is predicated on it. Population growth is what has paid for social security for the elderly. Few places have prepared themselves for fewer workers in the future (although robotics may address this problem). This change will not happen at once, but the effects will be tremendous.

Another characteristic that must be acknowledged is population momentum. When much of your population is older than 45, it isn't reasonable to expect that population will continue to grow quickly. Countries with young populations should expect that their populations will grow when the large pool of young people have children of their own.

This map shows the tremendous differences in life expectancy from one country to another (Figure 2.13). In some places, people

tend to live into their ninth decade. In others, they are unlikely to make it into their sixth.

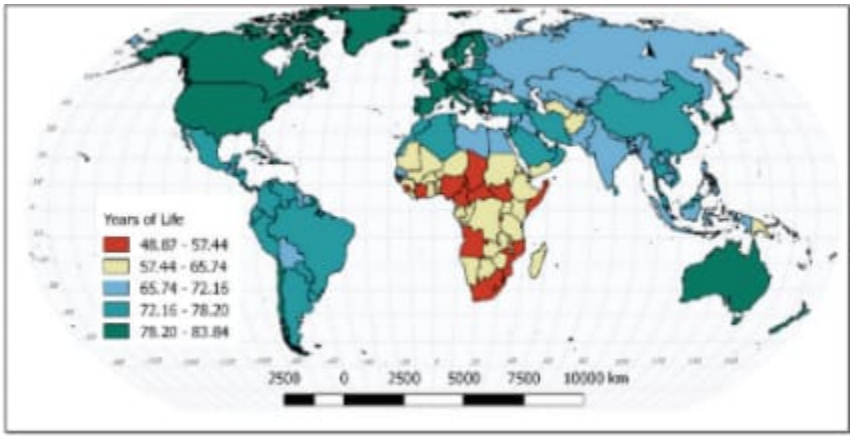


Figure | Life Expectancy 201511 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

The dependency ratio is simply the number of people within a society who do not work compared to the number who do work. There are two main components of the dependency ratio- children under 15 years old and the elderly over 65 years old, although the degree to which either group is dependent is variable (Figures 2.14 and 2.15). Children need care and schooling, but generally produce little economic value. Elderly populations can be too infirm to work and are the part of the population with the highest medical costs. Where does the wealth come from to take care of these two groups? It comes from the people working and producing wealth. If the dependency ratio is high, then each worker can be responsible for a large number of dependents and less wealth will be left for the workers.

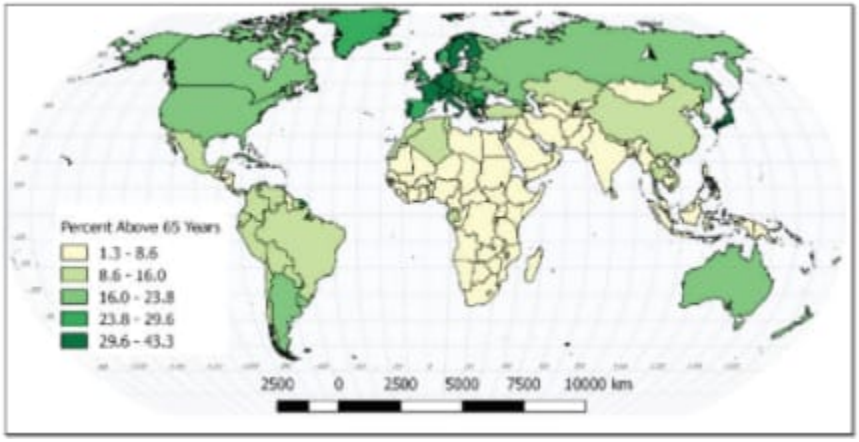


Figure | Elderly Dependency Ratio 201512 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

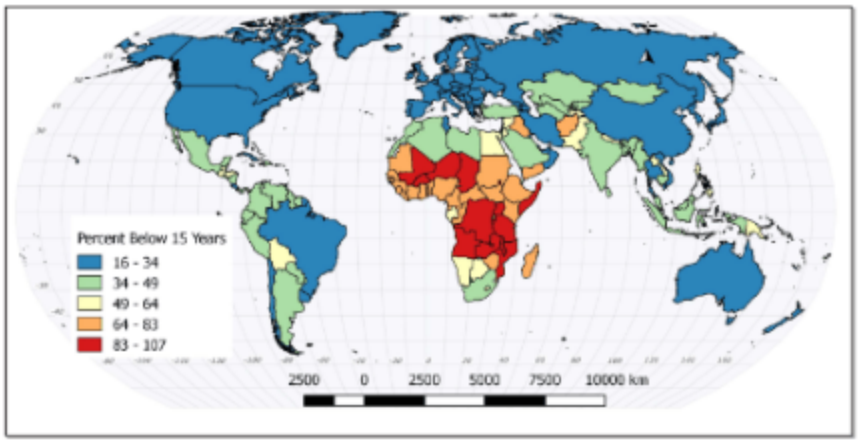


Figure 2.15 | Youth Dependency Ratio 201513 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Although the dependency ratio is used to compare places, this particular ratio can be somewhat misleading. In many less developed places, children are not dependent. They are not in school and they are employed. They are not consuming a family's resources, but are instead contributing to them. In other places, the elderly may still be in the workplace. The dependency ratio informs decisions regarding the future. Will a country need more schools or assisted living centers? What does this mean for retirement or pensions? Perhaps more importantly, will the supply of workers increase or decrease? Comparing China, Niger, and the U.S. shows you that different places have different options and challenges.

The Demographic Transition

Geographers have modeled the population dynamics of places for decades. The result of these models is called the Demographic Transition model (Figure 2.16). It describes a series of stages that societies pass through as they develop and industrialize. These models represent the general demographic conditions that countries experience.

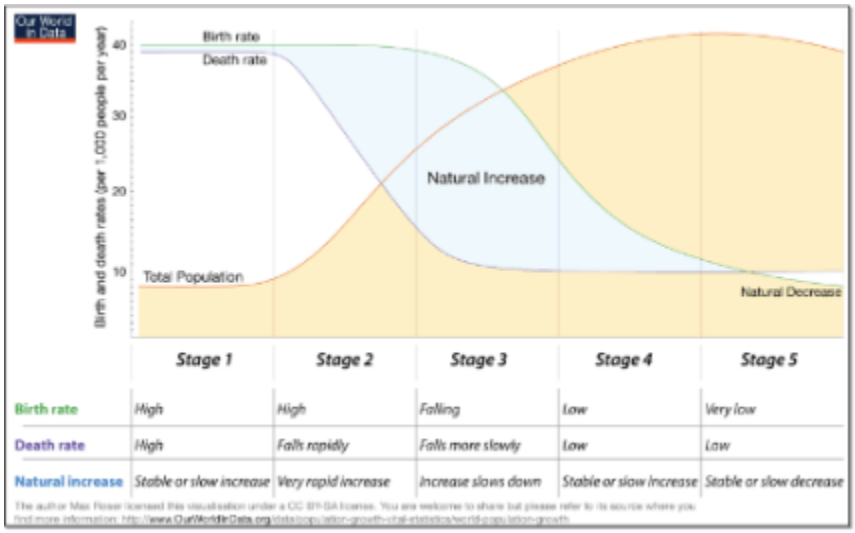


Figure | Demographic Transition Model Author | Max Roser Source | Wikimedia Commons License | CC BY SA 4.0

In Stage One, which is pre-modern, birth rates are high, and death rates are high. As a result of these two factors, the population remains low, but stable.

By Stage Two as the society industrializes food becomes more steadily available, water supplies get cleaner and sanitation and medical care improves. Death rates fall, particularly infant mortality rates. However, there is a lag in the decline in birth rates. It takes time for people to adjust to the new reality of urban industrial life. Since the birth rate is still high and the death rate is low,

population grows very rapidly.

Stage Three is characterized by a falling birth rate as the society begins to find an equilibrium between birth and deaths. The birth rates are still higher than death rates and the population continues to increase. This continuation of population increase is known as population momentum. The end of Stage Three is characterized by the general balance between births and deaths.

Stage Four shows a return to population stability, but at a much greater number of people.

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6.4: Measuring the Impact of Population

Measuring the Impact of Population

Remember the earlier comparison of Russia and Bangladesh? This is the section where we discuss the different ways of calculating the pressure that populations put onto the land that they inhabit. You'll recall that we began by looking simply at people per country. This is a good way to start, but the limitations are fairly obvious. Countries that are physically larger can hold more people. We need to use a method that changes from a measure of overall population to some kind of per capita measure. There are many of these and each has its merits.

Arithmetic density is the simplest one. It is simply the number of people divided by the area of the country. The area is usually measured in square kilometers, since most of the world uses the metric system (Figure 2.17).

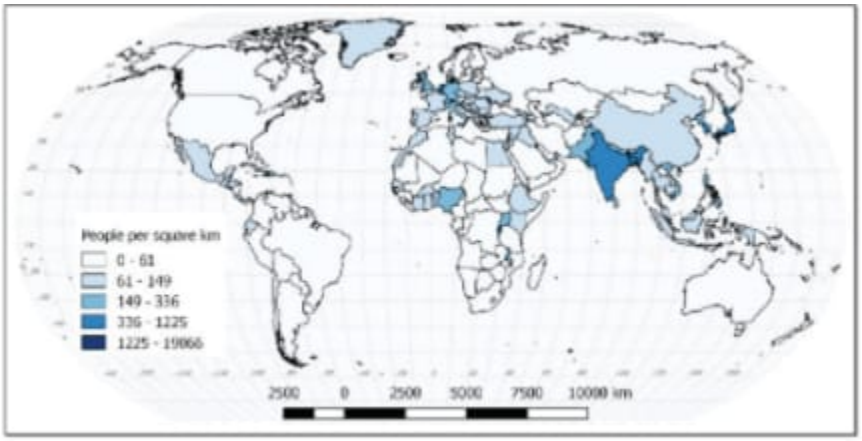


Figure | Arithmetic Density 201514 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Physiological density has the same numerator (population), but the denominator is different. Instead of using all the land in a country, it only accounts for arable (farmable) land (Figure 2.18). Places that are not used for agriculture deserts, lakes, mountaintops and similar places - are subtracted from the land total. This is useful for demonstrating how much pressure is being put on the farmland that is available. Be aware that food that is gathered or hunted from nonagricultural land is not considered in this number.

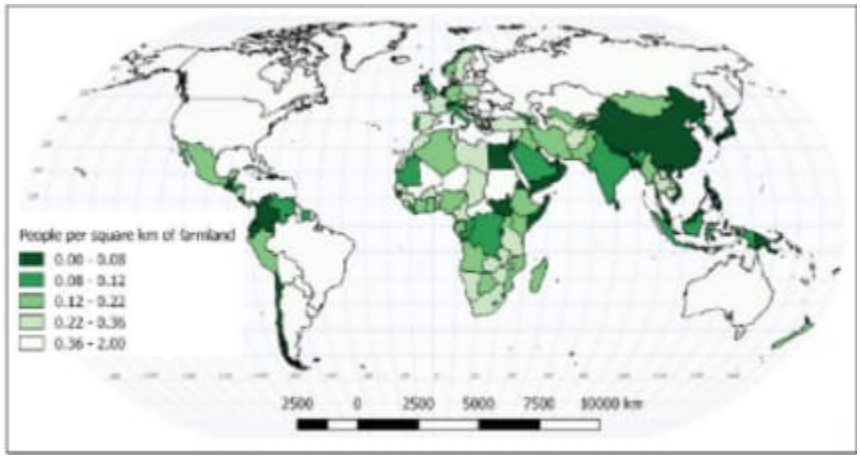


Figure | Physiological Density 201515 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Agricultural density has the same denominator as physiological density, but has a different numerator. Instead of using the entire

population, it only uses farmers (Figure 2.19). This provides a number that is a good measure of development, or rather it's a good measure of underdevelopment. Developed countries have mechanized agriculture and few farmers per capita. Each farm tends to be large in order to generate a sufficient income. Places with high agricultural densities have more farmers per hectare, meaning that farms will likely produce less revenue. Of course, an underlying assumption of this number is the idea that people are growing food to earn a living. If they are eating the produce directly, outside the cash economy, then the comparison is less valid.

Related to food production is the concept of carrying capacity. Carrying capacity is simply how many people can live from a given piece of land. However, it's not really that simple. Carrying capacity is not static throughout time. Not only do environmental characteristics change (due to desertification, for example) but technology changes as well. The carrying capacity of land in wealthy developed countries has expanded tremendously due to the application of technology. These technologies could be something as simple as irrigation ditches to something as complex as genetic modification of the plants and animals themselves. Carrying capacity is a snapshot taken at a particular time.

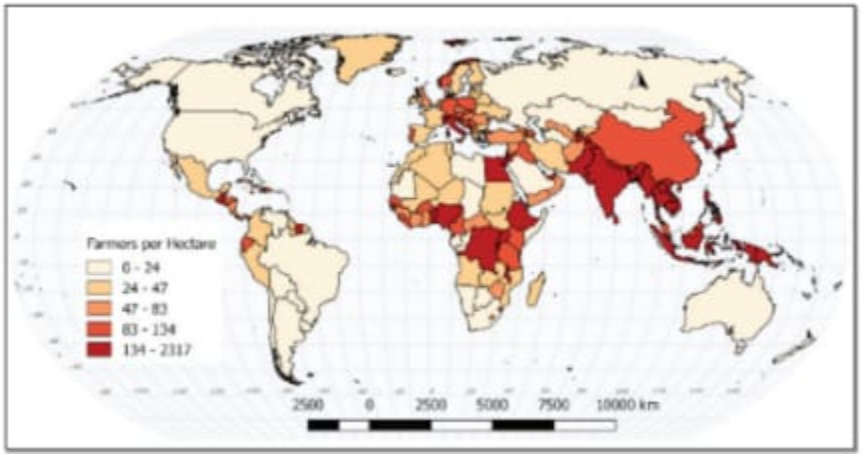


Figure | Agricultural Density 201516 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

When we looked at the population pyramids we considered both the current population conditions and the projected population pyramids. When we looked at the first graph in the chapter, it didn't stop at the current year. It provided three different estimates of the near future. Estimating future populations is important, both at the global level and the national level, but also at the local level as well. Societies large and small attempt to plan their futures in terms of resource allocation and economic development. Population projections are difficult. They attempt to take current circumstances and use them to plot the likeliest future.

The problem is that the future may not be like the present. A disease that is suppressing fertility may be cured. The climate may change more than expected. We could experience another world war. Any number of unexpected large scale events could occur that completely invalidate the reasoning behind a projection. Nicholas Talib calls these Black Swan events. They are things that you don't know about until you do know about them. Irrespective projections will be made because they are necessary.

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6.5: Population and Health

Population and Health

Although the health of populations has been considered in most sections of this chapter, there are some aspects that can be addressed most appropriately on their own. The geography of health or medical geography is the study of sickness or health across space. In the same way that it is possible to compare places by their population characteristics, it is possible to compare places by their health characteristics. Also in the same way that societies tend to pass through the stages of demographic transition, they also tend to pass through an epidemiological transition. The demographic transition and epidemiological transition are somewhat related. The improvements in food supply and better sanitation that lead to larger populations also lead to healthier populations. They are not exactly the same thing however. Epidemiology is the study of diseases themselves and the way that they function. The epidemiological transition is a way of representing the relationship between development and disease. In less developed places, infant mortality is high (Figure 2.20) and infectious disease is the greatest threat. In more developed societies, the health threats tend to be chronic afflictions- cancer, diabetes, or heart disease. One of the reasons for the difference between the developed and less developed places is the fact that in developed countries people tend to live longer. Countries in which people die in their forties will not have a problem with Alzheimer's disease.

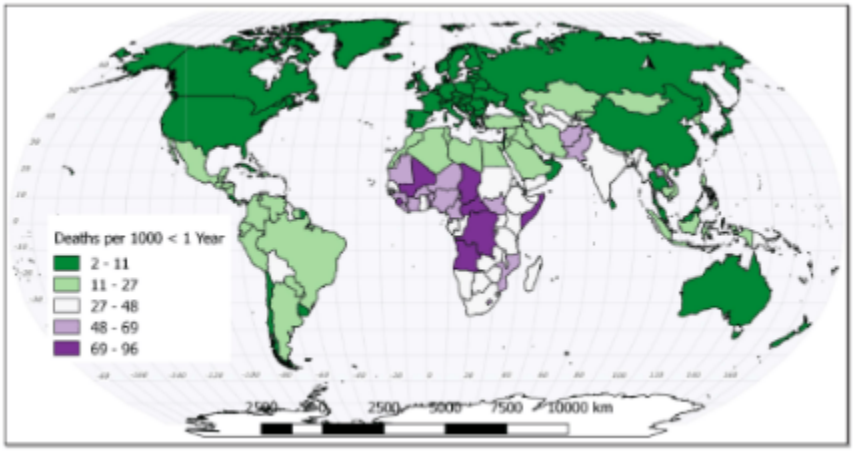


Figure | Infant Mortality 201517 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Mortality refers to death and morbidity refers to sickness. We can look at different rates of mortality and morbidity to gain some insight into the health of a population.

Diabetes was once related to development, but the relationship is weakening (Figure 2.21). As obesity becomes a greater problem in developing countries, so does diabetes.

On the other hand, malaria is a disease of poor countries, or at least it is a disease of poor places (Figure 2.22). The poorer parts of developing countries will likely have malaria problems, while the wealthier parts may not.

One of the changes that has occurred in medical geography is that the differences between the developed and less developed countries have been narrowing. Obesity was once considered fully within the sphere of developed world problems, but the obesity crisis has diffused into many parts of the developing world now. In the same way, infectious diseases such as HIV and Hepatitis C have become problems in developed countries.

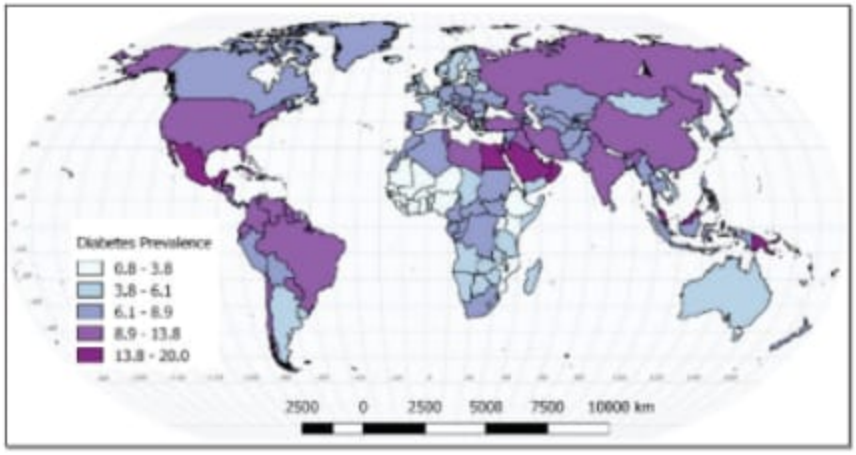


Figure | Diabetes Morbidity 201518 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

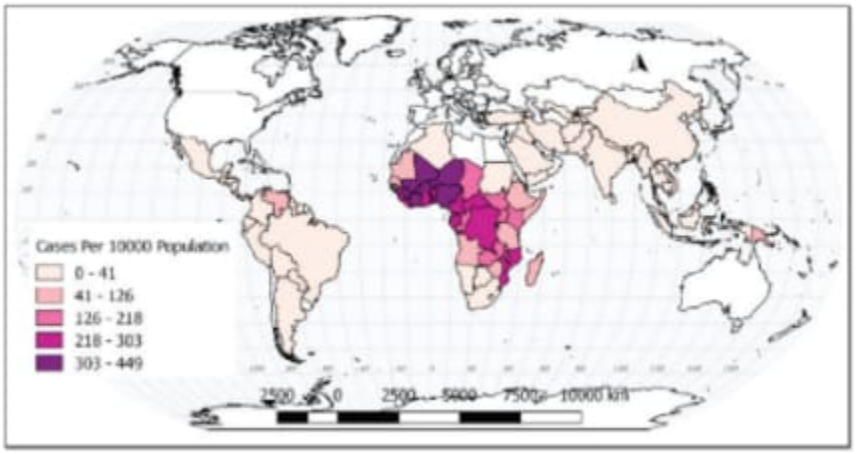


Figure | Malaria Incidence 201519 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

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Due to the work of numerous organizations, a number of diseases in many parts of the world have been reduced and some have been eradicated. Smallpox no longer exists in the wild and Dracunculiasis (Guinea worm) has gone from millions of cases thirty years ago to single digits in recent years. Other diseases have been dramatically reduced. Polio once infected millions of people per year across the world, but through vaccination programs, its range has been reduced to just two countries.

There is now even a category of diseases known as re-emerging diseases. These are diseases that were previously thought to be eradicable but are now returning to populations that had previously been largely free of them. Re-emerging diseases are diseases like tuberculosis and diphtheria that had been declining for decades that have begun to increase in prevalence.

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6.6: End of Chapter Synthesis

Section Summary

The human population is growing, but not as much as it has in the recent past. The growth is not even, with some places growing rapidly and other places losing population. Those places growing fastest tend to be poor. The effect of population growth is place-bound as well; highly developed places with low populations often use more resources than less developed places with more people. The impact of population can be measured in a number of ways, with each measurement providing a small insight into the dynamics of the human population. Uneven population growth and poverty are the two most important factors underlying the subject of our next chapter, Migration.

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7: MIGRATION

7.1: Chapter Introduction and Objectives

7.2: Definitions and Data

7.3: Global Patterns

7.4: Regional Migration Flows- Europe

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7.6: Why some countries benefit from migration while others do not?

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7.8: 20th vs. 21st Century Migration

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7.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

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Learning Objectives

By the end of this section, the student will be able to:

1. Understand: definitions of migration and associated significant terms

2. Explain: the geographic patterns of migration within and between countries as influenced by economic, socio-cultural, political, and environmental factors in the contemporary historical period

3. Describe: the general relationship between demographic factors and migration across time

4. Connect: factors of globalization to recent trends in migration

Introduction: Migration & Geography: A Brief History

For most of human history, people did not move very far away from where they were born. Migration (a permanent move to a new location) over long distances was so dangerous, unpredictable, and risky that humans remained in a relatively small area of Eastern Africa until only about 65,000 years ago. At that time, some brave soul (or most likely many) set off on an adventure that would take tens of thousands of years to complete – the mass movement of humans to all corners of the ecumene (inhabited areas of earth). Scientists continue to disagree about the specific time periods (some studies suggest that the big move started 120,000 years ago!) and reasons that our ancestors finally decided to take flight, but significant evidence suggests that periodic climate change may have played a major role. The earliest evidence of human remains in North America dates to approximately 13,000 years ago, when humans are hypothesized to have crossed an ice bridge from Eastern Russia into Alaska during the last Ice Age, before spending the next several thousand years spreading throughout North and South America and The Caribbean. Regardless of the time period, modern humans have been on the move for a very long time—a trend that has accelerated in recent years owing to cheap transportation and easier access to information by potential migrants.

Migration is also central to the formation of the world's largest religions. The spread of Christianity, for example, was facilitated by the massive movement of people within the Roman Empire along well-traveled transportation routes connecting modern Israel and Palestine with Turkey, Greece, Italy, and other parts of the empire where new ideas, cultures and beliefs were shared. Many of the most significant stories from Christianity and Judaism recount the experience of "foreigners" (sojourners) who are traveling to new lands. Similarly, Islam's prophet migrated from his city of birth, Mecca, to Medina in the seventh century, and religious ideas were spread as soldiers, merchants, and traders moved across North Africa and eventually into Europe and to Southeast Asia. Migration, in many ways, has been the most impactful of all human activities on the planet. Had humans never taken the journey, we all would still be in East Africa, just daydreaming about the rest of the earth! To learn more about humans' earliest journeys, you can click the link below: https://psmag.com/why-and-when-didea...b70#.p0wpltf4t

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7.2: Definitions and Data

Definitions & Data

Migration can be interregional (between regions), intraregional (within a region), or international (across national borders). Those moving in are immigrants, and those moving out are emigrants. Net migration is the difference between the number of immigrants and the number of emigrants in any given year. The United Nations provides data and analysis on immigration and emigration annually, but such figures depend largely upon government sources that are more reliable in some cases than in others. For example, the United States (US) maintains databases on immigrants of all types including guest workers (those given permission to enter the country legally for a specific job and for a specific period of time), students, tourists, asylum seekers (those seeking sanctuary from political, religious, gender, or ethnic persecution), and undocumented migrants (those inside of a country without proof of residency). However, the US does not maintain or report data on those that have emigrated, except in those notable cases where individuals have renounced citizenship. Meanwhile, countries like Mexico and the Philippines track their overseas citizens regularly, acknowledging the realities of dual citizenship or residency. Return migration (a permanent return to the country of origin) also represents a significant flow of people, but is often underreported. For example, up to one quarter of Europeans that migrated to the US in the late nineteenth century eventually returned to Europe. In recent years, more people have migrated back to Mexico from the US than from Mexico to the US. The process of migration, then, is a complicated nexus of movement rather than a simple one-way, permanent, single-directional move from place A to place B.

In spite of the complex patterns and processes of migration, some general characteristics of migration and migrants were articulated by British demographer Ernst Ravenstein (1885), characteristics known as the laws of migration. Many of them still hold true 135 years later. Can you decide which are still true today?

1. Most move only a short distance.
2. Each migration flow produces a counter-flow of migrants.
3. Long-distance migrants tend to move to major cities.
4. Rural residents are more migratory than those in towns.
5. Females are more migratory than males.
6. Economic factors are the main reason for migration.

In short, each of the “laws” generally hold true in 2018 with the notable exception of number five. Slightly more men moved internationally than women, but the truth is much more complicated. In fact, Ravenstein’s estimates of female migration proved incorrect as large-scale migration to North America increased in the early twentieth century, during which time most immigrants were men seeking land, wealth, and opportunity in the “New World.”

A variety of non-government organizations, research groups, and humanitarian entities also track the movement of people across borders and within countries in order to provide a deeper understanding of the causes and effects of migration locally, regionally, nationally, and globally. For example, the Migration Information Source (https://www.migrationpolicy.org) offers a wealth of reports, analysis, and data visualization that dramatically enhance our geographic understanding of migration. The Pew Research Center (http://www.pewresearch.org/topics/migration) conducts regular polls often focused on Latino populations in the US. Other non-profit organizations track the effects of immigration in the US and publish regular reports, but often they lack objectivity or editorial oversight, as the intent of such efforts is to achieve policy change to reduce immigration levels. For example, the Federation for American Immigration-FAIR (https://fairus. org) is an organization motivated by the explicit desire to reduce the number of immigrants and to secure the traditional cultural heritage of European Americans. Likewise, the Center for Immigration Studies (CIS) presents data to support its stated vision “of an America that admits fewer immigrants” and to reduce immigration of all kinds in the twentieth century (https://cis.org/About-CenterImmigration-Studies).

Geographers have identified general trends in global migration, also known as North-South migration, in which most emigrants

originate in poorer, developing countries and most destinations have traditionally been wealthier, developed countries. For most Americans and Canadians, this pattern is very familiar, as recent decades have seen unprecedented numbers of Latinos immigrate to the US for the purpose of finding higher-paying jobs and better opportunities and escaping structural poverty in the developing world. Similarly, the recent patterns in Europe have seen record numbers of Eastern Europeans move west and north to earn higher wages than those available in the home country. However, such wage differentials do not tell the whole story. For example, wages in Chicago tend to be much higher than those in other parts of Illinois, but not everybody leaves rural Illinois just because they can earn a higher wage. Wages, though significant, only tell part of the story. Unless you are reading this text in Manhattan or Paris or Hong Kong, you could most likely move tomorrow and find a job elsewhere that pays more than what you earn now (if you are working). Geographers recognize that attachment to place, cultural factors, desire to stay close to family/friends, and other factors play a powerful role in the decision to move or stay.

Another pattern that has remained consistent over time is that of highly skilled migrants, who tend to enjoy a much greater freedom of movement than those with lower levels of education and fewer skills. For example, computer software engineers, database managers, and a host of other highly-demanded skills lead to efforts by countries and corporations to attract the best and the brightest minds to immigrate in order to bring those skillsets into a country where they are in short supply. Countries often offer travel visas (temporary permission to enter a country) to those with highly demanded skill sets. Countries like Australia, Canada, and New Zealand utilize a points system to determine which of the highly-skilled applicants will be granted permission to enter. The brain drain refers to the conceptual idea that when a wealthy country recruits the ‘best brains’ from a poorer country, it can be damaging to the sending country, as many of the most qualified and talented groups of people are poached away by higher-paying opportunities. As such, the term brain gain refers to the benefits received by a country that receives all those “brains" without having to produce them from scratch! Recently, countries have also acknowledged the concept of brain waste, in which receiving countries fall short in utilizing the full range of human capital inherent in many immigrant populations. For example, nearly half of all immigrants into the US from 2011-2015 held at least a bachelor’s degree, but more than 2 million immigrants with college degrees continue to work low-skilled jobs because employers or governments do not recognize foreign-held degrees. Similarly, a brain-drain/brain-gain phenomenon occurs within some countries, such as the US. California and New York, for example, continue to draw the most highly-trained and qualified people away from other states. Governments that wish to keep the highly skilled at home take such transfers of educated and highly skilled people very seriously.

Framing migration as a loss or gain, however, also does not tell the whole story. Most countries that send migrants also receive them. The US receives large numbers of immigrants, but it also is a country of emigration, whereby retirees choose to live outside of the US, or long-term migrants (who usually are US citizens) choose to return to their home country in retirement. Migration is neither inherently good nor bad; rather, it is complicated. This chapter seeks to tease out some (but not all) of the important characteristics of migration in the twenty-first century to help you gain a better understanding of a topic that too often is used by politicians to gain votes or credibility. Let us put those simplistic debates aside for a few minutes to consider the basic elements of migration around the world.

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7.3: Global Patterns

Global, National, Regional & Local Patterns

Global Patterns:

Though geopolitical and global economic forces change over time, it is useful to understand contemporary global, national, and regional patterns of migration as processes that vary by geography. The vast majority of people do not migrate internationally, yet migration makes a powerful impact globally. Just imagine what our world would look like if nobody ever moved! Latin America would have no coconut trees, the American Midwest would still be dominated by buffalos, and most humans would look very much alike—how boring! Instead, migrants across the globe diffuse new ideas, new genetic footprints, new diseases, new cooking styles, and new sports. While a small number of countries receive large numbers of newcomers each year, only 3.4 percent of the world's population live outside of their birth country, so most places in the world are not significantly impacted directly by international migration. However, the dynamics of migration are undergoing a significant transformation, and the future is very difficult to predict. Humans have been on the move for over 60,000 years, so it is unlikely to come to a halt anytime soon.

The number of international migrants worldwide reached 244 million in 2015, representing a 44 percent increase since the year 2000 (Figure 3.1). During the same period, the global population grew by just 20 percent, so cross-border migration seems to be accelerating in many parts of the world as more people have access to information, infrastructure, and communication—all elements that facilitate the large-scale movement of people. In 2015, nearly 70 percent of all migrants originated in either Europe or Asia, with the largest numbers coming from India, Mexico, Russia, and China. Meanwhile, those countries hosting the most immigrants were the US (47 million), followed by Germany (12 million), Russia (12 million), and Saudi Arabia (10 million) (Figure 3.2). Generally speaking, migrants tend to move away from low/middle income countries into high income countries because the most common driving force is economic opportunity. Most migrants move for better jobs, higher incomes, and better opportunities overall. It is worth noting, however, that about one third of international migration takes place between lower income countries (e.g. from Bangladesh to India or from Afghanistan to Iran).

Europe	76 million
Asia	75 million
North America	54 million
Africa	21 million
Latin America/Carribean	9 million
Oceana	8 million

Figure | Immigrant populations around the world by region Authors | Dilip Ratha, Christian Eigen-Zucchi, and Sonia Plaza Source | World Bank eLibrary License | CC BY 3.0 IGO

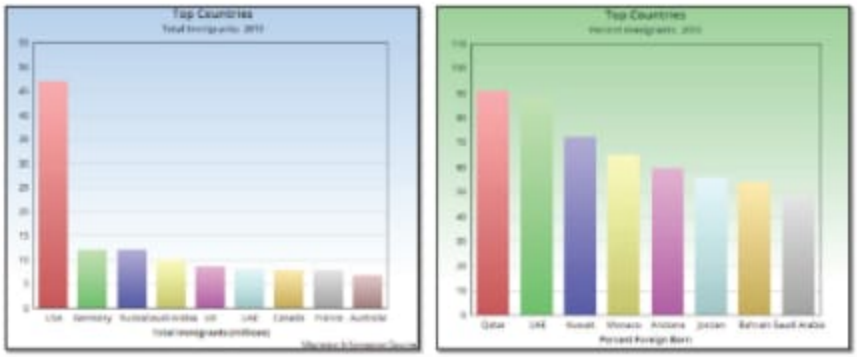


Figure | Top countries of immigration by number and percent Authors | Dilip Ratha et al. Source | World Bank eLibrary License | CC BY 3.0 IGO

It is also important to note that patterns can change very quickly, depending upon economic or political conditions. Spain, for example, was a major recipient of immigrants from 2000-2008, but when its economy dipped and job opportunities decreased, people began to leave en masse. In every year since 2011, more people have left Spain than have arrived. Ireland, on the other hand, experienced mostly net emigration from the mid 1800's until the late 1990's, when large numbers of Irish and descendants returned "home" and new immigrants began to choose Ireland as a popular destination due to its improved economic opportunities under the European Union.

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7.4: Regional Migration Flows- Europe

Regional Migration Flows: Europe

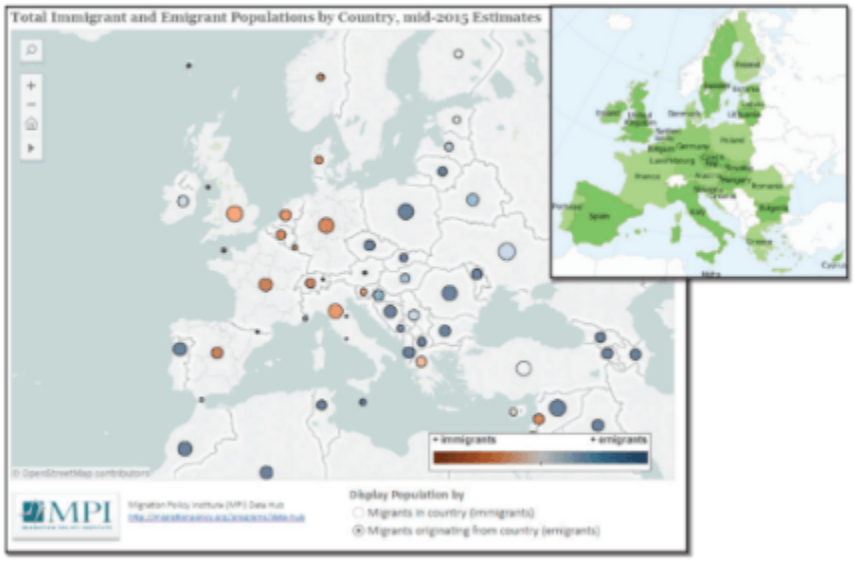


Figure | Total European immigrant and emigrant populations by country, 2015

Consistent with Ravenstein's "Laws of Migration," most international moves continue to take place across relatively short distances. In no place is this more evident than in Europe, where it is also quite common to find Spaniards in France, Germans in Switzerland, Romanians in Germany, etc. As portrayed in the map above, movement within Europe tends to be from East (blue dots) to West (red/orange dots) (Figure 3.3). Given the ease of travel within, the small size of, and short distances between many European countries, it is not surprising that many people move across borders for a variety of reasons. Of the 508 million residents of the European Union (EU), about 10 percent (54 million) are foreign born, of which 35 million originate outside of the EU and 19 million moved from one EU country to another. Movement within and to the EU has accelerated in recent decades for two reasons. First, Europe has intentionally worked towards greater economic integration and cooperation since WWII by removing barriers to movement (See more about the EU in Chapter 8). Citizens and legal residents of participating EU member states may travel, live, study, and work seamlessly across national borders under the Schengen Agreement

(Figure 3.4). While the EU facilitates the free movement of capital, products, and services in the region, the agreement permits the free flow of people across international borders without significant delay, hassle, or regular security checks. Millions of working-aged residents of Poland, Romania, and Bosnia, for example, have moved to countries like Germany, France, and Spain for higher wages. In some ways, the European region has become similar to the US in that Spaniards may travel to France just as easily as Californians may travel to Oregon.



Figure | Schengen Countries (2017) Author | User “Ssolbergj” Source | Wikimedia Commons License | Public Domain

The second reason for increased movement and mobility in Europe, however, is that more people from nearby Africa and the Middle East have attempted to enter Europe to seek work, escape conflict, or find better educational opportunities. Although economic and political life has been relatively more attractive in Europe than in neighboring regions for some time, the forces of globalization have accelerated such flows. Human smuggling organizations transport hopeful migrants in exchange for large amounts of money. As such, the EU has increased maritime military patrols in the region, which has forced human smugglers and would-be immigrants into riskier and more perilous routes. Thousands die each year trying to gain entry to another country (Figure 3.5). In 2016, approximately 7,400 died during a migration route, and nowhere is the trek riskier than in the Mediterranean, where 4,800 migrants perished in 2016, most of whom were from African countries. Additionally, conflicts in the Middle East, most notably Syria, have driven hundreds of thousands to seek refuge in Europe.



Figure | Migrant Fatalities in 2017 Author | International Organization for Migration Data Analysis Center Source | International Organization for Migration Data Analysis Center License | CC BY SA 4.0

The free flow of people across the European region has come into question in recent years as northern member states mistrust the vetting process put into place by southern and eastern European states. An individual that manages to enter any of the Schengen states can travel quite easily to any of the other European states. Denmark and Sweden, for example, have increased border security and border checks in spite of being signatories to the agreement (Figure 3.6). The bold experiment in Europe to

integrate so many cultural, linguistic, and political systems faces constant challenges and has no guarantee for long-term success. Twice in the last century, the region was wartorn. As the twentieth century unfolds, Europe remains a focal point for migration policy and practice into the twenty-second century.

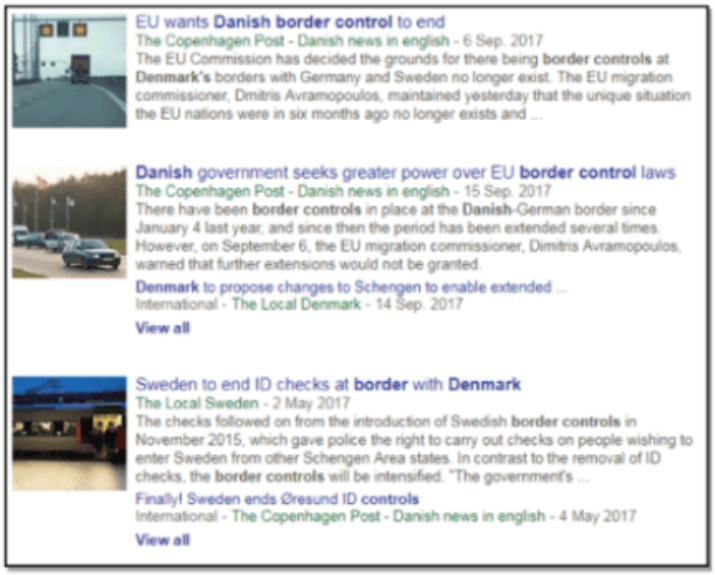


Figure | Google News headlines on Danish border control Search Results Screen Capture for terms “Danish border control.” 6 September 2017. Author | Google News Source | Google News License | © Google. Used with permission.

North America represents a special case in that the US routinely receives significantly more immigrants than any other country in the world. Roughly 14.5 percent (46 million) of all residents in the US were foreign born in 2015, representing seventeen percent of the labor force. In Canada, the numbers were roughly twenty-one percent for both categories. The International Organization for Migration (IOM), sponsored by the United Nations, offers a great tool for visualizing migration around the world (https://www.iom.int/ world-migration). Click on the tool to find out how many in the US came from China or how many from the US lived in Mexico last year (hint: toggle the In/Out button). Do you notice any patterns? Click on a few other Caribbean countries to view the flows of migration into North America. You will notice that the largest source areas to the US were Latin America and Asia, but sending countries and volumes, in fact, vary significantly over history. The figure below shows changes over time in the US immigrant population, and you can see that immigration from Latin America and Asia has only occurred in the most recent period. Do you know or think you know when your ancestors arrived? Can you visualize the time period during which they first came to North America? Which population groups are not included in the chart? Why do you think this might be?

There are four distinct phases of immigration, but let’s examine each one briefly. First, during the era of frontier expansion (1820-1880), a rapid westward movement occurred. Settlers were given the rare opportunity to acquire large amounts of good farmland in the “New World,” which pushed people out of the large cities like New York and Boston and towards the American Midwest into the future states of Ohio, Illinois, Iowa, Nebraska, etc. Many immigrants came to the US specifically in search of land, because population pressure in Europe made land acquisition very difficult. The Homestead Act of 1862 offered up to 160 acres of farmland to citizens or those planning to become citizens as long as they continuously lived on and farmed the land for five years. More than 1.5 million claims for land were made in subsequent years, resulting in a massive movement of people. It was also during this era that the transcontinental railroad was completed, linking the East Coast and West Coast for the first time in a meaningful way. Most immigrants during this time came from England, Scotland, Ireland, Germany, and Scandinavia. More than 1.5 million also came from Ireland in just a ten-year period (1845-1855) when the potato crop failed due to blight (disease), a period known as the Great Hunger. The only significant non-European immigrants arrived as a result of the BurlingameSeward Treaty of 1868, which welcomed Chinese workers, as China also opened its borders to American businesses, students, and missionaries. Migration from China was short-lived, however, during the subsequent era.

Phase 2 (1880-1910) ushered in a dramatic shift as the number of new arrivals soared to unprecedented levels. Moreover, the source countries also changed as immigrants began to arrive from southern and eastern European countries such as Italy, Greece, Russia, and Poland. American imagery, stories, legends, books, and films tend to focus heavily on this period, because it was the most intense era of movement from Europe, and most were arriving via Ellis Island by ship before settling into distinctly ethnic neighborhoods in cities across the US It was also an era of massive industrialization that demanded a large source of low-cost workers, which immigration provided. Coal mines, steel mills, and factories were growing at unprecedented levels as

the US raced to “catch up” with the great cities of the world, building bridges, skyscrapers, museums, sports stadiums, and other large structures at unprecedented levels. The period also produced a new era of exclusion as the Chinese Exclusion Act of 1882 prohibited immigration, naturalization, and citizenship for anyone of Chinese descent, including those that had immigrated previously under legal means.

During Phase 3 (1910-1965), the US dramatically curtailed the number of immigrants permitted to enter the country legally. The great western settlement had ended, and high birth rates in the US created enough new workers to meet the demand of the continued industrialization of the country. A series of new exclusionary laws prevented all “Asiatic People” from entering the country, as American nationalism fanned by white power and eugenic movements sought to exclude and divide the people of the world into categories of “civilized,” “savage,” and “semi-civilized.” Also banned were “polygamists, anarchists, beggars, and importers of prostitutes.” (For an excellent graphical overview of US immigration legislation, visit the Pew Research Center website: http://www.pewhispanic.org/2015/09/2...ions-1790-2014). During this period, immigration levels declined precipitously as the country grappled with questions of heritage, identity, and cohesion. National legislation was crafted to maintain the racial and ethnic balance of the country as mistrust between nations erupted in two world wars. Quotas were established to allow immigration of only a limited number of people from specific European countries, while all others were kept out. Ellis Island closed its doors in 1954 after having processed more than 12 million immigrants. However, a dramatic social shift was on the horizon, as the 1960’s would dramatically alter US immigration in the coming decades.

Immigration into the US in the current era, Phase 4 (1965-Present), is characterized by (1) enormous growth and (2) a new diversity of source countries, dominated by the regions of Asia and Latin America. While the percent of foreign born residents is similar to that of the early 1900’s, the 47 million (in 2016) living in the US represents an unprecedented historical high with one out of every four children having at least one parent who is an immigrant. The Immigration and Naturalization Act of 1965 dramatically shifted the nature of immigration into the US from one with low numbers from a handful of predetermined countries to a system that favors those with particular skills (e.g. scientists, engineers, and doctors) and for family reunification. As more Americans entered college, demand for manual labor also grew. Jobs that were once done by children and teenagers, such as harvesting crops, cutting grass, or washing dishes in restaurants were increasingly being filled by immigrants willing to work long hours for little pay. Asian exclusion laws and quotas were abolished, as progressive civil rights era provisions took a “colorblind” approach to welcome those from all regions of the world as long as they had the skills and education that would benefit the American economy. Laws also made it much easier for existing citizens to legally bring immediate relatives from abroad, so that families would not be divided by restrictive immigration policies. Speaking to a sparse crowd in 1965 about the new immigration bill, President Lyndon B. Johnson said, this “is not a revolutionary bill. It does not affect the lives of millions . . . It will not reshape the structure of our daily lives or add importantly to either our wealth or our power.”1 Yet in the three decades after its passage, more than 18 million people arrived legally, tripling the number of immigrants from the previous three decades. The “face” of immigration changed dramatically. In 2016, the largest number of foreign born were those from Mexico, China, India, the Philippines, and Vietnam. Moreover, immigrants are responsible for 25 percent of all new businesses and more than half of all start-up companies valued at more than $1 billion. Sometimes, Presidents are wrong.

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7.5: Regional Migration Flows- Asia

Regional Migration Flows: Asia

Migration within Asia is difficult to summarize given the massive size and scope of a region with 4.4 billion people! However, if you revisit the world migration map (https://www.iom.int/world-migration), you will notice that even the largest countries in the world (China and India) contain relatively-few foreign born people compared to those in Europe and North America. Can you think of reasons why this might be the case? The first explanation is simple. Large-scale human settlement and political development occurred much earlier than in Europe or in North America. Early Chinese civilizations had already emerged more than 5,000 years ago, and many in Asia can trace ancestral lineages back thousands of years as well. As such, Asia (for the most part) wasn't "discovered," conquered, or colonized during the time of European imperialism. Apart from a small number of missionaries, entrepreneurs, and adventurers, Asia did not become a major destination for those from foreign lands (there are several notable exceptions, particularly in the case of the British Empire). Second, most Asian countries simply do not allow for permanent immigration, except in the case of marriage (which also can be a very slow and tedious process). Nonetheless, in the age of globalization and migration, more people are on the move in Asia in the twenty first century than ever before.

With a population of 1.3 billion and a fast-growing economy, China tends to dominate the East Asia region. The Chinese Diaspora is a term that refers to the 46 million people that identify themselves as Chinese but live outside of China, with the largest number making their homes in Southeast Asia and others in Australia, North America, or Europe. Many fled China during times of political instability before and after WWII and under early communist rule, but today, many of those who leave China are wealthy and educated and do so because their skills are in demand in other parts of the world.

The most significant movement of people anywhere in the history of the world has been taking place recently inside both China and India as rural farmers have been leaving the countryside and moving into cities. Nearly 200 million people have left the interior of China to re-settle and seek work in China's dynamic cities, mostly located along the eastern part of the country. While they do not cross international borders, the distance and socioeconomic differences between rural and urban areas in China are very similar to an international move for many. The motivation is largely economic in that farmers can barely earn a few dollars a day in rural areas; new manufacturing jobs in coastal cities pay several times that.

Demographic Transition, Migration & Political Policy

What is the relationship between population structure and migration?

Even though people generally migrate to find/make a better life for themselves and for their families, the benefits and pitfalls of migration affect different countries and regions in very different ways. Demography (age structure) has a lot to do with understanding how such a differentiation occurs. (Hint: You may need to go back to Chapter 2 to review your understanding of the demographic transition model or click here):

http://www.bbc.co.uk/schools/gcsebit...hy/population/ population_change_structure_rev4.shtml.

The demographic transition model explains how countries experience different stages of population growth and family sizes, but the model also works well to understand sources and destinations for migrants. Before the explanation continues, take a look at the model to see if you can predict the stages during which you would expect large-scale emigration versus immigration. Do you feel confident in your guesses? Why or why not?

Geographers note that countries of emigration tend to be late in stage 2 or early stage 3, while countries of immigration tend to be late stage 4 or stage 5 countries. Let's think about this for just a moment. At what age are people most likely to take the risk to move to a completely different country to seek their fortune? Would you move to Slovenia next year, if you could earn triple your current salary? Most international migrants tend to be relatively young (18-35) during the prime of their working years. Countries that tend to have an abundance of working-age people also tend to be early in stage 3 of the model. Countries like Mexico, Guatemala, the Philippines, and India had large families a generation ago. As those children enter their working years, there are not enough jobs created due to an "oversupply" of laborers. Meanwhile, countries in late stage 4 find that because of low fertility rates a generation earlier, the economy now faces a shortage of working-age residents to do all kinds of jobs. Birth rates were high during the 1950's in the US, but as women had fewer children in subsequent generations, fewer workers were entering the workforce every year. Unsurprisingly, young workers from Mexico, El Salvador, Jamaica, etc., began to immigrate as

the demand for their labor increased. In Europe, the same pattern occurred as those from higher fertility countries like Turkey migrated to lower fertility countries like Germany.

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7.6: Why some countries benefit from migration while others do not?

Why do some countries benefit from migration while others do not?

Demographic realities can be push factors or pull factors that serve to push people away from a place or pull them towards a place as explained in the previous paragraph. Push and pull factors can be cultural, economic, or ecological. Baptists might be "pulled" towards the American South, and Mormons might be "pulled" to Utah for cultural reasons. Meanwhile, the devastation of Hurricane Maria (2017) "pushed" hundreds of thousands of Puerto Ricans off the island. The most common destination for Puerto Ricans was Florida for economic (jobs), ecological (warm weather), and cultural (existing Spanish speakers) reasons. When the push factors and pull factors fit together nicely, migration can benefit both the sending and receiving regions.

Very often in the case of forced migration, however, migration does not benefit both parties. Those migrants who flee their country based upon claims of danger based upon race, religion, nationality, or other pertinent identifiers are known as asylum seekers. They seek a country willing to take them in permanently for fear of imprisonment, retribution, or death in their country of origin. When asylum seekers have satisfactorily demonstrated a claim in court, their status changes to refugee. Under international agreement, refugees cannot be forced to return to any country where they are deemed to be in danger, so refugee status provides displaced people with a legal protection against deportation. The number of refugees worldwide at the end of 2016 was 22.5 million, the highest total of refugees since the end of WWII. There were also 40.3 million people uprooted within their own country, known as internally displaced people (IDP), bringing the total number of displaced people to an all-time high of nearly 63 million. In recent years, large numbers of asylum seekers have left Syria, Iraq, Afghanistan, Palestine, Somalia, Sudan, Cuba, Venezuela, and Myanmar (formerly Burma) as wars and political conflict have endangered millions. During previous wars, wealthier countries in Europe, North America, and Australia accepted large numbers of asylum seekers, but anti-immigrant sentiments have risen in many parts of the world, leaving the majority of would-be refugees without refuge. Opponents of resettlement argue that the cost is just too great, and they fear that accepting refugees would encourage more unwelcome immigration in the future, so this has significantly reduced the number of migrants that countries are willing to accept.

Though twenty-first century anti-immigrant sentiment remains high in countries like the US, Australia, and the U.K., the benefits for receiving countries are well documented. Apart from the demographic advantages already described, employers and consumers tend to benefit markedly from the low-cost, readily available supply of labor provided by immigrants. Everything from the cost of fruit, construction, fast food, and lawn care tends to be cheaper owing to an immigrant labor force. Evidence also indicates that wages in low-skilled jobs may be suppressed by immigrants, but the overall economic benefit is widely reported by economists to be favorable when unemployment rates are low. Immigrants have higher rates of employment, are more likely to start businesses and are less likely to commit crimes than the native-born population in the US Sending countries also tend to benefit from emigration in two ways. First, emigration provides an opportunity for young workers who cannot find employment at home. Second, emigrants tend to send home the majority of their overseas earnings. Money sent home by overseas workers is called remittances. Countries that send large numbers of workers overseas benefit from the large infusion of foreign capital into the local economy, which tends to spur new investment opportunities. When migration is working smoothly, both sending and receiving countries can benefit.

Besides low-skilled workers and refugees, a third category of immigrants has increased dramatically under globalization. Highly-skilled immigrants represent a unique contradiction. On the one hand, countries seek to increase border security, limit asylum seekers, and build walls. On the other hand, those same countries actively recruit and seek to attract immigrants with specific skills, training, and educational levels. Most commonly, wealthy countries like the U.K. regularly recruit nurses, scientists, and engineers from poorer countries to meet the needs of an aging population. As British residents have fewer children and society gets older, there is more demand specifically for healthcare workers of all kinds. As such, the best and brightest minds from poorer countries become attracted to the much higher wages outside of their countries and they leave—resulting in a brain drain. Nearly sixty percent of all doctors born in Ghana and eighty-five percent of nurses born in the Philippines have left the country to work elsewhere! Wealthy countries reap the benefits of this brain gain. Although highly-skilled and educated individuals and families that emigrate for higher pay undoubtedly benefit from emigration, the countries that experience brain drain persistently lose a very valuable resource. Besides losing most of its doctors, Ghana also now faces a major shortage of those qualified to teach the next generation of medical professionals, so the negative effect crosses multiple generations.

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7.7: What is the connection between globalization and increased international migration?

Culture, Globalization & Economics of Migration in the Twenty-First Century

What is the connection between globalization and increased international migration?

Globalization is defined as the set of forces and processes that involve the entire planet, making something worldwide in scope. Although 246 million people live outside of their birth country, more than 96 percent of the world's people do not ever move outside of their birth country, so in the case of migration, globalization might not be as powerful as once believed. While geographers try to understand where people move and why, a more significant question might be why so many people do not move. If you live in one of the places on Earth where you interact with people from all over the globe on a regular basis, then it might seem to you that globalization is operating at full speed. Yet, the vast majority of humans don't leave their home country and have limited interactions with people from other places, even if the products they consume and produce might be worldwide in scope.

As we entered the new millennium in 2000, scholars were convinced that a new age was upon us. Some went so far as to say that geography was "dead" and that place didn't matter. A best-selling book written by Thomas Friedman, The World Is Flat (2005), decreed that humanity was becoming more connected all the time to the point that it didn't matter if you were in the streets of Bombay or in a classroom at Harvard. The best minds and the best ideas would always rise to the top, regardless of their origin. Inherent in this argument was the assumption that more people would be on the move, and international migration would accelerate as people and products would just zoom across the "flat earth" at lightning speed.

In 2017, however, geography has re-emerged to re-stake its claim. While more people than ever are, in fact, living outside of their birth countries, there is a growing resistance across the planet to "outsiders." In response to the attacks of September 11, 2001, President George W. Bush firmly asserted that "every nation in every region now has a decision to make. Either you are with us, or you are with the terrorists." Perhaps that is the moment in which the earlier hope of a fully integrated world with open borders and full mobility was deemed too optimistic. In the years since that speech, western nations have taken a collective stance against immigration often based upon religious or ideological grounds. In 2017, for example, Donald Trump called for a "total and complete shutdown of Muslims entering the United States" in response to a shooting in San Bernardino, California. Meanwhile, Britain moved to cut immigration levels dramatically as it exited the European Union and took a more isolationist position, and Australia moved to prevent refugees from arriving on its shores.

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7.8: 20th vs. 21st Century Migration

20th vs. 21st Century Migration: How is migration in the twenty-first century different from that of the twentieth century?

While the percentage of those who migrate has not increased significantly in the twenty-first century, the destinations and origins of immigrants have shifted dramatically, so that more people are migrating to and from more places than ever before. Such a statement may sound confusing at first, but one need look no further than college campuses throughout the world to understand this dynamic. Georgia Gwinnett College in suburban Atlanta, for example, is the most ethnically-diverse college in the American South. In a typical geography class at that school, thirty-three percent speak a language other than English at home. A recent survey of the author's students (n=115) from just one semester found that students (or their families) came from Mexico, El Salvador, Peru, the Philippines, Laos, China, Colombia, Korea, Haiti, Jamaica, Vietnam, Ukraine, Dominican Republic, Liberia, Latvia, Romania, India, Pakistan, Scotland, and Paraguay. While past waves of migration were dominated by a small number of sending countries and a small number of receiving countries, migration in the twenty-first century is much less predictable.

Australia offers another example, as thousands of prospective immigrants have been traveling thousands of miles by land and sea to seek refuge in the small continent. The government eventually made the difficult decision to intercept would-be immigrants at sea, but it still faces a complex dilemma of where to redirect those who have risked their lives to make the perilous journey. For now, they are being taken to remote islands of Papua New Guinea, Christmas Island, and Nauru for resettlement, resulting in an odd mix of refugees and South Pacific Islanders living side by side. Unpredictability is now the rule rather than the exception as twenty-first century technology allows for a rapid flow of information. Those wishing to move can now find out much more quickly about opportunities, transportation options, and routes to take than has ever been the case before. Geography does not represent nearly as formidable of a barrier to travel than it did in the twentieth century. Other than asylum seekers, most immigrants are far more likely to travel by plane than by boat in the twenty-first century, and they may or may not seek permanent residence.

The final way in which migration is different today relates to the concept of transnationalism (exchanges and interactions across borders that are a regular and sustained part of migrants' realities and activities that transcend a purely "national" space). Those traveling to the US in 1900 were leaving everything behind to seek a new homeland, learn a new culture, and often to speak a new language. Migrants of today, however, are not forced to fully disconnect from "home." Even after a long-distance migration, people can stay connected to friends, family, news stories, and relationships across the world. A journey that took several months in 1900 today takes less than half a day. Meanwhile, apps like Facebook, WhatsApp, Snapchat, and Skype allow newcomers to stay intimately involved in the lives of those left behind—for free! Transnational families contain members that are living in multiple countries simultaneously, speak multiple languages, and are ready to move in a moment's notice, based upon market conditions in any given place at a particular time. Critics argue that immigrants of today do not assimilate as readily as those from the nineteenth and twentieth centuries, but in that era, people simply had no other choice. Transnationalism is a feature of twenty-first century immigrants that is here to stay as immigrants to new places have the option to live their lives in more than one world, carry more than one passport, and move more seamlessly from place to place than at any time in human history. Take note that the term appears again in this textbook (section 11.4, Political Geography) in that corporations also operate within and between multiple countries, depending upon various factors. An important distinction exists, however, from the concept of supranationalism (Section 8.3, Political Geography) in that supranationalist organizations do not officially reside under the direction of any single state (country), while transnationalism involves moving between countries – not operating outside of them.

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7.9: End of Chapter Synthesis

End of Chapter Summary: The Future of Human Movement

The future dynamics of migration are very difficult to predict, but certain geographic realities provide clues for where patterns are likely to change. In those parts of the world where societies are quickly aging and fertility rates continue to decline, we can expect rates of immigration to increase. Certain countries have experienced and will continue to experience dramatic population decline (most notably Germany, Italy, Russia, and Japan), and the demand for young, workingaged immigrants will certainly continue to draw more people to those places. Japan and China represent unique cases because both are aging and yet have been resistant to allowing outsiders to become citizens or permanent residents. In spite of cultural preferences for ethnic homogeneity, it would seem likely that the culture will shift and become more accepting of outsiders, as the country needs them to take care of the elderly, pay taxes, and provide an infusion of energy into the respective countries.

Meanwhile, people living in places without sufficient opportunities will continue to move away in search of jobs and better circumstances, regardless of the attempts made by wealthy nations to keep them out. Source countries and destinations will continue to shift, as they always have. More Mexicans have returned than have left the US in recent years, and it is no longer the leading sending source country of migration to the US. Rather, more people are now coming from Central America. The demographic pressures in many African countries will absolutely drive more working-aged people out of the continent in search of better opportunities even as the journey becomes increasingly dangerous. As the Internet becomes more pervasive on that continent, more people will find the information that they need in order to plan their emigration. Finally, the highly-skilled people of the world will continue to be increasingly mobile and largely unaffected by borders or increased security. Computer programmers, nurses, doctors, engineers, and high-tech workers of all sorts will use the globe to their advantage and seek out places that best fit their desires. Television shows like “House Hunters International” demonstrate how the vast numbers of people who work online or in highly-skilled careers can virtually live anywhere. Wealthy people from across the globe are leaving their passport countries by the millions, as Wi-Fi networks are now available across the world. The poor and wealthy alike will continue to move about the planet, reconstituting the human geography of our world well into the twenty-first century but for very different reasons and with very different experiences.

Key Terms Defined for Chapter

Agricultural density: The number of farmers per unit area of arable land.

Arithmetic density: The population of a country divided by its total land area.

Carrying capacity: The maximum population size that the environment can sustain indefinitely.

Cartogram: map in which some thematic mapping variable—such as population—is substituted for land area or distance.

Cohort: A subset of a population, generally defined by an age range.

Crude birth rate: Total number of live births per 1,000 of a population in a year.

Crude death rate: Total number of deaths per 1,000 of a population in a year.

Demographic transition: The transition from high birth and death rates to lower birth and death rates as a country or region develops.

Dependency ratio: The ratio of those not in the labor force (generally ages 0 to 14 and 65+) and those in the labor force.

Doubling time: The period of time required for a population to double in size.

Ecological Fallacy: Characteristics about the nature of individuals are deduced from inference for the group to which those individuals belong.

Ecumene: The Greek concept of the habitable part of the Earth

Infant mortality rate: The number of infant deaths that occur for every 1,000 live births.

Life expectancy: The number of years that one is expected to live as determined by statistics.

Morbidity: The state of being diseased or unhealthy within a population.

Mortality: The number of people who have died within a population.

Overpopulation: A condition in which a place has outstripped its ability to provide for its own needs.

Physiological density: The number of people per unit area of arable land.

Population density: A measurement of population per areal unit, such as the world, a region, a country or other area.

Population momentum: The tendency for population growth to continue due to high concentrations of people in the childbearing years.

Population projection: An estimate of future population.

Population pyramid: Graphical illustration that shows the distribution of various age groups in a population.

Rate of natural increase: The crude birth rate minus the crude death rate. This rate excludes the effect of migration.

Replacement level: The average number of children a woman needs to have to ensure the population replaces itself. The number is roughly 2.1.

Total fertility rate: The average number of children that would be born to a woman over her lifetime.

Migration Key Terms & Definitions

Asylum seeker – those who leave the sovereign territory of one country in order to achieve refugee status in another, based upon claims of danger because of race, religion, nationality, or other pertinent identifiers.

Brain drain – the collective loss of skills, education, training, and wealth that occurs when highly-skilled and educated people move away from a country (usually away from a relatively poor country).

Brain gain – the collective gain of skills, education, training, and wealth that occurs when highly-skilled and educated people move into another country (usually to a relatively wealthier country).

Brain waste – a phenomenon in which international migrants with high levels of education and/or training often are not eligible to work in their area of training due to regulations or certification requirements, resulting in a "wasted" potential in certain groups.

Diaspora – a group of people sharing a common historical and ethnic connection to a territory, but who no longer live in that territory or country. Some members of a diaspora may have been removed from the traditional homeland for multiple generations but still identify with it as a "homeland."

Ecumene – human inhabited areas of Earth

Emigrant – an individual who moves away from one country into another for a prolonged period. The definition of "prolonged" varies by country and is defined by the World Bank as a minimum of one year.

Forced migration – a type of movement in which individuals or groups are coerced into moving by an external set of forces, most notably environmental, economic, social, or political factors.

Globalization – all those processes, technologies, and systems that result in greater connections, communication, and movement among increasingly distant people and places on Earth.

Guest worker – someone without legal permanent status who has been granted permission to reside in a country's territory in order to work for a specific set of time on a particular kind of work.

Highly skilled migration – patterns movement by those with skills that are in high demand on the global market. Examples include nurses, doctors, IT specialists, actors/artists, and athletes who tend to enjoy greater levels of movement across borders than others.

Immigrant – an individual who moves for a prolonged period to another country. The definition of "prolonged" varies by country. In 2016 there were 246 million immigrants in the world.

Internally Displaced People (IDP) – those who have moved or been forced to move from a homeland for the same reasons as refugees but have not crossed an international boundary and do not have refugee status.

Laws of migration – generalizations about international migration as detailed by nineteenth-century demographers

Migration – a permanent move to a new location

Net migration – the difference between the number of immigrants and the number of emigrants in any given year

Points system – a national immigration policy that seeks to attract people with a specific set of skills, experience, and job training to satisfy unmet demand among those currently in the country. Regardless of origin country, anyone with the prescribed set of skills, linguistic ability, and education may apply to migrate to that country if they have acquired enough points to do so. Canada, Australia, New Zealand, and England all have a points system.

Pull Factor – those forces that encourage people to move into a particular place

Push Factor – those forces that encourage people to move away from a particular place

Refugee – an individual who, owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality, and is unable, or

unwilling, to avail themselves of the protection of that country. An individual who has been granted “refugee” status is afforded a certain set of rights and privileges, most notably, the right not to be forcibly returned to the country of origin.

Remittances – money sent “home” by international migrants. Remittances represent the largest single source of external funding in many developing countries. The global figure for 2016 was US$600 billion.

Return migration – a return of a migrant to the country or place of origin

Transnationalism – exchanges and interactions across borders that are a regular and sustained part of migrants’ realities and activities that transcend a purely “national” space.

Undocumented migrants – those inside of a country without proper authorization or proof of residence.

Visa – the legal permission granted by a receiving country to those seeking to enter. Examples include tourist, temporary work, and student visas. A visa is different from a passport.

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3.9 ENDNOTES

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8: GEOGRAPHY OF HEALTH AND DISEASE

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8.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

Chapter 8: Geography of Health & Disease

Learning Objectives

- Analyze key health metrics such as infant mortality rate and life expectancy to understand regional health disparities.
- Examine the geographical distribution and impact of major diseases, including COVID-19, influenza, malaria, and cancer.
- Assess the influence of demographic factors and the built environment on health outcomes and access to healthcare.
- Evaluate the geography of care, focusing on the availability and accessibility of medical facilities and healthcare systems.
- Investigate the intersection of health and geography in the context of women's reproductive rights, public spaces, and regional health policies.

Introduction to the Geography of Health and Disease

In our exploration of cultural geography, we delve into the intricate and multifaceted relationship between geography and health. This chapter, The Geography of Health and Disease, will illuminate how the physical and social environments influence health outcomes and the distribution of diseases. Through this lens, we will understand the profound impacts of place, space, and scale on health metrics and care.

We'll begin by examining key health metrics that provide insight into the well-being of populations. Metrics such as the infant mortality rate and life expectancy offer a window into the health disparities across different regions. We'll discuss tools like Measure of America and County Health Rankings, which help us analyze and compare health outcomes across the United States.

Our discussion will extend to both physical and mental health, understanding how geography shapes the prevalence and management of various health conditions. The concept of "Tobacco Nation" will serve as a case study in understanding how lifestyle choices and health policies can vary dramatically by region.

The geography of disease is a critical aspect of our study. We'll trace the spread and impact of major diseases such as COVID-19, influenza, malaria, and cancer. Each of these diseases has a unique geographical footprint, influenced by factors such as climate, socioeconomic conditions, and public health infrastructure.

We'll also explore the geography of care, focusing on access to medical facilities and the regional variations in health care systems. Issues like affordable healthcare and women's reproductive rights will be discussed, highlighting the inequalities and challenges faced by different populations.

Demographic factors such as the demographic transition, sex ratio, and gendered landscapes play a significant role in health outcomes. We'll examine how these factors intersect with geography to create distinct health landscapes.

Finally, we'll consider how the built environment, including housing, public spaces, and even gas stations, impacts health. These elements of our everyday surroundings can have profound effects on physical activity levels, exposure to pollutants, and overall well-being.

By the end of this chapter, students will have a comprehensive understanding of how geographical factors shape health and disease. This knowledge is crucial for addressing public health challenges and creating healthier, more equitable communities.

Everybody gets sick and everyone eventually dies but, where you live is an important factor in how often and from what causes your health will suffer. Geography offers a powerful set of tools to investigate the spatial patterns of health and health care.



Figure Lithographic Map - John Snow mapped locations where cholera victims lived in London in an effort to isolate the source of the cause of the disease. Source: Wikimedia

Link: Interactive Map.

The application of geographic techniques in the quest to address health crises is one of the earliest and most famous uses of spatial statistics to solve a pressing medical problem. In London in 1854, there was a severe outbreak of cholera, a gastrointestinal illness generally caused by drinking water contaminated by human feces. Back then, nobody quite understood that microscopic organisms, like bacteria, were capable of causing such violent illnesses. Instead, most medical experts believed that a kind of poisonous air, called miasma, was responsible for infectious diseases like cholera and the plague. The fear of miasma drove thousands, especially the wealthy, to seek healthy air in mountain or coastal resort towns. John Snow, a physician from London, worked in a neighborhood where there were many cases of cholera during the 1854 outbreak. Snow suspected that the miasmic *air* could not be the cause of cholera because other neighborhoods had similar air quality characteristics, but not the same rate of cholera. Instead, Snow guessed that the water supply was somehow contaminated, although he could not identify the "poison" in the water, even with a microscope. In order to test his theory, Snow first made a mental map of the locations where people had contracted cholera. He realized that cholera cases were spatially clustered around one public water well. Snow then hypothesized that ***if*** the handle to the water pump at the geographic center of the cholera outbreak was removed, ***then*** local residents would be forced to get water elsewhere, and the incidence of cholera would begin to subside. To test his hypothesis, Snow convinced local authorities to remove the well's pump handle and indeed the cholera epidemic lessened. Snow later made a physical point map indicating the location of the cholera patients' residences and the poisoned well. Snow's effort can be quickly replicated today using GIS and the results of simple statistical analyses of Snow's data points to the remarkable accuracy of his initial hypothesis. More importantly, Snow's map overturned centuries of bad science on disease while paving the way for the adoption of the germ theory of disease that is widely accepted today.



Figure London, England. This memorial water pump commemorates John Snow's scientific breakthrough in the diagnosis of Cholera. Note: the missing pump handle. Wikimedia

An Interactive website with data, maps, and graphics.

World Bank

Data Bank

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8.2: Health Metrics

Health Metrics

How healthy people are in a country, a state, or neighborhood is both critical and complicated. There are various measures of *well-being* called *health metrics*, that one could use to compare the physical and/or emotional well-being of persons and/or groups. A health metric that combines several measures known as a *health index* is probably the most useful type of health metric for a group of people. Experts disagree though on which factors are most important to include in a health index, who should be included in a health index, and what sort of other factors (like poverty or war) should be included in a health index.

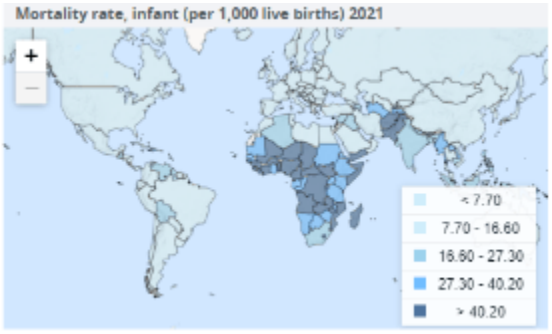


Figure : World Map - Infant Mortality Rate. Sub-Saharan Africa has rates ten times that found in the developed world. Source: World Bank

Infant Mortality Rate

One of the most useful health metrics is ***Infant Mortality Rate*** ***(IMR)***, which is a count of the number of children who die during their first year of life per 1,000 live births in that region.

Global disparities in IMR are substantial. Much of the variation in infant mortality can be traced to poverty, and the various problems associated with being poor, especially malnutrition. Other factors, including disease, lack of access to quality health care, and unsanitary living conditions also contribute to poor survival rates for infants. For these reasons, the infant mortality rate is an excellent indicator of the overall health of a population.

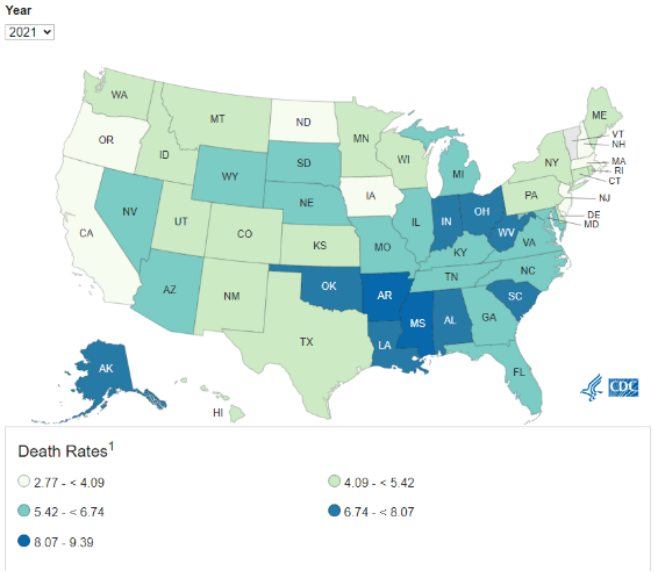


Figure US Map - The Infant Mortality Rate in the United States is twice as high in Mississippi than it is in New Hampshire. Source: CDC

Stats of the States - Infant Mortality (cdc.gov)

Infant mortality rates in the United States are low on average. They *should* be in the country that spends more on health care by a wide margin than any other country in the world. However, despite the extremely high medical costs in the US, the IMR for American babies is three times higher (6 vs 2 per 1000) than it is for babies born in Finland or Japan. Shockingly, the American IMR is also higher than it is in Botswana, Lebanon, and Cuba. The reason for the high IMR in the US is complex, but poverty and the peculiar American health care system are clearly major factors. The role of women in society also affects a country's IMR. That piece of the puzzle is explored later in the chapter on gender.

The map of IMR by US state makes it evident that poverty, ethnicity and the local political climate are key predictors of infant health in the US. Babies born in liberal, white and prosperous Vermont are *half as likely* to die as those born in states with a large number of poor, minority and politically conservative voters – like Mississippi and Alabama. Studies show that the problem lies not so much in the hospital care provided babies but in the 10 months or so after babies come home from the hospital. It is during these later months that the health care *system* breaks down for infants from poor families, especially if their parents are African-American. But the map shows this is not just a matter of poverty or ethnicity. Cuba, for example has much less wealth than the US, and a higher percentage of people of color, but the Cuban government's willingness to delivery cheap, accessible healthcare for *everyone* keeps their IMR lower than United States' IMR.

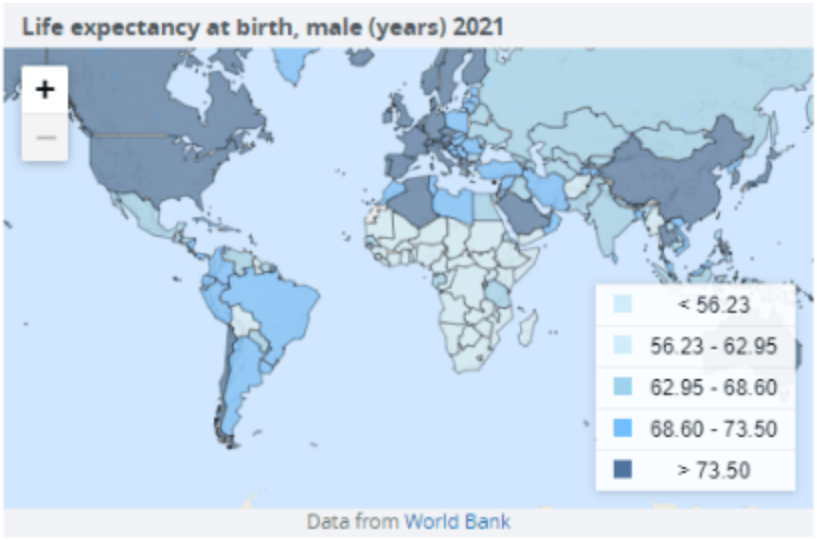


Figure : World Map - Life expectancy ranges from a low of less than 45 years in parts of Africa to 82.5 in Japan. Source: World Bank.

Life Expectancy

Like IMR, ***life expectancy*** is a useful indicator of the overall health of a population. This metric is an *estimate* of how long a person is *expected* to live on the day they were born. Calculations are largely based on observed *death rates*, plus additional considerations. The life expectancy of any group of people can be greatly affected by things like war, or the outbreak of diseases. In Africa, for example, after years of improvement, the life expectancy recently stagnated as AIDS swept across the continent. Iraq and Syria have seen life expectancy downgraded in recent years as wars in the region continue to wear on indefinitely.

In the United States, babies born today can expect to live to be about 79 years old. Again, this isn't great considering that life expectancy generally is a product of national wealth and health care expenditure. Almost every developed country in the world and even some developing nations (Chile, Cuba, Costa Rica, e.g.) better life expectancies than Americans. Depressingly, in recent years, life expectancy in the US has gone *down* which indicates troubling trends in our society. Rising poverty and associated lifestyles are generally cited as reasons for the shrinking life span in the US.

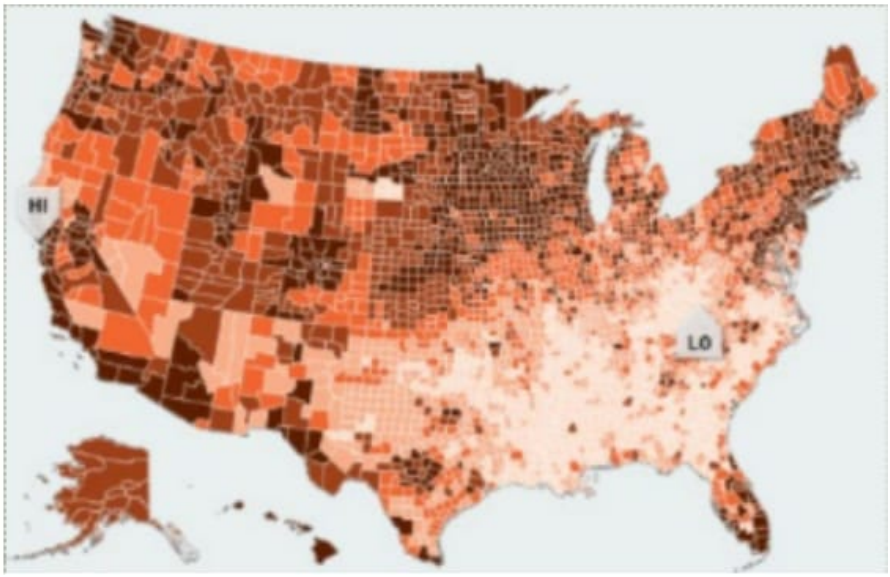


Figure : US Map - Life expectancy in Mississippi is 75 years, but in Hawaii, it is over 81. Substantial variation exists within states

too. Poverty and ethnicity are key causal variables in the differences. Source: Measure of America / CDC Interactive Map

Measure of America

An interactive mapping and data tool with a host of display and download options.

> The geography of poverty, government policies, and cultural practices all affect longevity. In McDowell County, West Virginia, where Americans have the shortest life expectancy (76.5 males; 81.2 females), you'll find that their median income is around $25,000 a year, about 20% don't have health insurance, few people complete college, over 16% suffer from diabetes, and over 35% of adults smoke. Even the homicide rate is exceptionally high McDowell County. As a result, babies born in wealthy and health-conscious Marin County, California can expect to live nearly 15 years longer than babies born in McDowell County, West Virginia.

County Health Rankings

An interactive mapping/database of health outcomes and quality of life indicators

> Ethnicity plays an important role in health too, but it appears to be less important than geography. For example, Asians, perhaps because of their dietary practices, better access to health care, and maybe genetics, can expect to live about 13 years longer than African-Americans in general. When you combine ethnicity, gender, and location, the difference becomes even greater. For example, African American boys born in Washington DC today have a life expectancy of only 66.5 years, whereas Asian-American girls born in Boston are expected to live, on average, to almost 92! On the other hand, African-American boys born today in *Minnesota* may expect to live to be about 80 years old on average, which is about the same Asian-American boys born in Hawaii. The point is that lifestyles, dietary practices are affected by both ethnicity and geography. Indeed, what may seem a common "ethnic behavior" in one part of the US may not be so common among the same ethnicity in another part of the country.

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8.3: Physical and Mental Health

Physical and Mental Health

Another way of gathering data about the overall health and well-being of an individual or a group of people is to survey them. Geographers use *survey methods* to gather information about a wide range of topics. Well done surveys are complex to plan, perform and analyze; so researchers must exercise extreme caution when using survey data, especially when the survey data was collected by others. The world's largest telephone survey is done by the *Centers for Disease Control and Prevention* (CDC) with the aid of local health departments. This survey is called the *Behavioral Risk Factor Surveillance System (BRFSS)* and it provides a substantial amount of quality data about the health and health care of Americans. A number of questions are useful in measuring the quality of life of people around the US. The CDC makes this data available in a variety of formats, including format useable in a GIS, allowing health geographers easy access to exceptionally high-quality data sets necessary to solve numerous health-related problems.

An outstanding source of data and maps about American's Health:

Centers for Disease Control

Behavioral Risk Factor Surveillance System

Healthy Days

A couple of the most basic questions asked by the CDC on the BRFSS are "Would you say that in general your health is _____? (Excellent, Very good, good, fair, poor) and "How many days in the past 30 days was your physical health poor?" (numeric answer, none, not sure, refuse to answer). Similar questions are asked about mental health. The answers to these questions can be mapped at various scales (county, city, state, etc.) to paint a compelling picture of a region's health. Hundreds of researchers, and dozens of organizations working to improve the health and well-being of communities, use this data.

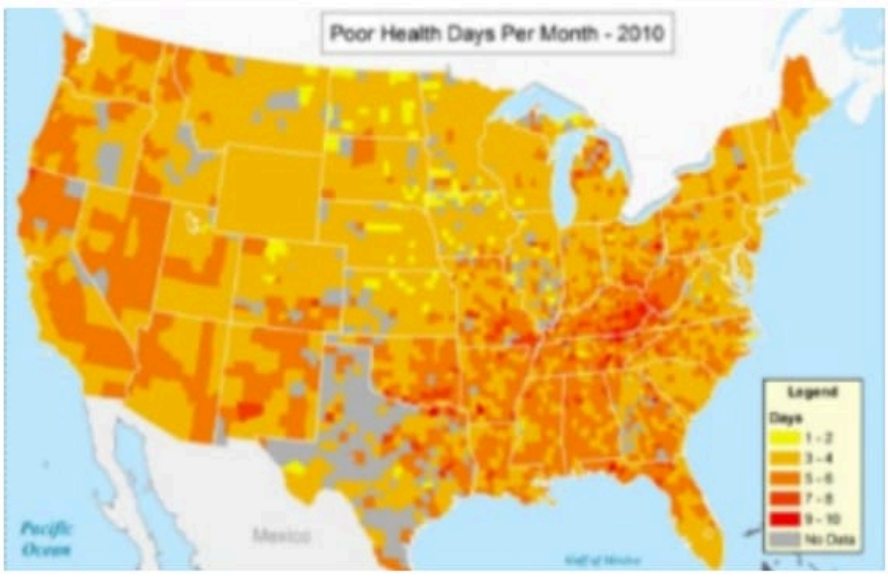


Figure: US Map - Eastern Appalachia and parts of the South report five times as many poor health days as some counties in the Upper Midwest. What are the costs to employers and taxpayers? Source: CDC / County Health

Survey results indicate a wide variation in the number of days people are sick over the course of any 30-day period in the US. In some places, people on average have less than two "sick days" per month. In other places, especially the Deep South and Appalachia, people are sick, on average, about seven days per month. While a few days difference may not seem noteworthy, multiplied by millions of people that live in most states, it is a huge difference. Chronic illness has significant implications for

the economy of a region at the very least. Imagine for a moment how a company looking to open a factory in Appalachia would evaluate the health indicator data for a county where people are sick about three months out of every year? How much money would the factory stand to lose in a location like this? The unhealthy conditions of Americans living in poverty are not only a humanitarian concern but a significant economic drain on the entire US economy because the poor health of Americans in other regions of the country is often passed on to the rest of the country via external costs -like extra taxes and increased health insurance costs.

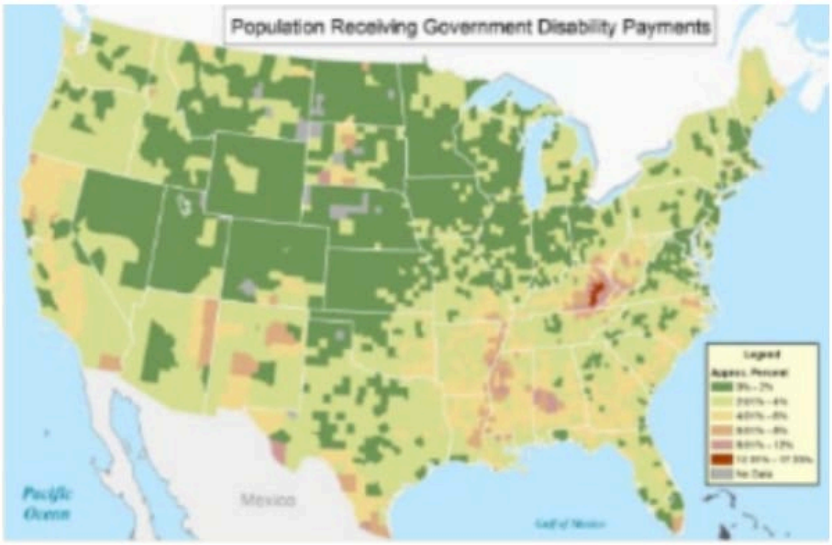


Figure : US Map - Many poor counties have over 10% of their population receiving disability payments from the US government. Age is partly a factor, but unhealthy lifestyles cost American taxpayers billions annually, while contributing to a cycle of poverty. Source: Social Security

One of the key outcomes of poor health is disability. Over 10 million Americans were receiving disability payments at the end of 2017. On average, the monthly benefit paid to claimants was around $1,200. The program began in 1957, but expanded rapidly in the 1990s, after cuts to other welfare payments eliminated cash payments to the able-bodied poor, many of whom were economically struggling parents of small children.

The Truth Initiative is a nonprofit organization dedicated to eliminating tobacco use.

The article linked below discusses the difference in health outcomes for states with prevalent tobacco use:

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8.4: Tobacco Nation

Tobacco Nation

Unhealthy lifestyles, dangerous working conditions, risky cultural behaviors, and bad luck all increase the likelihood of individuals becoming dependent on the government for support. By mapping these individuals as groups, we can see very uneven patterns of disability across the US, which strongly suggests that both cultural practices and economic conditions are important causal variables in the creation of a disability crisis in the United States. Employment in mining and factory work seems one predictor of worker disability, which makes sense because those jobs are often physically demanding and sometimes dangerous. A lack of economic diversity in many of these same locations means that few other job opportunities are available for those with only a *physical* disability. This means, that even if you were injured while working in one job, in some parts of the country, you could find another job where your physical condition didn't matter. In some parts of the US, because the types of jobs are limited to hard physical labor, an inability to lift heavy objects (for example) would keep you from finding almost any job.

The geographic pattern evident in the map of disability welfare differs wildly from media stereotypes about persons receiving government welfare. Mapping disability coverage offers a counterbalance to a common, misguided stereotype of the *urban* ***welfare queen***, the politically charged symbol of those who abuse government assistance, generally assigned to women of color. The map of disability payment hotspots shows that in reality, welfare payments go to communities that are overwhelmingly rural, and predominantly *white*. While it is difficult to estimate the percent of fraudulent disability claims, the intense clustering visible on the map invites further research into why some counties have so many disabled people. It is statistically unlikely that nearly one-third of any region's total population could be physically disabled by workplace injuries, even though the demographic profiles of poor, rural counties skew toward the elderly and ill-prepared to survive with a disability. To account for this reality, geographers ***age-adjust*** data to help account for the fact that older people are more likely to suffer a workplace injury from which they cannot recover. People without a high school diploma may also be declared disabled by an injury that would not qualify as an injury for a person with a college degree. It is reasonable to assume serious injuries normally occur in a somewhat random pattern around the US, therefore should be a somewhat random pattern to the disability map as well. Instead, there is a definite clustering pattern to disability claims in the US, which suggests fraud -which is very difficult to prove. Closely associated with the disability epidemic in the United States is burgeoning opioid drug addiction. Many of the same regions of the US where physical disabilities are very common also suffer from widespread opioid addiction. This crisis is explored more fully in the chapter on crime and punishment.

Autism:

One of the disabilities recognized by the US government is Autism, which is, in reality, a group of related conditions characterized by a range of cognitive and behavioral impairment levels, more properly known as *Autism Spectrum Disorders* (ASDs). ASDs are among the fastest-growing health concerns worldwide. The cause or causes of ASDs is the subject of exceptionally intense debate and millions of hours of research. Nobody yet knows for sure what causes ASD.



Figure : Map: Autism Cluster in wealthy, northwestern Los Angeles County. Source: UC Davis Health System



Figure : Infographic - In recent years, measles, a disease that was once declared eliminated in 2000 has re-established itself. Most people who get measles were not vaccinated, so exposure from outside sources spreads rapidly. Source: CDC

Generally, researchers think that genetics is the primary factor in ASD, but determining causality has proven to be very complex. Partly this is because the symptoms themselves are hard to identify, but it's also because of the *geography* of autism. Medical geographers and spatial epidemiologists are heavily involved in autism research because autism clusters are reasonably easy to identify on a map. In greater Los Angeles, for example, unusually high rates of autism appear in Torrance, Beverly Hills, Van Nuys, Calabasas, Laguna Beach, and Mission Viejo. Of course Los Angeles has a well-earned reputation for air pollution, leading some to believe that exposure to airborne toxins is a causal variable. Indeed, there is some evidence to suggest that environmental exposures to various pollutants may function as *triggers* for the condition, but definitive answers have proven elusive. What is clear is the effect of *neighborhood* on the diagnosis of ASD. Most of the autism clusters in greater Los Angeles are in *wealthy* neighborhoods; so geographers suspect that the disorder's dramatic rise in upscale areas is likely a product of improving *diagnostic capabilities* among medical professionals serving the upper-middle class, rather than evidence of a real increase in ASD. In poorer areas, where environmental conditions are generally far worse, parents, families and school officials appear to misdiagnose ASD or overlook symptoms that are commonly noticed in wealthier communities. Ethnicity and economics may also affect the likelihood that parents will acknowledge or accept a diagnosis of ASD for their child. The uneven *spatial pattern* of diagnoses makes the task of identifying the root causes harder because the known pool of persons with *diagnosed* with ASD is an ***unrepresentative sample*** of the true ASD population.

Vaccinations:

The most controversial topic surrounding ASD has been the popular, *but scientifically unproven*, belief that vaccinations cause ASDs. These unfounded fears keep many parents from vaccinating children against common, and sometimes deadly, diseases. As a result, a handful of diseases thought extinct have re-established themselves in the US.

Measles is a classic example. In the year 2000, the CDC declared measles "eliminated" from the US because no Americans had the disease. In the 1960s, millions were infected with measles and hundreds died every year. Today, Americans not vaccinated against measles remain at risk when traveling internationally, or when exposed to international visitors, or immigrants from affected regions. A significant outbreak of measles occurred in Southern California during early 2015, after a tourist with measles visited Disneyland in Anaheim and it spread among unvaccinated children in the region. In 2019, the worst outbreak in many years sent hundreds to hospitals across the country. The worst outbreak was probably in New York City's Orthodox Jewish community, where exposure to people from Israel is high and vaccination rates are relatively low.



Figure California Counties - Pertussis infection rates vary considerably across California in 2014. Areas with large immigrant populations and large anti-vaccine populations show high infection rates. Source: CDC downloadable data

Pertussis, better known as "whooping cough" is another disease that has re-emerged in recent years thanks to vaccination paranoia. In recent years, the number of pertussis *cases* in the US has risen to levels not seen since the 1940s. By mapping pertussis rates by California's county shows an interesting pattern. Higher rates of pertussis are evident in parts of California with many Latin American migrants. Latinos had by far the highest rate of whooping cough at 174 cases per 100,000 in 2014. This high rate is likely caused by poor access to affordable, quality medical care for pregnant women and infants. Language barriers between patients and health care providers may exacerbate the problem. Extended families who live together in crowded housing, especially if adults recently arrived from Latin America without updated vaccinations, can put at risk the health of infants and small children living within the household.

The map of pertussis in California also shows outbreaks in some of the wealthiest, best-served counties. Many wealthier families purposefully opt-out of vaccination programs, thereby fueling the pertussis epidemic in otherwise wealthy, healthy and medically well-served communities. In parts of upscale Sonoma County, where pertussis rates were exceptionally high in 2014, several schools had vaccination rates well below the rates considered safe. In some schools, more than half of the children were not vaccinated. Their parents had signed "personal belief exemptions", which excused children from being vaccinated based on religious or moral grounds. Still they sent their children to school not immunized against common contagious diseases. Though pertussis is unlikely to kill healthy children in upscale neighborhoods, it is nevertheless highly contagious and spreads into other neighborhoods, or even countries, where infants from poor families are at serious risk from the disease. California eliminated most exemptions for children attending public school in 2015.

Children who are not immunized against disease take advantage of what is called, ***herd immunity***, a condition that characterizes groups of people in which around 90% of the group have developed immunity, generally through vaccinations, to an infectious disease. The group immunity critically lowers the chances of infection for those without vaccinations and/or immunity. This behavior is sometimes used as an example of the ***free-rider problem***, that occurs when individuals take advantage of a community resource without contributing to the maintenance of the shared resource. The free-rider problem echoes the "tragedy of the commons" scenario, discussed in the Political Geography chapter. Those people with compromised immune systems who cannot be vaccinated *must* rely on herd immunity to keep from getting sick, making it imperative that those with otherwise healthy immune systems get vaccinated for the good of others.

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8.5: Geography of Disease

Geography of Disease

Cool Map:

Health Map

An interactive mapping program from the Boston's Children Hospital that shows local outbreaks of infectious diseases.

> Pertussis is an example of an ***infectious disease*** because it is transmitted from person to person. Some infectious diseases also are transferred from animals to people. Infectious diseases, also known as *communicable diseases*, figure prominently among the leading causes of death in developing countries. In the United States, Europe, and other developed regions, people are more likely to die from ***non-communicable disease*****s**, such as heart disease, stroke, and cancer. Most non-communicable illnesses are also considered ***chronic diseases*** because they affect people over a longer period, and generally affect older adults. Infectious diseases, on the other hand, may affect anyone but are more likely to kill people who are poor, already unhealthy and/or children. In order to demonstrate how geography aids our understanding of health and disease, several short vignettes about specific diseases follow in the paragraphs below.

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8.6: Covid-19

Covid-19

The Covid-19 pandemic of 2020 killed hundreds of thousands and caused billions of dollars in economic dislocation and suffering. Epidemiologists and health geographers worked feverishly to track the origins, spread, and retreat of the disease. A recognition of the role of micro-geography in the spread of the disease, one of the hallmark behaviors of the 2020 pandemic was “social distancing”, a recommendation occasionally ignored by individuals who imperiled the health of individuals, family members (especially the elderly) and strangers alike because a large percentage of persons with the virus were *asymptomatic*.

> Early hotspots of the disease were cities with large international airports. The hardest-hit area in the United States during the earliest period of the disease was centered on New York City, which serves more international air travelers than any other city in the US. Ski Resorts hosted other important *superspreader* events in the US. The *George Floyd protests*, which erupted in the spring of 2020 brought many thousands of protestors out of quarantine and into the streets also were identified as potentially catastrophic gatherings of people who would share the virus. Especially at risk were African-Americans, who participated in the protests, because of the variety of underlying health issues facing people of color and the lack of affordable health care in black neighborhoods.
>
> As of June 2020, the total number of confirmed cases worldwide had surpassed 6.5 million with close to 400,000 deaths. The United States accounted for an outsized proportion of both cases and deaths, raising significant questions about why the country with the most expensive health care system in the world had, by some measures, worse outcomes than other countries with advanced economies. Many would point to poor political leadership at both national and local levels. The Brazilian and Swedish government, for example, refused to take measures to enforce distancing and face mask guidelines adopted by most countries in the world, probably resulting in elevated death rates in both of those countries. In the United States, vastly different infection and death rates across the country created fascinating, albeit ghastly, patterns on maps of the disease, sparking intense interest in the multiple variables contributing to the spatial evolution of the pandemic.



Figure : Seattle, WA - Policemen wear masks during the great influenza pandemic of 1918-20 Source: Wikimedia

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8.7: Influenza

Influenza

Influenza, popularly known simply as “the flu” is an airborne infectious disease that generally spreads when someone sneezes or coughs microscopic pathogens (germs) into the air. The flu kills thousands of people each year. Sometimes, flu outbreaks are regional and last only a few months. These short-lived regional outbreaks of diseases are called *epidemics*. Occasionally, diseases like the flu get out of control, spreading across vast areas and lasting for many months. Massive, worldwide disease outbreaks such as these are termed *pandemics*. The most infamous flu pandemic was the dreaded *Spanish Flu* that broke out during World War I and killed somewhere from 50 to 100 million people. Nearly the entire globe was affected, and poor countries, like India and China, suffered exceptionally high death tolls. In the United States, over 1/4th of the population was infected. Over one-half million Americans died from it, far exceeding the number of Americans that died in fighting in World War I.

Recently, a version of the Spanish Flu (now called H1N1) returned. It was declared a global *pandemic* and generated worldwide panic. Nobody is sure where the flu strain began or where *patient zero (index case)* lived, but the epidemiologists traced the first obvious signs of the pandemic to Veracruz Mexico. There, factory-style hog farming may have created conditions ideal for the first known cases to develop and diffuse around January of 2009.



Figure : Canoga Park, CA. This billboard appeared in LA’s San Fernando Valley in early 2010 as part of a large public health campaign to dampen the effects of the H1N1 influenza outbreak. The campaign was generally successful. (Link to photo within shared album)

By April 2009, it was clear the flu was rapidly spreading in Mexico. In response, officials drastically curtailed public activity in Mexico City. The European Union Health Commission issued travel advisories, urging people not to travel to Mexico, or the United States, where flu cases were beginning to appear. A variety of quarantine orders swept the globe, keeping people in motels, on cruise ships, and in airports. After about six months, the incidence of new flu cases began to fall, and by February 2010, the pandemic was over. The 2009-2010 flu pandemic officially killed 18,000 worldwide, but other estimates suggest as many as 500,000 died because so many deaths were in parts of Africa and Asia where few laboratories exist capable of confirming the exact causes of death. In the United States, where the public health system responded quickly and efficiently, Americans appear to have suffered only about 10,000 deaths from H1N1, which was nearly normal for a flu season.



Figure US Map by State. The severity of the flu by state in October, 2009. Note the contagion pattern from Southwest to Northeast. The color ramp violates standard cartographic principle – how? Source: FluView, CDC

Cool Map:

An interactive mapping program from the Centers for Disease Control

FluView

While the 2009 version of H1N1 was apparently less dangerous than its 1918 ancestor, the activity of health departments around the world was essential in averting disaster. Geographers working at the CDC in Atlanta, Georgia knew that a flu outbreak diffusing outward from Mexico were likely to appear first in California or Texas. Indeed, the first American cases appeared in San Diego and Imperial Counties, California, on the Mexican border. Other early cases were in Texas. Armed with data from previous flu outbreaks, computer models and GIS technologies, health geographers working at the CDC were able to accurately predict where, when the flu would flare up in various parts of the United States. Being able to *predict* the spatial patterns of disease helps health officials direct vaccines and other resources necessary to combat diseases to locations where populations are most at-risk. The outsized effort by the CDC and other public health agencies probably saved thousands of lives in 2009-10.

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8.8: Malaria

Malaria

Malaria is another infectious disease that kills at least a million people worldwide every year. It sickens millions more, and by doing so, creates huge burdens on the developmental potential of many regions in Africa and Asia. Malaria is a parasitic infestation of the blood. Malaria is transmitted when female mosquitoes inject parasites into the blood through their saliva as they take a blood meal. Mosquitoes carry around the parasite, so mosquitos are called the *disease vector* because they transport the infectious parasites between *hosts*. Flies, ticks, fleas, and lice are other common disease vectors. Malaria is a very complex disease because the parasite that harms people goes through a large number of life stages. The parasite can also lay dormant for long periods, living part of its life in a human host, and some of its life in the mosquito. The parasite can invade multiple parts of the body. Sometimes the parasite is hosted by an animal (monkeys, e.g.) Mosquitos, hosts and parasites all have different spatial behaviors and environmental needs, which contributes to the difficulty of controlling malaria. Solutions require spatial methods and geographic tools.

Cool Map:

Malaria Atlas Project A significant malaria research tool with data, maps and research links.

Malaria has been around for thousands of years, and likely contributed to the fall of the Roman Empire, but it was nearly eradicated in the 1950s. Or so it was believed. After World War II, effective drugs and massive insecticide spraying campaigns appeared to be working miracles against this age-old scourge. However, both the mosquitoes that carry malaria and the disease-causing *pathogen* evolved over the last few decades, rendering many drugs and pesticides largely useless in the fight against today's version of malaria.

Malaria in the United States:

> English colonist who came to the region thought North America to be free of malaria. They didn't yet understand the source of the disease. They mistakenly thought that it, like cholera, was a product of *miasma*. Because both European and African settlers brought with them reservoirs of malarial blood within their bodies across the Atlantic Ocean, the disease had only to find a suitable mosquito vector (i.e., *Anopheles quadrimaculatus*) to begin spreading. Within a generation, malaria had become a serious problem in the American colonies, especially where rice plantations created ideal breeding grounds for mosquitoes. Africans had some measure of resistance to malaria, contributing to their desirability as slaves in the plantation system that grew in during the 1800s.

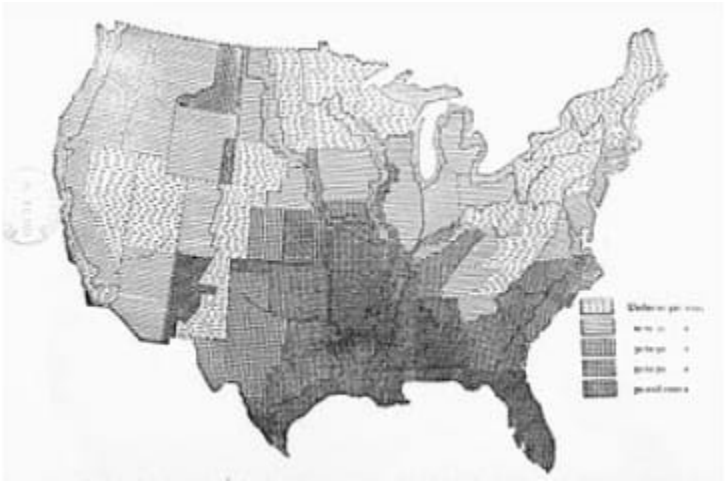


Figure : US Map - Malaria killed and sickened many thousands in the United States prior to the 20th century. The US Census produced this map from 1880 data. Source: Wikimedia.

By the mid-1800s, malaria was out of control in the United States. A series of changes in American society nearly eradicated malaria within 100 years. The remarkable turnaround was created by several changes in the American economy. The demise of wet-rice culture in the Deep South was the first change. During the 1800s, thousands of mosquito-infested, wet rice paddies were drained all over the southern US as cotton and corn crops became more profitable. The profitability of these new crops also encouraged farmers to drain thousands of acres of swamps and wetlands for use farmland, thus destroying ideal mosquito habitats. By the mid-1800s railroads also began to replace river and canal transportation across the US, thereby redirecting many thousands of travelers away from the places where they were most likely to be bitten by mosquitos. At the same time, steam power began replacing waterpower, eliminating the need for thousands of mill ponds all over the country. People also became more prosperous, moved to cities, built houses with windows and screens and generally got healthier. Eventually the anti-malarial drug quinine became widely available in the United States, helping deplete the blood reservoir of the disease. Another important moment in the battle against malaria came in the early 1900s when scientists discovered that *mosquitos* transmitted malaria. Slowly, health officials in the US took steps toward mosquito eradication. Government workers drained swamps and manipulated water levels in lakes by constantly raising and lowering dams. They removed vegetation from lakes at the shoreline and provided houses within a mile or so of lakes or ponds window and door screens.



Figure Atlanta, Georgia - The Center for Disease Control headquarters includes several emergency management command and control centers featuring GIS displays of data on outbreaks, resources and threats. Source: CDC, press release.

After World War II thousands of soldiers returned from Asia carrying the malaria pathogen in their blood. The government took steps to prevent malaria from spreading once again. The biggest effort was in the US South where the military already had practice preventing malaria on southern military bases. The secret weapon in this post-war campaign was a new, highly effective insecticide called DDT. The government launched a massive effort spraying DDT on millions of acres across the US. By 1949, the government declared the US free of malaria. The headquarters of the anti-malaria effort was chosen to house the CDC.

Other countries copied America's strategy for fighting malaria. Unfortunately, the widespread and indiscriminate application of DDT across the globe created a different crisis of interest to biogeographers. After about 10 years of widespread use of DDT in the US, it became apparent to wildlife biologists and birdwatchers that DDT and related insect poisons were harming animals other than just insects. Anything that ate insects regularly, like birds and fish were at risk. Alarmed by the unusual number of bird deaths in areas sprayed with DDT, environmentalist Rachel Carson wrote the book, *Silent Spring*, detailing the numerous ecological dangers posed by the overuse of chemical pesticides. In addition to pointing out how chemicals could be responsible for human cancers, and the near inevitability of ***pesticide resistance***, the book also detailed how the toxic effects of pesticides grew slowly over time in the bodies of predators (like birds) through a process called ***bioaccumulation*****.** Carson's book also condemned chemical companies for misleading the public about pesticides, which of course drew scathing rebuttals from chemical companies and their allies in Congress. Nevertheless, the book became a best seller and is widely regarded today as a significant milestone in the *American environmental movement*. The US government banned DDT for agricultural use in the US in 1972, though it is still used in Mexico. Scientists credit the ban on DDT for helping Bald Eagles and other birds-of-prey return from the brink of extinction.

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8.9: Cancer

Cancer

One of the leading causes of death in the United States is *cancer*. Cancer is actually a group of diseases that are characterized by an out-of-control growth of specific body cells that erode life functions. Of the many varieties of the disease, skin cancer is the most common among Americans. It is clearly associated with overexposure to the ultraviolet light from the sun and from tanning beds. Lung cancer kills more Americans than any other type of cancer, and about 90% of lung cancer fatalities are associated with smoking tobacco. Smoking also causes a host of other deadly cancers. Other behavioral factors linked to cancer involve alcohol, weight control, and dietary practices. Cancer is not contagious, but many cancers display spatial patterns similar to infectious diseases. Geographers study cancer and their techniques offer insights into both behavioral and environmental causes of cancer, and as a result – insights into strategies to combat cancer.

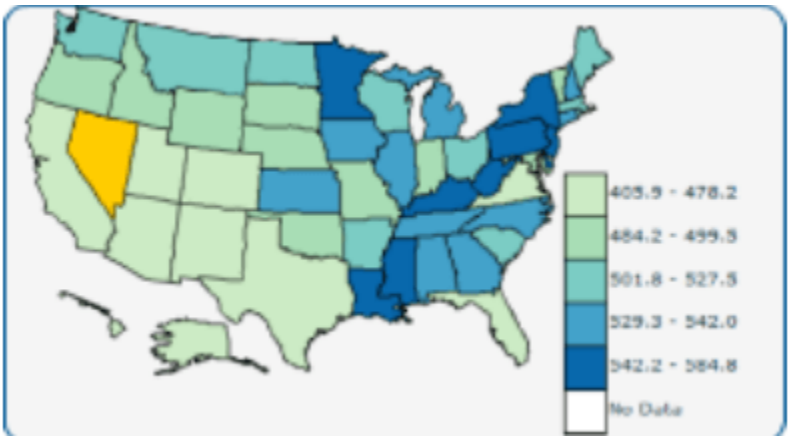


Figure : US Map – The overall cancer rate is highest in Southern and Appalachian States where cultural behaviors elevate the risk of getting cancer. Source: CDC Cancer Atlas.

Cool Map:

Interactive Cancer Atlas from the Centers for Disease Control and Prevention

Allows users to map a variety of cancers by state, ethnicity, and sex.

Some cancers are associated with ethnicity or national heritage. Partly this is because some cancers are inherited. Some forms of breast cancer, for example, are clearly inherited, prompting numerous women with a family history of breast cancer to undo preventative mastectomy surgery. Because genetics traits are often shared among groups of people living in a region, ethnic or national groups often have genetic anomalies predisposing them to specific types of cancer. For example, studies have found that the rate of stomach cancer is above average for Finns and Koreans and that liver cancer for Vietnamese men is higher than other groups. However, because ethnicity and national origins also predict many cultural and economic practices, it is difficult to statistically determine *causality*. Children who are adopted by people from a different ethnic group, or people who move beyond their ethnic homelands are often studied by medical geographers because such people help separate genetic causes from cultural ones.

Exposure to environmental pollutants is also linked to certain cancers, making geographic methods indispensable in the search for causes and preventative measures. Unlike the national or state maps of cancer showing general trends occurring within arbitrary boundaries, maps plotting ***cancer clusters*** at regional or neighborhood levels can be compelling.

Consider, for example, *mesothelioma*, a rare type of lung cancer that showed signs of geographic clustering in the 1960s. By mapping mesothelioma clusters and various types of industry, researchers saw that locations where *asbestos* was mined and processed had much higher rates of the mesothelioma than regions where mining and processing asbestos was absent. This finding later allowed biomedical researchers to establish a causal relationship between various lung diseases and prolonged

exposure to asbestos fibers.



Figure : Baton Rouge, LA - One of the largest oil refineries in the United States is located on banks of the Mississippi River where transportation advantages accrue. Related industries cluster nearby. What are the health effects of this cluster of petro-chemical industries on the health of Louisianans? Source: Wikimedia

Cancer Cluster – Cancer Alley:

The most famous cancer cluster in America, an area known as ***Cancer Alley***, may not be a cluster at all. The gap between perception and reality here highlights the difficulty of identifying the environmental causes of cancer. Cancer Alley lies along the Mississippi River in Louisiana between Baton Rouge and New Orleans and shares territory with a significant number of petrochemical factories.

Clearly, this corridor does have one of the highest cancer rates in the United States, but because "Cancer Alley" does not have a *statistically significant* greater cancer rate versus other parts of Louisiana health geographers doubt that the region is actually a cancer cluster, and doubt that the factories are the cause. Unhealthy lifestyles, poverty and poor access to affordable, high-quality health care both within and beyond this industrial corridor make it difficult to separate the effect of the petrochemical industry on cancer rates from the effects of poverty and unhealthy lifestyles that characterize the entire region.



Figure : Niagara Falls, NY – The Love Canal neighborhood stands abandoned after toxic waste from a landfill was found in the local soil and water in the 1970s. Source: Wikimedia.

Some health problems, such as birth defects, asthma, and miscarriages, are easier to connect to exposure to toxic chemicals. The most well-known toxic pollution site in America is ***Love Canal***, a neighborhood once home to some 900 families near Niagara Falls. It had to be abandoned in the mid-1970s after hundreds of residents were sickened by thousands of tons of toxic chemicals that had been buried nearby 20 years earlier by a chemical company. Poor construction practices and lax environmental regulation allowed the chemicals to begin seeping upwards through the soil into yards and basements. The health of hundreds of residents suffered, and many conditions were found to be far more prevalent there than elsewhere – indicating that the chemicals were the cause.

In recent years, the ***Flint Michigan Water Crisis*** has brought some renewed attention to the danger of lead poisoning, a health issue that had declined greatly in the US since the government banned lead additives in paint and gasoline in the 1970s. Flint's problem grew out of their reliance on very old city water pipes, a search for a cheap source of drinking water and bad mistakes by Flint's water management team. As a result, people living in older parts of town (poor, African-American) were exposed for many months to poisoned water.

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8.10: Geography of Care

Geography of Care

New York Times: Where A re the Hardest Places to Live in the US?

A mapped Index of Health and Poverty:

The geographical variation in death and disease can also be attributed to the geography of health care. Wealth explains most of the variation in access to quality health care globally and nationally. The health of poor people everywhere suffers from multiple burdens, many of which begin well before a person is born. Impoverished pregnant women may be malnourished and unable to afford the costs associated with proper pre-natal childcare, especially where the government does not provide health care. Poor women also tend to have babies born prematurely, and premature babies often suffer from *low birth weight*, which in turn invites a number of additional ill-health outcomes, most notably infant death. Poor children often continue to suffer from poor diets and an inability to access regular, high-quality health care throughout their lives which shortens their lives and reduces their capacity to be productive citizens. Many of the poorest areas in the United States have high percentages of physically or mentally disabled citizens.



Figure US County Map: Orange indicates medically underserved regions, blue indicates medically underserved populations.
Source: HRSA – Interactive Map *or* ArcGIS Online Interactive Map

Access to Medical Facilities

Poor people are not attractive customers for profit-driven health care providers. Poor people, especially prior to the Affordable Care Act (Obamacare), frequently had little means to obtain health insurance outside of the government-run Medicaid program. This fact limits health care options for millions of people in the United States. As a result, uninsured people tend to wait until they are very ill to see a doctor, often requiring a visit to a hospital's emergency room where federal law *requires* provision of medical care, regardless of the patient's ability to pay. The government partially reimburses hospitals for the costs of emergency room care, but much of the cost of caring for the indigent is paid for by charities and/or passed on to those *with* insurance – another example of an economic externality. Hospitals that serve too many indigent patients risk going out of business. As a result, doctors and hospitals avoid many of the poorest areas of the United States, favoring places where well-insured patients generate bigger profits.

Geographers sometimes call regions without medical facilities ***medical deserts***. Most medical deserts are in poor rural areas, but a few inner-city areas in America's largest cities also suffer from limited access to health care provision. The passage of the Affordable Care Act was intended to shrink or halt the expansion of medical deserts in most of the US, but expansion of medical deserts continues in states where politically conservative politicians opposed to Obamacare prevented their state from funding expansion of Medicaid programs for those who were both too poor to afford private insurance, but not poor enough to qualify for Medicaid. Multiple challenges to Obamacare, especially since the election of Donald Trump have reversed some of the gains

made from 2010-2019. An estimated 10-15 million additional uninsured people, largely living in poor, and politically conservative regions, has expanded the threat of medical desertification.

Find Your Local Trauma Center

American Trauma Society:

Interactive Map of Trauma Centers in the US



Figure Maps. On the left is a US map showing one-hour transport distances to trauma centers. Los Angeles area trauma centers and a 45 minute ambulance ride are mapped (right). Source: Traumamaps.org

Geographers also analyze health care access at very local scales. Perhaps the most closely scrutinized region has been Los Angeles' "South Central" neighborhood. As far back as the 1965 ***Watts Riots***, black residents of Los Angeles have complained about poor access to doctors and hospitals. Government officials, in an attempt to shorten the distance residents of South Central LA had to travel for medical care, opened the *King-Drew Medical Center* in the early 1970s. However, after years of shoddy health care provision by the staff at King Drew, the facility was closed 2007, including its very busy trauma center. The closure angered local residents who would have to be transported to more distant emergency rooms for emergency treatment. Although it was controversial, most residents of South LA have reasonably good access to trauma care compared to residents of many areas of the US. In fact, all Los Angelenos have reasonably good access to trauma centers and hospitals.

Regional Variations in Health Care

In addition to regional variations in access to health care, there are significant variations in the style of healthcare both within and beyond the borders of the United States. How often people are diagnosed with specific illnesses varies greatly across time and space as do the strategies doctors use to treat conditions. Geography is exceptionally useful in highlighting and addressing these discrepancies. For example, in South Korea, there has been a startling rise in the incidence of thyroid cancer in the last 20 years. The rate is fifteen times higher than it was a generation ago, and it appears at first blush to be an epidemic. But, upon closer study, it turns out that changes in Korea's health care system simply encouraged doctors to look for thyroid cancer more often than before. Because doctors were looking for the disease more aggressively, they found it far more often. As it turns out, quite few people have thyroid cancer and live with it for many years. Unfortunately, many Koreans chose to have the cancerous thyroid gland removed and as a result suffered more complications than they would have, had not just left it alone.

Similar situations occur in the United States. The rate of diagnosis of specific diseases as well as the preferred treatment strategy depends a great deal on where you live. For example, If you live in the Southeastern United States, and you get a cold, there's a much better chance you'll be prescribed an antibiotic drug than if you live in California, Vermont or Colorado. If you and a cousin are both diagnosed with bad tonsils, where you live may dictate what your doctor suggests as an ideal treatment. You might have them surgically removed, and your cousin may simply get some pain-pills and a note to stay home from school.

Cool Map:

An interactive web mapping application addressing a variety of health care issues.

Dartmouth Atlas of HealthCare

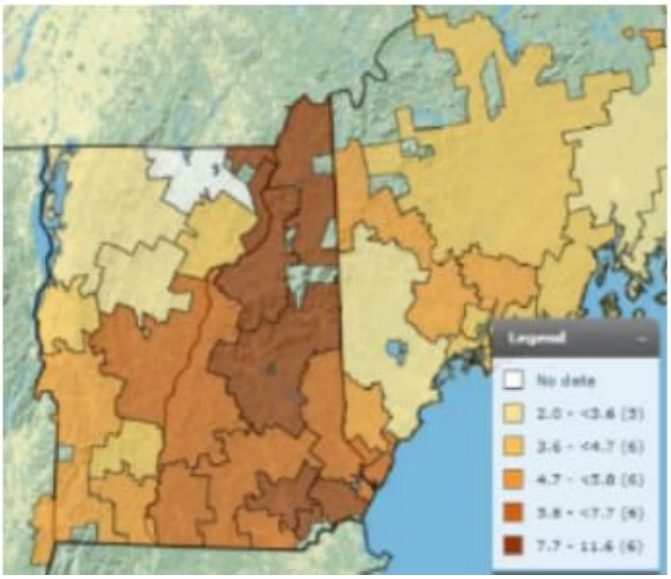


Figure : Map - Significant variation in the rate of tonsillectomies exists across parts of New England suggesting inconsistent treatment practices. Spatial Autocorrelation is evident.

Source: Dartmouth Atlas of HealthCare.

These variations in care are troubling because it suggests that geography may be influencing doctors more than accepted medical protocols. Geographers would investigate mapping treatments first, and then conduct a statistical test for ***spatial autocorrelation*** to determine if the spatial pattern of treatment is random or clustered. If the pattern of some disease *does not* mimic the pattern of treatment for that disease, then serious questions about the quality of health care should be raised.

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8.11: Health Care Systems

Health Care Systems

The ability to pay for health care is another important question that medical geographers try to solve. The health profile of people around the globe is worth examining because, despite American's troubling sense of *exceptionalism*, which leads us to believe that what happens in other countries is of no value to us, we indeed can learn much from other countries. Except for the United States, citizens of other developed countries access ***universal health care***, which is generally run by the government and funded largely through taxes, with varying levels of individual, or employer payment options. A few countries, like the United Kingdom and Canada have wholly government-run or *single-payer* programs.

Enroll America

An Insurance Advocacy Organization with data and mapping tools for analyzing patterns of health insurance.

The United States has a peculiar system of healthcare compared to most of the world. In the US, health care is largely run by companies from the *private sector*. By some measures, Mexico and Turkey are the only other countries in the world without universal health coverage. In the U.S. about 80% of the *hospitals* are not-for-profit businesses, but most *physicians' offices* function as for-profit enterprises. About two-thirds of those who have insurance in the United States get it through their employer. The US government provides health insurance for about one-quarter of Americans. *Medicare* is the popular single-payer system (tax-supported), system for the elderly in the US. The poor and/or disabled who are under the age of 65 may qualify for *Medicaid, an insurance* program jointly funded by states and the US government. Together, the government pays about half of all medical costs incurred in the US each year.

The Affordable Health Care Act - Obamacare

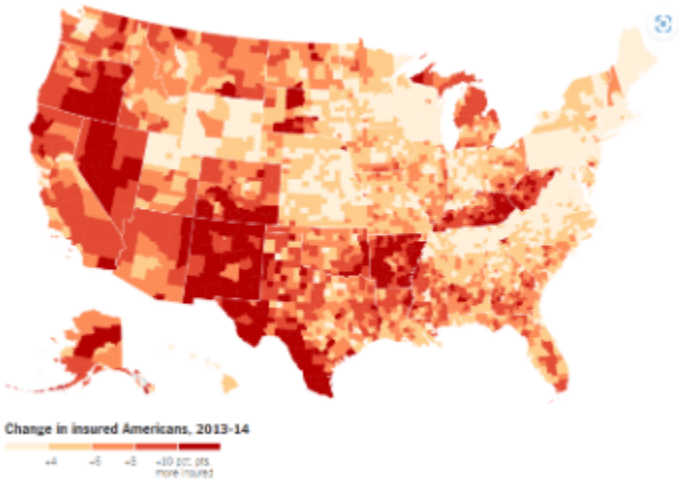


Figure US County Map – "Obamacare" has significantly decreased the number of uninsured persons around the United States, including many locations, like Arkansas and Kentucky, where resistance to the program was intense. Source: New York Times / Enroll America

In 2010, the US Congress passed the *Affordable Health Care Act* (Obamacare) in an attempt to correct some of the problems with the US health care system. The law requires all citizens to have some kind of health care insurance. The ACA subsidizes the cost of insurance for the poorest of the poor and had a number of provisions designed to reduce health care costs for everyone. When it went into effect, about 16% of the US population was uninsured, but in 2016, only about 8.8 percent had no insurance.

Obamacare offered some help by extending coverage to more people, especially in the 23 states that accepted an expansion of Medicaid funding. States with significant Republican majorities, largely in the South, on the Great Plains, and Mountain West,

declined to expand Medicaid, keeping it difficult for some poor citizens to get health care coverage.

Risk Pools:

A very important feature of the Affordable Care Act was the creation of state-wide *health care exchanges*, which offered insurance to those who were not eligible for neither Medicare nor Medicaid and could not get employer-provided health insurance. The idea was to create large *risk pools* of insurance customers who all contribute to a common fund from which individuals in the pool can withdraw money to pay for medical expenses. These risk pools are of interest to geographers because risk pools are defined by state borders, health risks vary greatly not only by individuals but by state of residence.

> The key to successful health care exchanges (risk pools) is having a very good ratio of healthy people to sick people. Because chronically ill people most of the pool funds, sustainable insurance pools require that a large majority of participants in the risk pool be *very healthy*. An abundance of chronically ill people in an insurance pool drives up the cost of insurance for healthy people in the pool, which in turns causes healthy people to drop their insurance or seek it elsewhere, creating a situation in which chronically ill people rapidly deplete the common fund in a process known as an insurance *death spiral*. Prior to 2010, insurance companies tried to avoid creating unstable risk pools by denying enrollment in a plan to those with a known chronic disease or injury, called a *pre-existing condition*.
>
> Those without insurance tend to have poor health, live fewer years and occasionally contribute to the proliferation of contagious diseases. Uninsured people can be very expensive for everyone else as well. Under the law, uninsured people still have a right to some health care, but this right only applies in specific instances, usually in an emergency situation, when a medical condition has become expensive to treat. Therefore, uninsured people tend to rely on emergency room care, rather than preventative care. Often, those who wait until they are extremely ill to seek emergency care, find themselves bankrupted by the costs and/or unable to work. Either way, the costs are passed onto taxpayers and to people with health insurance
>
> How to fix the expensive and unfair American health care system is an exceedingly complex issue. Health care has become the main political issue in the US in the last two decades, and it's sometimes unclear who favors what solution and why. Libertarians (see politics chapter) argue that nobody should be forced to join an insurance pool and that health care costs should be paid by individuals, and health care costs should be determined by the actual cost of care incurred by individuals, not the risk behaviors of a group. If people choose not to pay, then they get should get no treatment. Other conservatives believe that the government must force everyone to pay for health insurance because virtually everyone eventually gets sick and needs medical care. To them, buying health insurance is matter of individual responsibility, that should not be shouldered by the government or taxpayers. Ironically, these views are held most fervently in many of the states with relatively high percentages of voters using government-sponsored Medicaid and Medicare, such as Alabama, Kentucky, and West Virginia.
>
> Progressive politicians favor more government involvement. They point to the lower costs and better health care outcomes for people living in countries with government-run health care systems. They believe *every citizen* in the country should be automatically placed in an insurance risk pool of some sort. Clearly, it can be done, but in order to keep taxes low, governments (or insurers) must work hard to *keep people healthy* to prevent them from costing fellow risk pool members too much in health care costs. In order for it to work, government or insurers must encourage healthy diets, exercise, and regular checkups as part of a healthcare strategy known as *preventative healthcare*. Progressives point out that the economic logic of our current privatized health care incentivizes unhealthy lifestyles because there are enormous profits to be made by treating, but not curing, chronically ill people. The opioid crisis may indeed be a partial outgrowth of providing long-term treatments for pain, without providing a cure for chronic pain. Meanwhile, there are few monetary rewards for risk pool participants who stay healthy, nor for those who work to prevent people from getting sick.
>
> Progressive economists also estimate that over the long run, the *external* costs of our privatized health care system are far greater than what American taxpayers would pay if we adopted a more socialized medical system. For example, they point to the cost of an automobile produced in the United States. A mid-sized sedan built by Ford or General Motors in the United States costs around $2000 more than similar cars built elsewhere, because of the extra costs American manufacturers pay when they provide expensive medical insurance for their workers and retirees. Manufacturers in countries where health care is provided by the government do not bear this cost directly, so the costs of medical care passed on to car buyers are smaller. Some American companies move jobs to places where health care is cheaper, and this results in yet another loss of tax money from both payroll and corporate taxes that would otherwise go to the US Treasury.

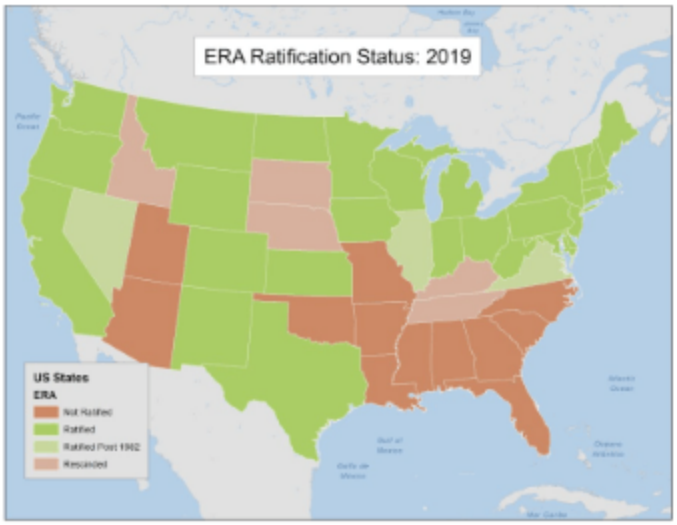


Figure : US map of states by the ratification of the ERA. The states of the Confederacy and the Libertarian West refused to ratify the ERA.

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8.12: Women's Reproductive Rights

Women’s Reproductive Rights

Closely paralleling the drama over the ERA has been the ability of women to control their bodies, particularly in terms of having children. In the pre-industrial age, women had little control over the number of children they were expected to bear. Women in many societies were, to varying degrees, considered the property of their fathers, brothers, and/or husbands. They often had little control over when and/or with whom they had sex, or to whom they were married. Refusing sex could even be very dangerous for married women. The rights of women improved slowly, especially in the 20th century.

A major breakthrough in reproductive rights occurred in the early 1960s when birth control pills became widely available to the American public. The impact on the lives of millions of women is hard to overstate, though it should be noted that in some countries, birth control pills continued to be illegal or unavailable. The right of women to control when to get pregnant and to have a child when they got pregnant was further extended when the US Supreme Court decided in 1973, in the landmark Roe v. Wade decision, that American women could, without much government interference, end a pregnancy during the first three months of pregnancy, but that the government could regulate the conditions under which abortions could be performed after the first trimester. Before Roe v. Wade, abortion was illegal in much of the United States.



Figure : District of Columbia: Large groups of people gather at irregular intervals to make evident their support for women’s’ rights, including reproductive rights. Source: Wikimedia.

Since Roe v. Wade, there have been numerous challenges to it brought before the US Supreme Court, but only technical changes have been made to the federal law since 1973. In many of the social conservative (traditionalist) states, however, a variety of laws have been passed in recent years that, while maintaining the legality of abortion, functionally limit the conditions or locations where women (especially poor women) can go to obtain a safe and legal abortion. Public debate over abortion in the United States has been lengthy and intensive. Supporters and opponents of abortion follow patterns and alliances that frame American politics. Tradition-minded Southern conservatives tend to oppose abortion on religious grounds, and because they think it disrupts changes in well-established family norms. Moral Progressives in states like Massachusetts and California tend to favor the rights of women to choose what to do with their own bodies. Western Libertarians tend to be pro-choice because they find anti-abortion laws an intrusion into personal liberties that they value.



Figure District of Columbia. The March for Life is a large protest rally where "Pro-Life" or "Anti-Abortion" advocates express their desire to overturn Roe v. Wade. Source: Wikimedia

In recent years, significant events have further impacted the landscape of women's reproductive rights. The death of Supreme Court Justice Ruth Bader Ginsburg in 2020 marked a pivotal moment, as Ginsburg was a staunch advocate for gender equality and reproductive rights. Her passing led to the appointment of a more conservative justice, which shifted the balance of the Supreme Court.

This shift culminated in the historic overturning of Roe v. Wade in 2022, a decision that dismantled nearly 50 years of federal protection for abortion rights. The ruling, known as Dobbs v. Jackson Women's Health Organization, returned the authority to regulate abortion to individual states, leading to a patchwork of laws across the country. Many states moved quickly to impose strict abortion bans or severe restrictions, while others enacted laws to protect and expand access to abortion services.

The political fallout from this decision has been profound. In conservative states, access to abortion has been dramatically curtailed, often forcing women to travel long distances to obtain the procedure. This has disproportionately affected poor and marginalized communities. In contrast, states with progressive leadership have strengthened protections for abortion rights, creating sanctuaries for those seeking reproductive healthcare.

The overturning of Roe v. Wade has intensified the already polarized debate over reproductive rights in the United States. Advocates for women's rights and reproductive freedom continue to fight for federal and state-level protections, while opponents celebrate the increased ability to impose restrictions. This legal and political battleground will likely shape the future of women's reproductive rights in America for years to come.

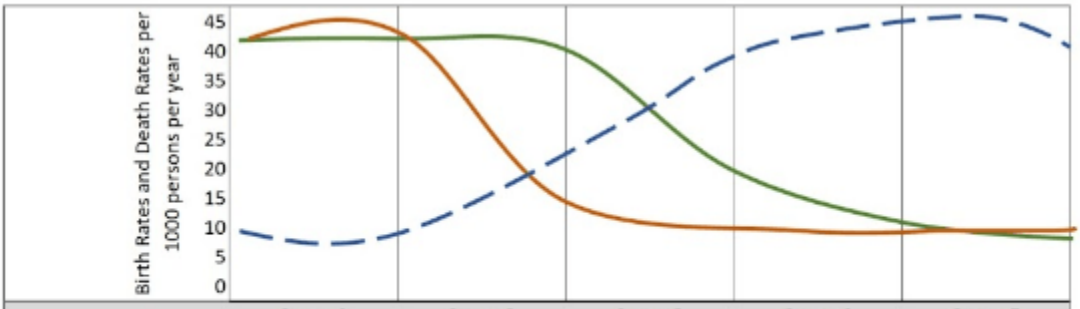
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8.13: Demographic Transition Model

Demographic Transition Model

The evolution of the world's economic system had implications for women's reproductive rights, as well as population growth rates around the world. Geographers observed a regular pattern of reduction in average family size during the Industrial Revolution. Their observations have been described in a theory known as the *Demographic Transition Model* (DMT).

In stage one of the DMT, pre-industrial economic systems and traditional gender roles typically compelled women to bear numerous children, often more than 10. Families were large partly because children in pre-industrial economies tend to be economically beneficial, but also prone to pre-mature death. Keep in mind, that where (when) children could work around the house or on the farm and/or where they functioned as safeguards against starvation and violence for elderly parents, families with numerous children were considered wealthy. In places where a significant percentage of children die before they can become economically useful, it was (is) wise to have as many children as possible – just in case disease or some other misfortune takes some of them away. During stage one, the overall population growth rates are small and the population is reasonably stable, because births roughly equaled deaths. Occasional plagues and famines sometimes caused dramatic reductions in a population's growth rate.



	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Birth Rate	High	High	Falling Slowly	Low	Very Low
Death Rate	High	Falling	Low	Low	Low
Increase	Stable	Increasing	Slowly Increasing	Stable	Stable or Decline

Figure Graphic representation of the Demographic Transition Model. The green line is the birth rate, the orange line represents the death rate and the dotted blue line represents the rate of natural increase or population growth rate.

During stage two of the DMT, advances in nutrition, sanitation, and medicine that accompany industrialization and urbanization greatly reduce the *death rate* as countries industrialize. Not only do far more children live to become adults, but women live far longer and therefore bear even more children. During stage two, the growth rate of countries increases rapidly because age-old cultural traditions continue to encourage parents to have numerous children, even though the economic value of children begins to falter. In Europe and the United States, stage two occurred *roughly* between 1800 and 1950.

Stage three occurs when people eventually realize that in an urban-industrial environment, children are no longer economic assets, especially once children are forbidden to work in factories and are forced to go to school. Children become expensive to house and feed. Once old-age insurance and other social security functions become available, children lose the last remaining *economic* value they bring to families. Overall, the population growth rate slows a good bit, as the birth rate falls dramatically.

During stage four of the DTM, the birth rate eventually drops to match the death rate, which fell during state two. At this point, population growth rates stabilize once again and countries experience modest population growth. Sometimes the demographic transition model includes a fifth stage in which large numbers of families decide to have only one, or no children. At this point, the growth rate becomes negative, and the overall population shrinks as the rate of natural increase (live births minus deaths per year) turns negative. Japan, Russia and some countries in Europe appear to have entered stage

five. The United States appears to be transitioning to stage five slowly.

It is very important to keep in mind that the DTM describes an *ideal* evolution in national patterns of birth, death, and growth. Perhaps no country went through this process precisely as the theory predicts, but the model does help us understand the basic pattern of population change that most industrial countries witnessed over the last 200 years. It suggests that many developing countries, where populations are exploding (stage two) will eventually industrialize and enjoy manageable population growth rates, but there's no guarantee that this will be the case. Women in many parts of the world, even where economic changes invite smaller families, have not managed to wrest control of their own reproductive choices. Free birth control devices ***are not*** enough to overcome economic logic, nor stubborn cultural norms that characterize parts of the world where very large families are valued. Until women in these cultures are free to *leave the home* to pursue education and work opportunities, the economic incentive to have *fewer* children will not emerge. In regions where women are prohibited from working outside the home, robust economic development is hindered. Without women workers to attract factories, the economic value of women remains muted, economic development stunted, and the prospects for smaller families, and slower, stable population growth rates are diminished. It's a vicious circle.

Sex Ratio

Gender roles, economic decisions, and even government policies all influence where women and men live. Without the effect of culture, the ***sex ratio*** should be almost perfectly 1:1 – men to women. However, in many places around the world that ratio is skewed, sometimes dramatically, in favor of one sex or another. Skewing can occur because the infant mortality rate for boys may be higher or lower than it is for girls, or because women may outlive men by a few years on average. In the United States, about 105 boys are born for every 100 girls, but because more boys die as infants, through violence as young men, and from heart and lung disease as older men, women outnumber men in the United States slightly (97 males for every 100 females or .97). That ratio can be greatly exaggerated in some countries, and even in some US states. In the Lowland South, and parts of the Upper Midwest there are lots more women than men. The imbalance in the Deep South is related to the exaggerated infant mortality rate and the levels of deadly violence, especially among African Americans. In the Upper Midwest, where the average age is unusually high, elderly women skew the ratio toward women. On the other hand, in places where there are numerous economic opportunities for men in heavy industry and mining creates an excess male population.

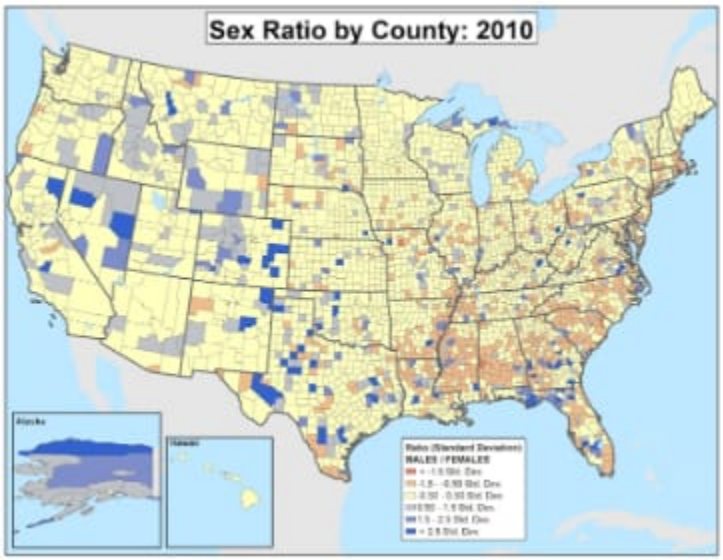


Figure US map of counties by ratio of males to females expressed in standard deviation above or below the national average of 96.7 males to females.

Economic opportunities can also draw people across international borders as well. In many of the oil-producing countries of the Middle East, there are extremely lopsided sex ratios favoring men, while women far outnumber men in the countries where the migrants left. Sexist cultural attitudes, wars and government policies can also create imbalanced sex ratios. In parts of India, where families often pay a large ***dowry*** in order to secure a husband for a daughter and stand to receive a sizable dowry for each married son, it appears that boys are favored enough over girls that the sex ratio skews heavily toward boys. Similarly, in China where a national ***One-Child Policy*** (1979-2015) designed to reduce China's population growth rate combined with traditional

notions about gender greatly diminished the number of girls born there for nearly two generations. As a result, by 2020, China is expected to have nearly 30 million more men than women. Even small imbalances in the sex ratio have numerous, often significant, consequences for societies, including increases in crime and, ironically, an increase in the population growth rate.



Figure Sichuan, China. This roadside sign reminds passers-by that “It is forbidden to discriminate against, mistreat or abandon baby girls”, a horrifying indication of the human cost that traditional gender roles can have. Source: Wikimedia

Gendered Landscapes

Landscapes are given meaning by the way they are used. Landscapes also create meaning because they simultaneously affect the way we behave. Feminist geographers have explored the role of landscape both in terms of how the landscape is *affected by* gender roles and how landscapes influence evolving gender roles. The role of housing and neighborhood design offers a glimpse into these processes.



Figure : Burbank, CA - Barber shops were for many years a space reserved almost exclusively for men. Women had beauty salons that functioned similarly to reinforce gender roles.

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8.14: Housing and Public Spaces

Housing

Since the Industrial Revolution, most houses in the developed world have been designed by architects. Unlike their folk predecessors, the designs were not perfected over generations of trial and error, but rather the designs reflect the experiences and imaginations of the very few – often a single architect, who was often a man. Male architects designed Victorian-era housing to be private, domestic spaces where women were to work and men could recreate. For some feminist geographers, housing plays a critical role in the cultural machinery that reinforces oppressive roles for women. Males have largely designed and built houses, often with little understanding of how to optimize the designs to suit domestic labor. For example, the size and layout of kitchens, the height of sinks or countertops, the location of laundry rooms, and other domestic workspaces were often thoughtlessly designed by men, and as a result, functioned poorly for women. On the other hand, many Victorian-era homes tend to have rooms dedicated to male recreation that are both expansive and well designed.

Some women report that their houses feel like prisons. Architects rarely designed houses with female recreational spaces. Beginning in the Victorian era, builders often positioned houses on lots as far as possible from the street - a public sphere. Men installed gates, high fences (or walls) around perimeters, and designed the yard space to create a safe perimeter, largely to protect the family from other men. Simultaneously, these designs cut women off from the outside world and prevented them from easily sharing burdens with neighbors. During much of the 20th century, automobiles worsened the situation. Houses were increasingly built in suburbs, with ever larger perimeters separating women from the rest of the world. Often left at home during the day without a car, suburban women found themselves surrounded by endless blocks of housing, cut off from shopping, job opportunities and entertainment options available to those living near the center of the city. Gender roles and suburban neighborhoods of the 1950s America could leave women with little of their own money, a low degree of mobility, and few options to pursue career options once their children had grown. Many women, no doubt, loved this role, but for others, the domestic sphere was stifling. It also left some women dependent on husbands, and, therefore, unable to escape abusive or unhappy marriages.



Figure : Los Angeles, CA - The courtyard of the Avila House, built in 1818, features an outdoor kitchen and and adjoining courtyard. Multiple houses may have once shared this central courtyard where domestic chores and child rearing tasks could be completed communally.

As a counterpoint, consider for example how the design of *courtyard houses*, common in many parts of the world, creates a communal central space in which people (women) from multiple families can share work and play. This design provides a safe, monitored area for children and permits those working at home the ability to socialize and share work with neighbors/relatives sharing the same courtyard. Many modern American homes instead have high fences or walls separating neighbors and smallish, non-functional backyards, a sacrifice to enhance the appearance of a large front lawn.

Public Space

While the demands of housekeeping and childrearing may have kept some women chained to the home, a variety of locations refused them admittance, either forcefully or through gender codes. For generations, places, like barbershops, stag bars, fraternal lodges, automotive garages, gambling halls, and some sporting arenas were off-limits to women, especially women who wished to maintain good standing in society. Separate, and not always equal, spaces were reserved for women as well. Beauty parlors, grocery stores, flower shops, and eldercare facilities tended to be spaces for women. This gender segregation often begins at a young age. For example, American toy stores often feature “pink aisles” full of dolls, princess dresses, and miniature kitchens, where little girls are encouraged by the built environment to learn, through play, to be attractive, domestic and motherly – mostly indoor activities. Boys sections of the toy stores have construction equipment, action figures (not dolls) and sports equipment – all of which prepare them for careers *outside the home*.



Figure : District of Columbia, Vietnam Women's Memorial. Statues extolling the virtues and the accomplishments of women are rare. What does this suggest about the way our landscapes of remembrance reinforce historical narratives?

In some places, gendered spaces are officially endorsed by governments and society in a way that Americans would find a significant violation of the notion “separate is not equal”. In some countries, where Islamic law specifically sanctions the separation of men and women in public spaces, many locations are off-limits to women, and some are off-limits to men. Changes in the economic systems of many countries in the Muslim world are generating pressure to alter these rules. About a dozen countries have set aside women only train/subway cars and buses, to combat persistent sexual harassment (groping) of women passengers by male passengers. The presence of such vehicles indicates the ability of the local government to recognize a serious problem, but an inability to effect cultural change. How do you think most American women you know would respond to being groped on a crowded subway here in the US? How would male by-standers respond to witnessing that behavior?



Figure Fontana, CA - Gas stations began introducing large canopy designs like this one in the 1980s to permit access to high profile box trucks. Widespread adoption of the design occurred quickly when station operators found the brightly lit canopies attracted more female customers who felt safer pumping gas at these locations at night.

Gas Stations

One of the peculiar manifestations of the way women read the built landscape is the evolution of gas station designs. In the early 20th century, before many women drove cars, gas stations looked very much like garages and were regularly untidy, smelly and unadorned. To make gas stations more appealing to newly mobile women motorists and complaining neighbors, petroleum companies began building stations in the 1920s that evoked English Tudor cottages or used colonial revival style elements. They even put little curtains in the windows. The efficacy of these designs to attract female motorists and increase revenues during the 1920s is unknown. However, during the 1980s, the introduction of massive, detached canopies into the design of filling stations did prove popular with motorists. These massive canopies provide easy access for large trucks, and shelter from rain and bright sun, but station owners also reported to have increased revenue by attracting motorists, especially women, who presumably felt safer pumping gas under these well-lit canopies at night.

Voeks, Robert A.

"Are women reservoirs of traditional plant knowledge? Gender, ethnobotany and globalization in northeast Brazil."

Singapore Journal of Tropical Geography 28, no. 1 (2007): 7- 20.

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8.15: End of Chapter Synthesis

Chapter Summary: Geography of Health and Disease

This chapter delves into the intricate relationship between geography and health, examining how cultural, environmental, and spatial factors shape health outcomes across different populations. It begins with an overview of health metrics, essential for understanding the distribution and determinants of health and disease. Both physical and mental health are explored, highlighting the importance of geographic context in their prevalence and treatment.

The chapter then addresses the concept of "Tobacco Nation," illustrating how cultural and geographic factors influence smoking rates and related health outcomes. The geography of disease is another critical area, with detailed case studies on COVID-19, influenza, malaria, and cancer. Each disease's spatial distribution, cultural impacts, and healthcare responses are discussed, emphasizing the global and local variations in disease prevalence and control.

The geography of care is examined through an analysis of different healthcare systems and their accessibility. Women's reproductive rights are highlighted, focusing on geographic disparities and cultural influences on reproductive health services. The chapter also integrates the Demographic Transition Model, explaining how population changes impact health and healthcare needs.

Lastly, the chapter explores the significance of housing and public spaces in shaping health outcomes, demonstrating how urban planning and environmental design can promote or hinder health. Throughout, the chapter maintains a cultural geography perspective, illustrating how cultural practices, beliefs, and social structures intersect with spatial dynamics to influence health.

Definition: Key Terms for the Geography of Health and Disease

Key Definitions

1. **Health Metrics**: Quantitative measures used to assess the health status of a population, including life expectancy, mortality rates, and disease prevalence.
2. **Physical Health**: The condition of an individual's body, including the absence of disease and the functioning of bodily systems.
3. **Mental Health**: The psychological and emotional well-being of an individual, encompassing the ability to manage stress, maintain relationships, and cope with life's challenges.
4. **Tobacco Nation**: A term describing areas with high rates of tobacco use and related health issues, influenced by cultural, social, and economic factors.
5. **Geography of Disease**: The study of the spatial distribution of diseases and the cultural, environmental, and social factors that influence their spread and impact.
6. **COVID-19**: A highly contagious respiratory disease caused by the coronavirus SARS-CoV-2, leading to a global pandemic with significant geographic variations in spread and response.
7. **Influenza**: A viral infection that affects the respiratory system, with seasonal outbreaks influenced by geographic and climatic factors.
8. **Malaria**: A mosquito-borne infectious disease prevalent in tropical and subtropical regions, with significant geographic disparities in incidence and mortality.
9. **Cancer**: A group of diseases characterized by uncontrolled cell growth, with geographic variations in prevalence and mortality due to environmental and lifestyle factors.
10. **Geography of Care**: The study of the spatial distribution of healthcare services and their accessibility, influenced by geographic, economic, and cultural factors.
11. **Healthcare Systems**: The organizational structures and processes for delivering healthcare services, varying widely across different regions and cultures.
12. **Women's Reproductive Rights**: The rights of women to access reproductive health services, including contraception, abortion, and maternal care, influenced by cultural and geographic factors.
13. **Demographic Transition Model**: A theoretical model that describes the transition from high birth and death rates to low birth and death rates as a country develops, impacting health and healthcare needs.

14. **Housing and Public Spaces**: The design and quality of living environments and communal areas, which significantly affect health outcomes through factors like air quality, accessibility, and social interaction.

ADDITIONAL LINKS

Houses in the Hills: Berkeley's Early Bohemian Architecture: https://alumni.berkeley.edu/californ...ouses-in-hills

National Park Service. The Preservation and Reuse of Historic Gas Stations: https://www.nps.gov/tps/how-to-prese...s-stations.htm

Let Caster Run! We Should Celebrate Semenya's Extraordinary Talent | FiveThirtyEight The Age That Women Have Babies: How a Gap Divides America - The New York Times

Transgender brain scans promised as study shows structural differences in people with gender dysphoria

What would a city designed by women be like? - BBC News

Geographies of Girlhood: Identities In-between - Google Books

Inside the Numbers on Girls' Participation in High School Sports

National Federation of High School Sports, Participation Statistics. NFHS MMS

Opinion | Racial Politics and Miss America - The New York Times

List of Miss America titleholders - Wikipedia

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2. OER (2 of 2): Introduction to human Geography A Disciplinary Approach 3rd Edition by Graves. Published California State University Northridge Department of Geography https://sites.google.com/site/gravesgeography/introduction-to-human-geography

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9: POLITICAL GEOGRAPHY

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9.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

Introduction: Political Geography

In this chapter, we embark on an exploration of political geography, unveiling how geographic factors shape political activities and structures worldwide. We begin with an examination of how states cooperate through military and economic alliances, with detailed insights into the European Union (EU) and the North American Free Trade Agreement (NAFTA). The complexities of boundaries and boundary disputes are highlighted, showcasing the geopolitical tensions they provoke.

The interplay between politics and power is dissected through the lens of federalism, comparing the US federal system with other governmental structures. We delve into separatist movements and the quest for self-determination, revealing how constructed identities and cultural affiliations drive political aspirations. Diverse political cultures, from Western libertarians to New England progressives, are explored alongside the origins of political orientations.

A thorough analysis of electoral politics covers boundary drawing, gerrymandering, and electoral cartography, emphasizing their impact on political representation. We also examine political landscapes, with a special focus on Greece's historical and cultural political heritage.

The chapter then shifts to the relationship between crime and geography, investigating spatial patterns of crime, crime mapping, and analysis. Theories such as social disorganization, broken windows, and zero tolerance policing are discussed. Additionally, we explore temperance movements, the history of illicit substances like "white lightning," and contemporary issues such as marijuana legalization and the opioid crisis.

Through this chapter, you will gain a detailed understanding of how geography influences political behaviors, structures, and conflicts, providing a comprehensive view of the dynamic field of political geography.

Learning Objectives

1. **Understand** the concepts of political spaces, boundaries, and territorial disputes.
2. **Explain** the dynamics of state cooperation through economic and military alliances.
3. **Describe** the principles of federalism and the causes and impacts of separatist movements.
4. **Analyze** the origins and spatial patterns of political orientations and crime.
5. **Evaluate** theories such as the broken window theory in the context of geographical and political environments.

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9.2: Geography and Politics

Introduction to Political Geography

When most people think of geography, they think about memorizing the states, state capitals, and perhaps learning the location of various countries around the world. These facts deal with the subdiscipline of political geography because they show how politics is reflected on the surface of the Earth, but political geography is much more than a “trivial pursuit” of such information. Although having knowledge about the locations of countries and states is fundamental and an important foundation for the study of political geography, the subject matter deals with many other topics such as military and economic alliances, boundaries between countries, terrorism and other civil-military conflicts, and the geography of the electoral process.

How Political Space is Organized

The fundamental unit of political space is the state, and this type of state is different from the states that make up the United States. A state is basically synonymous to a country and represents a formal region in which the government has sovereignty or control of its own affairs within its territorial boundaries. The number of states in the world is currently 196, but this number changes through military conquests or the devolution, or breakup, of states. For example, the United Kingdom has devolved over the past 70 years as the Republic of Ireland has broken away from the UK, and a new referendum may occur in the next few years to decide whether or not Scotland will become independent. Another prime example of the creation of new states occurred after the breakup of the Soviet Union, when fifteen states were created in Eastern Europe. Even a terrorist group, the Islamic State, has tried to establish its own state in portions of Syria and Iraq, even though their legitimacy is not recognized by the international community.

States in which the territorial boundaries encompass a group of people with a shared ethnicity are known as nation-states. These states are generally homogeneous in terms of the cultural and historical identity of the people, and these groups of people are referred to as a nation. A few current examples of nation-states are Japan, Finland, and Egypt. Nation-states are actually in the minority compared to multinational states, which are states that have more than one nation within their borders. With international migration being a significant phenomenon worldwide, more states become multinational. In contrast, some nations exist but do not have their own state, and those nations that desire to become nation-states are known as stateless nations. In the United States, a prime example of stateless nations are the many Native American tribes scattered throughout the countries. Other examples include the Palestinians living in Israel, Syria, Lebanon and Jordan, and the Kurds found in Iraq, Turkey, Syria, and Iran (Figure 8.1). Both the Kurds and the Palestinians are actively seeking statehood, but serious obstacles must be overcome because the countries where they live are reluctant to grant them independent territories.



Figure | Kurd-majority areas in Turkey, Syria, Iraq, and Iran Author | U.S. Central Intelligence Agency Source | Wikimedia

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The solidarity and unity of a state is influenced by both centripetal and centrifugal forces. Centripetal forces tend to bind a state together, and centrifugal forces act to break up a state. Examples of centripetal forces include nationalism, economic prosperity, and strong, ethical security forces. Centrifugal forces include wars, ineffective or corrupt governments, and market failure. Other factors that can influence the solidarity of a state include types of boundaries, ethnic differences (which may result in unity or discord), and the compactness of a state.

The compactness of a state is related to the shape of a state, and a compact state is one that is ideally circular in shape, where the distance from the center to any border is roughly equal. In contrast, a fragmented state is one that is discontinuous in nature and may consist of a number of islands. A few examples of fragmented states include Indonesia and the Philippines. Indonesia consists of over 17,000 islands, and in order to increase the solidarity of the state, the government actively encouraged migration to less populated islands in order to assimilate indigenous populations. In the Philippines, control of its southern islands such as Mindanao is problematic because of terrorist groups that are active in those areas.

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9.2.1: Cooperation Between States

Cooperation Between States

In order to provide shared military and economic security as a unified entity, states engage in alliances. Military alliances help protect states from common enemies, and economic alliances allow for the free exchange of goods in a larger market. These alliances are also referred to as supranational organizations, and they all involve states giving up some of their sovereign power for the common good.

The largest supranational organization in the world is the United Nations (UN). Formed originally as the League of Nations after World War II, the UN now includes 193 states. The work of the UN includes peacekeeping, humanitarian relief, and the establishment of internationally approved standards of behavior. The headquarters of the UN is in New York City, and important subsidiary organizations of the UN include the World Health Organization (WHO), UNESCO (United Nations Educational, Cultural and Cultural Organization) and the Food and Agriculture Organization (FAO).

Military Alliances - NATO and Warsaw Pact

In terms of military alliances on a regional scale, the North Atlantic Treaty Organization (NATO) comprises 28 states and was developed after World War II to counter the threat of the former Soviet Union. Member states include numerous Western European states as well as the United States and Canada (Figure 8.2.).



Figure | Current NATO map and former Warsaw Pact Author | User “Alphathon” Source | Wikimedia Commons License | CC BY SA 3.0

When the Soviet Union existed, the Warsaw Pact was a military alliance between the Soviet Union and seven satellite states of Eastern and Central Europe (Figure 8.2). The Warsaw Pact disbanded in 1991, and several of the former Soviet states as well as satellite states have subsequently joined NATO. As a result, Russia has felt isolated and vulnerable, and as a result, has been aggressively acting to seize or control territories in states close to its borders.

For example, in 2008, Russia engaged in a military conflict in Georgia, one of the former Soviet states, in order to support a separatist movement allied with Russia. In 2014, Russia invaded the peninsula of Crimea, within the territorial boundaries of Ukraine, one of the former states in the Soviet Union. Furthermore, Russia has intervened militarily against the rebel forces fighting in eastern Ukraine. In response to these provocations, NATO commenced Operation Atlantic Resolve, an ongoing series of training exercises between the United States and other NATO countries in former Warsaw Pact countries such as Poland,

Romania, and Latvia.

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9.2.2: Military Alliances- Terrorism

Military Alliances – Terrorism

Although terrorists are characterized as non-military, non-state actors, they have a tremendous impact on states around the world and involve allied groups in many countries. Terrorism is the intimidation of a population by violence in order to further political aims. The first terrorist group with global influence is Al Qaeda, formed in 1988 by Osama bin Laden. Although its influence has waned in the past decade, Al Qaeda was responsible for the 9/11 attacks and had several affiliates including Boko Haram in Nigeria and Abu Sayyaf in the Philippines. With the rise of the Islamic State (ISIS/L) in Iraq and Syria in 2013, terrorist groups such as Boko Haram and Abu Sayyaf have consequently declared allegiance to ISIS/L. ISIS/L is an extremist Muslim group that intends to seize as much territory as possible in the Middle East and force their subjects to adhere to their strict version of Islamic fundamentalism. To facilitate their goal, ISIS/L conducts an extensive campaign on social media to recruit fighters to come to Syria and also conduct individual attacks in their home country. Their media campaign has been successful in recruiting numerous militants to come to Syria and to inspire or instigate attacks in the United States, France, Belgium, England, Sweden, Turkey, Afghanistan, Yemen, and Saudi Arabia (Figure 8.3). Furthermore, ISIS/L is conducting regular military operations in Libya and Egypt.

To combat the Islamic State and other terrorist groups, interesting military alliances have developed, and the situation is exceptionally complex. The United States cooperates with numerous NATO allies to train and equip local military forces in Iraq and Syria. Iran, in alliance with Iraq, has provided assistance in driving ISIS/L out of Iraq. Kurdish forces in northern Iraq and Syria, in concert with NATO forces, have conducted much of the military action, and they hope for an independent state because of these efforts. Complicating this situation is the objection of the central governments of Iraq, Syria, and Turkey to an independent Kurdish state. Further clouding the situation is the alliance between Russia and the Syrian central government. Although these two countries do fight against ISIS/L, they are also opposed to other Syrian rebel forces, which the United States supports. The problem of ISIS/L propaganda is being addressed by numerous governments and social media outlets such as Facebook, Twitter, and YouTube. More importantly, though, military success on the ground against ISIS/L forces in Iraq and Syria is decreasing the influx of foreign fighters as well as the proliferation of internet propaganda.



Figure | Map of ISIS/L global influence 1 Author | Corey Parson Source | Original Work License | CC BY SA 4.0

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9.2.3: Economic Alliances- European Union and NAFTA

Economic Alliances – European Union and NAFTA

One of the most prominent economic alliances in the world is the European Union (EU), which consists of 28 member states (Figure 8.4). What began as the European Community (EC) in 1958, the European Union has grown significantly from the original six members and now includes seven Eastern European states that were formerly in the Soviet Union. The EU has developed a common currency, the euro, for all member countries and a European Central Bank. Furthermore, at most boundaries, a passport is not required to enter another country.

One of the weaknesses of the EU is the need to subsidize poorer countries, creating financial difficulties for the more wealthy members. For example, Greece has experienced large debts that have required rescue funding from the EU. Another issue confronting the EU is whether or not to allow Turkey to join, as Greece has long-standing disputes with Turkey over territory in Cyprus, and the Turkish central government has been accused of anti-democratic practices. Perhaps most concerning for the EU is the imminent departure of the United Kingdom (UK) from the alliance in an action termed "Brexit." In 2016, the UK voted by referendum to leave the EU, and is on schedule to formally break away in 2019. The UK's decision to leave the EU is not solely related to economics, as not only is the EU an economic alliance, but agreements on social and political policies are involved as well. The majority of British citizens are generally against the subsidizing of poorer states and the increasing number of immigrants who use scarce public resources, and they generally desire greater autonomy. With the exit of Britain from the EU, EU members are concerned that other states may follow suit.



Figure | European Union Author | U.S. Central Intelligence Agency Source | Wikimedia Commons License | Public Domain

An important economic alliance for the United States is the North American Free Trade Agreement (NAFTA). Established in 1992, this alliance integrates the United States, Mexico and Canada and facilitates the flow of goods and services across borders. The Trump administration has repeatedly criticized this agreement, as manufacturers have relocated production to Mexico which has resulted in the loss of manufacturing jobs in America. Whether or not the United States withdraws from NAFTA or simply renegotiates the agreement remains to be seen.

Another significant alliance that is being considered is the Trans-Pacific Partnership, an agreement between 11 countries that border the Pacific Ocean, and originally included the United States. The proposal was signed in February 2017, but the United States had already withdrawn from the agreement in January of the same year, making ratification virtually impossible. The goal of the agreement is to promote economic prosperity by lowering tariff barriers, but also promote environmental and labor protections as well as protect intellectual property. Critics say that it would result in the loss of U.S. jobs and weaken the sovereignty of the U.S.

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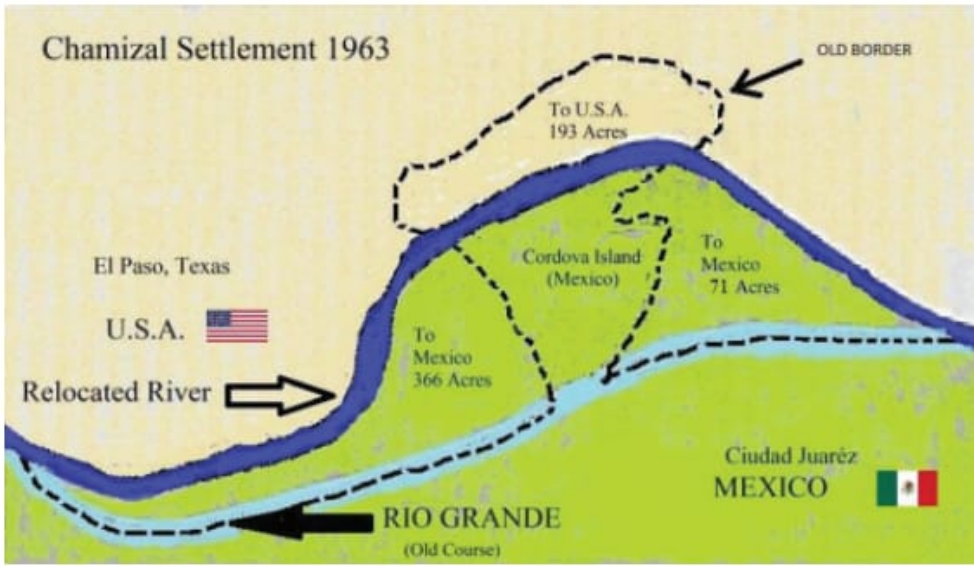
9.2.4: Boundaries and Boundary Disputes

Boundaries & Boundary Disputes

> “Good fences make good neighbors.” -Robert Frost

As mentioned in Section 13.4, boundaries can influence the solidarity of a state, as boundary disputes can result in conflict. A boundary is essentially an invisible, vertical plane that separates one state from another, so it includes both the airspace above the line on the surface and the ground below. Boundaries can be both physical and anthropogenic, and while it is difficult to categorize all boundaries, some prominent boundary types exist.

Physical boundaries are natural features on the landscape such as rivers, lakes, and mountains. The Rio Grande is an important physical boundary on the southern border of the United States. Like most rivers, the Rio Grande shifts gradually (and sometimes abruptly) through time. As a result of the fact that the course of a river is not fixed, a river boundary can be problematic. In fact, because of the gradual shift in the Rio Grande in the vicinity of El Paso, the United States and Mexico established the Chamizal Treaty which reestablished the boundary and included a more permanent relocation of the river channel by engineering (Figure 8.5). Some examples of mountain ranges as boundaries include the Zagros Mountains between Iraq and Iran, the Pyrenees between Spain and France, and the Andes Mountains between Chile and Argentina.



Alt text from map: Chamizal Treaty map

In contrast to physical boundaries, geometric boundaries and ethnic boundaries are not related to natural features. Instead, in the case of geometric boundaries, they are straight lines. These straight lines could coincide with latitude or longitude, as is the case with the northwestern boundary of the United States with Canada along 49 north latitude. Likewise, Indonesia and Papua New Guinea are separated by another geometric boundary along the 141st meridian.

For ethnic boundaries, they are drawn based on a cultural trait, such as where people share a language or religion. The border between India, which is predominantly Hindu, and Pakistan, which is predominantly Muslim, is one example. Some borders split ethnic groups that are more closely related to the people on the other side of the border. For example, in eastern Ukraine, the majority of the population speaks Russian and is sympathetic to Russians on the other side of the border. As a result, the current conflict between Russia and Ukraine has been problematic for the Ukrainian central government because of the Russian affiliation with eastern Ukraine. Russian influence in eastern Ukraine is an example of irredentism, or an effort to expand political influence of a state on a group of people in a neighboring state.

Another prime example of where boundaries do not coincide closely with ethnic groups is in Africa. Almost 50 percent of the

boundaries in Africa are geometric, and at least 177 ethnic groups are split in two or more states. If all ethnic groups in Africa were to be enclosed in their own boundaries, Africa would have over 2,000 countries (1). Because ethnic groups straddle many boundaries in Africa, this situation has led to considerable cross-border trade, but also has created numerous conflicts. For instance, several wars have occurred because the Somali ethnic group is split between five different countries.

Key Terms for Political Geography Section of Chapter 7 Part 1

Boundary – an invisible, vertical plane that separates one state from another, which includes both the airspace above the line on the surface and the ground below.

Centripetal force – a force that tends to bind a state together.

Centrifugal force – a force that tends to break a state apart.

Compact state – a state where the distance from the center to any border does not vary significantly; roughly circular.

Ethnic boundary – a boundary that encompasses a particular ethnic group.

Fragmented state – a state whose territory is not contiguous, but consists of isolated parts such as islands.

Geometric boundary – a boundary that follows a straight line and may coincide with a line of latitude or longitude.

Gerrymandering – the process of redrawing legislative districts in order to benefit the party in power and ensure victory in elections.

Irredentism – an effort to expand the political influence of a state on a group of people in a neighboring state.

Multinational state – state that has more than one nation within their borders.

Nation – group of people bonded by cultural attributes such as language, ethnicity and religion.

Nation-state – state in which the territorial boundaries encompass a group of people with a shared ethnicity.

Physical boundary – a boundary that follows a natural feature on the landscape such as a river, mountain range, or lake.

State – a formal region in which the government has sovereignty or control of its own affairs within its territorial boundaries.

Stateless nation – a nation that aspires to become a nation-state but does not yet have their own territory.

Supranational organization – an alliance involving three or more states who have shared objectives that may be economic, political/military, or cultural.

Terrorism – intimidation of a population by violence in order to further political aims.

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ENDNOTES

The following is taken from:

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9.3: Politics and Power

Chapter 9 Part 2: Politics and Power

Politics is not just the process of choosing political leaders and the distribution of power in a system of governance.Politics includes a variety of elements that many folks think simply of as “culture”–the rules that unofficially govern our everydaylives.Geographers are interested in the spatial behavior of the political process–whether the governance is official (congress, etc.) or unofficial cultural politics.

Correlation of Politics and Power

In the most basic sense, politics is a struggle for power over the rules (written and unwritten) that control people in a specific location or space.This chapter explores how people, in the United States and elsewhere govern and are governed by this struggle for control.Political spaces exist at multiple scales, from a kid’s bedroom to the entire planet.At each location, somebody, or some group(s),seek(s)to establish rules governing what happens in that space, how power is shared (or not), and who even has the right to access those spaces.



Figure: East Los Angeles- Competing gangs use graffiti to mark and or dispute territorial boundaries.

Most of the written and unwritten rules that govern our lives are established by those with whom we share a common territory and identity. The United States of America is a country. Technically, it is a state, but that term applies in the US to our sub-national provinces as well, so be careful when you hear or read “state”. This text will use the word “country” to refer to the highest level of government organization. The US is defined by its borders. Most Residents within those borders claim “American” as an important part of their identity; therefore, the United States can be considered, for the most part, a nation, and “American” is our nationality. A nation can include millions of individuals, or it can include far fewer – maybe only hundreds, but very small groups with a shared identity are often called ethnic groups (see chapter 9). Because Americans control the territory that is the United States, we live in a special kind of country called a nation state. France and Japan are even better examples of nation-states because almost all of their residents are either French or Japanese respectively.



Figure: Tijuana, Mexico- Children pose at the border marking the boundary between the US and Mexico. Very real differences exist on either side of the paint marking the boundary but the most important differences are legal and political.

The idea of nationhood, like many other elements of identity, is a social construct. How do people living in a region develop a sense of identity associated with that land? This identity can be so powerful that people have repeatedly killed or killed others in defense of this identity? There are some who think the idea is ancient, perhaps even a basic component of human psychology. Others suggest that nationhood is an invention of Enlightenment-era political elites who sought a mechanism to advance capitalistic and imperialistic agendas. It can be argued that the proliferation of maps and cartographic science during the enlightenment era made people far more aware of boundaries than they had been during the Middle Ages, and thus advances in mapping gave rise to the idea of the nation. Nations may be, as Benedict Anderson has argued, imagined communities, the product of the emotional and psychological desires of people who constitute any nation to belong to a group. Imagined or not, the idea of nation functions often in very real terms. People root for ball teams, swear allegiance to flags or rulers, and will even fight to the death to preserve and/or honor an imaginary sense of identity. Some people within nations fight to restrict admission to their group or land as well. Most countries govern who crosses boundaries, as well as the degree to which individuals may participate in life of the country, and/or who can become citizens, a legal status that permits one to be legally part of the group.

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9.3.1: Federalism vs the Unitary State

Federalism vs. the Unitary State

Because the degree to which people living within the borders of countries feel included as part of the nation varies, a variety of political systems have evolved to ensure some measure of stability in a variety of settings. In places like Egypt, France, and Japan, where nationalist feelings are strong, and a common national identity is very widely accepted by citizens, a unitary state generally develops. Unitary state systems generally work best where there is no strong opposition to central control. Therefore, the political elite in the capital city (like Paris or Tokyo) frequently have outsized power over the rest of the country. People living in outlying areas generally acquiesce to the power of the central authority. Fighting between central government and local governments is minimal and the power of local (provincial) governments is relatively weak in unitary systems.

On the other hand, countries that contain multiple national identities, or a weakly developed national identity, are likely to employ a federalist style of government in which power is geographically distributed among multiple subnational units. This style of governance makes sense when a country is “young” and still in the process of nation-building, the name given to the process of developing a strong, singular identity necessary to the creation of a unified nationality that marks fully evolved nation-states.

Federations, as these kinds of governments are called, may also work best when the country is multi-ethnic or multi-national in nature. Rather than split a country into multiple nation-states, a country’s leadership can give each of its ethnicities, or nationalities, some measure of political autonomy. So, if regional ethnic groups want to speak their own language or to teach their specific religion in the local schools, the central government allows local people to make those decisions. The central government in federal-style systems focus on things like national defense, managing interstate transportation, regulating a common currency, and promoting a common economy. The US began as a federalist system but has evolved into more of a unitary system, with numerous federal-style functions still in place.

Occasionally, a troublesome provincial region or ethnicity will demand special treatment, even in a unitary system. For example, China has a unitary system, but Hong Kong, a province, operates under a different set of rules than other provinces within China. In the United States, Puerto Rico has such a similar status and is labeled semi-autonomous. There are many dozens of other similarly self-governing regions and territories around the globe.



Figure: Washington DC. A statue of Abraham Lincoln sits inside a memorial building dedicated to his presidency, and his role in forcing the country to adopt a more centralized government.

The United States has had an exceptionally difficult time resolving conflicts between those who preferred a federal-style and those who preferred a unitary-style government. This question was perhaps the central political issue in the US during its colonial era.

Originally, the United States was organized as a confederation – an allied group of independent states united in a common goal to defeat the British. Operating under the Articles of Confederation from roughly 1776-1789, the new and decentralized US found itself challenged to wage war against the British, collect taxes, sign treaties with foreign countries, or even use a common currency because the central government (congress) was so weak. The Constitution we use today was adopted in 1789 to help create a balance of powers between the central government headquartered in Washington DC, and the multiple state governments. Initially, states continued to operate essentially as separate countries. This is why in the United States, the word state is used to designate major subnational governmental units, rather than the word province or department, as is common in much of the world. In our early history, Americans saw themselves as living in “The United Countries of America”, so to speak.



Figure: Ruston, LA-Bumper stickers on this truck read "Shooting Yankees" and "Dead Yankees Tell No Tales", indicating in part the lingering antipathy of Southerns for centralized government.

People in the United States have never been able to agree on how power should be shared between the central government and the various state and local governments. This was true especially in the early 1800s while slavery was still legal in some locations. Southern states, which clearly relied on a slave economy, preferred a weak central government. Northerners preferred a strong central government, one that could override some state’s rights, and in the process, outlaw slavery nation-wide. The inability of the Constitution and the courts to settle this disagreement led to a horrific resolution of the issue on the battlefield. Some argue that following the Civil War, Americans began thinking of the country as a unitary system. Historian Shelby Foote put it best in the documentary series The Civil War:

Before the war, it was said, "the United States are." Grammatically, it was spoken that way and thought of as a collection of independent states. And after the war, it was always "the United States is," as we say today without being self-conscious at all. And that sums up what the war accomplished. It made us an "is." (Source: Wikiquote)

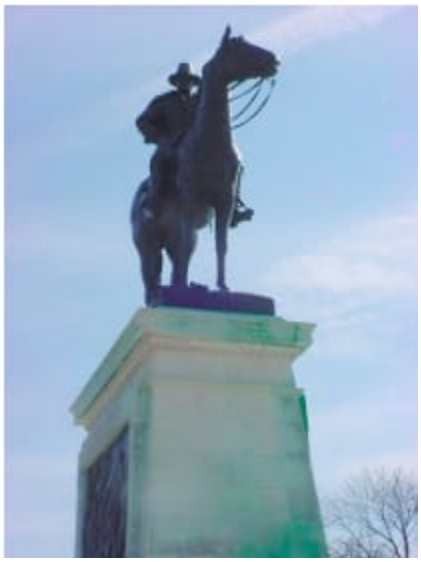


Figure: Washington DC. The statue of General Grant, leader of the Union Army in the Civil War is a monument to the defeat of a separatist "rebel" army that also functions to help the process of nation-building through statuary art.

Though our nationality may have been solidified during the Civil War, questions surrounding the degree to which state's rights still exist has remained stubbornly at the center of many political controversies (civil rights, environmental regulation, guns, etc.). In 2014, one of the common markers of difference between political liberals and conservatives is their opinion about state's rights, at least in principle. Social conservatives generally argue for greater local control because the constitution allows it, and common sense dictates that locals should run their own affairs. Liberals worry that when the central government gives too much control to local authorities, there has been a tendency of locals to use their power. The fight over school desegregation in the South is a classic example of this debate. Southern governors and mayors, unwilling to allow black schoolchildren to attend all-white schools during the Civil Rights era, always claimed publicly that they were fighting for "states' rights", not against the rights of minority children. Today "state's rights" remains a rallying cry for those who disagree with national authorities on a host of other issues (gays, guns,environmental regulations, etc.).



Figure Las Vegas, NV - Nevada economy is dependent on the maintenance of liberal morality laws made possible by defense of states rights

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9.3.2: Separatist Movements

Separatist Movements

Occasionally, people within a country find themselves unable to agree about the rules with which they can all live peacefully. When this happens, a separatist movement is likely to evolve. Often separatist movements arise in regions where people are demanding local control over religious practices, language or other cultural practices that mark ethnic/national identity. Minority groups living in peripheral regions of countries are often rebellious, demanding a break from the power of a majority group living in the country's hearth or core region. Thousands of separatist movements have marked world history, hundreds of separatist groups remain active today. Even within prosperous Europe today, dozens of separatist ethnic groups demand autonomy or freedom to establish their own nation-state.



Figure Map of potential separatist regions in Europe

Scotland

Scotland, part of the United Kingdom (England, Wales, Northern Ireland, Scotland) recently voted in a referendum to determine whether they would remain a part of the UK or secede. Scottish people, many of whom are resentful of the dominance of the English in the British parliament held a vote in late 2014 to decide the question "Should Scotland be an independent country?" Ultimately, the Scots voted to stay part of the United Kingdom, but to keep Scotland in the United Kingdom, the English gave into several demands by Scottish separatists for additional autonomy from the British (English) control. The UK's 2016 vote to leave the European Union (Brexit) has prompted renewed calls for Scottish independence.



Figure Wales, Uk- Wales along with Scotland and ireland all have separatist movements that threaten the integrity of the United Kingdom

Quebec

The Quebecois of Canada, like the Scots, have also held referenda on independence. Fearing the gradual loss of their language, culture and religious identity, many Francophone residents of Quebec think the only way to preserve their identity is to break away from the rest of Anglophone Canada. The people of Quebec voted in 1980, and again in 1995 in referenda on remaining. On both

occasions, they opted to stay in Canada, but the second referendum was close. As a result, the government of Canada guaranteed cultural protections to the Quebecois to ease their worries about cultural preservation.

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9.3.3: Self-Determination and Constructed Identities

Self-Determination

These referenda represent the robust displays of the power and logic of democracy, and naturally, the United States fully supported both the Scots and the Quebecois' right to decide their fates, though the US officially campaigned against independence in both cases. Rarely do separatist movements proceed in an orderly and democratic fashion. Often it's difficult to ascertain exactly when a group has a legitimate claim to exercise exclusive rights over territory. In principle, Americans (and American foreign policy) support the right to self-determination, which is defined as the right of each ethnicity or nationality to control the political system within the territory where they live. Indeed, the United States itself was born of a rebellion by separatists living in a peripheral region of the British Empire. American colonists' rallying cry for self-determination was "no taxation without representation". Just as the War for Independence reminds Americans why we should support the right to self-determination, the Civil War reminds us that we have had our own problems with separatist movements. The American Civil War was essentially an effort by separatists in the slaveholding southern states to break from the northern states. Unionists in the North sometimes called the conflict, "The War to Preserve the Union". Some southerners were apt to call it, "The War of Northern Aggression".



Figure: Montreal, Canada. The French-only stop sign is evidence of Francophone nationalism among the Quebecois who fear Anglicization of their culture.

Constructed Identities

Separatist movements do not always arise from perceived differences in identity. Often the driving force behind separatist movements are economic, but those who would lead a group to rebel rarely admit this basic fact. The American Civil War was less a fight over identity as it was over control over rules governing economics, slavery, and cultural norms. Both sides of the conflict identified as American, but Southerners believed control should be local, and most Northerners believed that some control over some issues (e.g., slavery) should be centralized.

Perhaps the most interesting thing about civil wars and separatist movements is that often those who suffer the most, gain the least once the fighting breaks out. As was the case in the American Civil War, the vast majority of soldiers from the South owned no slaves, and actually stood to gain from wage competition in the labor market upon emancipation. It was the elite Southerners who needed slavery to maintain their power. So why do people without much to fight for become willing to die for a cause that harms their personal interest?

Perhaps the answer lies in the ability of people in power to effectively manipulate the thoughts and emotions of certain segments of a population. Populist politicians (TV & radio personalities, newspaper columnists, etc.) often convince aggrieved people that their suffering has been caused by unfair treatment by another group. Sometimes, these arguments are legitimate and can be supported by fact. Sometimes there is insufficient evidence to justify nationalist aggrievement, rebellion or secession.

It is often nearly impossible to determine exactly whose interests a secessionist group represents. Sometimes, secession movements are led by a small political elite that claims the right to represent a larger majority. However, the elite may not be

representative of the majority of the people, and their motives may be strictly personal (wealth, power). This is why the United States' foreign policy experts find questions of self-determination especially perplexing. Our government has yet to embrace a consistent response to the demands of groups who desire to control their own territory. In some cases, the US has supported the rights of subnational groups to create a new country. For example, the Clinton administration largely supported the dissolution of Yugoslavia into multiple new countries. Each of the seven new countries is probably worse off today than they would have been had they just worked out their differences and continued to live together peacefully. However, in the 1990s, driven by nationalist fervor, age-old ethnic animosities were dug up by power-crazed politicians, war broke out and Yugoslavia broke apart.



Figure Static Map of Yugoslavia in 1989. Click to see animated loop of the dissolution of the country over a period of 20 years.

The region where Yugoslavia once existed is known as the Balkan Peninsula. The mountainous terrain, and legacy of repeated, but incomplete invasions have left the region a patchwork of national identities based on a myriad of religious, linguistic and ethnic/racialized identities. So frequent have been nationalist conflicts in this region that political geographers use the derogatory term Balkanization to refer to the process of territorial fragmentation of a region into multiple hostile micro-national states.

The fear of Balkanization seems to prompt leaders in the US to occasionally work against separatist efforts. Take for example, the Kurdish people, an ethnic minority living in Syria, Iraq, Turkey, and Iran. The Kurds have a language, history, and identity separate from the Iraqis, Iranians and the Turks with whom they share space. Kurdish nationalists argue that there should be a new nation-state called Kurdistan. It would seem the Kurds have a legitimate argument, and there have been numerous Kurdish insurrections over the years. Each time though, Kurdish rebellions have been met with violence by the governments of Syria, Turkey, Iraq, or Iran. The US government supported some degree of Kurdish autonomy in Iraq, particularly in the wake of the Gulf and Iraq Wars fought between the US and Iraq, but the support has been inconsistent. The US has not supported Kurdish rights for those living in Turkey, presumably because Turkey is a strategic ally of the US. In 2019, Donald Trump withdrew support for Kurdish troops fighting in Syria in yet another display of inconsistent support for Kurdish interests in the region.

Secessionist movements have also cropped up from time to time within US states, particularly geographically expansive ones. California has reputedly been the subject of over 200 proposals, several of them serious, to divide it into multiple new states. The most persistent calls for secession come from the northernmost counties of California who feel politically isolated and culturally different from other Californians, especially the urban, diverse, and politically liberal people of Los Angeles, San Francisco, and Sacramento. Some people living near the California-Oregon border want to break away and form a new state to be Jefferson.

Generally, secession movements are fraught with danger for the secessionists. In most cases, a break-away unit of territory would result in a smaller economic base. Small countries often suffer from smaller economies of scale as well as a host of associated issues, not the least of which is a lack of local control in the face of the economic competition of the country from whom "independence" was won.



Figure Map depicting one of several proposals to render California into multiple states

There are others who might argue that secession benefits an especially productive or efficient local economy. Several separatist groups in Northern Italy argue that the rest of Italy is a burdensome drag on the local resources and industry. They may have a case. Economists disagreed about the economic prospects for an independent Quebec and Scotland. For some, however, economic loss may be a welcome cost to bear in exchange for freedom from religious or ethnic oppression.

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9.3.4: Political Cultures

Political Cultures

Separatist movements are sometimes fueled by differences in political culture. Political beliefs are a bit like religion because most people inherit their political attitudes from parents and from the community in which they live. Certainly, there are individuals who think for themselves or rebel against their parents and/or community, but for the most part, regions rarely change their political orientations. For example, the Lowland South region of the US has been politically conservative for the last 200 years. San Francisco has been politically progressive from its birth during the Gold Rush. How a region develops its political culture is very interesting to geographers, but it is difficult to determine the origins of political culture.

Sometimes, it is difficult to even categorize a region's political culture accurately. Some of the blame for this difficulty can be placed with the news media because it does a poor job of accurately characterizing political beliefs in the US. The US news media tends to only use "liberal" and "conservative" to describe political beliefs in the US, but those terms inadequately describe even the most basic elements of the American political spectrum. Also, politicians and media pundits have overloaded those terms with conflicting meanings making them difficult to use in an academic setting where precision is important. This text uses a more useful, alternative, spatially-sensitive set of terminology.

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9.3.5: Western Libertarians

Western Libertarians

Americans who have strong opinions about personal liberty are best characterized as libertarians. So, if you are a fan of Las Vegas, with its very relaxed regulation of gambling, prostitution, and alcohol, you probably think the government has no business regulating your personal behaviors. Staunch libertarians also think the government should take little from you in the way of taxes, minimally regulate economic and business activity, and provide little assistance to individuals (welfare, college tuition, free highways, and free beaches). Libertarians most often vote for Republicans, which prompts the news media to refer to them simply as “conservatives”, which is a misleading oversimplification.

Libertarians argue that the government should be as small as possible; interfering and intervening in the lives of individuals as infrequently as possible. Personal responsibility and low taxes are central themes of libertarian doctrine. Distrust of the government is high among libertarians, and they think dependency on government programs is a widespread social-ill. The right to own guns and low taxes are rallying cries in this philosophy. Libertarians generally cling to a classical economic theory calling for very low taxes and minimal regulation on private enterprise and property. Libertarians also dislike government intervention in environmental matters. Ironically, in this region, many people make their living by drilling for oil, ranching and cutting timber on government-owned lands. Many of those who exploit government lands pay far less for the use of government-owned land than they would in a truly free-market environment.

There are some serious libertarians in the US, but they probably are not a majority in any region of the United States. The Mountain West, where cultural diversity and population densities are both low, is probably the region of the US where libertarians are most numerous. Recall from the Agriculture chapter how lands in this region of the US are completely divided according to the Township and Range cadastral system, which seems to encourage a sense of individualism and undermine collective social action.



Figure: Slab City, CA. This building, formerly a sentry station marks the entrance to Slab City, a nearly anarchist community living in the Low Desert of California. Few laws regulate behavior or ensure a quality of life here.

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9.3.6: Southern Traditionalists

Southern Traditionalists

In the Upland and Lowland South, there lives another group of mislabeled “conservatives”. These conservatives should be considered political traditionalists instead. Sometimes, traditionalists are called social conservatives or “the Religious Right” by the media, which is more accurate.Traditionalists seek to maintain a traditional value system they consider necessary for the continuance of traditional cultural practices.



Figure: Vernon, LA- This abandoned nightclub offers a landscape clue into the evolving role of religion in the maintenance of moral law. Alcohol was illegal in the country in the foreground, so those wishing to drink had to cross County Line Road to visit this establishment. The club went out of business when beer was legalized in both counties.

Traditionalists frequently say they oppose “big government”, and it has been true for policies involving civil rights. However, traditionalists have also advanced a great number of laws that regulate even highly personal behaviors of individuals. Abortion is the most well-known issue motivating traditionalists, but they also strongly favor laws promoting prayer-in-school, laws banning alcohol consumption, and some laws that undermine the civil rights of specific groups (gays, minorities, women, etc.).

For a century following the Civil War, the states of the former Confederacy were referred to as “the Solid South” because of their unwavering support for the Democratic Party. For many decades after the Civil War, Southern animosity lingered for the Republican Party (Abraham Lincoln was a Republican). In the years after the Great Depression, Southerners embraced the progressive economic programs of the Democrats that helped the poor, especially during the presidency of Franklin D. Roosevelt. They even called themselves “Boll Weevil Democrats”, referencing insects that infested cotton plants.



Figure Map of Sexual Privacy in the United States. States in blue overturned sodomy laws earlier than purple states. The map demonstrates that Social Conservatives embrace “big government” when it suits their cultural values.

Southern traditionalists first began leaving the Democratic party in the 1950s when northern Democrats pushed hard on their Southern partners to grant more Civil Rights to African-Americans In the South. Battles over abortion laws, women’s rights,

prayer in school and other hot-button issues continued to alienate southern Democrats from their northern allies until 1980, when Republican Ronald Reagan managed to get Southern Democrats to leave the party to join forces with pro-business Republicans, a feat now known as the Reagan Revolution.

Though traditionalists have overwhelmingly voted for Republicanssince the 1980s, they occasionally find themselves at odds with the Western libertarians within the Republican Party. A great example is evident in the significant difference in the way libertarians and traditionalists seek to govern sexual privacy. Libertarians would argue that the government has absolutely no right to govern sexual activity among consenting (especially married) adults. Traditionalists, on the other hand, have regularly passed laws regulating the sexual behavior of married couples. As recently as the year 2000, the Louisiana Supreme Court found that the right to privacy within the bedroom was not guaranteed in instances where the state's legislature had chosen to regulate sexual behavior of married adults. In 2003, the US Supreme Court invalidated the so-called "sodomy laws" in all states, but in Baton Rouge Louisiana, the Sheriff's continued to arrest gay men for agreeing to engage in "unnatural acts" with undercover police officers, even though court authorities refused to prosecute the cases. Several states have refused to remove these bans. Texas' Governor Rick Perry even called for the US Congress to remove such cases from the jurisdiction of the US Supreme Court so that local Texas courts could decide such matters.

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9.3.7: New England Progressives

New England Progressives

Sharply contrasting with both traditionalists and libertarians are the beliefs of progressive- moralists who dominate the politics of New England, the Pacific Northwest, and various, scattered urban areas. Progressive-moralists place a high value on social equality, economic and environmental justice, and they are confident that collective social action, carried out by the government, is both an effective and rational means to meet their goals. The media sloppily labels this group liberals, but the term “liberal” has become so corrupted by multiple and often contradictory layers of meaning that to use the term in a college course often clouds understanding of the term more than it clarifies it.



Figure: Salem, MA. This village green is a landscape that evokes the community spirit of cooperation and collective political action that still characterizes much of New England.

Progressive moralist ideas have a very long history in New England. Early Puritans sought to improve the quality of life of the entire community through collective, or government, action. Village Greens are common landscape features of New England towns that geographers immediately recognize as evidence of the long-standing Yankee commitment to communal action. Early New Englanders often built these grassy areas in the center of towns where villagers, most of whom were also farmers, could corral and graze livestock, especially at night. These green spaces were sometimes called “cow commons' '. These prime pieces of downtown real-estate were held in common by all the residents of each village. Cow Commons were open to abuse by any farmer who fed too many of his/her own cattle on the common pasture. They might over use the common field to preserve, or even plow, their privately-owned pastures. When individuals abuse or over- use commonly held goods/services like pastures, parks, or even free napkins at McDonald's, they undermine the long-term success of the resource for their personal gain. This behavior leads to what is called the tragedy of the commons. Fear of and anger about the abuse of common resources is a central theme in American politics, one that divides progressives who are willing to risk abuses for the greater good, from libertarians who are not willing to risk sharing resources that might support abusers. The free-rider problem presented in the chapter on health geography similarly describes a situation where people benefit from the contributions of others around them.

New Englanders are generally willing to risk the abuse of government goods and services by individuals and are willing to share more of their personal wealth in order to create what they consider a better society for all. Taxes are higher in regions dominated by progressive moralists. Massachusetts, a state dominated by progressive-moralists, is often mocked as “Taxachusetts' ' by anti-tax libertarians. Progressive moralists tend to embrace Keynesian economics, an economic philosophy that calls for higher taxes, especially on the wealthy, to properly fund public services like education, parks and health care systems. Keynesian economics also encourages government intervention to ensure robust wages for the working people, so worker’s rights, minimum wage laws, and worker unions are welcomed by progressive-moralists. The environment is another concern for progressive moralists, who are willing to regulate industries in order to reduce pollution. The stricter regulations on economic policy and industrial pollution, along with higher taxes scare some industries away. The higher standard of living often evident in these regions, on the other hand, attracts industries that seek well-educated workers and high living standards for employees and executives. This effect is discussed at greater length in the economic geography chapter.

In addition to most of New England, people living in coastal Washington, Oregon, and California, along with those in Minnesota, tend to favor progressive-moralism. The cities of the Northwest and California were common destinations for migrants from New England in the 18th and 19th centuries, who established a political culture that subsequent generations have adopted. Minnesota’s

collectivist traditions were probably established by the numerous immigrants to that region from Sweden, Norway, and Denmark. Scandinavian created a political-economic system called the Nordic Model. It's a system considered by many progressive moralists as the international ideal for government. Scandinavian countries have, by most measures, the best standard of living of countries on earth.



Train in norway

Figure Oslo, Norway - Clean, efficient and inexpensive public transportation is a hallmark of government systems that invest heavily in public good, and require significant taxation.

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9.3.8: Centrists

Centrists

Often situated in the middle of all these political philosophies are the people of the Midwest who seem to find some value in many of the political philosophies favored elsewhere. Midwesterners cling to traditional values, not unlike Southerners, but they are far less willing to deny political rights to individuals on religious grounds or historical customs. Midwesterners seem to prefer small government but are not particularly distrustful of it like libertarians.

The geography of the Midwest is critical in creating this situation. Part of the reason for the centrist beliefs of Midwesterners stems from the historical pattern of domestic migration to this region. The first Midwesterners started arriving in the early 1800s from New England, the Mid-Atlantic and the Upland South. International migrants came from all over Europe for generations afterward. Together, those migrants brought with them a vibrant array of political ideas from Colonial America and the Old World. Political compromise and open-mindedness became necessary in this heterogeneous society.

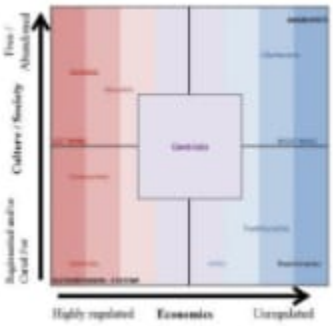


Figure Infographic- Political philosophies in the US tend towards the center of this diagram, and despite the US two party system, American political values fall into all four.

There is some measure of variability in political philosophies within the Midwest, some significant differences can be found even within Midwestern states. Ohio is a classic example of an intra-state left-right-center battlefield, making it the classic Swing State. Ohio is located geographically between several of America's political traditions. Kentucky, on Ohio's southern border, tends to be socially conservative, but New York isn't far away. To Ohio's west are vast stretches of lonely farmlands that seem to produce more libertarians.

Because Ohio is populous and contains a relatively even number of voters favoring elements of each of the major political orientations, it has been for many decades critical in deciding presidential elections. Columbus, in the middle of the state, is moderate, a bit more conservative in the suburbs than it is in the inner city or around Ohio State's campus region. Cleveland, in the northern part of the state, is more progressive; thanks in part to its Yankee heritage and a strong history of unionization. Cincinnatians, on the other hand, act more like people from southern cities. They are socially conservative and resentful of government intrusions, perhaps more like their neighbor in Kentucky just across the Ohio River than their fellow Buckeyes across the state.

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9.3.9: Origins of Political Orientation

Origins of Political Orientation

How and why these political regions developed are questions that have prompted geographers to offer several theories. Some would point to historical migration patterns from Europe, alluded to earlier in this chapter, as the principal driving force behind American political culture. The excellent volume Albion's Seed suggests that even the earliest waves of English colonists arriving nearly simultaneously in Massachusetts and Virginia brought radically different political philosophies with them from different parts of England. The collectivist, Puritanical Pilgrims who landed at Plymouth Rock were very, very different from the colonists who established a class-conscious, commercial colony at Jamestown, Virginia.



Figure: Vietnam Memorial, Washington D.C. 1982. Consider how differently this monument commemorates war than the statuary in the images above. What does it say about the contemporary nation-building process in the United States?

The contrasts between the political philosophy within the United States sometimes make the country hard to govern, especially in recent years when the influence of gerrymandering has exacerbated the inflexibility of elected representatives. Americans think their political differences are vast, but compared to the political heterogeneity found in many parts of the world, we are rather homogenous and generally centrist. Europeans suggest that American politicians all seem just right of center; only as dissimilar as Pepsi and Coke. The European style parliamentary systems provide space for a far wider spectrum of political parties and philosophies than the American two-party system.

Environmental Roots of Political Difference

Other geographers would point to the varying environmental conditions in the United States as significant factors in the evolution of American political traditions. In New England, naturally occurring waterfalls provided locals with a great source of inanimate power to drive textile mills. Here factory-style industrialization occurred much earlier than elsewhere in the US. It is probable that a more progressive, socially inclusive political philosophy developed to deal with the rapid changes brought on by industrialization, urbanization and the massive influx of European immigrants.

In the South, where poor soils and the lack of a viable coastal source of industrial energy undermined widespread industrialization for many generations, large-scale plantation-style agriculture developed instead, alongside a rigid, race-based class system. Lacking a significant industrial, middle class and job-seeking immigrants, but faced with a large, potentially dangerous racial underclass, the agricultural south adopted a conservative, faith-based political philosophy to maintain the precarious status quo.

In the wide-open spaces of the Plains and the Mountain West, the sparse population invested (attracted?) people with a sense of individualism that grew far stronger than elsewhere in the country. Ranchers and homesteaders on isolated farms created an insular society, where neighbors might live a mile or more apart from each other. Unlike New England, where "all for one and one for all" collective action was the rule, in parts of the Midwest and West, people adopted a more "every man for himself" attitude. This is not to say that farmers and ranchers are/were incapable of caring deeply for their neighbors on a personal level, but rather that it is evident they prefer the government not to involve itself in negotiating how the relationship between neighbors in a community plays out.

It's important not to take these nature-based arguments too far lest you fall into the trap of environmental determinist thinking.

Still, it's impossible to deny the role of soil, water, and climate on the evolution of political thinking in the United States. A reasonable approach to understanding why regions cling to a specific political order is to consider a host of causal variables, such as ethnicity, religion, economics and the environment.

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9.3.10: Electoral Politics- Boundary Drawing

Electoral Politics -Boundary Drawing

In a democracy, most governments draw up functional regions called electoral districts (or voting districts) to determine who may vote for whom, which areas are represented by a specific government office (mayor, senator, governor, etc.) and which laws govern the actions of which regions. The smallest American electoral region is the precinct, which, at least in urban areas, is approximately the equivalent of a “neighborhood”, consisting usually of a few city blocks. You may vote only in the precinct assigned to your home address, and this precinct is typically part of multiple, larger, nested electoral districts, including wards, townships, counties, congressional districts, and states.

By law, electoral districts must have roughly the same number of people in each equivalent district. So, for example, in 2011, each of California’s 80 State Assembly Districts had between 461,000 and 470,000 people. Over time, however, people move into or out of districts. In order to ensure that each district has nearly the same population, district boundaries must be regularly redrawn to ensure even representation and avoid over or underrepresentation called malapportionment. The US Constitution (and other state constitutions, etc.) require district boundaries to be redrawn after each decennial US Census Is completed.

This process, known as political redistricting, involves a great deal of geographic strategizing, and the outcome of this process fundamentally shapes American politics. In most US states, the state legislature controls the redistricting process, and this fact opens the process to a whole number of unfair political shenanigans. The reason why the political redistricting process is so important is that elections are heavily influenced by the way the boundaries of electoral districts are drawn. Political groups that control the placement of boundaries are far more likely to control who gets elected, and therefore which laws get passed and how tax money is collected and spent.

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9.3.11: Gerrymandering

Gerrymandering

Each redistricting cycle, politicians in many locations are accused of purposefully constructing political district boundaries to favor one group (e.g., Democrats, Latinos, labor unions, gun advocates) over another. The construction of unfair districts is called Gerrymandering. The odd term, “Gerrymander” comes from a newspaper story that characterized an unfair redistricting map for South Essex County in Massachusetts in 1812. The map of the redrawn districts strongly favored Massachusetts’ governor at the time, Elbridge Gerry. The shape of one district was so distorted that pundits suggested it looked like a salamander, thus providing the two words that became the halves of the portmanteau used today to describe the process of creating unfair political districts.

There are several different strategies that politicians use to gerrymander districts. When there is little cooperation between political parties (or other interest groups), politicians may pursue strategies that aggressively seek to limit the political influence of opposition groups. Sometimes, when the opposition (or ethnic minority) party is small enough, the controlling group may draw lines through the minority areas, minimizing the opposition’s ability to influence the outcome of elections in as many regions as possible. This process, called cracking, has commonly been used to divide inner-city ethnic minority groups into multiple districts each numerically dominated by whites.

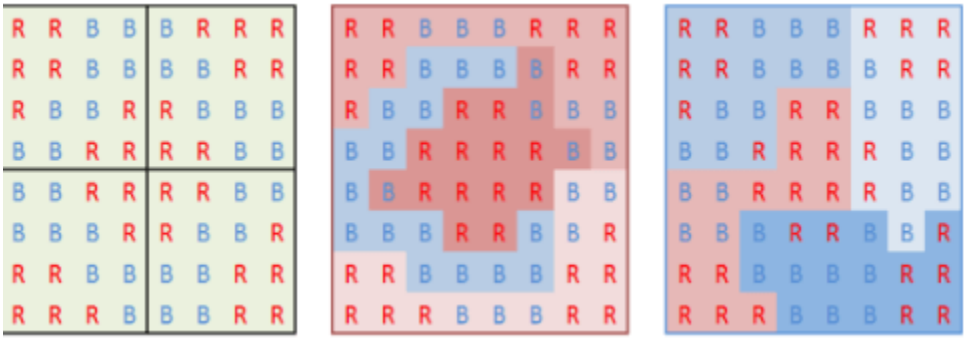


Figure Diagrams of political districts with 64 precincts. The left diagram represents competitively drawn districts. The middle diagram demonstrates the packing technique and the rightmost diagram demonstrates the cracking technique.

If the opposition grows too numerous to split via cracking, then the group controlling the redistricting process may draw district lines so that the opposition is dominant in a few districts, or even a single district, to minimize the overall power of the opposition in the overall system. That strategy is called packing. Even a statistical minority can control power by carefully packing a majority group into cleverly drawn district boundaries. Often packing creates a controversial type of district based on race, known as a minority-majority district. Minority-majority districts ensure at least some political representation by a candidate from an ethnic or racial minority, but they may also dilute the overall power of the same racial or ethnic majority.

There are dozens of other techniques by which one group can control the political power of others through manipulating election boundaries. However, it is likely that the most common type of unfairly drawn electoral district is the so-called sweetheart gerrymander drawn up cooperatively by incumbents from opposing political parties in order to help maintain the status quo. Generally, this involves drawing up safe districts, that clearly favor the re-election of incumbents, ensure the maintenance of the status quo and nearly guaranteeing non-competitive general elections. In safe districts, the primary elections may remain competitive, but the competition is between candidates of the same party.

Gerrymandering has been cited by political observers as one of the most serious problems crippling American politics. Thanks to advanced data collection, management and analysis made possible with GIS, politicians and political interest groups may carefully design districts that strongly favor candidates and/or specific constituencies. Gerrymandered districts greatly diminish the incentive for politicians running for office to appeal to broad constituencies. Because politicians running for office in safe districts rarely need to consider opposing viewpoints, they are free to be extreme in their views and less likely to compromise with politicians from opposing parties.

When political districts are gerrymandered into numerous safe districts, the results of general elections held in November are rarely in doubt. Incumbents with favorably drawn districts know that the only challenge to getting re-elected is likely to come from within their own party during the primary elections. Because voter turnout in primary elections is usually small, and often limited to people with strong or even extreme political opinions, candidates appealing to extreme political viewpoints tend to advance to the general election in the fall more often where a district gerrymandered. When too many extremists get elected from opposing parties, they tend to be unwilling to make political compromises and as a result, few laws or regulations are passed. The recent 113th Congress of the United States (2013-2015) included many congresspersons from gerrymandered districts, and perhaps as a result, it was unproductive in terms of legislative activity. Of course, some would say, “The less they do the better!”, while others would suggest that inaction during a period of a national economic crisis (The Great Recession) was an abdication of duty to the country.



Figure Los Angeles, CA. Multilingual signs at a polling place indicate local commitment to encouraging broad participation in elections.

There are several solutions to gerrymandering. One strategy in some states is to hold open primary elections which allow any person, regardless of their political affiliation or party, to vote for any candidate. Traditionally, primaries are closed, meaning that only voters who are registered as Republican can vote for Republican candidates; registered Democrats can only vote for Democrats, etc. There are some potential benefits and some potential pitfalls (party raiding) with the open primary system, but many think them worth the risk. In 2013, only about 13 states still had fully closed primaries. The remainder of states have adopted some strategy to replace the closed primary system in order to promote greater voter turnout during the primary elections, and more centrist candidates, but if districts are extremely gerrymandered, open primaries have little effect on the competitiveness of races in the fall.

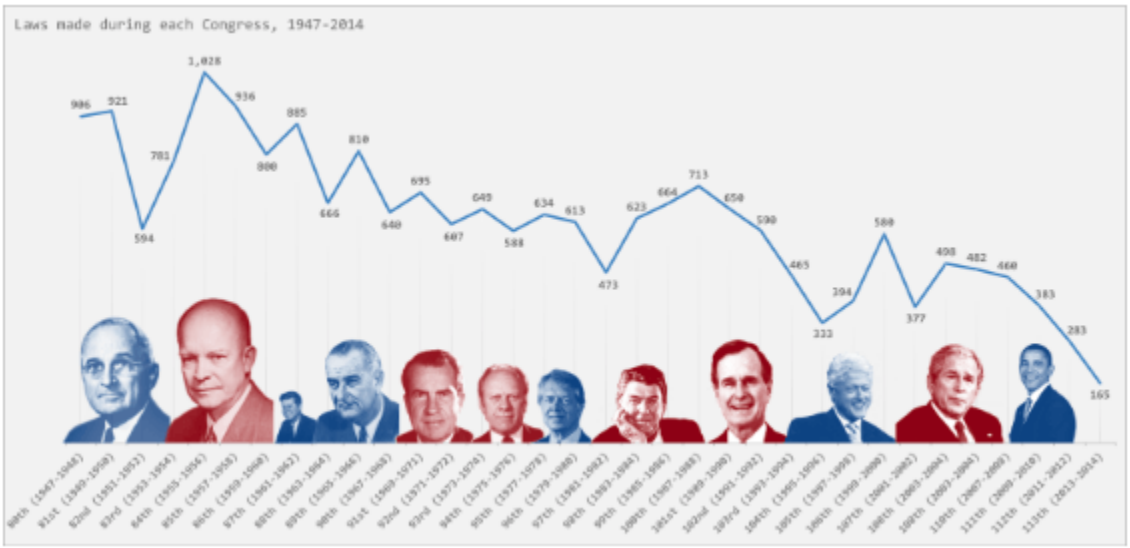


FIGURE: Infographic: The 113th Congress passed only 165 pieces of legislation, a historic low in the post-WWII era. Gerrymandering has created a shortage of competitive congressional districts and this may be a spatial reason for gridlock in

Washington. Source: http://washingtonexaminer.com/ The 115th (Trump) may be even less productive.

The other strategy to combat gerrymandering adopted by several states, including California, has been to remove the power to draw district boundaries from politicians. In California, an independent citizen's commission now draws political district boundaries. The idea behind this commission was a conviction by citizens of California that non-politicians would create competitive electoral districts that would combat political extremism. In California, there was stiff opposition from some political groups to the district maps drawn by the commission, but most independent political analysts argue that the new maps are what voters want. In the San Fernando Valley, the district maps drawn by the new commission forced two long-serving incumbent Democrats (both white and Jewish) to face off against one another. The beneficiary of the redistricting may have been Latino voters, who though numerically dominant in the eastern San Fernando Valley, were not represented by a Latino representative in Washington DC until after 2010 when Tony Cardenas won the office.

One of the great challenges facing even the most impartial of mapmakers charged with drawing district boundaries is the difficulty in ensuring that a group with similar political interests or needs is represented without simply drawing a district around them (packing), or splitting them across multiple districts (cracking). Called a community of interest by judges who have ruled in court cases on gerrymandering, they have been found worthy of consideration for exemptions to the normal prohibitions that prevent gerrymandering for political parties. However, the definition of exactly what constitutes a community of interest is vague enough that almost any group with something in common could claim to be a "community of interest". The fact that many communities of interest (ethnic groups, religious groups, etc.) often align neatly with political affiliation also complicates efforts to prevent partisan gerrymandering.



Take for example residents who live along California's central coast. The beach communities that stretch from Oxnard to San Luis Obispo share concerns about issues like tourism, viticulture, oceanic pollution, beach erosion, etc. These common concerns would seem to qualify the people as a "community of interest." Those communities also happen to be liberal and solidly Democratic. So when the 23rd congressional district was drawn after the 2000 Census, it included only a narrow stretch of beach communities from Ventura, Santa Barbara, and San Luis Obispo counties. The inland reaches of those counties were split between Districts 24 and 22 (both Republican in 2010). The peculiar shape of District 23 prompted some political observers to label this district the "Ribbon of Shame". It certainly created a safe district for Democratic congressional representative Lois Capps, but the 23rd district also seemed to be a logical way to ensure that beach cities along the central coast were cohesively represented in Washington DC. One could also argue that Democrats were losers in a packing scheme, hatched by Republicans, because Democrat voters were concentrated into this single district, thereby allowing Republicans to easily win elections in two neighboring congressional districts. Examine the evidence for yourself, analyze the situation and speculate who benefitted from the map of District 23. The district looks much different after the 2010 redistricting maps were drawn.



Figure A map found on a partisan website denouncing what appears to be blatant gerrymandering in California.

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9.3.12: Electoral Cartography

Electoral Cartography

Political geography gets a great deal of national attention every four years when Americans choose a President. Since 2000, news media outlets on TV and the internet have frequently used the so-called red- states-blue states map to predict or explain Electoral College votes that determine the outcome of the presidential election.

Geographers have been frustrated by this famous map for several reasons. First, the colors are reversed. Until recently, it was nearly universally accepted that the color red was reserved for revolutionary, radical or even progressive or left-leaning political parties. Communists always use red in their flags and symbols. That's why they are called Reds and those who sympathized with communists, socialists or even left-leaning Democrats have been occasionally called pinkos. Conservative movements, on the other hand, have historically chosen the color blue in contradistinction. How the colors got flipped is unclear.

Secondly, the map does a poor job of showing the relative influence of each state in the outcome of the election. States like Montana and Wyoming, because of their very small population, have little impact on the outcome of the Presidential election because they have so few Electoral College votes (three each). Maryland alone has more than double the number of votes as Montana and Wyoming, but it is barely visible on the map. One means to overcome the distortion caused by the mismatch between areal size and voting power is a cartogram, a special type of map that attempts to minimize this effect by altering the size of states based on their number of electoral votes.

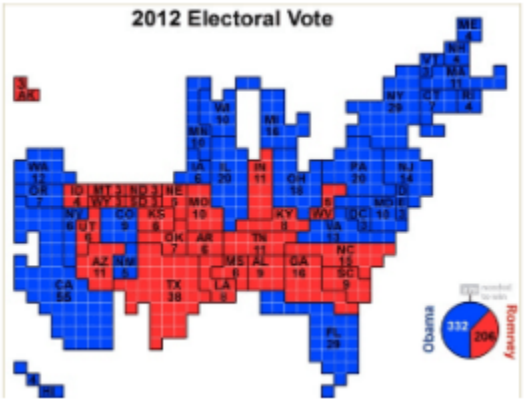
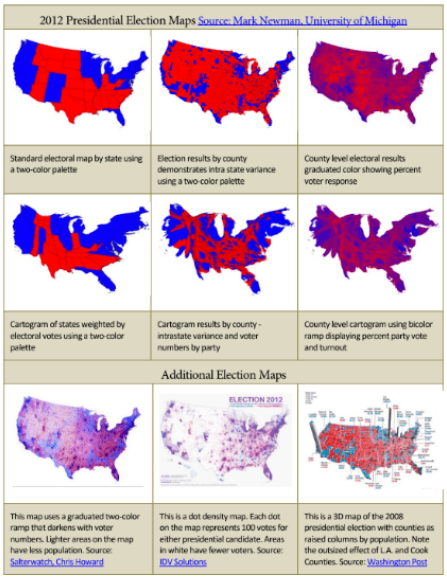


Figure Cartogram of electoral votes by state using a bivariate color scheme for the 2012 US presidential election. Note how the size

Another serious flaw in the states-only map is that it fails to show the significant intrastate variation in voting and fails to show the massive contribution of urban areas to the outcome of major elections. Most of the land area of the United States is rural but sparsely populated. Over 75% of Americans live in cities, but cities are hardly noticeable in the standard red-states-blue-states maps. The inability of state-level choropleth maps to communicate these realities invites viewers to commit the ecological fallacy.

The last major problem is that this map is widely misinterpreted because it strongly suggests that the United States is polarized politically on a state-by-state basis, when in fact most states are divided between Republicans and Democrats. Cartographers have suggested that a "purple states vs. violet states" map is more appropriate for mapping the popular vote. For the winner-take-all Electoral College votes, the red-vs-blue map remains most accurate.

> The Amazing Morphing Campaign Money Map
>
> YouTube Video from National Public Radio, showing animated versions of electoral votes and campaign spending. Source: NPR
>
> Alt text from image: 2012 Presidential election map



The Amazing Morphing Campaign Money Map

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9.3.13: Political Landscapes

Political Landscapes

Political landscapes are probably the most ubiquitous of all landscapes in the United States because the government, in one way or another, shapes nearly every square foot of the land. Some political landscapes are obvious, like courthouses, capitol buildings. Others slightly less so, like streets, bridges, telephone pools, schools or firehouses. Still other landscapes, like forests, rivers, beaches or farmlands appear to be unrelated to politics or government, but even those can be read as the product of government policies such as the Clean Water Act, laws regulating endangered species or a succession of congressional farm bills. Even the seat you are sitting in, the carpet or tile under your feet and the air you're breathing has probably been regulated, safety tested or taxed by the government. For the purposes of this discussion, however, most of the discussion will focus on the more obvious governmental landscapes, and the more accessible "cultural wars" that shape the political environment we navigate daily.



Figure: Washington DC: The Capitol building is most famous example of Classical Revival architecture in the US, the obvious reference to the political ideals of the Romans and Greeks

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9.3.14: Greek Love Affair

Our Greek Love Affair

The United States declared its independence from Great Britain in 1776, and after a struggle of nearly ten years, the former colonists could begin the long task of completing the radical political transformation known today as the American Revolution. Though clearly revolutionary for the time, many of the ideas associated with this grand upheaval were borrowed from Europe's enlightenment and classical periods. Though clearly English, French, and some Roman ideas were incorporated into American political culture, Americans were clearly inspired by the Ancient Greeks. Towns and cities were also named for locations in Greece and Italy (Sparta, Athens, Rome, Cincinnati, etc.), but it is architecture that most clearly expresses early American political thinking.

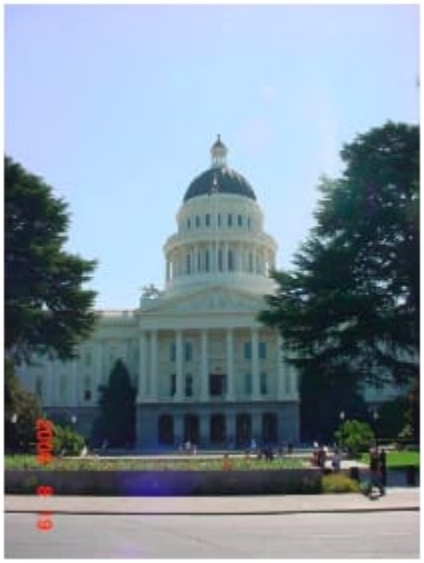


Figure: Sacramento, CA. Many state capitol buildings mimic the look and the message of the capitol building in Washington, DC. In the decades following American independence, the country grew rapidly and many government buildings were erected to meet the needs of efficient governance. Given the deep respect Americans had for Greek democracy, it is unsurprising that for much of the 19th century, virtually all government buildings of consequence incorporated Greek Revival (or Classical Revival) style elements Certainly, the Georgian Style, which was also popular at the time for domestic construction, but since it was intimately associated with the English monarchy, it would have been inappropriate for the government that had recently rebelled against that monarchy. The US Capitol building is a great example, but also state capitols, small-town courthouses, and non-governmental buildings began aping the Greek look.



Figure: Winchester, VA: Thousands of courthouses across the US also adopted Greek Revival stylings. This one, once part of the confederacy perhaps sent a mixed message about democracy.

So popular was the Greek Revival style during the 19th Century, that it was adopted for use on commercial, residential and religious buildings. The symbolic value of Greek Revival architecture was appropriated or perhaps misappropriated. Eventually, Greek Revival architecture took on new layers of meaning which had little to do with democracy. Architects began designing banks and homes in the Greek Revival style by the 1820s. Bankers and homeowners both sought to use architecture to convey a message of power and stability to those who would look upon their buildings. Banks, which were for many years highly unstable, occasionally losing all the depositors' money,sought to evoke a sense of stability and responsibility. For them, architecture that projected stability was thought to inspire depositors and to help prevent "bank runs", the panicked withdrawal of deposits that frequently caused banks to fail. The message conveyed by Greek Revival stylings became convoluted and arguably misapplied.



Figure: Fort Worth, TX. This sign, embedded into the sidewalk, was an attempt to generate business for the nearby bank by assuring depositors that their savings would be safe. Most banks used Greek Revival architecture to promote the same message.

Wealthy homeowners appropriated the symbolism of Greek Revival to remind people of their power and prestige. Plantation homes in parts of the Antebellum South were almost exclusively Greek Revival. The symbolism originally associated with this architectural style was ironically misused by slavers who crafted a system of government diametrically opposed to the system of governance that inspired the adoption of Greek Revival! Consider how the adoption of this Greek Revival by non-governmental institutions (like slave owners and bankers) affects the way we "read" Greek Revival architecture today. Consider how a black man, perhaps a descendant of slaves, walking past a Greek Revival courthouse in 1920 (or 2017) in Mississippi might read the symbolism of the building. What would Greek Revival "say" about his chances for justice should ever find himself inside that courthouse? If he were in Boston, would the building evoke a different meaning?



Figure: White Castle, LA: Nottoway Plantation, like many dozens of other homes of wealthy planters in the South appropriated parts of the symbolism of Greek Revival and in the process altering part of the symbolic value of this style to include slavery.



Consider the symbolic qualities of the courthouse in Las Vegas and Santa Barbara. California (left and center). What ethnic group might not value the symbolic quality of Mission Revival architecture used in Santa Barbara? Try to read the symbolic landscape surrounding a Greek REvival church on the right in West Monroe, Louisiana ? How might African Americans from Louisiana read Greek Revival in the confederate South differently than they do in the midwest?

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9.4: Crime and Punishment

Chapter 9 Part 3. CRIME AND PUNISHMENT

Where people violate the rules and norms of society and how they are punished is a matter of significant interest to geographers. Spatial perspectives and a variety of tools used by geographers are successfully applied to the study of crime, advancing both public safety and our understanding of the myriad effects of the criminal justice system.

The criminal justice system in the United States is massive. Since the 1980s, “get tough on crime” programs have caused prison and jail populations to explode. In 2017, more than two million people were locked up in the United States. This is easily the highest number in the world. At around one percent of all Americans, our incarceration rate is also one of the world’s highest. An additional 5 million people are on parole. America’s criminal justice system is also heavily burdened by a history of racism. Criminal activity, and how we deal with it, presents a massive challenge that we seem unable to address.

Crime is a huge industry. According to the US Bureau of Labor Statistics, around three million Americans work in police and sheriff’s departments, the penal system, as security guards, in parking enforcement and other related protective service occupations. An additional one million work in legal occupations (judges, lawyers, clerks, etc.). About 100,000 people are probation officers. Nearly 20,000 teach others about the criminal justice system.

Geography offers some answers that other disciplines do not when it comes to crime. The spatial patterns of crime, victimization, laws, and punishment/rehabilitation strategies vary wildly across the United States. Analyzing these patterns from a spatial perspective offers forceful insight into why crime is such a problem. Criminal justice issues simultaneously provide a rich environment in which to apply epistemological and methodological approaches favored by geographers. This chapter, therefore, is shorter and focuses on applied geography in a specific subfield of geography.



Figure Angola, LA- The infamous Louisiana State Penitentiary,located in a swampy bend of the Mississippi River has a notorious past and a poor record of rehabilitation.

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9.4.1: Spatial Patterns of Crime

Spatial Patterns of Crime

Crime rates vary wildly by location. Some neighborhoods suffer little from crime, while others are plagued by it. These patterns repeat themselves at a variety of scales from the street corner to entire countries. According to the United Nations, Latin America and Africa were the two most dangerous regions on earth in recent years. Europe and East Asia, on the other hand, have very low homicide rates. The United States is somewhere in the middle.

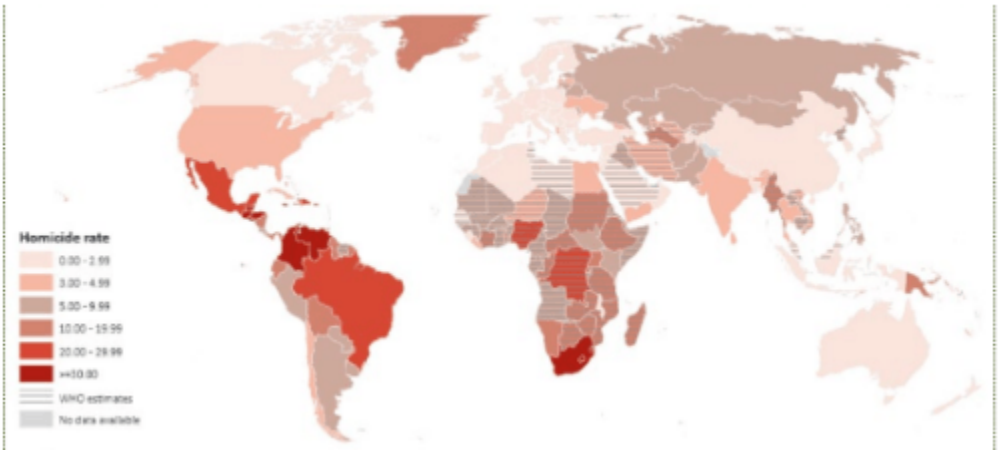


Figure World Map- Homicide Rate or Murders per 100,900 people (2013) . Latin America and Sub- Saharan Africa have the highest murder rates in the world, in some places 10 times the rates found elsewhere.

A good deal of the elevated murder and crime rates worldwide can be attributed to gangs or organized crime syndicates, especially where the production and transportation of illegal drugs is concerned. The illegal drug trade is in turn fueled by the opportunity to make vast sums of money, or in many cases, a meager sum of money where economic opportunities are few, Proximity to the massive drugs markets in the United States and Europe as well as the spatial logics of agricultural production also encourages the drug trade.

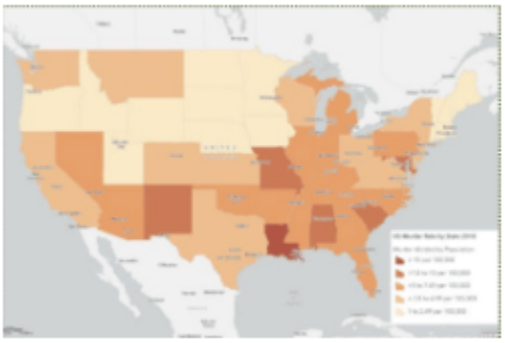


Figure US Map - Homicide Rate by States. According to the government, states in the Deep South have the highest murder rate

In the United States, the old “Yankee” region seems to be the safest place to live, while the Deep South is most dangerous. For example, the murder rate is nearly five times higher in Louisiana than it is in Vermont and Iowa. Of course, not all parts of Louisiana are equally as dangerous. Within each state, crime rates vary greatly as well. For example, in Louisiana where the murder rate is very high, of the nearly 500 murders committed in 2013, more than 90% were in cities. In Los Angeles, neighborhoods with the most violent crime experience around four times as much as the statewide average, but hundreds of times more crime than the safest neighborhoods in other parts of the city.

The rate of property crime also varies greatly through space. You are more likely to have your car or truck stolen if you live in California or Washington than if you live in New York or Wisconsin (see map).

What accounts for the amazing variability in crime on the map? Most of it can be traced to the likely suspects: income inequality, lack of opportunity, racism, poverty, poor schools, gang activity, drug, and alcohol abuse.

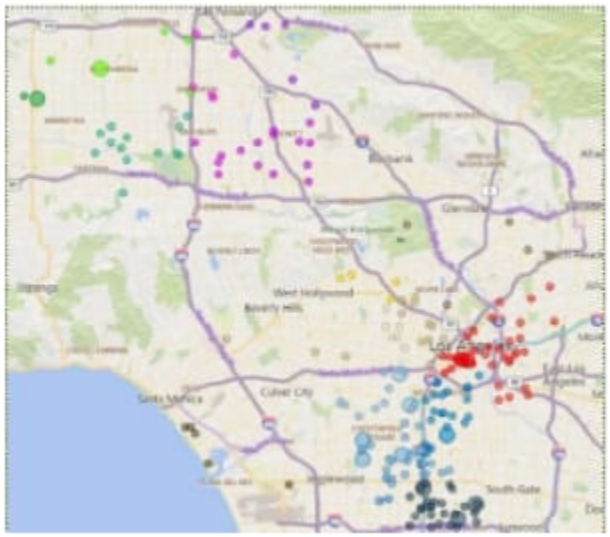


Figure Los Angeles CA, Homicides in Los Angeles are concentrated near downtown in South LA. The map indicates how important the scale of analysis with crime data is.

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9.4.2: Geography of Punishment

Geography of Punishment

Crime prevention is the goal of law enforcement agencies. There are several strategies for preventing crime, but in the United States, the favored method is punishment. Americans favor the idea that putting criminals in jail not only punishes the criminal but also offers them a chance for rehabilitation. Americans also cling closely to the idea that jail time serves as an effective deterrent to those considering crime. It's a questionable philosophy.



Figure US Map- Auto Theft Rates by States. People steal cars much higher in California than they do in the state of New York. Why might this pattern occur?

The United States has the highest incarceration rate in the world at over 700 persons per 100,000. Although Americans constitute only about 5% of the world's population, about one-in-four imprisoned persons are in American jails. England, Germany, and Japan, as well as many other highly industrialized nations, have much lower incarceration rates, ranging between 50 and 100 persons per 100,000. Americans could learn from the beliefs and practices of other countries, but we stubbornly refuse to learn from other countries when it comes to some issues. Crime is one of those issues.

From an international perspective, the American criminal justice system, which relies on mass incarceration as the principal crime prevention tool, is a terrific failure. People go to prison for offenses that generally would not warrant jail time in other countries, like passing bad checks or possessing small amounts of marijuana. American criminals go to prison a lot longer as well. The rate at which people go to jail in the US and many European countries is nearly equal, but American prisoners stay jailed twice or three times longer than their European counterparts. Part of the disparity in sentence length is attributable to the disparity in crime type. The non-violent crime rate and the simple assault rate in the United States are similar to those in Europe. However, very violent crimes are committed much more frequently in the United States. It appears that Americans' exceptionally easy access to firearms creates far more opportunities for Americans to use a weapon in a crime. Because gun-related crimes receive far longer sentences than those without guns, American criminals wind up serving much longer prison sentences than criminals elsewhere.



Figure San Quentin, CA - This prison, like many, far exceeds its designed capacity. Officials have turned to private corporations or early parole to cope.

Another significant component of America's love affair with prisons is attributable to the cultural politics of the United States. Americans decided to fight the "war on drugs" primarily through imprisonment rather than through drug- addiction treatment or by investing in effective drug prevention programs. In the 1970s, a cultural backlash against a perceived level of cultural permissiveness led to a "get tough on crime" political populism, called law and order politics. Because the United States' judicial system is one of the few in the world that allows citizens to elect judges, law enforcement leaders(Sheriffs), and prosecutors, candidates for these positions worked hard to prove they were "tough on crime". Rarely do candidates for these positions campaign on being the smartest on crime. As a result, prison populations exploded since about 1970. Some states also turned to corporations that run private prisons to help house inmates, and by doing so created an economic incentive to those in that industry to maintain high crime rates, incarceration rates, and recidivism rates.

Officials in the US also execute those convicted of particularly heinous crimes more frequently than is the case in most of the world. Internationally, locations with a devout religious population (e.g., Iraq, Iran, Saudi Arabia, and Pakistan) and China execute more people at a greater rate than the US. The Chinese execute far more than any other country. However, China's executions seem focused on political crimes. The death penalty is not used in Europe, Canada, or Mexico. After a hiatus of almost 20 years, the Trump administration resumed Federal executions in 2020.

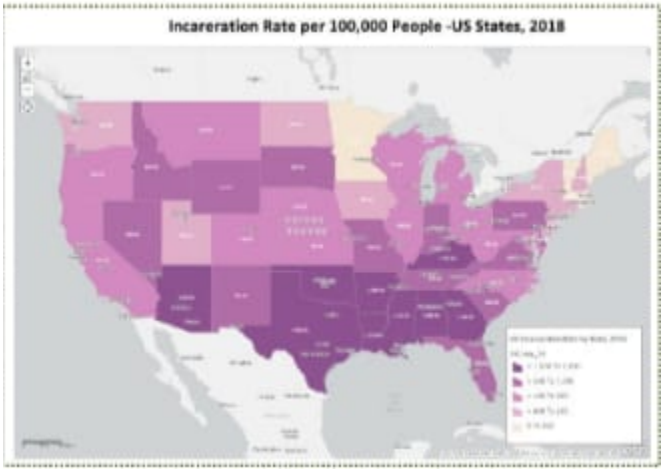


Figure Maps Incarceration Rates- 2016. Some states have pursued mass incarceration more fiercely than others, but the efficacy of this strategy is in question.

Americans' opinions on the Death Penalty have swung back and forth. During the Great Depression, nearly 200 people per year were executed in the US. After World War II, it became far less common and for much of the 1970s, there were none because the US Supreme Court found execution to be cruel and unusual punishment, and therefore unconstitutional. But, law and order

politics caught up to the justice system and after 1977, executions resumed in some states. By 1998, executions reached a post-moratorium peak of 98 Americans per year, about half the peak number in the 1930s. That number has fallen since partly because DNA evidence showed that some death row inmates were innocent leading some states to abolish the practice. In 2019, 22 Americans were executed.

Executions are far more likely in some parts of the US than in others. They are most common in places where Americans favor a Biblical "eye-for-an-eye" type justice, and/or where there is a long-standing legacy of violent racism. States from the former Confederacy, led by Texas (40%), account for roughly 85% of all executions since 1976. In fact, over half of the death penalty cases in the US come from just a few counties in the country. Duval County, Florida (Jacksonville) is one of those counties where jurors and/or judges regularly condemn prisoners to death. Critics of the practice are quick to point out that frequent death sentences in Duval County have not resulted in a significant reduction in crime there. California has over 700 prisoners on Death Row, but none are likely to be executed because of the numerous court cases challenging the death penalty. Perhaps, it's not surprising that several studies point to very disturbing trends indicating differential treatment for people of color when it comes to death penalty cases.

Proponents of harsh penalties for crime argue that "getting tough on crime" has worked. Indeed, crime rates have fallen in the United States since the 1980s. In 2016, the violent crime rate in the US was about half of what it was in 1993. However, crime rates in the US have not fallen evenly, nor does there appear to be a significant correlation between states with high rates of incarceration and declining crime rates. New research suggests that locking up the worst offenders is effective at reducing specific types of crime, but long-term imprisonment for lesser crimes does little to reduce overall crime rates.

By looking only at national statistics, one could still make an argument that mass incarceration is an effective strategy. However, by examining trends internationally, or even just looking at Canada's experience, it's easy to see that crime rates are dropping worldwide; including in those countries, like Canada that have never used mass incarceration as a crime prevention strategy. Some criminologists have pointed to demographic changes accompanying the maturation of the post-war baby boomers as the main reason for falling crime rates across the US, Canada, and Europe. As populations age, the number of people in the prime criminal age-cohort (15-30 years old) has fallen dramatically.

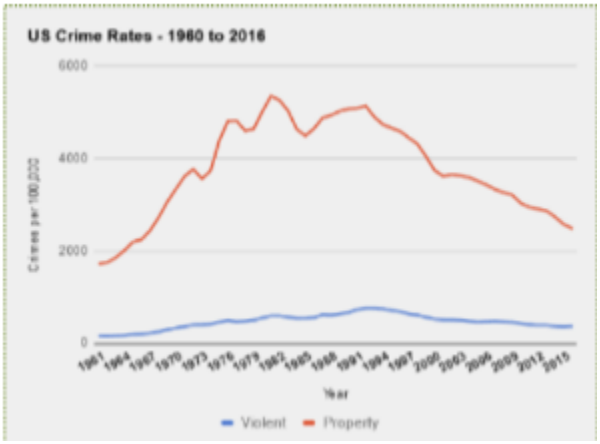


Figure Rates for violent and property crimes have fallen dramatically in recent years.

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9.4.3: Crime Mapping and Analysis

Crime Mapping and Analysis

The collection of electronic crime data allows law enforcement agencies to map each instance of crime digitally. By plotting crimes on a map, along with data about demographics, businesses, institutions, and known offenders, crime analysts using GIS have created an entire subfield of geography known as forensic geography or crime mapping. GIS, in the hands of crime geographers, offers law enforcement agencies a robust analytical toolkit that can offer both long-term policy guidance and short-term tactical advice.

Numerous television shows feature crime analysts who engage in criminal profiling, which is a kind of pseudo-scientific attempt to identify perpetrators of crime based on psychological characteristics and behaviors of suspects. Geographers use more scientifically rigorous analyses of data to identify likely suspects in specific types of crime sprees. Perhaps the most thrilling application of spatial principles in the study of crime is known as geographic profiling, a collection of techniques designed to identify spatial patterns in criminal behavior. Serial offenses, like arson, murder, car theft, etc. can be mapped, and by observing the criminal tendencies (modus operandi or M.O.) of offenders, analysts attempt to predict where an offender is likely to commit additional crimes, and even where the offender may live. Criminal activity, like most other activity, is conditioned by the principle of distance decay, therefore it can be assumed that most criminals tend to commit crimes near their home, or another locus of activity. With crime, however, there is a caveat: most serial criminals tend not to commit a crime in very close proximity to their home/workplace because they fear that someone would recognize them at/near the crime scene.

There are significant variations in the spatial pattern of crime sprees that depend on the individual serial criminal, the type of crime, and the geographic peculiarities of the region; but in some instances, criminals behave just as the geographers' theories suggest and analysts using GIS can occasionally make predictions with reasonable accuracy. An assignment accompanying this text allows students to do some geographic profiling with data associated with crimes committed by the so- called Hollywood Arsonist, who set nearly 60 fires during several days near New Year's Day 2012. Far more complex procedures are available to advanced students of the craft, including Rossmo's Formula. More Americans are becoming aware of the power of GIS thanks to the publicity generated by television crime dramas (like NCIS, CSI, or Numb3rs) that occasionally feature geeky GIS crime analysts helping detectives solve baffling crime sprees.

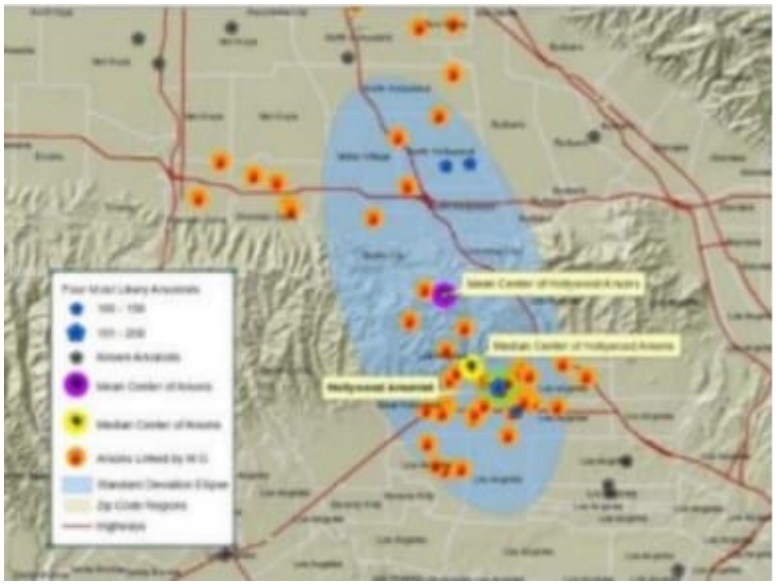


Figure Hollywood, CA - A serial arsonist burned nearly 60 buildings during the New Year's holiday 2011-2. Basic statistical techniques indicated where the perpetrator was likely to live. Date Source

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9.4.4: Social Disorganization Theory

Social Disorganization Theory

Most geographers who study crime focus not on the behaviors of individuals, but rather on groups and the contexts in which they live, as a way of understanding crime trends. Criminal behavior exhibits trends at the neighborhood, county, state, and national levels permitting an array of research possibilities. By mapping crime data along with a variety of social, cultural, economic and law enforcement data, crime analysts not only can begin to understand why crime happens where it does, but they can also assist in making neighborhoods safer by helping officials redirect scarce resources to locations where they are most needed. New York City's Police Department has employed a GIS-based, quality of life/crime data management tool called CompStat for years with celebrated success.

The most popular theory guiding research into the geography of crime is known as Social Disorganization Theory. This theory was built upon observations made by researchers from the so-called Chicago School who began using maps to understand crime over 100 years ago. According to this theory, place really matters. In other words, Social Disorganization Theory posits that neighborhoods create conditions that may encourage or discourage criminal behavior. Of course, individuals within any neighborhood may choose to pursue or avoid criminal activity, but numerous studies have shown that criminal behavior is far more common among people from areas that fit certain demographic and economic profiles.

What factors predict an elevated crime rate? Poverty, ethnic heterogeneity, and residential mobility are the chief indicators, and they manifest themselves in ways that are relatively easy to measure. According to this theory, poor neighborhoods, with a heterogeneous population, where people frequently move in and move out, residents are unable to exert effective,collective social control. This is like a family where parents have lost control of their children because they don't know them well enough, and have little leverage over them. In neighborhoods, where the population is wealthier, stable, and homogenous people tend to develop a shared sense of right and wrong, and they become more willing to defend their neighborhood (and property values) from those who would commit crimes. You are far less likely to "defend your neighborhood" when you don't know your neighbors, and you don't have a sense of ownership over your neighborhood.

One of the more important findings made by the chief architects of this theory many years ago was that ethnicity was not directly related to crime. They came to this conclusion by mapping different ethnic groups as they moved up the socio-economic ladder and from neighborhood to neighborhood. What Shaw and McKay found was that recent immigrant groups often exhibited high rates of juvenile delinquency while they lived in a specific type of neighborhood. Yet when those immigrant families moved into more stable and prosperous neighborhoods, the delinquency rate of juveniles declined. For those families from the same ethnicity that remained in the old neighborhood, the delinquency rate did not decline. Therefore, ethnicity could not be at fault. Instead, it was the cultural ecology (or social environment) of the neighborhood that made a difference. Geography matters.

This text's author used these very same theories to co-author a study analyzing the effect of payday lenders on crime rates in Seattle, Washington. By using social disorganization theory to conduct a GIS-based statistical analysis, it was possible to forcefully argue that 1) neighborhood variables like the of percent young males, the jobless rate, the residential instability of residents, the population density, etc.strongly predicted crime rates; 2) when those factors were held statistically constant, the addition of specific businesses or institutions (in this case payday lenders), crime rates worsened significantly over time. Similar studies have analyzed the effect of a variety of landscape elements on crime, including parks, liquor stores, and schools. Most have found that neighborhood variables affect the propensity of residents to engage in criminal behaviors.

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9.4.5: Modeling Crime and Hot Spot Analysis

Modeling Crime

Consider a situation in which a person has petitioned your local government for a license to open a liquor store (or casino, flower shop, or gymnasium) in your neighborhood. City officials and concerned residents may want to estimate the effect such an establishment might have on local crime rates. A geographic approach would call for an analysis of similar instances occurring in the past, or in other locations, perhaps in other towns or in other parts of the same city. A common technique used by geographers is to first map the relative data and then create a regression model of the variables. Regression models are statistical tests that allow users to estimate the effect one or more causal variables (e.g., income, education, liquor stores, etc.) have on an outcome variable (e.g., crime rates). Modeling crime with regression models is a well-established technique among social scientists. It not only permits analysts to identify likely causes of criminal activity but also by mapping the results of the test, geographers can identify neighborhoods that have crime rates that are higher/lower than what is expected, based on predictions made by the regression model. Law enforcement officials can use these maps to decide where to deploy additional resources, or to investigate more closely the factors contributing to higher (or lower) than expected crime rates in a specific location.

Hot Spot Analysis

Patterns of criminal behavior that might be impossible to spot in a spreadsheet or among stacks of crime reports are often readily discernible using GIS. One pattern mapping technique is called hotspot analysis. One version of this technique begins with a simple point map of crimes, but the GIS software calculates small buffer zones around each point. Those areas with multiple overlapping buffers are assigned a progressively higher score on a color-coded pixel grid map, thereby enabling GIS users to quickly visualize the presence (or absence) of multiple crimes in the region. Hotspot maps may also indicate the location of a nexus of criminal activity (like a drug dealer) even when no arrests have been made at a location. GIS analysts can also add to a hotspot map addresses of known felons, repeat offenders, parolees or institutions, like pawn shops, liquor stores or strip clubs to help identify likely suspects, or landscape elements affecting crime.



Figure Los Angeles, CA- This hot spot map of car theft in the eastern San Fernando Valley shows that cars theft is worst in high traffic areas, along commercial corridors.

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9.4.6: Broken Windows Theory and Zero Tolerance Policing

Broken Windows Theory

A crime theory advanced by Wilson and Kelling in the 1980s argued that the appearance of neighborhoods was another factor in the pattern of crime in cities. This idea, known as Broken Windows Theory, suggests that visual indicators of disorder on the landscape (e.g., trash, graffiti, vandalism) signal to passers-by that there is a low level of social control and community investment in an area. In other words, where visual disorder is evident, people assume that behavioral disorder is also acceptable. At the very least, visual disorder is a signal to would-be criminals that even if residents do not approve of criminal behaviors, there is likely to be little consequence for those who commit crimes. On the other hand, in places where it's obvious that people are caring for their windows, lawns, walls, streets, and sidewalks, criminals will surmise that residents actively monitor the behavior of others, and are likely to act against those who violate the social norms associated with well-kept locations.

Implications of this theory suggest that police and residents should vigilantly guard against visual disorder. Windows that are broken should be fixed immediately. Graffiti should be painted over immediately, trash should be removed quickly, and repairs to buildings should be made as quickly as possible. Lawns should be mowed and kept tidy, etc.

Zero Tolerance Policing

Many police departments across the United States embraced the principles of Broken Windows Theory in the 1990s and attempted to apply the logic to a crime prevention strategy known as Zero- Tolerance Policing, a misapplication of Broken Windows Theory that has generated intense controversy. Zero Tolerance Policing incorrectly assumed that disorderly behaviors by citizens had the same effect on crime as visual disorder on the landscape. By assuming that allowing small transgressions of the social order and/or petty crimes to go unpunished signaled to citizens that serious crime must also be OK, police departments embracing this thinking began cracking down on all sorts of small crimes. The idea behind Zero Tolerance Policing is that by arresting people for small crimes (graffiti, petty theft, failing to pay subway fares, etc.) people will not engage in major crimes. Zero-Tolerance Policing policies give officers little discretion in the sorts of crimes they actively pursue. Every little crime must be stopped. Arrests for petty crimes must be made. In New York City, Zero Tolerance Policing evolved into a strategy known as Stop and Frisk. Under this policy, the number of times New York City cops stopped and questioned individuals on the street quadrupled from less than 100,000 in 2002 to over almost 700,000 in 2012.



Figure Chilicthe, OH- town, after witnessing a spike in opioid related crime, adopted a stop and frisk policy like New York City's.

Black and Latinos were disproportionately targeted for police stops and interrogations,leading to protests and lawsuits accusing police of illegal racial profiling. The Black Lives Matter movement is in some ways a reaction to the misapplication of Broken Windows Theory. Advocates of Stop and Frisk policies have pointed to the dramatic reduction in crime in New York City since the adoption of Zero-Tolerance Policing there. Critics counter-claim that other cities, including most that do not use zero-tolerance policing, have experienced similar dramatic reductions in crime rates. Other research suggests that attending to visual blight in neighborhoods, such as graffiti, garbage, broken streetlights, etc., resulted in a similarly positive reduction of crime rates, without

widespread complaints from communities of color about police harassment.



Figure New York, NY- Protests march to protest " stop and frisk" policing. People of color view the strategy as racial profiling.

In 2020, after what appeared to be some improvement in relations between police and communities of color, widespread protest erupted once again in the wake of a series of high-profile tragedies involving police and black citizens in the US. Unlike earlier protests that were largely confined to major cities with large minority populations, the 2020 spring protests were staged in small towns, white suburbs and even spread to Europe, where protestors expressed solidarity with both American people of color and European minority populations that have in recent years suffered increased racism, anti-immigrant hostility, and xenophobia. Calls for significant changes in the American criminal justice and policing policies seemed to gather momentum, under the unfortunate slogan "Defund the Police".



Figure Ottawa, Canada: Protestors call for a reconsideration of policing policies and how police departments are funded.

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9.4.7: Temperance Movements

Temperance Movements

Various states, counties, cities, and even townships have passed laws to restrict or prohibit the production and sale of alcohol, with varied success,since before the American Revolution. Religious conservatives and women's groups started several temperance movements during the 19th century. They had little success. The alcohol industry was important almost everywhere. Almost every small town in America had a locally operated brewery, winery, or distillery. During this time, alcohol taxes were also an important source of tax revenue for various levels of government, especially during wartime. During the 19th century, millions of immigrants streamed into the US, bringing with them a variety of European cultural traditions, some of which involved copious consumption of wine, beer, or spirits. Some argued that there was a strong association between heavy drinking and a variety of social ills, many of which were pronounced within immigrant communities. In the aftermath of World War I, the politics of booze changed. The political power of beer/wine drinking German-Americans was greatly diminished, while women's political power greatly increased. Safe drinking water became widely available, and income taxes capable of offsetting the loss of alcohol taxes were in place. These factors permitted the temperance movement to surge forward, and the 18th Amendment passed outlawing the production of most types of alcohol in the United States.



Figure New York City - Men Pour barrel of alcohol into sewer while law enforcements officials look on during the prohibition era

This grand legal experiment, known today as Prohibition, lasted 13 years (1920-1933) and it is widely considered a failure today. During Prohibition, Americans could not legally sell, produce, import, or transport alcohol. Overall, the consumption of alcohol fell, and so too did the overall crime rate, but enforcing Prohibition quickly became a massive problem. Because there was still a large demand for booze, the illegal transport and sale of alcohol, known as Bootlegging, began almost immediately. Widespread violation of Prohibition occurred because many Americans thought outlawing alcohol was unjust and beyond the authority of the government. Enforcing prohibition quickly overwhelmed the police, the courts, and the penal system. Corruption among the police was rife. Canada and Mexico had no similar laws, so they became major production centers for booze that was smuggled into the United States. Owners of shuttered breweries, wineries, and distilleries took up the cause to repeal the 18th Amendment. Even doctors, many of whom relied upon alcohol to concoct medicinal liquors (cough syrup, etc.) wanted to repeal the law. After more than a decade, the balance of evidence seemed to suggest that Prohibition had failed. The law did not fit the prevailing sentiment on alcohol. It is from this experiment that the expression, "You can't legislate morality" emerged. Still, lawmakers in many parts of the US continue to try to do just that.



Figure Promotional Poster 1973. This poster featuring both German and English proclaims the virtue of wine as a component of a happy married life. It stakes a claim to the moral legitimacy of German- American Values

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9.4.8: White Lightning

White Lightning

During Prohibition, the illegal production of a potent corn liquor, known as moonshine flourished, especially in Appalachia. This powerful clear alcohol gets its interesting name from the tendency of those who produce and transport this liquor to work at night to avoid detection. To aid in their clandestine operations, moonshiners tended to distill their liquor in geographically remote locations, far from the prying eyes of law enforcement. Decades ago, cars used to transport moonshine were reputedly modified, or to help bootleggers evade law enforcement officials. Cars were “souped-up” to make them go faster and equipped with heavy-duty springs to better hold heavier cargo. Legend holds that this led to the evolution of stock car racing in the Upland South. The legend is probably embellished.

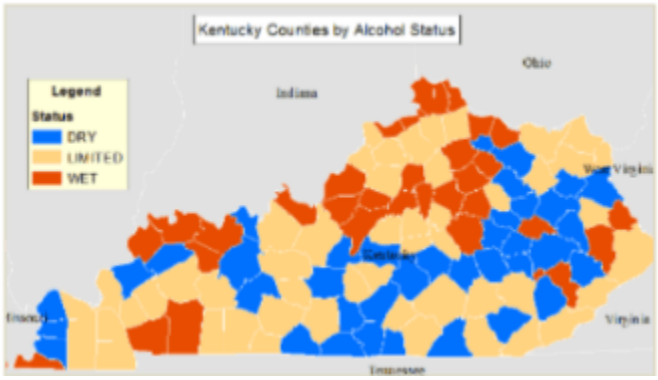


Figure Map Kentucky counties by legality of alcohol. Date Sources Kentucky Alcohol Beverage Control

Although it has been nearly a century since national prohibition elapsed, moonshining continues apace in parts of Appalachia. Several reasons, rooted in the geography of the Upland South, can be identified. First, there is a long history of corn liquor production in Appalachia. The Scottish and Irish that constitute a significant part of the ethnic heritage of Appalachia, brought the practice to the region hundreds of years ago. Perhaps more importantly, local versions of Prohibition continue in many parts of the South to this day. Many people in the South and Appalachia live within dry counties, meaning the sale of alcohol, or at least some types of alcohol, is illegal in those counties. Oftentimes, only portions of a county are dry, or there are exceptions for specific locations or events. In any case, banning the sale of booze in these regions encourages the production of moonshine. Where alcohol is permitted, often taxes on it are very high to discourage its consumption. These laws and the associated sin taxes remain in place in the South largely because conservative, anti-liquor Baptists, Pentecostals, and Methodists are politically dominant. Ironically, because the production of moonshine can be very profitable for its producers, both the bootleggers and Baptists favor the maintenance of laws that have evaporated elsewhere in the country. It is a longstanding and ironic political, and economic relationship that favors the status quo.

Geography presents another set of factors favoring the production of moonshine in the Upland South. The mountainous terrain and geographic isolation of the region prevent Appalachian farmers from cheaply producing and transporting grain crops to populous urban markets. Transportation costs encourage farmers in remote locations to turn to the production of alternative “agricultural goods” capable of turning a profit despite the added transportation costs (see Von Thunen Model – Agriculture Chapter). Because transportation costs associated with corn liquor are far lower per unit of product than corn itself, especially in Appalachia, there is a strong economic logic incentivizing alcohol production there. In recent years, larger operations have been known to yield thousands of gallons, allowing moonshiners to make thousands of dollars per week at locations with few well-paying, legal, employment options. Marijuana production occurs under similar conditions.

In a few locations within Appalachia, especially the karst regions of Kentucky and Tennessee, groundwater sources are often naturally filtered through layers of limestone bedrock, changing the chemistry of the spring water in a way that is ideal for the production of high-quality whiskey and bourbon production. As a result, several best-selling brands of whiskey in the United States are distilled there. Not surprisingly, some of these distilleries are in dry counties. Take, for example, Lynchburg, Tennessee, where the world-famous Jack Daniels whiskey is distilled. It’s in a dry county. Over 10 million cases of Jack Daniels are bottled in Lynchburg every year, but you can’t buy a shot of it there.

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9.4.9: Marijuana and Medical Marijuana

Marijuana

Perhaps the most widely broken law(s) in the United States over the last 40 years are those associated with the production and consumption of cannabis, better known as marijuana. Most people get away with breaking marijuana laws for sure, but according to the FBI, each year police arrested around 1.5 million people for various drug abuse violations. Marijuana- related offenses are easily the most numerous of those crimes, though arrests for the manufacture of marijuana has fallen as legalization and decriminalization progresses.

The prohibition against marijuana dates to the early 1900s, and it parallels in some ways the prohibition of alcohol. Americans disagree about the dangers and morality of using marijuana, and millions ignore marijuana laws. Law enforcement efforts vary wildly across the United States and have varied through time. Some US Presidents have pushed federal policy toward jailing all drug offenders; others are less enthusiastic about it. Several politically progressive states have sought to decriminalize or even make marijuana legal in recent years. Oregon and Colorado were the first to make recreational use legal.



Figure Woodland Hills, CA - The city of Los Angeles legalized medical marijuana and hundreds of dispensaries opened across the city in a matter of months. Many businesses used outlandish colors and languages to market their products

The production of marijuana is an important agricultural activity in many parts of the United States. Marijuana production hotspots have a lot in common with moonshining regions. Both tend to occur in isolated areas, especially in mountainous regions. Good soils and rainfall favor some locations more than others. In those locations, a lack of viable industrial or agricultural alternatives seems to be a key factor promoting marijuana production. Appalachian states are important suppliers of domestically grown pot in the U.S. Tennessee and Kentucky rank high for both the production of plants and the value per acre. Hawaii is also a major producer, partly because it has a great climate and superb soils, but also because it has little competition from outside. California, particularly the Emerald Triangle region in the northwestern corner of the state far out-produces the rest of the country. Like Appalachia, the remoteness of northwestern California makes it difficult for law enforcement to easily find illegal fields of cannabis. In locations where pot production is an important economic activity, law enforcement may have little incentive to aggressively police the activity, especially where law enforcement agencies' budgets are heavily reliant on taxes raised indirectly from the pot industry.

There is also a cultural-political variable driving California's pot industry. Many of the people who established the pot industry in the Emerald Triangle were "hippies" who moved from the Bay Area in the 1970s. The "war on drugs" forced production into hidden locations. Over the years, the economy of northwestern California has become reliant on the marijuana crop. It is the leading industry there and the primary source of basic income for the region. The creeping legalization of marijuana production

across the United States represents a significant threat to the economic lifeblood of the region. Not only would growers from other locations, who live closer to the major markets, be able to undercut growers in the Emerald Triangle via lower transportation costs, but more importantly the explosion of competitors (supply) would drastically lower demand and therefore lower the price of marijuana. Legal pot could be an economic disaster for the places that depend on bootlegging marijuana. Because the Emerald Triangle is essentially a monocropping agricultural zone, much like those places that rely solely on coffee or bananas, expanded competition can be ruinous (see Agriculture Chapter 3). If marijuana becomes completely legal in the US, growers in the Emerald Triangle may need to market their product differently. Marijuana producers in the Emerald Triangle may find themselves using the same marketing techniques used by vintners inn Napa Valley, touting the quality of the local soils, climate, and the skill of their master cultivators.

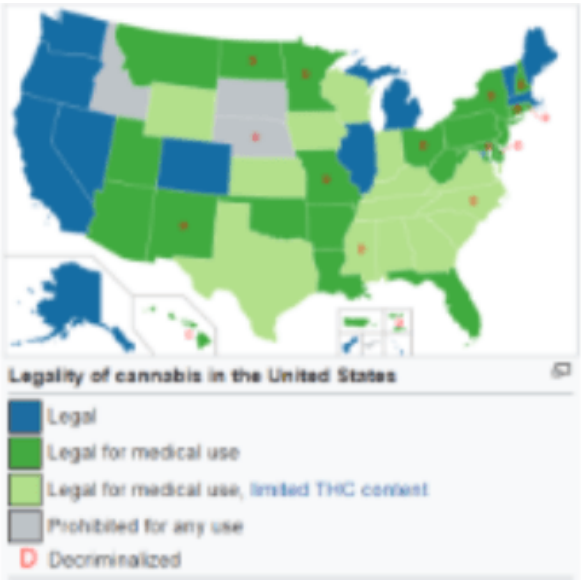


Figure Map States in New England and the west coast have moved to discriminate marijuana in recent years

Medical Marijuana

Perhaps no place in the country witnessed a more spectacular response to the legalization of marijuana than Los Angeles. When medical marijuana was legalized in 2004, hundreds of marijuana retailers, or dispensaries, opened within a few months. Some estimates put the number at around 600. Dispensaries outnumbered mainstream pharmacies by a wide margin. By mapping dispensaries, while using pharmacies as a control variable, several interesting questions could be answered about marijuana sales in LA. For example, what does the map of dispensaries tell us about who is using marijuana for medicinal purposes? For recreational purposes? One could assume that if marijuana was sold primarily for medicinal purposes, then the distribution of dispensaries should be very similar to the distribution of pharmacies. Instead, the map reveals dense clusters of dispensaries in specific neighborhoods (e.g., near college campuses) suggesting that marijuana is probably sold more for recreational purposes than for medical ones. California legalized recreational marijuana in 2016, once again changing the legal environment in which this industry operates, and those changes are bringing shifts in the landscapes of cannabis.



Figure Map - The eastern San Fernando Valley had an Unusual number of Maijuana dispensaries, especially compared to standard pharmacies. Discrepancies such as this suggest that recreational users fueled the expansion of the industry.

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9.4.10: Opioid Crisis

Opioid Crisis

The legalization of marijuana invites many questions about how legalization affects addiction to more lethal drugs, like heroin. After all, the recent spike in heroin abuse in the US evolved from the legal distribution of opioid pain medications. In the 1990s, millions of Americans were newly diagnosed with chronic pain. Doctors treated over 100 million people with a variety of painkillers, including Percocet, Vicodin, Oxycodone, and other opioid-based pain management drugs.



Figure US The rate of drug overdoses by state shows a reasonably strong correlation with the rate of prescription marking. West Virginia is a wed- known terminus of the Oxycodone express

In Florida, where many elderly people with age-related chronic pain live, became the pain medicine capital of the US during the 1990s. The huge number of elderly patients in Florida provided masked the fact that hundreds of unscrupulous doctors and pharmacists were making huge profits by over-prescribing opioid drugs to drug dealers who posed as chronic pain patients. By 2009, doctors in Florida were prescribing ten times the number of Oxycodone or “Oxycotin” pills than doctors in the rest of the country combined. Drug dealers from all over the eastern half of the United States were making regular trips to Florida to visit dozens of pain clinics where they would pick up dozens of fraudulent prescriptions, many of which were filled by pharmacists in the doctor’s office. These opioid drugs bought in Florida were later sold on the streets and abused by people taking them without a prescription. As a result, several transportation routes to Florida’s pill mills, including air routes and Interstate 75 were dubbed, “The OxyContin Express”.

In recent years, more aggressive policing of pill mills, and a reformulation of Oxycodone created a scarcity of many prescription pain pills, which drove up the price for them on the street, and in turn invited those addicted to prescription pain pills to turn to cheaper, but more deadly alternatives to prescription opioids, including heroin, Fentanyl and a host of other synthetic opioids made in “labs” run by crime syndicates in the US, Mexico, and China. As a result, drug overdoses from opioids (prescription and illegal) have gone up from about 6 per 100,000 in 1999 to over 21 per 100,000 in 2017. The US Congress and state governments have been slow to act.



Figure US Map Florida was for many years hotbed of so called “ pill mil” doctors and pharmacies that make huge profits from prescriptions pales medication that become street drugs.

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9.5: End of Chapter Synthesis

Chapter Summary: Political Geography

This comprehensive chapter on political geography explores the intricate connections between geography and politics, providing a thorough understanding of how spatial factors influence political activities and structures. The chapter begins by examining the cooperation between states through military and economic alliances, including detailed discussions on the European Union (EU) and the North American Free Trade Agreement (NAFTA). It also addresses the complexities of boundaries and boundary disputes, highlighting the geopolitical tensions that arise from these issues.

The interplay of politics and power is explored through the lens of federalism, with a specific comparison between the US federal system and other governmental structures. Separatist movements and the quest for self-determination are analyzed, showcasing how constructed identities and cultural affiliations drive political aspirations. The chapter delves into various political cultures, describing Western libertarians, Southern traditionalists, New England progressives, and centrists, and examines the origins of political orientations.

Electoral politics are thoroughly covered, with sections on boundary drawing, gerrymandering, and electoral cartography. The impact of these practices on political representation and power dynamics is critically analyzed. The chapter also includes a fascinating look at political landscapes and their historical and cultural significance, with a special focus on Greece's political heritage.

The relationship between crime and geography is a major theme, exploring spatial patterns of crime, crime mapping, and analysis. The chapter discusses various theories and approaches to understanding crime, including social disorganization theory, broken windows theory, and zero tolerance policing. It also covers temperance movements, the history of illicit substances like "white lightning," and contemporary issues such as marijuana legalization and the opioid crisis.

Overall, this chapter provides a detailed examination of political geography, offering insights into how geographic factors shape political behaviors, structures, and conflicts.

Definition: Political Geography Key Definitions

Key Definitions

1. **Political Geography**: The study of the spatial distribution of political processes and how they are affected by geographic factors.
2. **Military Alliances**: Agreements between countries to provide mutual support in case of conflict, such as NATO.
3. **Terrorism**: The use of violence and intimidation, especially against civilians, to pursue political aims.
4. **Economic Alliances**: Partnerships between countries to promote economic cooperation and trade, such as the European Union (EU) and NAFTA.
5. **Boundaries**: Dividing lines between territories, states, or nations, often sources of disputes.
6. **Boundary Disputes**: Conflicts that arise over the location, size, and influence of geographic boundaries.
7. **Federalism**: A system of government in which power is divided between a central authority and constituent political units, such as states in the US.
8. **Separatist Movements**: Political movements that seek to break away from a larger political entity to form an independent state.
9. **Self-Determination**: The right of a people to decide their own political status and pursue their economic, social, and cultural development.
10. **Constructed Identities**: Social identities shaped by historical, cultural, and political contexts.
11. **Political Cultures**: Distinctive sets of political values and practices shared by groups within a society.
12. **Electoral Politics**: The processes and strategies involved in electing representatives to government positions.
13. **Boundary Drawing**: The process of defining electoral district boundaries.
14. **Gerrymandering**: The manipulation of electoral boundaries to favor one party or class.
15. **Electoral Cartography**: The creation and study of maps that represent electoral data and political boundaries.

16. **Political Landscapes**: The visible imprint of political processes on the physical landscape, including monuments, buildings, and land use.
17. **Crime and Punishment**: The study of legal and illegal behaviors and the societal responses to them.
18. **Spatial Patterns of Crime**: The distribution of criminal activities across different geographic areas.
19. **Crime Mapping and Analysis**: The use of geographic information systems (GIS) to analyze and visualize crime data.
20. **Social Disorganization Theory**: A theory that attributes increases in crime and deviance to the breakdown of community relationships and social institutions.
21. **Broken Windows Theory**: The idea that visible signs of disorder and neglect create an environment that encourages further crime and anti-social behavior.
22. **Zero Tolerance Policing**: A strict enforcement approach to minor crimes and infractions in an effort to prevent more serious crimes.
23. **Temperance Movements**: Social movements that advocate for the reduction or prohibition of alcohol consumption.
24. **White Lightning**: A colloquial term for illegally produced high-proof distilled spirits, also known as moonshine.
25. **Marijuana and Medical Marijuana**: The use of cannabis for recreational or medicinal purposes, with varying legal statuses across regions.
26. **Opioid Crisis**: The widespread abuse of and addiction to opioid medications, leading to significant public health challenges.

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OER (2 of 2): Introduction to human Geography A Disciplinary Approach 3rd Edition by Graves. Published California State University Northridge Department of Geography https://sites.google.com/site/gravesgeography/introduction-to-human-geography

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10: URBANIZATION

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10.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

Learning Objectives

- **Learning Objectives for Chapter on Urbanization**
- **Understand Human Settlements**: Analyze the evolution and characteristics of human settlements, focusing on how historical and developmental processes shape urban life.
- **Define Urban Areas**: Identify and apply the criteria used to define urban areas globally, including population density, land use, and the incorporation status.
- **Examine Urbanization Trends**: Evaluate the technological, economic, and social changes driving urbanization, and distinguish between the urbanization processes in developed and developing regions.
- **Explore Urban Patterns**: Investigate the spatial patterns and structures of cities, including the phenomena of overurbanization and the contrast between luxury housing and informal settlements.
- **Analyze Economies of Agglomeration**: Explain the concept of economies of agglomeration and its impact on urban growth, highlighting the benefits of spatial clustering for businesses, services, and infrastructure.
- **Assess Economic and Organic Models**: Compare and contrast different models of urbanization, such as economic and organic models, and their implications for urban planning and development.
- **Understand the City as a Place**: Recognize the multifaceted role of cities as hubs of economic, cultural, and social activities, and their significance in contemporary societies.
- **Explore Industry and Trade in Urban Areas**: Assess the role of industry and trade in shaping urban areas, considering how economic activities influence urban development and patterns.
- **Evaluate Regional Urban Variations**: Examine regional variations in urbanization, considering how local needs, resources, and historical contexts contribute to diverse urban forms and functions.
- **Analyze the Impact of Urbanization on Society**: Investigate the social implications of urbanization, including issues of infrastructure development, housing, and the quality of urban life.

Chapter 10: Urbanization

Human Settlements

Introduction to Urban Areas

Urbanization is a significant phenomenon in modern geography, with over 54% of the world's population now residing in urban areas. Understanding the evolution of cities is crucial for grasping the complexities of contemporary societies. Cities function as hubs of economic, cultural, and social activities, making them central to modern living. Each city, while unique in its local needs and resources, shares common historical and developmental processes that shape urban life.

Defining Cities

Defining a city varies globally, with different criteria used to determine what constitutes an urban area. Historically, the US Census defined urban areas based on incorporation status and population size. However, this method had limitations, leading to a more comprehensive approach that combines population density and land use criteria. An area is now considered urban if it has a minimum density of 1,000 people per square mile and includes non-residential urban land uses. This approach helps create contiguous urban regions, encompassing suburbs and nearby urbanized areas.

Urbanization Trends

Urbanization is driven by technological, economic, and social changes. Historical advancements such as the steam engine, railroads, and the internet have significantly influenced urban growth. In developed regions, urbanization often results from economic growth, leading to the decentralization of residential, commercial, and industrial land uses. Conversely, in developing regions, urbanization is frequently driven by demographic growth rather than economic development, resulting in overurbanization. This phenomenon leads to stark contrasts between luxury housing and informal settlements, with population growth outpacing the development of urban infrastructure.

Economies of Agglomeration

Cities thrive due to economies of agglomeration, where the spatial clustering of activities reduces costs and increases efficiency. The proximity of businesses, services, and infrastructure in urban areas leads to significant time and cost savings, making cities convenient places to live, work, and play. This principle explains why nearly 80% of Americans live in urban areas, with states like California having even higher urban populations.



Figure | Five Hearths of Urbanization Author | User “Canuckguy” and Corey Parson Source | Wikimedia Commons License | CC BY SA 4.0

Urban Origins

The earliest towns and cities developed independently in various regions of the world, known as hearth areas. These regions experienced the first agricultural revolution, transitioning from hunting and gathering to agricultural food production. The five primary hearth areas include Mesopotamia and Egypt (both part of the Fertile Crescent), the Indus Valley, Northern China, and Mesoamerica. These regions laid the foundations for urbanization through the development of large, fortified city-states and complex urban systems.

- **Mesopotamia and Egypt**: Around 3500 B.C., Mesopotamia, located between the Tigris and Euphrates rivers, saw the growth of significant agricultural villages that evolved into large city-states like Ur and Babylon. Egypt's urbanization began around 3000 B.C., with cities such as Memphis and Thebes developing along the Nile Valley.
- **Indus Valley**: By 2500 B.C., large urban settlements such as Mohenjo-Daro emerged in modern-day Pakistan, supported by fertile soils and extensive irrigation systems.
- **Northern China**: Around 1800 B.C., urbanization began in the fertile plains of the Huang He River (Yellow River), leading to the development of significant urban centers.
- **Mesoamerica**: Urbanization occurred around 100 B.C. with civilizations like the Zapotec and Mayan in Mexico, and later, the Inca Empire in Andean America around A.D. 800. Teotihuacan, near modern Mexico City, reached its height between A.D. 300 and 700 with approximately 200,000 inhabitants.



Figure | Fertile Crescent Author | User “NormanEinstein” Source | Wikimedia Commons License | CC BY SA 3.0



Figure | Teotihuacan, Mexico Author | User “BrCG2007” Source | Wikimedia Commons License | Public Domain

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10.2: The Spread of Urbanization

The Spread of Urbanization

Urban ideas eventually spread from the Fertile Crescent to the Mediterranean and Europe. The Greeks introduced the urban system around 800 B.C., founding cities like Athens, Sparta, and Corinth. The Romans further extended urbanization across southern Europe with impressive feats of civil engineering, creating a network of towns connected by roads and centered on political and commercial hubs.

- **Greek Urban System**: Greek cities were characterized by a central acropolis, surrounded by agora suburbs and a defensive wall. Athens, the largest Greek city, had around 150,000 inhabitants.
- **Roman Urban System**: Roman cities were based on a grid system with a central forum for political and commercial activities. By A.D. 100, Rome had reached approximately one million inhabitants. Roman urban systems included paved streets, piped water, sewage systems, and grand public buildings.



Figure | Athens, Greece, Acropolis Author | Uswer “Jebulon” Source | Wikimedia Commons License | CC 0



Figure | Greek city-states in the Mediterranean Author | User “Dipa1965” Source | Wikimedia Commons License | CC BY SA 4.0

Urban areas are dynamic and complex, shaped by historical developments and contemporary global processes. Understanding the evolution, functions, and implications of cities is essential for comprehending modern urban life. As urbanization continues to grow, cities will remain pivotal in shaping the cultural, economic, and social landscapes of societies worldwide.

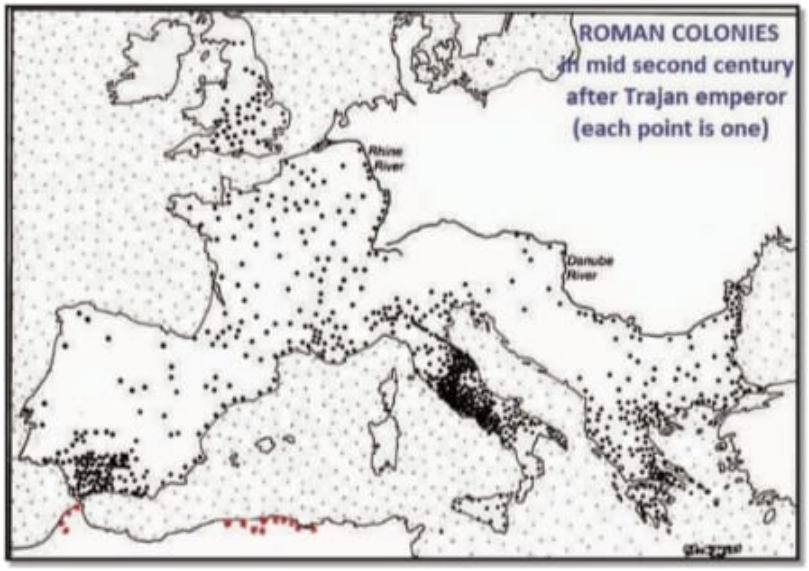


Figure | Roman Empire and its Colonies Author | User “Cresthaven” Source | Wikimedia Commons License | CC BY SA 4.0



Figure | Colosseum in Rome, Italy Author | User “Diliff” Source | Wikimedia Commons License | CC BY SA 2.5

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10.3: Dark Ages

Dark Ages

Although urban life continued to flourish in some parts of the world (Middle East, North and sub-Saharan Africa), Western Europe recorded a decline in urbanization after the collapse of the Roman Empire in the fifth century. During this early medieval period, A.D. 476-1000, also known as the Dark Ages, feudalism was a rurally oriented form of economic and social organization. Yet, under Muslim influence in Spain or under Byzantine control, urban life was still flourishing. As Rome was falling into decline, Constantine the Great moved the capital of the Roman Empire to Byzantium, renaming the city Constantinople (current Istanbul, Turkey). With its strategic location for trade, between Europe and Asia, Constantinople became the world's largest city, maintaining this status for most of the next 1000 years (Figure 12.16).



Figure | Byzantine Empire Author | User "Tataryn" Source | Wikimedia Commons License | CC BY SA 3.0

Most European regions, however, did have some small towns, most of which were either ecclesiastical or university centers (Cambridge, England and Chartres, France), defensive strongholds (Rasnov, Romania), gateway towns (Bellinzona, Switzerland), or administrative centers (Cologne, Germany). The most important cities at the end of the first millennium were the seats of the world-empires/ kingdoms: the Islamic caliphates, the Byzantine Empire, the Chinese Empire, and Indian kingdoms.

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10.4: Urban Revival in Europe

Urban Revival in Europe

From the 11th century onward, a more extensive money economy developed. The emerging regional specializations and trading patterns provided the foundations for a new phase of urbanization based on merchant capitalism. By 1400, long distance trading was well established based not only on luxury goods but also on metals, timber, and a variety of agricultural goods. At that time, Europe had about 3000 cities, most of them very small. Paris, with about 275,000 people, was the dominant European city. Besides Constantinople (Byzantium) and Cordoba (Spain), only cities from northern Italy (Milan, Florence), and Bruges (Belgium) had more than 50,000 inhabitants.

Between the 14th and 18th centuries, fundamental changes occurred that transformed not only the cities and urban systems of Europe but also the entire world economy. Merchant capitalism increased in scale and the Protestant Reformation and scientific revolution of the Renaissance stimulated economic and social reorganization. Overseas colonization allowed Europeans to shape the world's economies and societies. Spanish and Portuguese colonists were the first to extend the European urban system to the world's peripheral regions. Between 1520 and 1580 Spanish colonists established the basis of a Latin American urban system. Centralization of political power and the formation of national states during the Renaissance determined the development of more integrated national urban systems.

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10.5: Industrial Revolution and Urbanization

Industrial Revolution and Urbanization

Although the urbanization process had already progressed significantly by the 18th century, the Industrial Revolution was a powerful factor accelerating further urbanization, generating new kinds of cities, some of them recording an unprecedented concentration of population. Manchester, for example, was the shock city of European industrialization in the 19th century, growing from a small town of 15,000 inhabitants in 1750 to a world city by 1911 with 2.3 million. Industrialization spread from England to the rest of Europe during the first half of the 19th century and then to different parts of the world. Moreover, followed by successive innovations in transport technology, urbanization increased at a faster pace. The canals, railroads, and steam-powered transportation reoriented urbanization toward the interior of the countries. In North America, the shock city was Chicago, which grew from 4,200 inhabitants in 1837 to 3.3 million in 1930. Its growth as an industrial city followed especially the arrival of the railroads, which made the city a major transportation hub. In the 20th century, the new innovations significantly helped urban development.

By the 19th century, urbanization had become an important dimension of the world-system. The higher wages and greater opportunities in the cities (industry, services) transformed them into a significant pull factor, attracting a massive influx of rural workers. Consequently, the percentage of people living in cities increased from 3 percent in 1800 to 54 percent in 2017.3 In developed countries, 78 percent live in urban areas, compared with 49 percent in developing countries, reflecting the region's and/or the country's level of development.

City-Size Distribution

Most developed countries have a higher percentage of urban people, but developing countries have more of the very large urban settlements (Table 1, Figure 12.17). In 1950, out of the world's 30 largest metropolitan areas, the first three metropolitan areas were in developed countries: New York (U.S.), Tokyo (Japan), and London (UK), two of which (New York and Tokyo) had more than 10 million inhabitants. After 30 years, in 1980, a significant change was recorded. Although metro New York increased from 12.3 million to 15.6 million, Tokyo, with 28.5 million inhabitants, became the largest metropolitan area in the world, a position which the city still maintains. In addition, except for Osaka, the second metropolitan area from Japan, two large metropolitan areas in developing countries were added, Mexico City (Mexico) and Sao Paulo (Brazil). The number of large metropolitan areas continued to increase after 2010, adding more developing countries such as India (Delhi and Mumbai/Bombay), China (Shanghai and Beijing), Bangladesh (Dhaka), and Pakistan (Karachi) from Asia; and Egypt (Cairo), Nigeria (Lagos), and Democratic Republic of the Congo (Kinshasa) from Africa. Each of these metropolitan areas is expected to have over 20 million inhabitants after 2020, adding Delhi and Shanghai to the largest metropolitan areas with over 30 million inhabitants. In the United States, New York-Newark is the largest metropolitan area, in which the population was constantly increasing from 12.3 million in 1950 to 15.6 million in 1980 and 18.3 million in 2010, having the potential to reach 20 million in 2030. Yet, unlike the developing countries, characterized by a very fast urban growth rate, the developed countries had recorded a moderate urban growth rate.

	1950	1980	2010	2020	2025	2030
World	New York-12.3 Tokyo-11.2 London-8.3	Tokyo-28.5 Osaka-17.0 New York-15.6 Mexico City-13.3 Sao Paulo-12.0	Tokyo-36.8 Delhi-21.9 Mexico City-20.1 Shanghai-19.9 Sao Paulo-19.6 Osaka-19.4 Bombay-19.4 New York-Newark-18.3 Cairo-16.9 Beijing-16.1	Tokyo-38.3 Delhi-29.3 Shanghai-27.1 Beijing-24.2 Bombay-22.8 Sao Paulo-22.1 Mexico City-21.8 Dhaka-20.9 Cairo-20.5 Osaka-20.5	Tokyo-37.8 Delhi-32.7 Shanghai-29.4 Beijing-26.4 Bombay-25.2 Dhaka-24.3 Mexico City-22.92 Sao Paulo-22.90 Cairo-22.4 Karachi-22.01 Osaka-20.3 Lagos-20.03	Tokyo-37.19 Delhi-36.06 Shanghai-30.7 Bombay-27.8 Beijing-27.7 Dhaka-27.3 Karachi-24.8 Cairo-24.5 Lagos-24.2 Mexico City-23.8 Sao Paulo-23.4 Kinshasa-20.00
United States	New York-Newark-12.3 Chicago-5.0 Los Angeles-Long Beach-Santa Ana 4.0 Philadelphia 3.1 Detroit 2.7 Boston 2.5 San Francisco-Oakland-1.8	New York-Newark-15.6 Los Angeles-Long Beach-Santa Ana-9.5 Chicago-7.2 Philadelphia-4.5	New York-Newark-18.3 Los Angeles-Long Beach-Santa Ana-12.1	New York-Newark-18.7 Los Angeles-Long Beach-Santa Ana-12.4	New York-Newark-19.3 Los Angeles-Long Beach-Santa Ana-12.8	New York-Newark-19.89 Los Angeles-Long Beach-Santa Ana-13.26

Table | The World's 30 Largest Metropolitan Areas, Ranked by Population Size4 1950, 1980, 2010, 2020, 2025, 2030 (in millions)

Summary:							
Year	1 - 5 mil	5 - 10 mil	10 - 15 mil	15 - 20 mil	20 - 25 mil	25 - 30 mil	> 30 mil
1950	22	6	2	-	-	-	-
1980	6	19	2	2	-	1	-
2010	-	7	13	7	2	-	1
2020	-	-	12	8	7	2	1
2025	-	-	10	8	7	3	2
2030	-	-	10	8	6	3	3

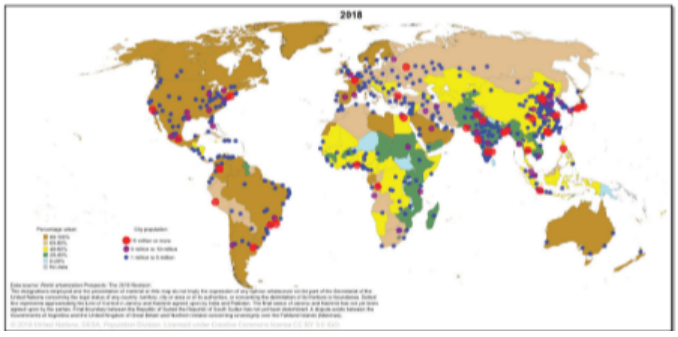


Figure | Percentage Urban and Urban Agglomerations Author | United Nations, DESA, Population Division Source | United Nations Population Division License | CC BY 3.0 IGO

The relationship between the size of cities and their rank within an urban system is known as rank-size rule, describing a regular pattern in which the nth-largest city in a country or region is 1/n the size of the largest city. According to the rank-size rule, the second-largest city is one-half the size of the largest, the third-largest city is one-third the size of the largest city, and so on. In the United States, the distribution of settlements closely follows the rank-size rule, but in other countries, the population of the largest city is disproportionately large in relation to the second- and third-largest city in that urban system. These cities are called primate cities (Buenos Aires, for example, is 10 times larger than Rosario, the second largest city in Argentina). Yet, cities do not necessarily have to be primate in order to be functionally dominant (economic, political, cultural) within their urban system. The functional dominance of the city is called centrality. Moreover, some of the largest metropolises, closely integrated within the global economic system and playing key roles beyond their own national boundaries, qualify as world cities. Today, because of the importance of their financial markets and associated business services, London, New York, and Tokyo dominate Europe, the Americas, and Asia, respectively

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10.6: Urban Patterns

Urban Patterns

The contemporary North American scene dramatically displays how its population has refashioned the settlement landscape to meet the needs of a modern post industrial society. In North American cities, a city's center, commonly called downtown, has historically been the nucleus of commercial and services land use.

It is also known as the central business district (CBD), usually being one of the oldest districts in a city and the nodal point of transportation routes. The CBD gives visual expression to the growth and dynamic of the industrial city, becoming a symbol of progress, modernity, and affluence. It contains the densest and tallest nonresidential buildings and its accessibility attracts a diversity of services.

Urban decentralization also reconfigured land-use patterns in the city, producing today's metropolitan areas. If during the first half of the 20th century the concentric zone model was idealized, in which urban land is organized in rings around the CBD, today's urban model highlights new suburban growth characterized by a mix of peripheral retailing, industrial areas, office complexes, and entertainment facilities called "edge cities." In addition, the sector and multiple nuclei (multiple growth points) models of urban structure were developed to help explain where different socio-economic classes tend to live in an urban area (Figures 12.19, 12.20, and 12.21). All models show new residential districts added beyond the CBD as the city expanded, with higher-income groups seeking more desirable, peripheral locations.

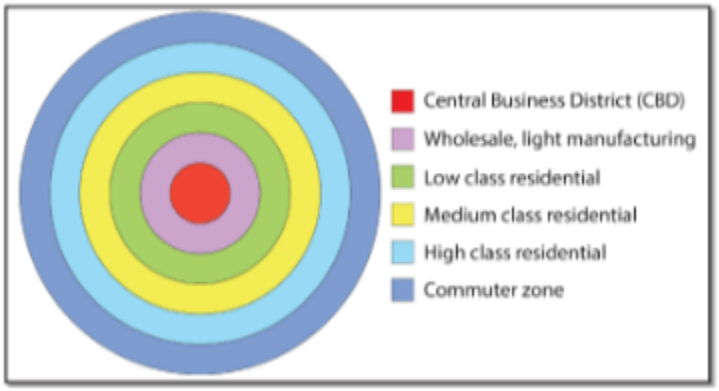


Figure | Concentric-Ring Theory5 Author | Corey Parson Source | Original Work License | CC BY SA 4.0

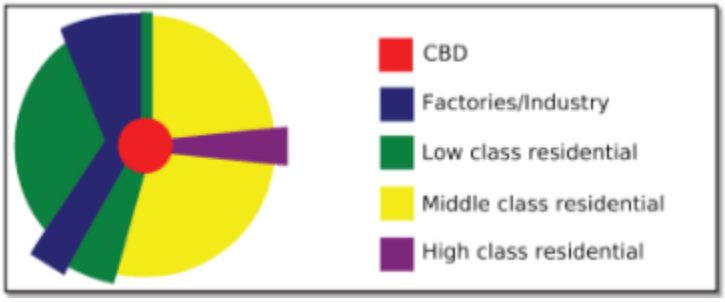


Figure | Sector Theory Author | User "Cieran 91" Source | Wikimedia Commons License | Public Domain

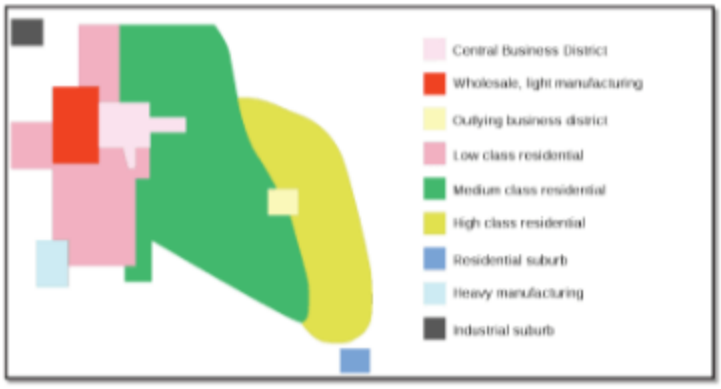


Figure | Multiple-Nuclei Theory Author | User “Cieran 91” Source | Wikimedia Commons License | Public Domain

Metropolitan clusters produce uneven patterns of settlement across North America. Eleven urban agglomerations, also known as megalopolises, exist in the United States and Canada, 10 of them being located in the United States (Figure 12.22). Boston–Washington Corridor, or BosWash, with its roughly 50 million inhabitants, representing 15 percent of the U.S. population, is the most heavily urbanized region of the United States (Figure 12.23). The region, located on less than two percent of the nation’s land area, accounts for 20 percent of the U.S. GDP.

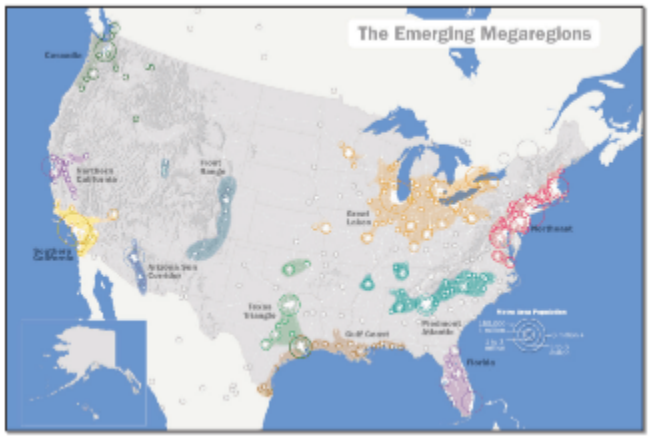


Figure 12.22 | Map of Emerging US Megaregions Author | User “IrvingPINYC” Source | Wikimedia Commons License | CC BY SA 3.0

Like many other cities in the core regions, North American cities are also recognized for their prosperity. Yet, some problems still exist such as fiscal squeeze (less money from taxes), poverty, homelessness, neighborhood decay, and infrastructure needs. By contrast, some inner cities experience the process of gentrification, invaded by higher-income people who work downtown and who are seeking the convenience of less expensive and centrally located houses, larger and with attractive architectural details.

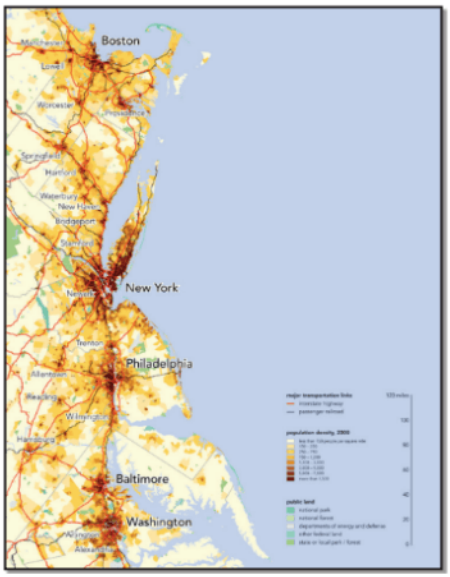


Figure | Megalopolis BosWash Author | Bill Rankin Source | Wikimedia Commons License | CC BY SA 3.0

European Cities

One characteristic of Europe is its high level of urbanization. Even in sparsely settled Northern Europe, over 80 percent of the people live in urban area (Iceland 94 percent)6 . Southern and Eastern Europe are the least urbanized, with an average of 69-70 percent. While widespread urbanization is relatively recent in Europe, dating back only a century or two, the spread of cities into Europe can be associated with the classical Greek and Roman Empires, making many cities in Europe more than 2,000 years old. Among the largest metropolitan areas are Paris (10.9 mill.), London (10.4 mill.), and Madrid (6.1 mill.)7 . European cities, like North American cities, reflect the operation of competitive land markets and they also suffer from similar problems of urban management, infrastructure maintenance, and poverty. Yet, what makes most European cities distinctive in comparison with North American cities is their long history, being the product of several major epochs of urban development. The three zone models (concentric, sector, and multiple nuclei) characterizing North American urban areas are also valid in Europe, but there are significant differences regarding the spatial distribution of social groups, who may not have the same reasons for selecting particular neighborhoods within their cities. The European Central Business Districts (CBDs), for example, are inhabited by more residents than CBDs of the United States, most of them being higher-income people attracted by the opportunities to have access to commercial and cultural facilities, as well as to occupy beautiful old buildings located in some elegant residential districts. As a result, European CBDs are less dominated by business services than American CBDs. CBDs are, in general, very expensive urban areas. Consequently, poor people are more likely to live in outer rings in European cities. Because many of today's most important European cities were founded in the Roman and medieval periods, there are strict rules for preservation of their historic CBDs, such as banning motor vehicles, maintaining low-rise structures, plazas, squares, and narrow streets, and preserving the original architecture, including the former cities' walls. Impressive palaces, cathedrals, churches, monasteries, accompanied by a rich variety of symbolism—memorials and statues—also constitute the legacy of a long and varied history (Figure 12.24).

The diversity of Europe's geography means that there are important variations not only from the Germanic cities to the cities of Mediterranean Europe but also from these areas to the eastern European cities, which experienced over 40 years of communism. State control of land and housing determined the development of a specific pattern of land use, expressed by huge public housing estates and industrial zones. In some cases, the structure of the old cities has been altered, and the new urban development has extended over rural areas (Figure 12.25)



Figure | Braşov, Romania: CBD square and city hall Author | David Stanley Source | Wikimedia Commons License | CC BY 2.0



Figure | Onesti, Romania: Urban-rural interaction Author | Paul Istoan Source | Wikimedia Commons License | CC BY SA 4.0

Europe has overlapping metropolitan areas, the most extensive megalopolis, Blue Banana, also known as the Manchester-Milan Axis, being a discontinuous urban corridor in Western Europe, with a population of around 111 million inhabitants. It stretches approximately from Northwest England across Greater London to the Benelux states and along the German Rhineland, Southern Germany, Alsace in France in the west, and Switzerland to Northern Italy in the south (Figure 12.26). New regions that have been compared to the Blue Banana can be found on the Mediterranean coast between Valencia and Genoa, as part of the Golden Banana or European Sunbelt, and in the north of Germany, where another conurbation lies on the North Sea coast, stretching into Denmark, and from there into southern Scandinavia.

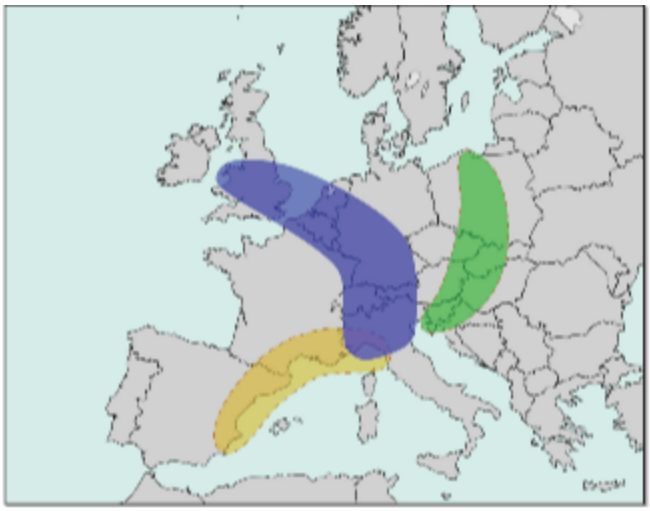


Figure | The Bananas of Europe Author | User “Luan” Source | Wikimedia Commons License | CC BY SA 3.0

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10.7: Sustainable Cities vs. Suburban Sprawl

Sustainable Cities versus Suburban Sprawl

The growth in automobile ownership in the U.S., the new infrastructure systems, and the long-term home financing, as well as the tremendous amount of annexations of territory from surrounding counties, resulted in a dramatic spurt in suburban growth (Figure 12.27). Thus, sprawl is endemic to North American urbanization. Low density and single-family suburban development is a positive aspect of suburbanization. Today, about 50 percent of Americans live in suburbs. Sprawl is less common outside European cities. Yet, the personal and environmental costs of this development are also significant. Noteworthy among these are automobile dependence, increased commute time and cost of gasoline, as well as air pollution and health problems. Even worse, more and more agricultural land is lost in favor of residential developments. Equally important, local governments must spend more money than is collected through taxes to provide services to the suburban areas.

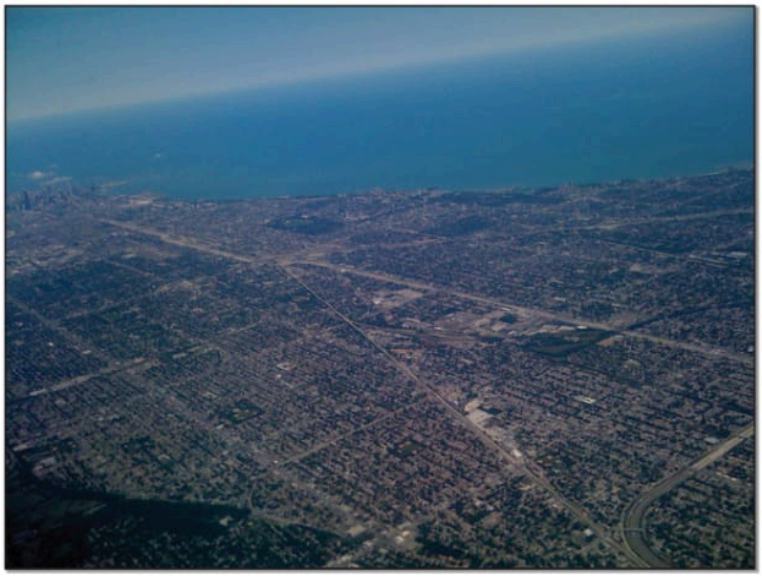


Figure | Suburban sprawl outside of Chicago, Illinois Author | User “Wjmummert” Source | Wikimedia Commons License | Public Domain

Sustainable Cities

The compromise solution is ‘smart growth,’ known as ‘compact city’ in Europe, particularly in the United Kingdom. Smart growth is urban planning that concentrates growth in compact areas, strategically designed with adequate infrastructure and walkable, transit-oriented, bicycle-friendly urban centers. Characteristics of smart development include higher density living spaces, preserving open space, farmland, and natural and cultural resources, providing a variety of transportation choices, making development decisions predictable, fair, and cost-effective, equitably distributing the costs and benefits of development, and encouraging community collaboration in developing decisions. Smart growth and related concepts are not necessarily new, but are a response to car culture and sprawl. Smart growth values long-range, regional considerations of sustainability over a short-term focus. Yet, in practice, the process experiences challenges even from citizens, in some cases expressing their opposition to the local smart growth projects.

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10.8: Industry and Trade Situations- Through Urbanization Lens

Industry and Trade Situations: Through Urbanization Lens

The production of goods (like beer) and the provision of services is surely another reason why cities have appeared in specific locations over the centuries. Many cities evolved from small trading posts or *market towns* where agricultural and craft goods were exchanged by local farmers and/or wandering nomads. The surplus wealth generated through trade required protection and fortifications, so cities with walls may have been built to protect marketplaces and vendors from roaming bandits or invading armies.

Some trace the birth of London England to an ancient trading spot called Kingston upon Thames, a *market town* founded by the Saxons southwest of London's present core. The place-names of many exceptionally old towns in England reveal their genesis as centers of trade - Market Drayton, Market Harborough, Market Deeping, Market Weighton, Chipping Norton, Chipping Ongar, and Chipping Sodbury. (Chipping is a derivation of a Saxon expression for "to buy").

Cities, big and small, have always served market functions for those who live in adjacent *hinterlands*. Some market cities grow much larger than others because they have more advantageous*situation* factors. In other words, more centrally located trading towns tend to grow more than peripheral ones. Central location relative to other competing marketplaces is another example of an advantageous ***situation factor***. Every major US city, including New York, Chicago, Los Angeles, Atlanta, and Houston has some situation factor that improved its competitive advantage in commerce and industry.

Trade Site Locations

Some cities grow large because of specific ***site*** location advantages that favor trade or industry. All cities compete against one another to attract industry, but those with quality *site* factors, like good port facilities and/or varied transportation options, grow larger. All large cities in the US are located where two or more modes of transportation intersect, forming what geographers call a ***break of bulk point***. Breaking bulk occurs when cargo is unloaded from a ship, truck, barge or train. Until the 1970s, unloading (and reloading) freight required a vast number of laborers, and therefore any city that had a busy dock, port, or train station attracted workers. Generally, numerous warehouses and warehouse jobs quickly emerge at break of bulk points. Manufacturing also tends to be attracted to these locations. New York City, Los Angeles, Chicago, New Orleans, and Houston all grew very large because each was well served by multiple transportation modes.

River Barriers

Rivers are important for the growth of cities. Obviously, rivers provide fresh water for drinking (and irrigation), but the effect *navigable* rivers have had on urban growth is hard to overstate. Before the age of trains and highways, rivers were by far the most efficient way to transport heavy cargo, especially over long distances. The mouths of navigable rivers are break of bulk points, so cities often form where rivers meet the sea. Also, where river navigation is interrupted or ceases to be possible also creates break-of-bulk opportunities attracting workers and urban growth.



Figure: Louisville, KY. The McAlpine Locks and Dam represent a massive government investment to bypass the Falls of the Ohio (top center of photo). All river traffic once stopped at this location. Photo: Wikimedia.

Waterfalls were for many years a complete nuisance to river traffic, but they also are responsible for numerous cities. For generations, waterfalls provided a key source of power for industry (see *fall line* cities below), but they also create a special kind of *break of bulk point* called a *head of navigation*. Waterfalls force people to stop, get out of their boats and carry the boat, or just the cargo they carry. Louisville, Kentucky is an excellent example of a head of navigation site because it arose next to The Falls of the Ohio, a place where the Ohio River tumbled over a waterfall forcing all boats to stop and break bulk, again providing jobs at the boat dock, in warehouses and encouraging manufacturing.

Another kind of break-of-bulk point is created where two bodies of water come near each other but do not connect. This situation once forced people to carry boats and/or cargo between two bodies of water in a process called *portage*. Towns evolve at many portage sites. Indiana, New York, Ohio, Wisconsin, Michigan, and Maine all have towns named “Portage”

Chicago

The most important portage site in the United States was once near Chicago. Just southwest of what is now downtown Chicago, near Midway Airport, was a portage where the Chicago River, which flows north into the Lake Michigan nearly intersected the Des Plaines River, which flows south into the Mississippi River system. In 1848, the people of Chicago built a canal connecting America’s two greatest navigable water systems, and by doing so gave Chicago an enormous transportation advantage over all other locations in the Midwest. The Illinois-Michigan Canal made Chicago an especially attractive terminus for multiple railroad companies that sprang up in the 1850s, creating even more break-of-bulk opportunities. It took Chicago just over 30 years to grow from the 100th most populous American city to the number two spot. Today, interstate highways and airline routes continue to converge on Chicago.



Figure Flag of Chicago. The two blue stripes symbolize the two waterways that created America's most strategic portage site.

Source: Wikimedia

Rivers also create *chokepoints* for the movement of goods and people traveling *by land*. Rivers are often difficult to cross in many locations because the water either the water is too deep or the river too wide. In such places, before bridges were common, those trying to cross a river would seek out a *ford*, which is a shallow place to cross the river without a boat. City names like Strat*ford*, Ox*ford,* and Frank*furt* all contain clues that they were once good places to cross a river. These fording sites often were simultaneously ideal locations for bridge construction because engineering a bridge across a shallow part of a wide riveris often easier at a ford. Bridges funnel overland traffic to specific points, and provide another break-of-bulk opportunity, especially if the river is navigable.

Pittsburgh

Sometimes two rivers merge into a single, larger river at a *confluence site*, creating yet another unique opportunity to gain an advantage over competitors. Pittsburgh, Pennsylvania lies at America's best-known confluence site. The steel industry thrived in Pittsburgh for over 100 years thanks in large part to the industrial advantages created by

its location. The production of steel requires iron and coal, both of which are very heavy to transport and were once mined near the rivers (Ohio, Monongahela, and Allegheny) that converge in Pittsburgh. The three rivers do come at a cost. There are nearly 450 bridges in greater Pittsburgh.



Figure : Pittsburgh, PA - Pittsburgh is a classic example of a confluence site where river-born commerce flowing from three directions intersects, creating break-of-bulk opportunities and inviting industry. What industry was synonymous with Pittsburgh for years? Source: Wikimedia

New York City

New York City is the largest city in the United States. It wasn't always that way. It outgrew competitors on the East Coast because it built for itself advantages in transportation. Early on, Boston and Philadelphia were larger, but New York City developed several break of bulk advantages that helped it grow immensely. Key among the factors that helped New York outcompete rivals were its additional transportation options. Like its competitors, it had a port on the Atlantic Ocean. It also had a navigable river, the Hudson, which served many cities upstream, like Albany and Poughkeepsie. Then, in 1825, the Erie Canal opened, effectively connecting Lake Erie to the Hudson River and the Atlantic Oceans. New York City was the one East Coast city where trade to the entire Upper Great Lakes region could flow. The canal created a massive advantage for New York. With the opening of the canal, agricultural products produced in the Midwest could be transported across the Great Lakes through the Erie Canal to New York City, where it was off-loaded from riverboats to ocean-going ships headed for Europe. Simultaneously, goods coming from Europe and destined for any location in the Midwest would be unloaded first at the port in New York City. The additional jobs created at the docks and warehouses attracted other industries and a snowball effect was created so that by the mid-1850s New York City became, for a time, the largest city in the world.



Figure : New York City - The massive George Washington Bridge reminds those coming into New York City of the navigability of the Hudson River and the importance of the river to New York.

Los Angeles

Los Angeles (L.A.) is the great metropolis on the west coast of the United States. The Spanish chose a location near what is now downtown L.A. for a *pueblo* (town) because they found fertile soil and a consistent source of water there alongside a large population of Indians that they hoped would form the core of a vibrant Spanish colony. As the years went by, Los Angeles' only significant advantage over potential competitors in Southern California was its river. Spanish water law declared *all the water in the L.A. River* belonged to the people of Los Angeles. This law prevented other towns from forming either upstream or downstream from the original pueblo. People living along the L.A. River and hoping to use its precious waters were forced by Los Angelenos to become part of L.A.



Figure Los Angeles, CA. 1904. Among the many site location factors accelerating the growth of Los Angeles was the discovery of huge oil deposits in the region, a fact lost on most locals today. Photo: Wikimedia

Los Angeles remained a small town until the Santa Fe/Southern Pacific railroad opened a second transcontinental railroad terminus in L.A. in 1881. This gave Los Angeles a break-of-bulk advantage over other cities in Southern California. Not long

afterward, the local port facilities at San Pedro were upgraded and L.A. began competing with San Francisco for business. The invention of the refrigerated boxcar around 1900 vastly expanded the citrus industry in the region. The discovery of oil in the L.A. basin around the same time also invited a population explosion. Good weather helped encourage migrants to journey westward to take jobs in the petroleum and citrus industries. The same great weather later was critical in attracting both the movie and aeronautical industries in the decades to follow. Water resources though remained a problem. The Los Angeles River was never sufficient to serve the needs of a large city, so a series of canals and pipelines have been constructed over the years to bring fresh water from vast distances into the Los Angeles region. The city's water projects were controversial from the start and managing water resources for a metropolitan region of nearly 20 million is a critical challenge going forward, especially as climate change threatens the Sierra Nevada's snowpack – California's largest reservoir of fresh water.



Figure : Los Angeles, CA. The "cascades" is the last segment in a nearly 400-mile aqueduct bringing water from the Owens Valley to the very dry San Fernando Valley portion of Los Angeles. Photo: Stefanie Joseph

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10.9: Central Place Theory and Urban Morphology

Central Place Theory

In regions where no single location has special *site* location advantages *situation* advantages become very important. This happened on the vast plains of the United States during the 1800s, in places like Kansas where there are few navigable rivers, waterfalls, or ports. In instances like this, *situation* advantages become supremely important and generally a predictable, geometric pattern of cities and towns and villages tends to emerge. This process was more pronounced when transportation was primitive and the *friction of distance* was great, making the outcome of this process visible on the map of many flatland regions of the earth. Geographer Walter Christaller noticed the pattern and developed *Central Place Theory* to explain the processes that produce this pattern of cities, towns, and villages.

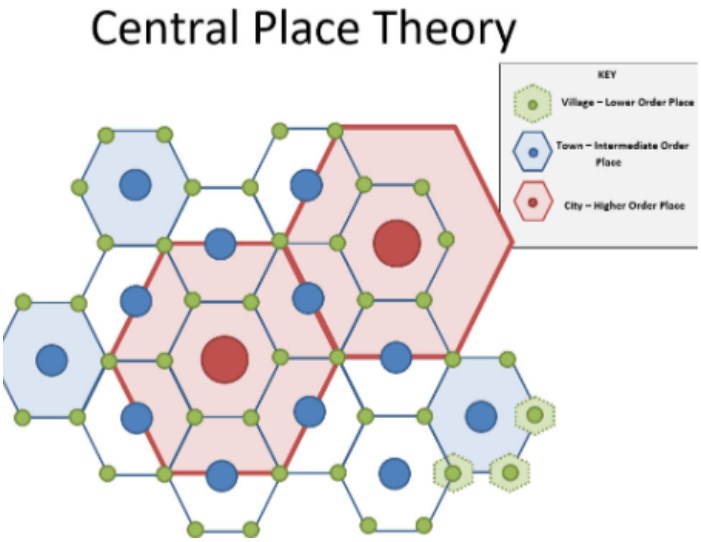


Figure Central Place Theory. This diagram represents an idealized urban hierarchy in which people travel to the closest local market for lower order goods, but must go to a larger town or city for higher orders goods.

According to Christaller, if a group of people diffuses evenly across a plain (as homesteaders did when Kansas opened for settlement), a predictable hierarchy of villages, towns, and cities will emerge. The driving force behind this pattern is the basic need everyone has for goods and services. Naturally, people prefer to travel less to acquire what they need. The maximum distance people will travel for a specific good or service is called the ***range*** of that good or service. A product, like a hammer, has a limited *range* because people will not travel very far to buy hammers. A tractor, because it is an expensive item, has a much greater *range*. The cost of getting to a tractor dealership is small compared to the cost of the tractoritself, so farmers will travel long distances to buy the one they want. Hospital services have even greater ranges. People might travel to the moon if a cure for a deadly disease was available there.

Merchants and service providers also require a minimum number of customers living within a range to stay in business. Christaller called this number the *threshold population*. A major league baseball team has a threshold population of around two million people living within the ***range*** for a major league baseball franchise (the Milwaukee Brewers have the smallest local market at around 2 million people)**.**A Wal-Mart store, on the other hand, has a minimum threshold of about 20,000 people, so they are far more numerous. Starbuck's Coffee shops have a threshold of about 5,000 people, and a range of a few miles, therefore they are numerous.

As customers and merchants living and working interact over many years in a flat region like Kansas, businesses in more centrally located villages will attract more customers because of the convenience of their location. This allows those businesses to grow and thrive. Additional businesses, and customers, are therefore attracted to those villages and over many years, those villages grow into towns or even cities. Less conveniently located villages will not attract customers, nor retain merchants, and they will

not grow. Competition between towns prevents neighboring locations to grow large. As a result, centrally located villages tend to grow into larger cities at the expense of their neighbors. A network of centrally located towns tends to emerge in a geometric pattern, and among those growing towns, a few will grow into large cities.

Mulligan, Gordon F. "Agglomeration and central place theory: a review of the literature."

> *International Regional Science Review* 9.1 (1984): 1- 42.
>
> The largest cities will have businesses and
>
> functions that require large thresholds (like
>
> major league sports teams or highly specialized
>
> boutiques). Merchants in villages and small
>
> towns offer only the most basic goods and
>
> services (e.g., gas stations or convenience stores)

forcing villagers to travel to larger cities to buy higher-order goods and services. Some goods and services will be available in medium-sized cities, often called ***regional service centers***. Some goods and services are only available at the top of the ***urban hierarchy***; the mega-cities of the world. In the United States, a handful of cities (New York, Los Angeles, Chicago, Dallas) may offer exceptionally high order goods, unavailable in other large cities like Cleveland, Seattle or Atlanta.



Figure Map of Lamborghini Automobile Dealerships in the United States. Expensive automobiles have limited thresholds and extensive ranges, therefore only very high order places host such businesses. Source: Lamborghini

Central Place Theory is one of the more compelling and widely applied theories in geography. It's not perfect because it is a model, and many criticisms have been leveled at it, but it can be successfully used to explain a great number of locational tendencies evident on the landscape.

Urban Morphology

You've probably visited several large cities and noticed how differently they are organized. Visits to new cities can be disorienting if you're not used to the layout of another city. The way a city is organized in space is called *urban morphology*, and each city's

layout offers strong clues into the evolutionary trajectory of the city. The morphology of a city is also a very potent force acting upon the cultural, political, and social life of each city.



Figure San Francisco, CA. Public rail transportation has a significant effect on the evolution of cities. The extensive rail system in the Bay Area has played a substantial role in the development of the personality of Bay Area cities like San Francisco.

Consider for example, how the Californians often talk about the radical differences between Los Angeles and San Francisco. The differences are partly the by-product of the migration streams that populated each city generations ago, but profound differences in the basic physical geography of each city have also led to very different urban morphologies. A recursive relationship between each city's urban morphology and its political culture seems to have led to significant differences in the public transportation, housing, culture and politics of San Francisco and Los Angeles.

During the early 20th century a number of geographers, sociologists, and anthropologists trying to understand how cities worked, developed a variety of models to help identify, describe, and explain the various urban morphologies evident in the US and beyond. Many of these models were created by scholars at the University of Chicago, a city that had undergone incredible growth in the previous century.

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10.10: Concentric Ring Model and Other Models

Concentric Ring Model

Ernest Burgess proposed the Concentric Ring Model that envisioned cities arranged in a series of concentric rings emanating outward from a *central business district* (CBD). The CBD is home to comparatively few people, but many businesses. Tall buildings are the key feature of most CBDs. Just outside the CBD is a pair of zones: the “inner city” and the “zone of transition”. In these areas, one can find high population densities because people there tend to live in high-rise apartments or tenements because land values near the CBD would make single-family homes way too expensive. Commercial land uses are also common in the innermost zones, although fewer factories remain in the zone of transition today than was the case when Burgess conceived of this model in 1923. Just beyond the inner city is the zone of working-class housing. Here people often live in single-family houses or duplexes. Houses here tend to be closely packed together and have small yards, but residents are a mix of renters and homeowners. These folks generally work in the nearby factories or in low-paying jobs in the CBD. Beyond the zone of working-class housing are suburbs. Homes out in this zone are larger, with bigger yards and garages. Homeowners are likely to be part of the middle class. Beyond the suburbs are the more distant commuting zones, sometimes called exurbs. Upper-middle-class folks may live in the exurbs in houses on very large lots, with winding driveways. Also at this distance are the “septic tank strips”, with homes for working-class people who value low population densities, and/or “country living”, but who also often suffer longer commutes than their working-class counterparts living in the working-class zone. The *Concentric Ring Model* accurately describes only a few American cities and these are most often found on the flatlands of the Midwest where suburbs grew steadily outward in all directions from the CBD and commuters mostly drive cars. Columbus, Ohio and Indianapolis, Indiana are two examples of cities that generally follow the concentric ring model.

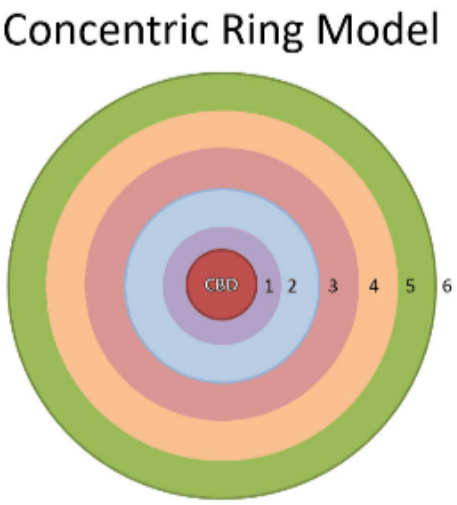


Figure Burgess' Concentric Ring Model. 1 = Inner City, 2 = Zone of Transition, 3 = Working-Class Housing, 4 = Suburbs, 5 = Exurbs (adapted version).

Sector Model

Homer Hoyt, a land economist, proposed an alternative to the concentric ring model he called the *Sector Model*. Hoyt argued that cities generally have wedge-shaped zones cutting across the concentric rings found in the earlier model. In the Sector Model, the CBD remainsin the middle, but stretching away from the CBD, along rail lines and highways, are zones where working-class homes are commonly found flanking industrial corridors. Hoyt’s model accounts for the effect of transportation routes, and even prevailing wind patterns on the location of specific urban land use.

According to this model, in regions of the city flanking significant transportation routes (rail, barge, freight), industrial and

working-class residential corridors will develop. The noise and pollution of these factory zones drive all but the poorest residents away. In these industrial zones, almost every resident is a renter. In Chicago, several of these industrial corridors stretch outward from the CBD along railroad lines and along the Illinois-Michigan industrial canal. Adjacent to the industrial corridors is where lower-middle-class or working-class neighborhoods emerge, where factory workers live in small single-family homes and duplexes that are a mixture of owner-occupied and rental housing. These zones represent the so-called "other side of the tracks", but in reality, these ***disamenity landscapes*** are simply near the industrial districts, where noise, bad smells, and toxic pollution are worst. Such areas are also frequently associated with ***environmental racism***, though ***environmental classism*** may be a more accurate description.

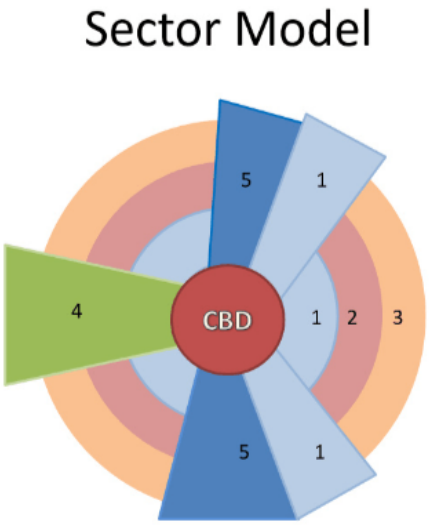


Figure : Hoyt's Sector Model. 1 = working-class housing, 2 = suburban housing, 3 = exurbs, 4 = upper middle-class housing, 5 = industry and lower-class

Hoyt also proposed an elite zone where upper-middle and upper-class residents live, generally in a district flanking a grand *boulevard*. In Chicago, an entire system of boulevards was built in the 1800s. The most elite zone continues to be along Michigan Avenue which leads northward from downtown along Lake Michigan. In many American cities, the elite district is found on the west side of town where prevailing winds *enter* the city. Eastern halves of American cities tend to be downwind from dirty, smelly industrial zones, and therefore more likely to be where poorer people live. Suburban zones and exurbs, much like those evident in the Concentric Ring Model, are also included in the Sector Model. Chicago, Buffalo, Cleveland, and Detroit are cities that seem to best fit the sector model. Each city had a significant waterfront district, as well as important industrial corridors where poor folks lived alongside factories and noisy, smoggy, transportation routes.

Multiple Nuclei Model

Many of the cities that grew rapidly after the popularization of the automobile did so *without* a robust public transit system. Authors Harris and Ullman described this kind of city with the *Multiple Nuclei Model*. The term "nuclei" refers to multiple secondary business districts (the old CBD is the primary nucleus) common in these cities.

Without efficient commuter rail or subway systems, cities like Los Angeles, Phoenix, Dallas and Atlanta evolved very differently from older cities in the Northeast and Midwest. These newly grown cities have a historic CBD, and an inner-city, but those areas tend to be relatively small, and less important to the city as their counterparts in older rail-oriented cities. Instead, in these newer cities, multiple small business districts (nuclei) grew in various parts of these cities. Some of these smaller districts compete with the historic CBD for common downtown businesses like banks, insurance companies, realty and legal affairs (FIRE industries). For example, Los Angeles has smaller business districts in Westwood, in the Wilshire District, Warner Center, Glendale, and Century City.

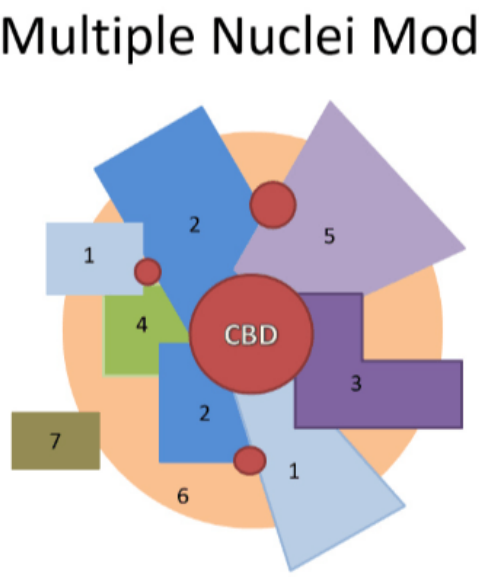


Figure Ulmann & Harris - Multiple Nuclei Model. 1 = industrial, 2 = working class housing, 3= upper middle-class housing, 4 = elite housing, 5 = light industrial& wholesale, 6 = commuter housing, 7 exurban industrial. Note the small red dots as competing nuclei. (adapted)

The multiple nuclei model also features zones common to the other models. Industrial districts in these new cities, unfettered by the need to access rail or water corridors, rely instead on truck freight to receive supplies and to ship products, allowing them to pop up anywhere zoning laws permitted. In the American West, where zoning laws are often less rigid than in the East, the pattern of industrialization can appear nearly random. Residential neighborhoods of varying status also emerged in a nearly random fashion as well, often creating “pockets” of housing for both the rich and poor, among large swaths of lower middle-class housing. The reasons for neighborhoods to develop where they do are similar as they are in the sector model. Amenities attract wealthier folks, transport advantages attract industry and commerce, and disamenity zones are all that poor folks can afford. There is a sort of randomness to multiple nuclei cities, making the *landscape less legible* for those not familiar with the city, unlike concentric ring cities where the layout of the city is generally easier to understand and navigate.

Harris, Chauncy D., and Edward L. Ullman. "The nature of cities." *The Annals of the American Academy of Political and Social Science* 242, no. 1 (1945): 7- 17.

Latin American Model

Geographers Ernest Griffin and Larry Ford recognized that the popular urban models did not fit well in many cities in the developing world. In response, they created one of the more compelling descriptions of cities formerly colonized by Spain – the *Latin American Model*.

The Spanish designed Latin American cities according to rules contained in the Spanish Empire’s *Law of the Indies*. According to these rules, each significant city was to have at its center a large plaza or town common for ceremonial purposes. Generally, a grand boulevard was built,stretching several miles from the central plaza. This *elite spine* served as both a parade route and an opulent promenade. For several blocks outward from the elite spine, housing for the wealthy and powerfulwas constructed.

Ernst Griffin and Larry Ford. A Model of Latin American City Structure.

Geographical Review, Vol. 70, No. 4 (Oct. 1980), pp. 397-422.

The rest of the city was initially left for the poor because the middle class was tiny. Poor people built houses as close to the central plaza as they could. Jobs and market places were there. Over time, the ramshackle houses built by the poor were improved and enlarged. Ford and Griffin called this process *in situ accretion*. As the city’s population grew, young families and in-migrants built still more shacks, adding rings of housing progressively outward from the CBD. At the edges of the city are always the newest residents, often *squatting* on land they do not own.

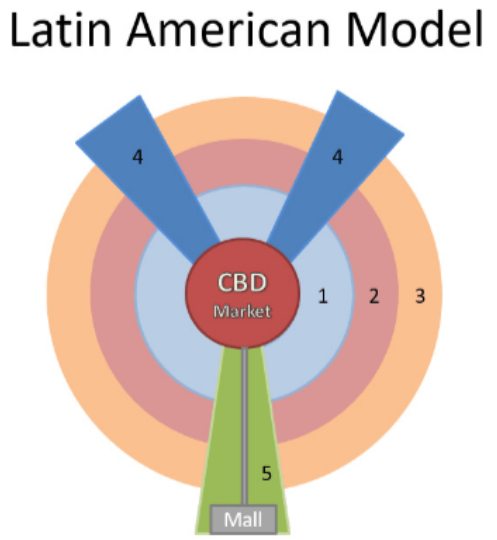


Figure Griffin and Ford's Latin American Model - 1: Zone of Maturity, 2 = Zone of in situ accretion 3 = squatter zone, 4 = disamenity zone, 5 = elite spine and residential district. Note the CBD and Market at site of old plaza, and the mall serving the elite district. (adapted).

The main difference between North American and Latin American cities is where the poor live. In most US cities, the urban poor often lives near the CBD in the inner city. The opposite is true in Latin America where the far suburbs are home to the poorest of the poor. The reason for the reversed pattern lies in the differences in public infrastructure. In many parts of the developing world, transportation and utility networks are woefully inadequate to serve the rapidly growing population. Highways, bus lines, sewers, freshwater, and electrical networks are generally well developed in the *oldest* parts of cities, but in the newest suburbs (or squatter zones), these conveniences are generally absent. Cellular service and electricity are often the earliest public utility to arrive in squatter zones, but it may take dozens of years for governments to build sewers (storm and sanitary), public transit lines or even paved roads. In places like Lima, Peru or Sao Paulo, Brazil, residents of squatter settlements may walk several hours before they even reach the terminus of urban bus lines. It is for these reasons that people in the Latin American middle class do not “trade up” for a house in the suburbs, as is the case in the United States. Over time, governments will build waterlines, sewers, electricity lines and streets out to the squatter zones and residents there will, like their inner-city predecessors, begin the process of improving their homes.

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10.11: City Life

City Life

Where you live or grew up, is an element of your identity. “Where’s your hometown?” is a common question you might hear if you went on vacation or moved away. If you’re from a large city, what side of town, or what neighborhood you come from is another source of identity formation. Exactly what defines a “neighborhood” is open to debate. The US Census Bureau does not define “neighborhood” because they are ***vernacular regions***. Each person has a sense of where neighborhood boundaries are, but those boundaries are largely in the imagination of individuals. Census tracts and ZIP codes sometimes function as proxies for neighborhoods, but they are often arbitrary as well. In some parts of the city, citizens have very specific ideas about neighborhood boundaries. Gangs often use graffiti to mark specific locations to notify others about their opinion on neighborhood boundaries – territories (see Politics Chapter). In some cities, like Los Angeles, the designation of *unofficial* neighborhood boundaries has been the source of angry debates because property values are greatly affected by the simple perceptions of where neighborhood boundaries exist.



Figure : Canoga Park, CA - Gang graffiti marks the edges of neighborhoods as gang members perceive the vernacular region – or neighborhood.

Neighborhoods

Most neighborhoods don’t have organized gangs, but still, people with long-term commitments to homes and neighbors do engage in numerous group behaviors to protect their “turf”, and indirectly, the value of their property. Most of the time, these behaviors are benign – things like keeping weeds out of the yard, ensuring that local authorities enforce zoning laws about signs, junk cars, or residency restrictions. Neighbors may work together to improve local schools, parks, and hospitals. Homeowners may band together to accomplish other goals that might be deemed unsavory. They might want to keep certain businesses, like liquor stores, payday lenders, factories or nightclubs from their neighborhoods. They may even work together to prevent specific individuals, like sex crime offenders or the homeless, from moving in the neighborhood. Because many of these same individuals are less concerned when factories, stores or homeless people come to other neighborhoods, the term “not in my backyard” or “***NIMBY***” was coined to characterize the militant protectionist attitude. Generally, neighborhoods with wealthier people who are politically active, and have long-term residency patterns exhibit *NIMBYism*. Wealthier neighborhoods may erect gates and hire guards to prevent easy access to homes. Some have even created small, gated *towns* to keep undesirables out. Geographer Mike Davis called this process “*the militarization of space*” in his well-received book *City of Quartz*.



Figure Calabasas, CA This wealthy suburb of Los Angeles has multiple gated areas, some of which encompass large recreation areas.

When residents in a neighborhood lack money, political organizational skills, or the motivation to protect themselves from *disamenities*, significant neighborhood degradation is possible. When that degradation affects the health of a local population of an ethnic minority, the term *environmental racism* is sometimes applied to describe the situation. What is *racist* is often hard to discern because cause and effect are not always obvious. Was a neighborhood polluted before minorities moved there, or did polluters move in after the minorities moved in? Did minorities populate a polluted neighborhood because that was all they could afford or were they forced to live there by law or precedent? Poverty is frequently at the root of these issues. Poor people of all ethnicities rarely can afford to live in neighborhoods that have outstanding schools, parks, air quality, etc., and so they are often able to afford to live only in the most dangerous, toxic, degraded neighborhoods.

Davis, Mike. City of Quartz: Excavating the Future in Los Angeles (New Edition). Verso Books, 2006

Neighborhood Life Cycle

How people come to occupy specific neighborhoods is a complex process that evolves over time and involves thousands of individual and institutional decisions. A number of these processes such as *steering*, *blockbusting*, etc. (see Ethnicity chapter) are rooted in systemic ethnic discrimination. However, economic decisions also factor prominently in the lifecycle of a neighborhood. As housing ages, it tends to become less desirable. People with enough money tend to move away and buy newer homes elsewhere. The lower classes move into the older homes, frequently as renters. Often poor people wind up occupying older, multi-family dwellings or apartments. Roofs and pipes leak, heating and cooling systems are often inefficient, neighborhoods are congested, etc. Sometimes, entire neighborhoods are abandoned. This process is known as the neighborhood life cycle. It's very common, however, in the last 50 years or so, some neighborhoods' life cycle is occasionally changed because wealthier people chose to move into older housing – or gentrification.

Map Urban Growth in the World's Largest Cities:

Smithsonian.com

Suburbanization

Suburbs first appeared in the United States in the mid-1800s as trolleys and other types of *light rail* extended beyond the limits of the pre-industrial, pedestrian-oriented cities. Light rail allowed middle-class families to move out beyond the city limits into communities called *streetcar suburbs*. When automobiles became affordable in the 1920s, suburbanization expanded. The Great Depression and World War II slowed suburbanization in the US, but during the 1950s, suburbs exploded on the American Landscape. The rise of suburbs in the post WWII era brought profound changes to American cities. Many families

found themselves able to exchange an old house in the crowded city for a new one with a bigger yard, near new schools, malls, parks, and hospitals. It was the culmination of the American dream for loads of people. The US and many local governments were eager to help people achieve those dreams, and created numerous financial incentives to make suburban dreams inexpensive, but government policies also created multiple unintended consequences.



Figure : Toronto, Canada - A street car alongside an early automobile in 1923. Note the dense housing development created by the public transport, but the car would undermine both the density and the streetcar. Source: Wikimedia.

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10.12: FHA, Redlining and Urban Renewal

FHA

The Federal Housing Administration (FHA), created in 1934 as part of Franklin D. Roosevelt's Depression-Era New Deal, was tasked with encouraging banks to make inexpensive loans to people seeking to buy new homes while ensuring that housing was built up to new safety standards. The FHA was part of a grand scheme to stimulate the housing sector of the economy during the Great Depression while extending federal oversight to the home loan industry. The program worked has worked. Overall homeownership was around 40% at the start of the Great Depression and it has been around 70% in recent years. The biggest jump in homeownership came shortly after World War II after the economy recovered and millions of veterans took advantage of the G.I Bill to help them secure a mortgage. However, the criteria upon which the government judged the desirability of insuring mortgage loans incentivized buying a new home in the suburbs, or rehabilitating old ones in the inner city. Faced with the option of buying a cheaper new home in a new suburban neighborhood or staying in the expensive, crowded inner-city, most people moved to the suburbs – if they could. Since many of those who qualified for loans were white and not in poverty, the FHA and related government programs helped increase the residential segregation of minorities by encouraging white flight from the cities. Minorities who were often poor and regularly prohibited from moving to new suburbs by discriminatory deed restrictions, found themselves stuck in the city, where the FHA's mortgage assistance programs were far less helpful.

1985. *Crabgrass Frontier.* Oxford U. Press

Redlining

Some argue that FHA policies encouraged several discriminatory mortgage and insurance practices, known as redlining. During the Great Depression, the federal government refinanced more than a million mortgages to stem the tide of foreclosures, but not everyone was eligible for this help. Neighborhoods with poor terrain, loads of old houses, or those with an abundance of "foreign-born, negro or lower grade population" were judged to be too risky for the government to help. Such neighborhoods appeared on mortgage risk maps outlined in red, which is where the term "redlining" evolved. For years afterward, banks, insurance companies, and other financial institutions also mapped out where not to do business. Residents living within the boundaries of a "redlined" neighborhood found it difficult to get loans to buy, sell, repair or improve housing. Even individuals with good credit histories and a middle-class income could find it impossible to buy homes in specific neighborhoods. Some couldn't get insurance on what they already owned. If they could, the terms of the loan or the insurance rates were higher than those outside the zone, a practice called reverse redlining. Redlining could be a death sentence to neighborhoods because of the destructive effect the practice had on property values. Most of the people suffering from the ill-effects of redlining are people of color. African Americans appear to have been harmed most often. Because family wealth is often built generationally upon property ownership and passed down generationally, redlining has been a factor in the systemic impoverishment of many minority families. Billions of dollars in property equity have been denied to people of color via redlining since the 1930s.

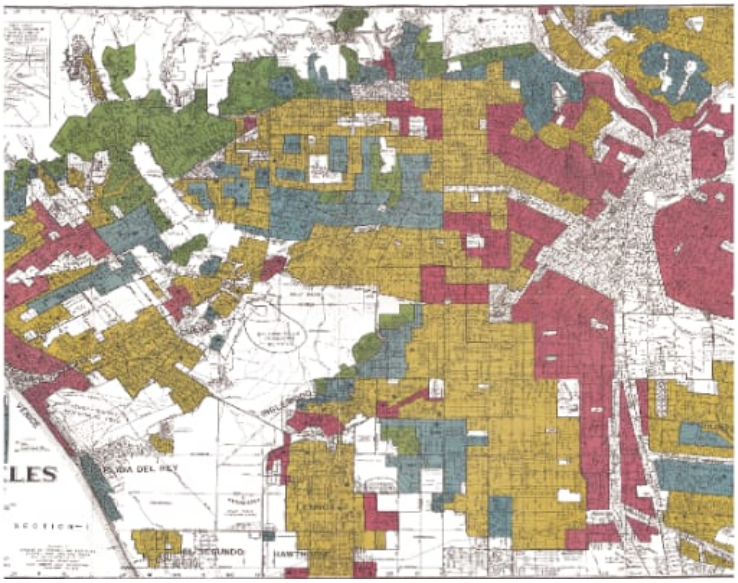


Figure Los Angeles - Government made map of loan desirability from 1933. Consider the lasting effect of this government policy today. Source: Mapping Inequality

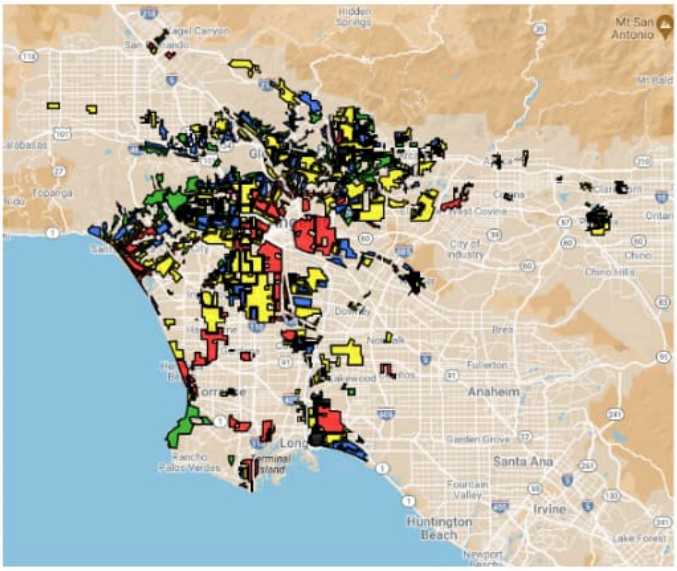


Figure Los Angeles, CA - Interactive Map. Click on the image above to open a Google Map of the map on the left. See how government nearly 100 year ago affects neighborhoods today Source: KQED

In 1968, the *Fair Housing Act* was passed in order to outlaw redlining and other forms of housing discrimination, but additional laws have strengthened that landmark law over the years. Unfortunately, by the 1970s, the damage done by redlining was evident in inner cities across the United States. Many neighborhoods never recovered. Although it's illegal to discriminate against minorities (or anyone really) for non-economic characteristics, there is ample evidence to suggest it still occurs. Studies continue to show that people of color regularly

Kaplan, David H., and Gail G. Sommers.

"An analysis of the relationship between housing foreclosures, lending practices, and neighborhood ecology: Evidence from a distressed county." *The Professional Geographer* 61, no. 1 (2009): 101-120.

Urban Renewal

As age and federal policies tore away at the fabric of America's inner cities, the US government launched an effort known as ***urban renewal*** in an attempt to reinvigorate the urban cores of large cities. The Federal Government launched several programs to provide funds to cities to buy up land in degraded parts of the city, to build public housing projects for the displaced, to bulldoze old neighborhoods, and to incentivize investors to *rebuild* on the vacated land. The idea was partly driven by a mistaken conviction that the *visual* elements of *urban blight*, were largely responsible for the problems of inner cities. Legislators believed that because old parts of cities were ugly, demolishing thousands of buildings would create a *clean slate* upon which new investment would pour in, and new businesses and housing would rise up. The displaced would be housed in new, high-rise housing projects that were clean and efficient. In a few instances, it worked. In some places, new businesses with good-paying jobs replaced abandoned old factories and warehouses. New apartments replaced dilapidated houses. Displaced folks moved to newer, cleaner safer housing elsewhere.



Figure Fargo, ND - These houses, and much of the adjacent neighborhood were demolished in 1959 to make way for urban renewal projects. Most of it became parking lots for businesses or civic buildings.

However, the failures of urban renewal appear to have outnumbered its successes by a wide margin. Frequently, thousands of residents, most of them poor and minority, were displaced from their homes and their neighborhoods only to be herded into overcrowded, poorly built ***public housing projects***. Within a decade, the word "projects" became synonymous with segregation and crime (see the Ethnicity chapter for additional information). Urban redevelopment efforts often turned out to be driven by unscrupulous deals made between land developers and corrupt civic leaders, who funneled millions into projects that were unnecessary, half-completed or doomed to failure. Perhaps worst of all were the numerous cities that found themselves with acre upon acre of empty lots; untaxable wastelands with only sidewalks where neighborhoods once thrived. Some urban renewal neighborhoods were also dissected by new highways or other transportation corridors, effectively rending the social fabric of those communities and cutting off traffic to businesses that remained. Boyle Heights in Los Angeles is a classic example.

In Los Angeles, perhaps the best example of urban renewal gone awry is the Marlton Square redevelopment project. Set within the mostly black Crenshaw District, the neighborhood had gone through a long cycle of decay punctuated by the 1992 Rodney King uprising/riots. Numerous promises of redevelopment came from politicians and a few high-profile sports stars who focused on a massive shopping district just west of Crenshaw Blvd that was once hosted a thriving series of shops and services. Millions of dollars were spent and rumors of corrupt bargains between land developers and local politicians swirled around a series of unsuccessful starts and bankruptcy proceedings. For more than a decade, the property remained empty (Google Streetview – use the timeline tool to see its evolution!). In 2012, the Kaiser foundation, a health care conglomerate, launched a new effort to build something of use to the community on the massive vacant lot. After several decades something is there!

Dan Fitzpatrick.

2000. "The Story of Urban Renewal" *Pittsburgh Post Gazette*

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10.13: Interstate Highway System and Edge Cities

Interstate Highway System

The other important Federal program that sped forward suburbanization after World War II was the *Interstate Highway System*. The construction of a national network of high-speed roadways was originally intended to help the US military convoy troops and equipment rapidly in time of war. It was proven as early as 1919 that the existing highway system was grossly inadequate for the rapid deployment of forces. Additionally, President Eisenhower, who had served as the Supreme Commander of Allied Forces in Europe during World War II, was impressed with how the German Autobahn aided the mobility of the German armies and material. So in 1956, at the urging of Eisenhower, Congress passed the *FederalAid Highway Act,* which dedicated billions of dollars to upgrade America's highway transportation. As soon as stretches of these new, high-speed freeways opened, it became clear that they would have a significant impact on the function of cities and suburbs they connected.



Figure : Los Angeles, CA - This photo of the infamous Sepulveda Pass on Interstate 405 is regularly traversed by nearly a half million cars per day, but when it opened in 1961, it was relatively free of traffic, allowing commuters in the San Fernando Valley quick access to the Los Angeles Basin, thus encouraging massive suburbanization

Most folks consider one-hour the maximum desirable commute time. This was true when people walked to work and also when they ride public transit. When the interstates were first built, they were largely free from traffic congestion. People working in the inner city soon realized they could move *further* from their jobs without increasing their commuting time. Some found their commute *faster* after moving to a distant suburb. Combined with FHA incentives, suburban housing was plentiful, cheap and convenient. As a result, entire towns, oftenwith little to no industry, began to emerge on the edges of larger cities. Suburbs without much commercial activity are sometimes called *commuter towns* or *bedroom communities*. If they are more distant from the city, beyond the suburbs, these areas are known as *exurbs*. The distinctions get blurry because cities and their suburbs seem to sprawl ever outward, gobbling up any undeveloped spaces on the edge of the suburbs. Exurbs become suburbs and bedroom communities grow large and begin attracting industry.

Over the years, as suburban populations exploded and women entered the workforce, the highway networks became overloaded, failing to convey commuters quickly to work in the inner city. Employers began putting offices and factories in the suburbs, much like commuters, drawn to cheap land served well by highways. Eventually, people found they didn't need to commute to the inner city. Some people found themselves living in one suburb and driving to another; those people are known as *lateral commuters*. Eventually, even people living in the *inner city* began finding jobs in the suburbs, commuting in the opposite direction of suburban commuters. Those who commute in the opposite direction of the traditional suburban commuters are called *reverse commuters*. So numerous are reverse commuters in Los Angeles that on some highways (US 101, e.g.) traffic is slower flowing *into* the city in the evening than the traffic going away from the city!

Edge Cities

The industrialization of the suburbs, aided by affordable land, efficient highways, and an ample workforce attracted really exploded in the 1970s. Some suburban regions attracted so many employers that they emerged as significant new commercial nodes, or *nuclei*, competing with historic urban cores for business supremacy (see the multiple nuclei model above). Joel Garreau, a non-geographer who thinks very spatially, called these places *edge cities*. They are almost the opposite of bedroom communities in that edge cities have many *businesses*, but very few *residents*. Garreau defined an edge city as a location that:

1. Has at least 5 million square feet of office space
2. Has at least 600,000 square feet of retail space
3. Has more jobs than bedrooms
4. Is recognized as a vernacular place by locals, but not necessarily by outsiders
5. Did not exist in the 1960s.

Tysons Corner, Virginia is a great example of this new urban form recognized by Garreau. In the 1960s, this location was essentially rural. Today, this "census designated place" remains unincorporated with a population of only around 20,000 people. Still, it has 46 million square feet of office space, two supermassive malls, and functions as the central business hub for much of Northern Virginia. In terms of *business activity*, Tysons Corner ranks among the top 20 cities in the United States. All the locals know exactly where "Tysons" is, but hardly anyone outside of Northern Virginia has even heard of the place. You will pass it if you travel from Dulles Airport to Washington DC.



Figure Tysons Corner, VA – A perfect example of the suburban industrial complex, where the daytime population far exceeds the nighttime, or residential population. Source: Wikipedia

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10.14: Suburban Disfunction, Capital Flight and Gentrification

Suburban Disfunction

Overcrowding in the suburbs has become a problem. Older suburbs, though rarely approaching the mega-density of the inner city core, often come to match (or exceed) the density in the rest of the city proper. “America’s Suburb”, the San Fernando Valley, occupies much of the northern half of Los Angeles. It was sparsely settled prior to World War II (one popular wartime song called it “Cow Country”), yet today, it has several neighborhoods with population densities in excess of 50,000 per square mile. The Los Angeles area highway network, once a model of efficiency, was quickly overburdened by unchecked suburbanization. US Highway 101 which stretches across the southern San Fernando Valley exceeded capacity in 1974, but suburbanization along US 101 continues today with commuters regularly driving on US 101 for 40 miles before even getting to the western edge of the San Fernando Valley. The intersection of US 101 and Interstate 405, in the southeastern corner of the San Fernando Valley consistently ranks as the most congested in the US, at over 350,000 cars per day.

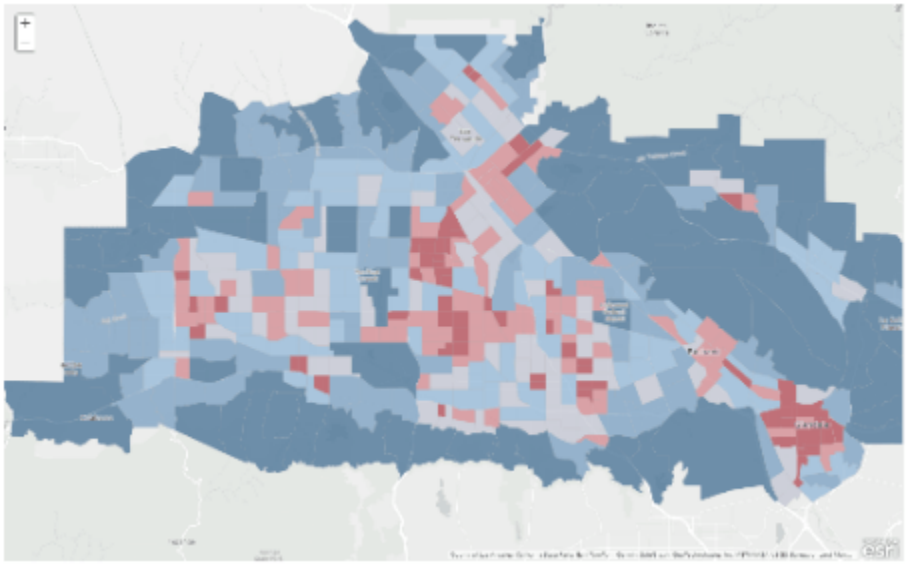


Figure : Map of San Fernando Valley. Click on this map to see an interactive map of America's Suburb where population densities sometimes exceed 50,000 person per square mile in defiance of traditional concepts of suburbs.

Land developers stand to make fortunes from buying up large patches of agricultural or rural lands surrounding cities and turning them into suburban communities. Large land development companies tend to be very well-connected politically and politicians are very responsive to the campaign contributions from developers and unions representing building trades, so there is often minimal resistance to pro growth policies. As a result, poorly planned, sprawling suburbs regularly leapfrog outward from large cities. Occasionally, there’s a backlash from opponents who favor less development, or “smarter” development. These so-called “slow growth” coalitions advocate for ***in-filling*** laws to force developers to develop land adjacent to existing neighborhoods, thereby preventing ***checkerboard development***. Checkerboard development is expensive because the road network, utility lines and public safety infrastructure must be extended over “empty” land to serve the remote residential developments. Taxpayers, most of whom don’t live in far-flung residential areas, eventually pay considerable *external costs* passed on by land developers and the residents of far-flung suburbs. Ironically, the burden for paying for exurban development falls partly on property owners in the *inner city*, diminishing the true value of housing there, and further stimulating growth in the suburbs.



Figure Palm Desert, CA - Checkerboard Development is clearly visible in this aerial photo. Several tracts are disconnected from the other parts of the suburb.

Capital Flight

Almost all neighborhoods suffer through a cycle of decay. Some of America's older suburbs are more than 100 years old now. As houses age, modern families often find the houses too small, in need of frequent maintenance, and out of style. People with enough money move away from these houses. Old houses often become rental properties and rental properties tend to suffer from disinvestment and poor maintenance. The government even encourages disinvestment, perhaps unintentionally, by providing lucrative tax breaks to rental property owners to compensate them for the *depreciation of the value* of their properties. Renters themselves often misuse the housing they occupy or fail to maintain properties they don't own, especially if they plan to move soon. At some point, the value of rental properties fallsto the point that even the minimal costs associated with necessary maintenance and taxes exceed the rent collected. At this point, rental buildings are abandoned, frequently becoming the property of the local city government via tax foreclosure. Abandonment accelerates the collapse of value for neighboring buildings, creating a sort of death spiral of home values. The net result can be ruinous.



Figure : Bronx, NY - President Carter visits an abandoned section of New York City in the mid-1970s. Source: Wikimedia

The geographic movement of investor money called *financial capital* can explain the lifecycle of any neighborhood. Banks and those looking to make money from real estate move investment money to places where the *return on investment* is perceived to be the greatest and financial risk lowest. After World War II, banks, the real-estate community, governments, and individuals

moved most of their investment capital from the inner city to suburbs. Homeowners who could move, and were permitted to do so, naturally followed because they too sought profitable returns on their biggest financial investment. Because supplies of investment money are limited, inner cities got little or no (re)investment capital, and as a result, very quickly became decrepit. Still, not every inner-city fell into disrepair. Some older neighborhoods benefitted from an influx of immigrants, who often lacked ample *financial* capital, nevertheless brought significant *human capital* or *sweat equity* into older neighborhoods. Geographer Mike Davis calls the thousands of immigrant homeowners in Los Angeles "anonymous heroes" because they are willing to invest *sweat equity* fixing up housing in older neighborhoods abandoned both by the banking system and former residents.



Figure Camden, NJ - Row Houses, once home to a thriving community sit mostly abandoned in 2009, a casualty of changing economics and poor government policy. Source: Wikimedia

Gentrification

Occasionally, a neighborhood in an inner-city region is radically redeveloped and renewed in a process known as *gentrification*. The term suggests that the "gentry" are moving to the city from elsewhere, but that suggestion is misleading. Rather, gentrification is a process that often begins with people of lower social status gradually improving a neighborhood through sweat equity until people from higher social status consider it a desirable location and begin moving there. Gentrification *does not* typically involve people exchanging homeownership in the suburbs for residence in an inner-city neighborhood. Instead, gentrification is often driven by people buying their *first* homes in the inner-city, or simply moving from somewhere else within the city to a gentrifying neighborhood.



Figure : Chicago, IL - Gentrified rowhouses line a street in the Pullman district of Chicago. Blocks away, neighbors await/fear gentrification.

There are many theories explaining the process of gentrification, which became noticeable in the United States in the early 1970s. Some theories point to the growth of high paying jobs in the CBD as the US economy shifted away from manufacturing toward high-tech and FIRE industries. Other theories suggest that changes in lifestyle and demographics drove gentrification. These theories suggest that *baby boomers* were prominent early gentrifiers, and they, unlike their parent's generation, often delayed entry into marriage and parenthood. They also got divorced a lot. Therefore, baby boomers spent more years unmarried and enjoyed living closer to nightclubs and other "courting" hotspots, most of which were located downtown rather than in the suburbs.

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10.15: Organic Model and Economic Model

The Organic Model

Sometimes it appears neighborhoods gentrify without significant assistance from the government or the banking industry. In this ***organic model***, gentrification starts with a small group of *bohemians,* (artists, musicians, actors, etc.). Impoverished by their career choices, these "starving artists" seek cheap housing. Bohemians typically embrace cultural diversity, so they are often attracted to minority neighborhoods. Bohemians, like immigrants, also bring *sweat equity* to older neighborhoods because financial capital is often unavailable. Unlike immigrants or poor minorities, their lifestyle choices frequently make bohemians ill-suited, and often unwelcome, in traditional family-oriented suburbs. These facts tend to keep bohemians from considering buying a *starter home* in suburban neighborhoods. Instead, they chose to live in inner-city neighborhoods, where they become long-term residents with strong interests in community improvement and safety.



Figure : Philadelphia, PA - The triangle, often a symbol of gay pride or power was incorporated into an early cell phone store in Philadelphia's gay friendly, gentrified, Society Hill district

People in the LGBTIQ+ community (some of whom are also bohemian) often participate in the organic model as well. Though less likely to be poor than bohemians, LBGTIQ+ persons sometimes find the suburbs less than welcoming places to live. Gay men, for example, built safe enclaves in many large cities during the 1960s and 1970s where they could live in relative peace; largely free from both social scorn and violence directed at them by homophobes and law enforcement (see e.g., the Stonewall Riots). Alongside bohemians, who welcome diversity, the LBGTIQ+ community brings both sweat equity and long-term commitment to improving the quality of life in their neighborhoods. Alongside immigrants, poor people and bohemians, the LGBTIQ+ community helped build unusual neighborhoods, marked by eclectic mixtures of cultural amenities (restaurants, art galleries, theaters, e.g.) and a vibrant nightlife (discos, bars, live music, e.g.). Drawn by the excitement, entertainment and affordability of gentrifying neighborhoods, less bohemian singles and young couples (both straight and gay) move in too. Eventually, real estate speculators and city officials take notice and encourage further development.

Lees, Loretta.

"Gentrification and social mixing: towards an inclusive urban renaissance?" *Urban Studies* 45, no. 12 (2008): 2449-2470.

Economic Model –The Rent Gap Theory

Geographer Neil Smith offered a more strictly economic explanation for gentrification that he called the *Rent Gap Theory*. Rather than crediting bohemians and shifting demographics, Smith argues that the logic of real estate investing is mostly responsible for gentrification. According to Smith's argument, gentrification is sparked when the housing stock in urban neighborhoods deteriorates to a point where the *realized value* of housing (what it costs) falls so far below the *potential value* that investors find risk-reward ratio too attractive to ignore, and they move capital into decrepit neighborhoods in order to turn a profit.

Certainly, there are instances where both individual, corporate and even municipal investors have sought to profit from renovating derelict houses in degraded neighborhoods, but it seems unlikely that economic motives can explain all gentrification. Also, numerous gentrification projects led by corporate real estate concerns (with significant tax incentives from the government) have been failures. Despite careful economic calculations, cultivating a hip, desirable neighborhood requires an element of style that appears to elude some developers.



Figure Los Angeles, CA. LA's decrepit Bank District has been gentrified and is now the "Gallery District". Many single room occupancy dwellings and homeless people have been displaced, but this region of downtown is revitalized.

It's very likely that multiple forces act simultaneously encouraging gentrification. The author of this text advances a theory that TV shows airing in the early 1970s were a contributing factorin creating *demand* for gentrified housing. Attractive, young, endearing characters on TV were often shown living in gentrified housing, which in turn encouraged TV viewers to mimic the urban housing choices made by popular TV characters, and in the process reject both boring suburban options or glass-and-steel high rise apartments.



Figure Downtown Los Angeles - A hipster coffee shop, a common marker of gentrification newly opened next to a Quinceañera dress shop downtown marking the frontier of gentrification, culture, and commerce.

Municipal governments, desperately seeking to rebuild crumbling tax bases, embraced gentrification wholeheartedly. During the 1960s and 70s, so many building owners abandoned decrepit rental properties that by the 1980s, many big-city governments had become the largest landowner in the city. Unscrupulous landlords were known to set fire to degraded buildings to collect insurance prior to abandoning them. Unable to collect any taxes from thousands of buildings, many cities faced serious fiscal challenges by the 1980s. New York City nearly went bankrupt in 1975, forcing severe cuts in public infrastructure projects, school funding and public safety, which in turn prompted more abandonment. Gentrification helped put a stop to the deterioration of many of America's biggest cities.

To encourage urban redevelopment and gentrification, various levels of government created numerous incentive programs to get people to buy and renovate inner-city homes. Tax breaks were common, particularly for corporate investors. One inventive grassroots incentive used by several cities was to sell city-owned houses for one dollar. In return, buyers agreed to live in the house themselves for a period of several years. By forcing buyers to live in the house, homeowners were far more likely to repair and maintain the building. The idea was to offer low-income residents affordable housing and in return, the city could stem the tide of urban decay, and maybe, some modest tax boost over the long-run. In recent years, the program has made a comeback, especially in Rust Belt cities, this time sponsored in part by the federal government's Department of Housing and Urban Development (HUD).

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10.16: Displacement

City officials and their allies in the real estate industry often overlook the downsides to gentrification, and in doing so trample on the rights of the least politically powerful citizens. If done poorly, gentrification forcibly removes poor people from their homes and neighborhoods. Often the displaced are without means of securing viable, alternative housing. Generally, people living in gentrifying neighborhoods are forced out of their homes by increases in rent. This is especially true in places without *rent control ordinances*. Businesses with year-to-year leases on commercial spaces are also sometimes forced out if they cannot pay higher rents, or if the customer base in the neighborhood changes radically.

All too often, gentrification is cast solely in terms of race. Unobservant critics cast gentrification as simply a bunch of white people kicking brown people out of their neighborhood. Certainly, that happens, but it is rarely that simple. Gentrification can beget violence. Many suggest that the well-known Tompkin's Square Park Riot in New York City was a product of tensions between gentrifiers and poorer, longtime residents of the area (some of whom were drug addicts, homeless, vagrants, etc.) who lived nearby or used the park frequently. During the riot, Police brutalized dozens of people, but the violence forced many to reexamine both the means and the ends of gentrification. There is some evidence emerging from new studies that gentrification done well does not result in a statistically significant increase in the displacement of local residents, and may actually improve the economic standing of those long-term residents who manage to stay in gentrifying areas.



Figures : Boyle Heights, California. The EastSide of Los Angeles is perhaps America's most famous Mexican-American neighborhood. It is "threatened" by gentrification. Mom and Pop stores like the Santa Ceclia's (upper right) may give way to newer places catering to wealthier customers, who may not be long-time residents. There is resistance to gentrification in Boyle Heights, but it seems mostly directed toward non-local Anglo-American gentrifiers and less so toward than Latinx gentrifiers.

New Urbanism

Since the 1980s, many cities and private land development corporations have sought to reinvigorate urban cores and some deteriorating suburban areas through the construction of highly engineered urban spaces that feature a robust combination of business and residential amenities. Generally falling under the rubric of *New Urbanism*, such neighborhoods often mimic the dense intermix of spaces for work, play, and residency that characterized cities before the age of the automobile. Mall developers now frequently build retail districts, with housing, parks and night-life districts around and within what would have been a generation ago strictly retail space. Many new urbanist neighborhoods are anchored by a subway or other public transportation node, earning these locations the title, *Transit-Oriented Development*. In Los Angeles, the North Hollywood Arts District is an excellent example of how access to efficient mass transit, like the Red Line subway terminus, can spur the growth of upscale housing, businesses, and nightlife.



Figure : San Diego, CA. This redevelopment project in San Diego's Little Italy District is an excellent example of how efficient public transit (rail) can help stimulate New Urbanism development.

Homelessness aka Unhoused Populations

Homelessness is another major concern for citizens of large cities. More than one half million people are believed to live on the streets or in shelters. In recent years, about one-third of the entire homeless population are families. One-fourth of homeless people were children. In 2019, in Los Angeles County, there were nearly 60,000 homeless people, most living on the street. This figure has climbed by around 20,000 in recent years as rents have skyrocketed. Another 20,000 persons are listed as near homeless or precariously housed, living with friends or acquaintances in short-term arrangements.



Figure : Santa Monica, CA. The possessions of a homeless woman accumulate on this curbside location in Santa Monica, a city known for its large population of homeless and its exceptional tolerance of the downtrodden.

There are multiple reasons why people become homeless. The Los Angeles Homeless Authority estimates that about one-third of the homeless have substance abuse problems, and another third are mentally ill. About a quarter have a physical disability. A disturbing number are veterans of the armed forces or victims of domestic abuse. Economic conditions locally and nationally also have a significant impact on the overall number of homeless, not only because during recessions people lose their jobs and homes, but because the stresses of poverty can worsen mental illness. A vibrant economy can also spur on homelessness when

the price of renting a home or apartment rises beyond people's ability to pay. This has been the case in California and New York for some time.

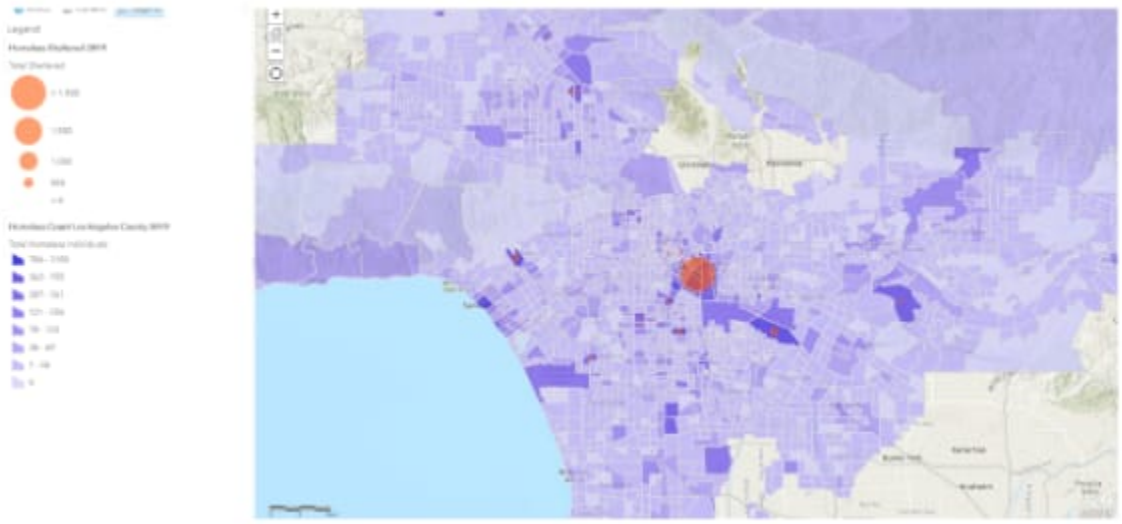


Figure : Map of Los Angeles California by number of homeless people and number of sheltered homeless persons. Interactive map.

The government plays a significant role in the pattern and intensity of homelessness. Ronald Reagan is the politician most associated with the homeless crisis. When Reagan became governor of California the late 1960s, the deinstitutionalization of mental patients was already a state policy. Under his administration, state-run facilities for the care of mentally ill persons were closed and replaced by private board-and care homes. The policy was advanced to protect the rights of the mentally ill who were often detained against their will in government-run facilities that did not match the quality and cost-efficiency of privately run boarding homes. Many private facilities, however, are badly run, profit-driven, located in poor neighborhoods and lack well-trained staff. Under new laws, patients could and did, leave these facilities in large numbers, frequently becoming homeless or incarcerated. Other states followed California's example. By the late 1970s, the federal government passed some legislation to address the growing crisis, but sweeping changes in governmental policy at the federal level during the Regan presidency shelved efforts started by the Carter administration. Drastic cuts to social programs during the 1980s dramatically expanded the number of homeless people who were mentally ill. Funding has never been restored, though the Obama administration did aggressively pursue policies aimed at housing homeless veterans. Almost all of the homeless veterans in the US were housed in numerous communities across the country during the last years of the Obama administration thanks to ample funding of rent vouchers. About 3,000 homeless vets were housed in Los Angeles from 2010-2016, but a booming economy has pushed rent prices beyond what the government was willing to pay, and the rate of homelessness among veterans began to rise. Solutions -Shelters and Housing

Solutions to the crisis of homelessness have been difficult to identify, and even more difficult to fund. Addiction, mental illness, and poverty are clearly the driving forces behind homelessness, and societies have rarely been able, or willing, to adequately deal with those root problems.

Temporary shelters are a common tactic used by officials to address homelessness, but it is only a short-term solution. Shelters are just that – shelters. They generally don't have the capacity or funding to address the causes of homelessness, so they rarely help people get into permanent housings. The other problem with shelters is that, although homeless people come from many neighborhoods, homeless shelters are typically very concentrated in only a few neighborhoods. Many cities have a region known as *Skid Row,* a neighborhood unofficially reserved for the destitute. The expression originated as a reference to Seattle's lumber yard areas where workers used skids (wooden planks) to help them move logs to mills. Today, many of the shelters and services for the homeless are found in and around a city's Skid Row.

Los Angeles's Skid Row is one of the most famous such areas in the United States. It began simply as a place near the railroad station with a concentration of inexpensive hotels in the late 1800s, but over it, time attracted a variety of other businesses that catered to the down and-out; and to a few of the pastimes that cause or exacerbate homelessness: drugs, prostitution, and alcohol. Over the years, city officials in LA have attempted to "clean up" Skid Row, without much success. Protecting the homeless, and ultimately the public, from outbreaks of disease, such as typhus, is occasionally necessary. However, arresting people for

living in abject poverty on public spaces remain illegal, but more importantly – those actions do not address the root causes of homelessness and tend to just make things worse.

Housing First

Most experts agree that some form of transitional housing is best for those who are made homeless by simple economic misfortune, and some form of supportive housing, the kind bundled with social services is perhaps a workable long-term strategy for the addicted and mentally ill homeless. The idea behind transitional housing is to provide some structure to people as they try to get their lives back together. That might include addiction recovery, medical recovery or just economic recovery. Many earlier efforts to provide housing for the homeless often required homeless people to be "clean" – off drugs/alcohol, or undergoing treatment for mental illness *before* receiving help getting housing. In recent years, homeless advocates have found addicts and mentally ill people are far more likely to seek treatment if they are housed first. These findings have been put into action in many cities in the US. In 2016, voters in Los Angeles overwhelmingly approved a bond measure to raise $1.2 billion for up to 10,000 supportive housing units, but by 2020 only a few units have been built. The hold-up seems to be the amount of bureaucratic red-tape associated with getting permits to build transitional housing, the constant threat of NIMBY backlash and the ever-rising cost of building housing. Recent audits of the bond funds for housing found that it will cost over one-half million dollars on average to build one unit of housing, although the City of Los Angeles remains committed to subsidizing the cost by $140,000. This is more than the price of many new condominiums being built and sold in Los Angeles! While it appears that the ever-increasing price of land in Los Angeles is partly responsible for the incredible cost of transitional housing for the homeless, there also appears to be some measure of corruption fueling significant cost overruns.

LANDSCAPES OF Unhoused Populations

Geographers with a developed awareness of landscapes may be able to read the landscape of homelessness, even when homeless people themselves are not present. Some elements are obvious and others not. As you make your way through cities, see if you can spot landscapes designed to address or undermine the needs/wants of a group of people.



"Bum Proof" benches



Tarps and Cardboard Shelters



A long list of “don’ts” provided at public buildings



Abundant security cameras



Cardboard pieces littering sheltered locations, especially after a rain. The odor of urine can be powerful.



Table 1: The Landscape of Homelessness: Photos of Bunker Hill, a district in Downtown Los Angeles, where homelessness is largely invisible during the day, but many landscape features provide clues to the vigilance of officials to keep homeless people out of sight. Photos: Heather McDaniel, Jason Larson, Mark Barker.

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10.17: City as Place

City as Place

In one way, cities are vast, complex machines that produce goods and services, but understanding cities as machines overlooks the very real emotional attachments many people develop for their place of residence. Most people would argue that cities have personalities; qualities that define them as a *place*. Some city people develop a sort of tribal attitude toward their city. This attitude is reflected most visibly in the fan behaviors and emotions people build around sports teams. It's not uncommon for citizens of a city to take great offense at derogatory remarks directed toward "their city", especially if those remarks come from an outsider. The love of a place is called *topophilia*.

Symbolic Cities

How we know what we know about cities is largely bound up in symbolisms of cities provided us through countless media. Often people have impressive storehouses of knowledge, or at least opinions, about specific cities (New York, Paris, Hollywood) even though they may have never even visited. We also have powerful ideas about generic places like "small towns", "the suburbs", "the ghetto", even though we may not have visited these places. Clearly, this knowledge is imperfect and may very well be dangerously inaccurate to both us and those people who live in these places. It's important that we recognize how our knowledge of places has been *constructed* as we seek to understand what purposes these constructions of place serve.

Meinig's Three Landscapes

Geographer Donald Meinig proposed that Americans have particularly strong ideas and emotions about three special, but generic landscapes: The New England Village, Small TownAmerica, and the California Suburb. Scholars who specialize in the theory of knowledge would suggest these are landscapes are "*always already*" known; because the symbolism associated with them is deeply engrained in our collective thoughts, even though we are hard-pressed to identify how we came to understand the symbolism associated with these places



Figure Rockville, IN. Small towns across America's heartland represent a kind of generic place that evoke a specific set of notions about American values and norms.

Meinig's first symbolic landscape is the sleepy *New England Village*, with its white church and cluster of tidy homes surrounded by hardwood forests is strongly evocative of a lifestyle centered around family, hard work, prosperity, Christianity and community. He called its rival from the American Midwest *Main Street USA*. This landscape is found in countless small towns. Main Street USA

symbolizes order, thrift, industry, capitalism, and practicality. It's less cohesive and less religious than the New England Village, and more focused on business and government. Finally, Meinig points to the *California Suburb* as the last of the major urban landscapes deeply embedded in the national consciousness. Suburban California symbolizes the good-life: backyard cookouts with the family and neighbors, a prosperous, healthy lifestyle, centered on family leisure.

So powerful are these images that they often appear as settings for novels, movies, television shows as well as political or product advertising campaigns. If you were a manufacturer of high-quality home furnishings, you may want to use the landscape of New England to help sell a well-built dining room table. Insurance companies like to evoke images of Main Street USA when they want to sign you up for a policy; "like a good neighbor," they might tell you, hoping you'll trust the company, despite the fact that its headquarters is *not* in a small farming town. E.T., the famous movie about a boy who befriends a lost space alien is set in a "typical California suburb". Like the other symbolic landscapes, movie audiences do not need to have the setting explained to them, they *always already* know what that place means. Certainly, there are other symbolic American landscapes. Can you think of any?

Meinig, D. W. (1979).

Symbolic landscapes: Some idealizations of American communities. *The interpretation of ordinary landscapes: Geographical essays*, 164-192.

Sound of the City

Music is an outstanding medium through which we can experience the sense of place associated with cities. Many songs evoke pride in a city. Others serve as reminders of well known locations – especially to those homesick for familiar faces, streets, flavors, smells, and sounds. Cities are often anthropomorphized by songwriters who think of them as friends or even lovers. Anthony Kiedis of the Los Angeles based band, The Red Hot Chili Peppers sang, "Sometimes I feel that my only friend is the city I live in, the City of Angels. Lonely as I am, together we cry..." Although the song is about drug addiction, it serves as a powerful reminder of the emotional investment many people have with their cities.

Wikipedia lists nearly 1,600 songs about Los Angeles alone, so anything more than a cursory listen is impossible. It is interesting to note that rap music lyricists often write prolifically about their cities, indicating the neighborhood/tribal origins of the music discussed earlier in this text. In the table below are a few well-known urban anthems, often heard at (tribal) sporting events to enhance the emotional bonds people have with their cities.

Explore Further With these links!



Sweet Home Chicago

Buddy Guy



Lights (San Francisco) Journey

ADDITIONAL LINKS

Los Angeles Homeless Services Authority, Website with data and maps: https://www.lahsa.org/

Neighborhood Spotlight: Baldwin Hills/Crenshaw finds itself in transition again - LA Times

- **Los Angeles, Houston and the rise of the unreadable city**

Mapping the Hidden Patterns of Cities - CityLab

Predatory Lending: Redlining in Reverse

Big backyards and pools are California's past. Apartment buildings are its future - Los Angeles Times

- **See U.S. racial and ethnic diversity, mapped block by block**

For many US towns and cities, deciding which streets to name after MLK reflects his unfinished work

Crime stats or coffee shops? How to spot the world's most gentrified cities | Cities | The Guardian

- **The Geography of U.S. Inequality - The New York Times**

Opinion | The Racist Roots of a Way to Sell Homes - The New York Times The Most Diverse Cities Are Often

The Most Segregated | FiveThirtyEight How Much Do You Love Your City? | Psychology Today

- **The problem with too much parking - The Washington Post**

Study: Mapping Neighborhood Change in Chicago and L.A. Between 1970 and 2010 - CityLab

How railroads, highways and other man-made lines racially divide America's cities - The Washington Post

The Best and Worst Places to Grow Up: How Your Area Compares - The New York Times

Predatory 'home sale contracts' cost black Chicago homeowners billions in the 1950s and 60s: report - Chicago Sun-Times

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10.18: End of Chapter Synthesis

Urbanization Conclusion

In summary, definitions of the terms rural and/or rurality and delineation of rural from urban areas have been long debated topics in many academic works. Rural space comes into existence in certain areas, typified by a series of factors such as land use (especially for agriculture), population density, agricultural employment, and built areas. Generally, rural areas are considered to be synonymous with more extensive land use activities in agriculture and forestry, low population density, small settlements, and an agrarian way of life. Rural space is divided into territorial entities, with variable scales, covering the local or regional economy, and each unit includes both agricultural and non-agricultural activities. Different countries have varying definitions of rural for statistical and administrative purposes. Although urbanization is a global phenomenon, today about 45.5 percent of the world's population still lives in rural areas.

There are many types of rural settlements. Early villages had to be near a reliable water supply, be defensible, and have sufficient land nearby for cultivation, to name but a few concerns. They also had to adapt to local physical and environmental conditions, conditions that can be identified with a practiced eye. Villages in the Netherlands are linear, crowded on the dikes surrounding land reclaimed from the sea. Circular villages in parts of Africa indicate a need for a safe haven for livestock at night. A careful examination of the rural settlement of a region reveals much about its culture, history and traditions.

Most people can agree that cities are places where large numbers of people live and work, and are hubs of government, commerce, and transportation. But how best to define the geographical limits of a city is a matter of some debate. So far, no standardized international criteria exist for determining the boundaries of a city. Often, different boundary definitions are available for any given city. The "city proper," for example, describes a city according to an administrative boundary, while "urban agglomeration," considers the extent of the built-up area, to delineate the city's boundaries. A third concept of the city, the "metropolitan area," defines its boundaries according to the degree of economic and social interconnectedness of nearby areas.

The United Nations, the most comprehensive source of statistics regarding urbanization, emphasizes the fact that more than one half of the world population now lives in urban areas (54.5 percent in 2016)9 , and virtually all countries of the world are becoming increasingly urbanized. Yet, given the fact that different countries use different definitions, it is difficult to know exactly how urbanized the world has become. Canada and Australia consider urban any settlements of 1,000 inhabitants or more, for example, while a settlement of 2,000 is a significant urban center in Peru. Other countries consider other limits for urban settlements such as 5,000 inhabitants in Romania and 50,000 in Japan. Consequently, in 2016, the percentage of urban population by continent was as follows: North America, 81 percent, the most urbanized continent in the world; Latin America, 80 percent; Europe, 74 percent; Oceania, 70 percent; Asia, 48 percent; and Africa, 41 percent.

Industry has long shaped the development of urban landscapes, influencing the placement of trade sites and the overcoming of natural barriers like rivers. Iconic cities such as Chicago, Pittsburgh, New York, and Los Angeles exemplify the complex interplay between industry and urban growth. Central Place Theory, urban morphology, and models like the Concentric Ring Model, Sector Model, and Multiple Nuclei Model offer frameworks to understand these dynamics. The Latin American Model further highlights regional variations in urban development. As cities evolve, the neighborhood life cycle, suburbanization, and challenges such as redlining and urban renewal become apparent. The Interstate Highway System facilitated the rise of edge cities, while suburban dysfunction and gentrification reflect ongoing economic and social transformations. Amidst these changes, issues like homelessness persist, reminding us of the city's role as both a place of opportunity and disparity. In understanding industry through urbanization, we recognize the city's multifaceted nature and its enduring impact on economic models and the lived experiences of its inhabitants.

Chapter End of Chapter Key Terms

Urban Structures and Models:

- **Annexation:** Legally adding land area to a city.
- **Central Business District (CBD):** The central nucleus of commercial land uses in a city.
- **Centrality:** The functional dominance of cities within an urban system.
- **City:** An urban settlement that has been legally incorporated into an independent, self-governing unit.
- **Concentric Zone Model:** A model of the internal structure of cities in which social groups are spatially arranged in a series of rings.
- **Multiple-Nuclei Model:** A model of the internal structure of cities in which social groups are arranged around a collection of nodes of activities.
- **Sector Model:** A model of the internal structure of cities in which social groups are arranged around a series of sectors, radiating out from the central business district.
- **Zone in Transition:** Area of mixed commercial and residential land uses surrounding the CBD.

Urban and Rural Settlements:

- **Blue Banana:** A discontinuous corridor of urbanization in Western Europe, from North West England to Northern Italy.
- **Boswash:** The United States megalopolis, extending from Boston to Washington D.C.
- **Clustered Rural Settlement:** An agricultural-based community where families live in close proximity with fields surrounding the houses and farm buildings.
- **Dispersed Rural Settlement:** A rural settlement pattern where farmers live on individual farms isolated from neighbors.
- **Edge City:** A nodal concentration of shopping and office space situated on the outer fringes of metropolitan areas, typically near major highway intersections.
- **Gateway City:** Serves as a link between one country or region and others because of its physical situation.
- **Megacity:** A very large city characterized by both primacy and high centrality within its national economy.
- **Megalopolis (Megapolitan Region):** A continuous urban complex (the chain of metropolitan areas) along a specific area (a clustered network of cities).
- **Primate City:** The largest settlement in a country, if it has more than twice as many people as the second-ranking settlement.
- **Shock City:** A city recording surprising and disturbing changes in economic, social, and cultural life in a short period of time.
- **Urban Area:** A dense core of census tracts, densely settled suburbs, and low-density land that links the dense suburbs with the core.
- **Urban Forms:** Physical structure and organization of cities.
- **Urban System:** Interdependent set of urban settlements within a specified region.
- **Urbanism:** Way of life, attitudes, values, and patterns of behavior fostered by urban settings.
- **Urbanization:** Increasing concentration of population into growing metropolitan areas.

Economic and Social Concepts:

- **Dualism:** The juxtaposition in geographic space of the formal and informal sectors of the economy.
- **Fiscal Squeeze:** Increasing limitations on city revenues, combined with increasing demands for expenditure.
- **Fordism:** Principles for mass production based on assembly-line techniques, scientific management, mass consumption based on higher wages, and sophisticated advertising techniques.
- **Informal Sector:** Economic activities that take place beyond official record, not subject to formalized systems of regulation or remuneration.
- **Neo-Fordism:** Economic principles in which the logic of mass production coupled with mass consumption is modified by the addition of more flexible production, distribution, and marketing systems.
- **Underemployment:** Situation in which people work less than full-time even though they would prefer to work more hours.

Historical Periods and Events:

- **Dark Ages:** Early medieval period, A.D. 476-1000.
- **Protestant Reformation:** A schism from the Roman Catholic Church initiated by Martin Luther.

- **Renaissance:** A period in European history, from the 14th to the 17th century, regarded as the cultural bridge between the Middle Ages and modern history.
- **Scientific Revolution:** The emergence of modern science during the early modern period.

Settlement Patterns and Theories:

- **City-State:** A sovereign state that consists of a city and its dependent territories.
- **Clustered Rural Settlement:** An agricultural-based community in which a number of families live in close proximity to each other, with fields surrounding the collection of houses and farm buildings.
- **Dispersed Rural Settlement:** A rural settlement pattern in which farmers live on individual farms isolated from neighbors.
- **Gentrification:** Invasion of older, centrally located, working-class neighborhoods by higher-income households seeking the character and convenience of less expensive and well-located residences.
- **Hearth Areas:** The locations of the five earliest urban civilizations.
- **Iraal:** A traditional African village of huts, typically enclosed.
- **Merchant Capitalism:** The earliest phase in the development of capitalism as an economic and social system.
- **Primacy:** Condition in which the population of the largest city in an urban system is disproportionately large in relation to the second- and third-largest cities.
- **Rank-Size Rule:** Statistical regularity in size distribution of cities and regions.
- **Reurbanization:** Growth of population in metropolitan central cores, following a period of absolute or relative decline in population.
- **Sprawl:** Development of new housing sites at relatively low density and at locations that are not contiguous to the existing built-up area.
- **Suburbanization:** Growth of population along the fringes of large metropolitan areas.
- **World City:** City in which a disproportionate part of the world's most important business is conducted.
- **World-Empire:** Mini systems that have been absorbed into a common political system while retaining their fundamental cultural differences.

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11: GEOGRAPHIES OF ECONOMIES AND INDUSTRIES

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11.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

Learning Objectives

- **Understand** the different economic sectors, including primary, secondary, tertiary, and quaternary sectors.
- **Differentiate** between basic and non-basic industries and their roles in local economies.
- **Describe** the processes and impacts of coal production, labor dynamics, and textile manufacturing.
- **Explain** the principles of free trade and its influence on global economic patterns.
- **Analyze** the factors influencing the location of industries, including transportation, land, and capital availability.
- **Trace** the history of industrialization and its effects on contemporary economic landscapes.

Part 1: ECONOMIC GEOGRAPHY

Introduction:

> ***Economics is the social science focused on the production, distribution, and consumption of goods and services. It includes a wide range of our daily activities, including what we do for a living and how we spend our money. Nearly every economic exchange has a spatial dimension to it, and exchanges occur at multiple spatial scales. Economic geography helps us understand how wealth is created, distributed and moves between individuals, communities and even countries.***

A solid grasp of how the economy works is essential to understanding how almost any aspect of our society works. People who have a robust understanding of the mechanisms of our economy can often understand many issues that involve culture, politics, religion, ethnicity, and dozens of other topics. Economics was no doubt a key factor in your decision to come to college. It probably explains a significant part of why you are in this class or attending this college. If you see the power of money, and the influence of the economic system in the operation of daily life, you might find some value in the political economic ideology of *Marxism*. You may find the Marxist social science methodology known as *Historical Materialism* useful. If you're not careful though, you might be accused of falling into the trap of *economic determinism,* which like some of the other deterministic views introduced elsewhere in this text, can lead to an over-reliance on a single causal variable. If you have been reading this text carefully, you will have recognized that the author is sympathetic to historical materialism as a tool for understanding social and cultural conditions. This chapter, however, focuses on applied economic geography.

Economic Sectors

Nearly everyone must have a job of some sort, but what sort of jobs are available to you is often conditioned by where you live. Regions specialize in different types of industries because almost every city, town or village connected to the global economy needs to sell something of value to outsiders so things unavailable *locally* may be purchased. If a location is unable or unwilling to buy and sell with outsiders, it must, therefore, be able to supply all of its own needs, a condition, or economic policy, known as *autarky*, that requires a region to achieve complete economic self-sufficiency. Since almost no group of people is able, or willing, to live without goods and services from beyond their borders, nearly every group trades local products for imported ones. Locations unable to produce any good or service worthy of trade will be economically weak. Without an ability to engage in trade, locations face extinction.



Figure Kahuku, HI: This sugar mill, now a tourist attraction, is a reminder of how natural resources often spur industrialization.

Basic and Non-Basic Industries

Basic industries are economic activities that attract buyers from beyond the local region. They bring wealth to the local region from some more distant region. These are ***export industries***. A good example of a basic industry is the oil extraction in Saudi Arabia (or Texas). Essentially every local economic system must have at least one basic industry. Often this is called a ***base industry***. Such industries permit a region to be economically independent from other economies. Without a local base industry, people in such a region would move away, or at least seek jobs in a neighboring region. ***Non-basic industries***, on the other hand, are economic activities that do generate sales of goods or services to outsiders. For example, dentist offices are non-basic industries because dentists rarely attract customers from out of town. Most service sector jobs are non-basic in nature because they serve to circulate money within a *local* economy. Non-basic industries are ultimately dependent upon basic industries.

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11.2: Primary Sector

Primary Sector

Traditionally, communities create economies from the ground up. Farming, mining, fishing, logging or other *extractive industries* that pull wealth from the earth are the basis for many local and national economies. Because the natural wealth of the earth is unevenly distributed, some places developed economically much faster than others. In locations where the earth provides opportunities to extract or harvest a particularly valuable commodity, like oil, wealth is likely to accumulate locally. Few economies thrive where the earth provides little.



Figure Bemidji, MN - A man inspects harvested timber before it is processed into lumber for shipment in 1956. Timber sales are a basic industry in the primary sector of the economy Photo: Donald Kress

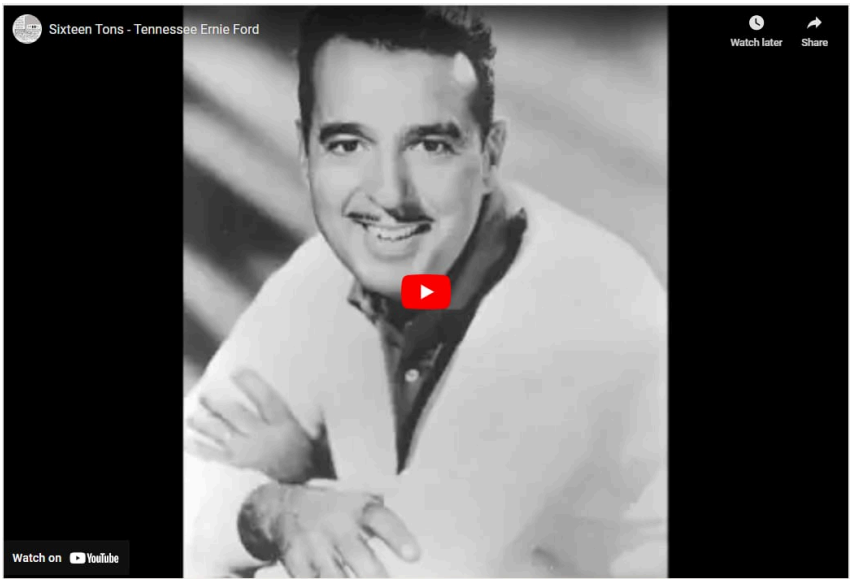
Extractive industries constitute the *primary sector* of the economy. The United States, like most other industrialized countries, is blessed with abundant natural resources upon which to build a prosperous economy. A principal factor in the poverty of many countries around the globe is a paucity of natural resources upon which to build the primary sector. People in many countries just can't coax or pull anything out of the ground which is valuable to outsiders.

A vibrant primary sector often provides quality jobs for locals, and brings in ample money from outside that locals are wise to invest to develop other sectors of the economy.

However, in many locations, an over-reliance on extractive industries creates as many problems as it solves. Pollution, destruction of the natural environment and ultimately, exhaustion of the natural resource, happens all too often. Sometimes, jobs in the primary sector are physical, dangerous and undermine the long-term health of those employed in this sector.

Coal Mining

Coal mining in places like Kentucky and West Virginia is a good example of the risks associated with reliance on a sole extractive industry. Jobs in underground coal mines were especially dangerous for generations of men who braved the mines. The lack of quality career alternatives (like farming) in this region made coal mining one of the more attractive local jobs. Still, workers were recruited from Europe and the Deep South by coal companies to work in the mines of Appalachia. For many Appalachians, coal mining jobs allowed families to stay in the region, where farming was not profitable. However, coal miners often remained poor as a result of coal mining company policies. Miners often made reasonably good wages, but because many mining towns were so geographically *remote*, mine owners built *company towns*, in which the coal company owned nearly all the houses, stores and services. Some companies even paid workers using *company scrip*, rather than US dollars, which forced workers to shop *only* at company-owned stores. Massive strikes during both world wars helped coal miners increase their wages and benefits, but mine safety remains an issue. Tens of thousands were injured or killed in coal mine accidents over the years; many more contracted a variety of long-term health impairments, like black lung (see health chapter).



Sixteen Tons – A song written by the son of Coal Miner about the debt servitude engineered by some coal companies.

https://www.youtube .com/watch?reload=9 &v=zUpTJg2EBpw

Compounding the personal tragedies associated with coal mining is the fact that the vast fortunes made from coal mining largely *escaped* Appalachia. The huge profits from coal went largely to coal company executives and company shareholders living elsewhere. The movement of profits away from the local economy is known as ***multiplier leakage***. It represents the opposite economic effect of a phenomenon known as the *multiplier effect* in which the profit generated by one industry or activity generates additional economic activities. Because coal profits were spent or invested elsewhere, locals had less to invest in socially productive infrastructure, like schools and universities that, in turn, might have paved the way for the creation of additional economic opportunities in the region – a process known as ***economic diversification***. Today, once-thriving mining towns that no longer have coal to sell are often abandoned (or nearly so). In Appalachia, the exhaustion of coal reserves, competition from cheaper alternative energy sources (e.g., natural gas, solar, wind) and environmental regulations discouraging the use of high-sulfur coal have crippled the coal economy of Appalachia in the last few decades. Similar conditions and processes often characterize long-term trends in other extractive industries, including logging, fishing, farming, and quarrying.



Figure : Brookwood, AL - Coal Slag. Waterways near this coal mining operation in Alabama were highly polluted by the industrial offal of the nearby mine.

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11.3: Secondary Sector

Secondary Sector

Under ideal circumstances, the presence of an extractive industry helps attract lucrative manufacturing jobs in the secondary sector of the economy. Secondary sector industries take materials extracted by workers in the primary sector (iron ore, crude oil, corn, fresh fish, etc.) and manufacture them into useful products (iron pipes, gasoline, cornmeal, fish sticks, etc.) Generally, the transformation of natural resources into a finished product is called “manufacturing”, but secondary industries also include things we might not consider “manufacturing”, like oil refining and food processing.

Like extractive industries, manufacturing has great benefits and dire consequences if industrialists and local politicians manage the industries poorly. Because manufacturers convert items with little use value (like logs) into something with greater use value (like a dining room table), manufacturing activity often generates large unit profits or value added per unit. Sometimes, if labor conditions are right, a substantial portion of the profits generated by added value during the manufacturing process returns to workers in the form of high wages. For much of the 20th century, good-paying manufacturing jobs permitted millions of American workers to enjoy a very high quality of life, even though they did not require extensive education or training. Many of those jobs have disappeared; lost to international competition, stockholder greed, and pro-business (anti-union) government policies.

Factors of Production

Land, labor, and capital traditionally constitute the main costs of building and running any business. This is especially evident for manufacturers. Together, these costs are known as the *factors of production*. The cost of each factor is critical to the profitability of businesses, and therefore critical in the decision-making processes that create landscapes of business and industry. The process of picking a location for a factory is known as ***industrial site location*** analysis, and it is a *very* lucrative career path for economic geographers. New factories can cost over a billion dollars, so it’s important not to put them in a location that undermines profitability!

Industrialists would like to hire high skilled workers that work for free, but workers need to be paid, and that pay includes wages and often includes the cost of fringe benefits like health care, retirement, etc. When workers require little training or skill to master the tasks necessary to produce a product, it is known as *low-skill manufacturing*. Companies need mostly low-skill laborers generally seek locations with a low *cost of living* because workers in such locations accept lower wages. If the cost of labor contributes a significant portion of the overall cost of producing a good, and there are no significant restrictions on the movement of that industry, those industries tend to move often in search of cheaper labor. Industries that move easily, without negative consequences to their profitability are called *footloose industries*. The *textile industry* is a good example of a footloose industry. Some industries require highly skilled workers, which raises the cost of labor and reduces the number of possible locations where such industries are located. High skill labor, like computer programming, often spurs local inflation in wages, housing costs, etc. California’s Silicon Valley is an excellent example of this process.



Figure 12-4: Lowell, MA - Textile Mill. Built upon the availability of reliable water power, transport advantages and cheap labor, New England was the first industrial heart of the United States. Wikimedia

Textile Manufacturing

In many parts of the world, the manufacture of clothing (textiles), is an important first step in the process of *industrialization*. Most of the first textile factories in the US were built in New England in order to take advantage of the power generated by numerous waterfalls along the region's *fall line*. Gravity powered water wheels provided power to factories built next to numerous *mill ponds*. These factories employed inexpensive female labor (*mill girls*) drawn from regional farming communities. Textiling endured in New England for several generations, coming eventually to rely on cheap immigrant labor after native born workers fled textile factory jobs for better-paying jobs in other industries. Eventually, waterpower gave way to electrical power, freeing factory owners to move away from *fall line cities*. By the 1900s, factory owners in New England began moving factories to southern cities like Charlotte, North Carolina where land and labor were cheaper. Southern factories also were closer to cotton farms in nearby states, reducing transport costs for raw materials. Unfortunately for textile workers in the southern US, the labor and transport advantages that lured factories to the South, also led them away.

Free Trade and Protectionism

With the passage of the *North American Free Trade Agreement*(NAFTA) in 1994 an estimated 300,000 jobs in the textile/apparel industry were lost, many to Latin America and Asia where wages are much lower. Other low-skill industries moved to Mexico, China and elsewhere greater profits were available for factory owners and shareholders. The cost-benefit analyses that are generated by free trade agreements, like NAFTA, generally focus on calculating the costs associated with job loss among low-skill workers against the reduction in costs for imported goods to consumers. In the case of NAFTA, there were also a few instances of job *creation* in the US, even in some manufacturing sectors. NAFTA brought some manufacturing jobs from Mexico to the US. For example, Cummins, a manufacturer of diesel engines for large trucks in Mexico prior to NAFTA. After the free trade agreement eliminated the Mexican *import tariffs* on American-made engines, Cummins closed their factory in Mexico and production relocated to Jamestown, New York.



Figure Niagara Falls, Canada. This tractor-trailer rig parked in Canada at the US border, was leased by NAFTA trucking company from McAllen, TX on the US-Mexico border. Ironically, it is powered by a Cummins diesel engine, which could have been manufactured in Mexico prior to NAFTA (trade agreement) but after NAFTA was surely built in the United States.

The principle of *comparative advantage* is the key factor driving the location and re location of industrial operations. Essentially, the logic behind the principle of comparative advantage forces countries engaged in free trade to specialize in the production of goods they produce most efficiently. In other words, under comparative advantage, locations focus on producing things they make cheapest, fastest and best. Locations should not try to build or grow things that they cannot build/grow efficiently. Instead, they should import those things from locations that specialize in that crop or product. Industrial systems benefit because inefficient industries are abandoned in favor of ones that are more efficient. Efficiency is profitable and consumers benefit because they can buy higher quality goods for less money. This is small comfort to workers who lose jobs to lower wage, or more efficient rivals elsewhere.



YouTube Video: Banana (Free Trade Parody Song) by Remy *Credit: Ari & Ella*

Containerization

Although wage competition and the declining quality of some American-made goods damaged America's manufacturing sector during the 1970s and 1980s, one of the most important, yet least discussed, factors in the downfall of US manufacturing was the widespread adoption of the humble *intermodal container*. Invented in the 1950s, these simple metal boxes revolutionized the shipping industry and affected competition in the manufacturing sector. These containers were designed to be easily filled with cargo, stacked quickly upon one another (almost like Legos) thereby reducing the cost of shipping. Containers are also *intermodal,* which means that trucks, trains, barges, and ships can all transport goods in the same steel boxes. Eventually, multiple shipping companies adopted a *standardized* size and design allowing competing companies to mix and match cargo on a single transport carrier. The effect on the cost and speed of delivery was profound. In the 1950s, even small cargo ships took many hours to be unloaded by a large team of dockworkers (stevedores). The process was slow, inefficient and very costly. A train or series of trucks awaiting the cargo from the ship would then have to be reloaded by another team of dockworkers. The process is called breaking bulk. Each *break of bulk* represents a tax on the cost of each transported product each time it is loaded or unloaded. Breaking bulk, as you remember, was a significant factor in the creation of large cities because of the labor and warehousing needs it created. Today, thanks to *containerization*, a few people, with the help of large gantry cranes can unload massive container ships, and simultaneously reload containerized cargo onto intermodal trains or a fleet of trucks in a matter of hours. Thousands lost their high paying jobs at the docks thanks to intermodal containers. Hundreds of thousands lost their *manufacturing* jobs to overseas competition because the cost of *transporting* goods from places like China or Mexico fell so dramatically that goods coming from foreign factories now have shipping costs similar to goods produced locally.



Figure 12-6: Long Beach, CA - A series of gantry cranes systematically unloads a massive container ship at the busiest port in the US. A small crew can unload 15 times more cargo than WWII era ships, faster and with fewer workers.



Figure 12-7: Newark, NJ - Intermodal containers are stacked high at one of the busiest ports in the United States. Transportation, warehousing and manufacturing are likely at any location with this landscape.

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11.4: Import Substitution Industrialization

Import Substitution Industrialization

Many countries or regions find that adhering to the principle of comparative advantage works poorly for their economies and people. Certainly, the manufacturing regions of America's Rust Beltsuffered from the effects of comparative advantage as America increasingly embraced free-trade. Michael Moore's well-known documentary Roger & Me is a tragic-comedy about the consequences of General Motors' decision to move manufacturing jobs from Michigan to Mexico. Governments in places unable or ill equipped to compete in a free-trade environment often turn to a variety of trade barriers to protect industries from outside competition. Import tariffs, import quotas, and safety measures are just a handful of strategies used by protectionists to reduce foreign competition. Many countries, particularly in Latin America, adopted a policy known as import substitution industrialization which severely limited the importation of manufactured goods. Generally, they tried to protect their so-called infant industries, at least until those industries grew enough to compete on the world stage.

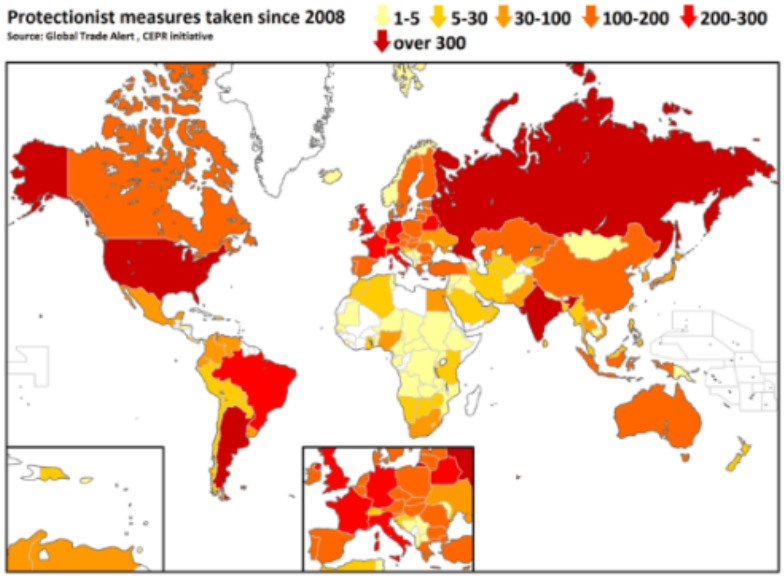


Figure World Map - Most governments, including the United States, engage in protectionism despite repeated condemnations of the practice. Source: Wikimedia

The strategy had some local successes, especially in terms of encouraging the development of low-skill manufacturing (textiles, electronics, etc.). However, the small ***domestic markets*** of many of these countries made it difficult to develop capital intensive, heavy industries, like automobile manufacturing, even with trade protectionism policies. Import substitution policies were also discouraged by capitalist countries, like the United States, even though most economically developed countries, like the US, pursued similar protectionist policies during the 19th century. Many of the overt import substitution policies were abandoned by the 1990s, partly upon the insistence of the *International Monetary Fund*, a global finance organization that refused to lend money to governments that persisted with protectionist policies. Though officially frowned upon by nearly every industrialized country today, almost every government engages in a variety of clever protectionist practices designed to shield home industries from foreign competition. Breaking with the Republican Party, President Trump embraced numerous protectionist policies, raising tariffs on a variety of goods including washing machines, solar panels, steel, and aluminum. Imports from places like China, Mexico, and Korea fell as the prices of those goods rose for consumers. Not surprisingly, those countries retaliated by raising tariffs on American goods, especially agricultural products, shipped to those countries.

Land

The cost of land is another major consideration for those who want to build a factory. When the raw materials needed at a factory are cheap to transport or widely available (like water), then factory owners have more options in terms of location. Generally, that

is not the case - locations vary wildly in terms of profitability. Some land is just too expensive for industrial purposes. Factories are rarely built near downtowns, for example, because cheaper land is available at the edges of cities where land is more plentiful. Factories remaining in crowded, inner-city neighborhoods also often suffer from spatial *diseconomies of scale* because freight (truck) access is difficult and slow. Taking delivery of materials and shipping finished goods over congested street networks and/or jammed freeways increases costs and reduces profits. Locations near uncrowded freeways are ideal because they permit both workers and materials to easily travel to and from a factory. If rail or water transport access is available, then transport options become even more cost effective.

Weber's Location Model

Most manufacturers have complex sets of material and delivery costs to consider before locating a factory. Alfred Weber's *Least Cost Location Model* provides site location analysts with a basic tool to evaluate several weighted input considerations. In the most basic version of the model, only transportation costs are considered. Therefore, the best place for a factory is closer to the input or output with the highest transport costs. In the example illustrated on the right, the factory (F1) is located nearest supplier 4 (S4) because transport costs are highest from that location. Should the cost of transportation to T1 (the town) increase significantly, the least cost location for F1 would move toward the top of the triangle. There are, of course, other factors worthy of consideration when siting a factory, but Weber's model remains an important tool as people choose where to build factories today.

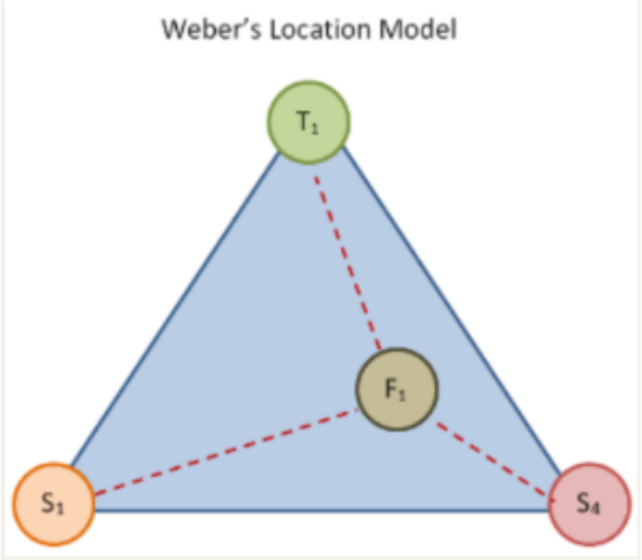


Figure Infographic. Weber's location triangle helps us understand that the least cost location for certain economic activities is dictated by the cost of transportation.

Bulk Reducing – Bulk Gaining

The nature of the specific manufacturing process also has implications for where some products are made. For example, if the *finished* product made by a factory is cheaper to ship than the *raw materials*, then it makes sense to manufacture the product close to the source of the raw materials. Factories that operate under this condition are called *bulk reducing industries* because the finished product is lighter, or cheaper to transport than the raw materials. Geographers, therefore, note that these products have a *raw material orientation*. *The* lumber industry is a great example. Logs are expensive to transport. It would be very inefficient to ship logs directly from the forest to your local Home Depot without cutting the logs into boards first. Instead, logs are trucked to sawmills built *near* the forests where trees are felled. Sawmills process logs (timber) into boards (lumber) that can be neatly stacked on a truck or train car that efficiently (cheaply) transports the lumber to market. As a bonus, portions of the log unusable as lumber, including sawdust and wood chips, that remain after milling can be used to make additional products like plywood and particleboard, which can also be stacked and efficiently shipped



Figure : Simsboro, LA. Abundant forest lands and the difficulty of efficiently transporting logs require sawmills to be placed as close to the forest (raw material) as possible.

The same logic that informs the location of lumber mills pushes other industries to do just the opposite. These are ***bulk gaining industries*** that have a ***market orientation***. These sorts of industries make products that get heavier and/or more expensive to transport during the manufacturing process, *and* the main input is widely available. Coca-Cola is a good example. The "secret recipe" for Coke is kept in a vault near company headquarters in Atlanta, Georgia, where most of the world's supply of concentrated Coca-Cola *syrup* is produced. Since the main ingredient in a bottle of Coke is *water*, which is available in all big cities, it makes no sense for Coca Cola to manufacture soda in Atlanta before shipping it to the rest of the world. Instead, Coca Cola ships *only* the concentrated syrup from Atlanta in large drums to thousands of bottling plants around the world, where *local* water, sweeteners, and carbonation are added to the syrup as the mixture is placed in cans/bottles just before the cans/bottles are sealed for shipment. Each bottling plant is *franchised*, and each franchise is awarded a specific geographic distribution region within which it has exclusive rights to manufacture and sell Coke products. Because each franchisee uses *local* water, Coke and Pepsi often taste different when you buy one in another town.





Figure : Rainier, OR - Rail cars containing logs and lumber wait delivery to the sawmill and lumber yards respectively. Milling operations co-locate here near forests and shipping opportunities to cut transport costs.

Workers employed in industries with significant location constraints often make *higher* wages than those working in *footloose industries* because industries with significant location constraints cannot *profitably* move production elsewhere in search of lower wages. Workers in locationally constrained industries engage in less wage competition than workers in footloose industries. For example, dockworkers at major ports can negotiate very high wages because of the great difficulty of relocating a port.



Figure : Dublin, Ireland. Guinness Stout is brewed exclusively in Dublin to preserve the taste. This business model is highly unusual for major beer companies who chose to bottle locally rather than ship globally.

Capital

The final *factor of production* and commonly considered by those making industrial site location decisions is capital, or, investment money. Investors are necessary for industrialization. Capital comes from investors, who may be wealthy individuals, groups (shareholders) or banks that specialize in investment capital. A special type of investor, known as a *venture capitalist*,specializes in making high-risk loans to startup companies in hopes of reaping great rewards if the fledgling company "makes it big". Some regions have many venture capitalists and/or ordinary investors, and other regions do not. California has a great number of venture capitalists, and their willingness to take chances on new ideas and technologies are partly responsible for California's robust tech industry.

Capital has other forms as well. Investments to upgrade existing factories, for example, may make workers more productive, and occasionally makes workers unnecessary when robotic machinery replaces workers. This sort of capital boosts productivity and profits, though it may eliminate jobs. Capital affects other less visible factors of production, and not all of it comes from companies who reap the rewards. Governments are a very important source of indirect capital for many companies. Because it is indirect, many Americans conveniently (or purposefully) overlook the role of government in the establishment, promotion, and maintenance of all sorts of businesses. Highways, airports, port facilities, universities, public schools, etc. are tax-funded investments that businesses use to make a profit. In other parts of the world, especially Asia, governments work directly with businesses to promote the interest of businesses.

Indirect government capital is the reason why factories do not always locate in the locations with the *cheapest* labor. In recent years, many US jobs have gone to China where wages are low. But that logic doesn't compel factory owners to move to Zaire, Haiti or Guatemala where wages are even lower. Why? The answer is *government capital*. Efficient governments, like China's, work very closely with companies to attract the investment necessary to build and equip factories. Governments in some developing countries may not have the resources needed to attract foreign investors. Many governments are also absurdly corrupt. So, even if factory owners wanted to locate where labor is cheapest, a variety of government-supplied infrastructure investments are often absent in the regions with very low wages. Industries need quality roads, bridges and port facilities for shipping and receiving. Factories need adequate electrical power, fast and reliable internet, and phone connections. Factories need educated workers, so governments must invest in their children, and not just the boys. Workers must be reasonably healthy, so countries with government-run health care systems are attractive to factory owners because workers are healthy, and factory owners do not have to pay for expensive health care for each worker.

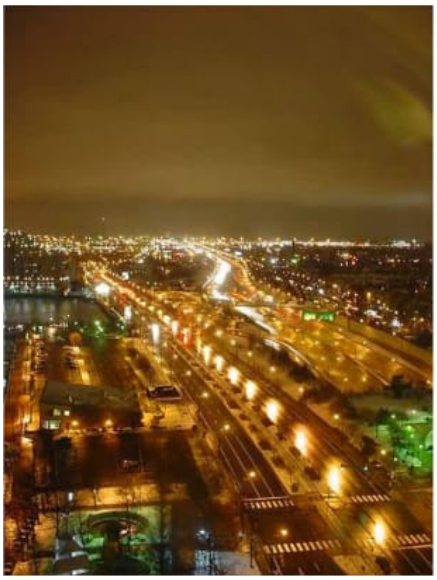


Figure Philadelphia, PA - Miles of highways, streets, electrical lines are among the hundreds of government investments that benefit industry. Geographers see these relationships in images such as this.

Human capital is also necessary – and this may be less a factor of cash investments. Factory operators need workers who are culturally ready for the regimented grind of factory life. A very important component of industrialization appears to be the availability of a pool of qualified *women* to work in factory settings. This sits at the intersection of economic capital and cultural capital. If family, government and cultural systems discourage or prohibit women from engaging in wage labor, chances are poor that such locations will enter the modern world economy. In regions where conservative versions of Islam, Hinduism, and Christianity are dominant, numerous well-educated female workers can be scarce. Other cultural elements that contribute to the likelihood of industrialization are things like worker honesty, loyalty, and pliability, among others.

Motown vs. Small Town

Cultural, political and economic conditions have contributed to the redistribution of the industry within the United States as well. Automobile manufacturing, for example, was for many years, the most important US industry. Detroit, Michigan was the headquarters of automobile manufacturing giants Ford, General Motors and Chrysler. In the early years of the Automobile Age, Detroit had several geographic advantages over other cities that built cars. Detroit had plenty of industrial laborers and vast hardwood forests that supplied wood for car bodies and wheel spokes. They luckily also had some human capital as well. Entrepreneurial engineer types, particularly Ransom Olds (Oldsmobile) and Henry Ford, pioneered manufacturing strategies in Detroit that helped their companies build reliable, inexpensive cars for a mass market. Other companies soon emerged from the original companies and competition bred innovation.



Figure Tuscaloosa, AL - Daimler-Benz built a factory in Central Alabama where they could take advantage of a quality but placid workforce, access to domestic and overseas transportation networks and generous subsidies from local and state governments.

By the 1970s, Detroit's dominance in the automotive market and a lack of competition *within* the industry had allowed the auto industry to become a three company *oligopoly that* bred industrial complacency. American cars in the 1970s were poorly built, overpriced, gas-guzzlers. After the price of gasoline skyrocketed, Japanese cars became popular. Japan had been making small cars that were fuel-efficient for many years. Honda and Toyota also had pioneered several manufacturing techniques and strategies that allowed them to make cars that were more reliable and cheaper than those that were built in Michigan.

A significant retooling of the American automobile industry occurred in the 1980s, and a key element of it was a *spatial* reorganization of the industry. American, Japanese and German auto companies all built new factories in the US, but no new factories were built in Detroit. Instead, auto factories closed in Michigan. The new factories were often built in small towns within about 200 miles of Cincinnati, Ohio because that area is the *least-cost location* for both the receipt of parts into factories and the shipment of new cars to American consumers(see figure above: Weber's Triangle). BMW, VW, and Mercedes Benz built factories further south because more of their parts and customers were international, and being closer to ports was important. None of the post-1980 car factories were built in large cities. Automobile companies sought rural, or small-town employees because they sought workers who were anti-union, pliable, hardworking and happier with their pay in a low wage environment. Small town plants became the rule. Marysville, Ohio; Georgetown, Kentucky and Spartanburg, South Carolina got new factories, while cities like Detroit, Cleveland, and Buffalo lost them. Even the Chevy plant in Van Nuys, California was closed.



Figure : Map of automobile assembly plants in the Eastern United States. Tesla is the only car factory on the West Coast.

In the 1980s, American car manufacturers adopted another key Japanese business innovation called *just in time* delivery. Rather than building warehouses to store car parts (bumpers, tires, fenders) near main assembly plants, companies like Honda have the parts they plan to use assembling cars delivered daily thereby eliminating most warehousing jobs in the supply chain. Quality control is better with just-in-time delivery because if a supplier is sending defective parts the problem is evident immediately before thousands of defective parts are shipped to the main assembly plant. Suppliers to the main manufacturing plant, therefore, must be within one day's drive of the main assembly point. As a result, in the 1980s, numerous parts factories were built in small-towns surrounding main assembly plants. Various sub-assembly plants compete to win contracts with the main manufacturer and drive them to seek low-cost, non-union labor. Generally, this puts downward pressure on wages, benefits; undermining gains made by union workers and others.

Just-in-time manufacturing was very different from the supply chain strategies used by most American factories in the 1970s. Consider That Ford's River Rouge factory at one time was the largest *integrated* factory in the world, at over one-mile in length and over a mile wide. Iron ore was delivered to one side of the factory and finished Ford Mustangs came out the other. One hundred miles of railroad tracks *inside the mill* helped keep production rolling. Workers used bikes to pedal from one part of the factor to the other. Almost all who worked there were well-paid members of the United Auto Workers union.

However, the *spatial* economics of the plant were less efficient than just-in-time manufacturing, so Ford's River Rouge plant was shut down in 2004, after nearly 80 years of operations.

Just-in-time production allows car companies to *outsource* a lot of the work once done by union workers to non-union plants scattered around the Midwest. Union workers lost leverage in their struggle for good benefits and higher wages. However, just-in-time delivery created opportunities for workers in some parts plants (e.g., brakes manufacturer) to interrupt the *entire* supply chain. Since no large inventory of any single part is kept at the main assembly plant, workers in a parts sub-assembly plant can go on strike, which forces not only the main assembly plant to stop but all the other parts suppliers must stop as well because suppliers do not produce parts without an order from the main plant. Workers in a unionized factory in Dayton, Ohio did just that in the mid-1990s, causing nearly all of the General Motors assembly plants, and numerous sub-assembly plants to shut down.

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11.5: Tertiary Sector

Tertiary Sector

Jobs in the service industries have grown faster than any other part of the American economy since 1970. These jobs are in the *tertiary sector* and people working in these jobs handle the products created in the primary and secondary sectors of the economy. So you work in the service sector if you transport goods, sell goods or somehow help others use those goods. Service sector jobs include things like flipping hamburgers or selling shoes, but it involves a lot more. Entertainment, tourism, media, healthcare, financial and legal industries, and education are all in the *broadly defined* service sector. Before the 1980s, far more Americans worked in the primary and secondary sectors of the economy. Around 1970, a dramatic increase in the service sector, which now accounts for more than three fourths of all jobsin the US. In some regions, that percentage is even higher.



Figure : Ruston, LA - Wal-Mart has come to dominate the retail landscape of many small towns in the US, and their treatment of employees emblematic of the post industrial, service economy of the US.

Some service sector jobs are well-paying, but others are not. The growth of the service sector has been in part responsible for a bifurcation of the American economy. In the 1950s, nearly one-third of all US jobs were in manufacturing. Many of those jobs were relatively low skill, not requiring a college degree, but still paid good wages. As those jobs disappeared in the 1970s, Americans turned to service sector jobs. For workers in some places, manufacturing jobs were replaced by clean, safe, well-paying service sector jobs, like computer programming. Many regions in the US haven't been so lucky. Workers in those locations were forced to either move or to accept low-paying service sector jobs, like working at Wal-Mart. As a result, since the early 1980s, the lower middle class has gotten much smaller, while the size of the lower class (working poor) has exploded. At the same time, pay for people in the upper-middle class has grown somewhat. The wealth of the tiny upper class, or so-called "one percent" has skyrocketed. The result is a widening gap between the haves and the have-nots.

> Kondo, et. al. "Income inequality and health: the role of population size, inequality threshold, period effects, and lag effects. "*Journal of epidemiology and community health* 66.6 (2012): e11-e11.

Gini coefficient

Social scientists measure *wealth inequality* with a statistic called the ***Gini coefficient*** and graphing the change in the Gini coefficient shows how the gap between the rich and poor has widened over time. The Gini coefficient is a *relative measure* of wealth not an *absolute measure* of income. In other words, the average American may or may not be poorer than they used to be. They may even make a bit more money, or have a few more things. What is certain though is that average Americans are poorer

relative to the wealthiest among us.

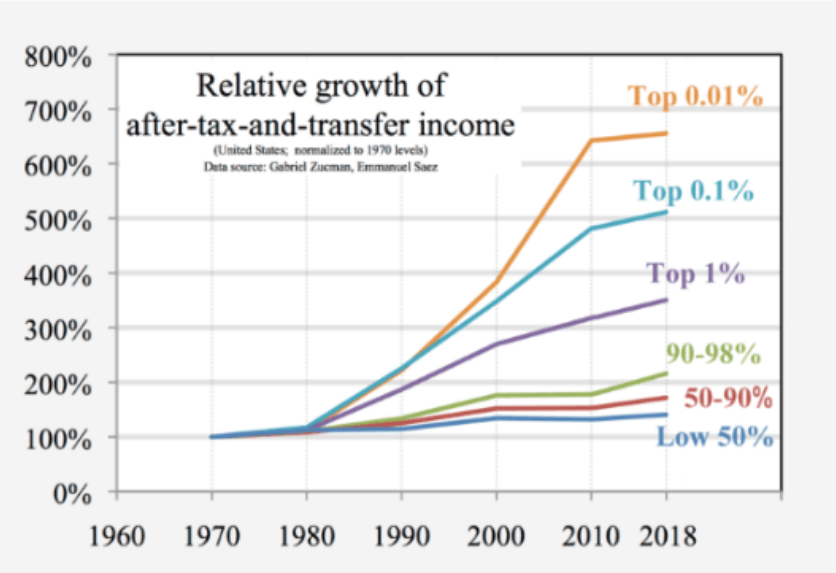


Figure : Infographic. Households in the top percentiles of the economy have made great strides in improving their situation, while those at the bottom of the social ladder have improved only marginally (inflation adjusted to 1970 dollars). Source: US Census, Wikimedia.

The gap has grown much faster since 1980, as the United States underwent both economic restructuring away from manufacturing and adopted the logic of ***supply-side economics*** (Reaganomics) to restructure both the tax structure and how we spend tax money. The economy has grown greatly since 1980, but little of the benefits of this growth has gone to average Americans. The Great Recession of the late 2000's made it worse. Most Americans therefore just *feel poorer*, which may seem a silly thing to worry about, but feeling poor has significant effects on things like health outcomes, crime, and psychological health. In recent years the pattern of income equality in the United States has come to look much *less* like the pattern found in Europe, and more like that found in developing economies of Latin America.

The Gini coefficient also varies considerably within the United States. As noted earlier in this text, income inequality is lower in many of the farming states where the national grid system created a vast array of equal-sized farms. Utah, with its unique religious, cultural and ethnic profile has the lowest (most equitable) Gini coefficient. Other states with homogeneous populations also have low Gini coefficients. In some wealthy states (New York, California, Connecticut), where there is a great variety in ethnicity, religion, and culture coupled with exceptionally lucrative industries (software, banking, entertainment, etc.) wealth inequality is high. States in the Deep South (Louisiana, Mississippi, Alabama, Florida) with a strong legacy of racism and minimal government investment in education also rank high in terms of inequality; while at the same time counting among the poorest states in absolute terms.

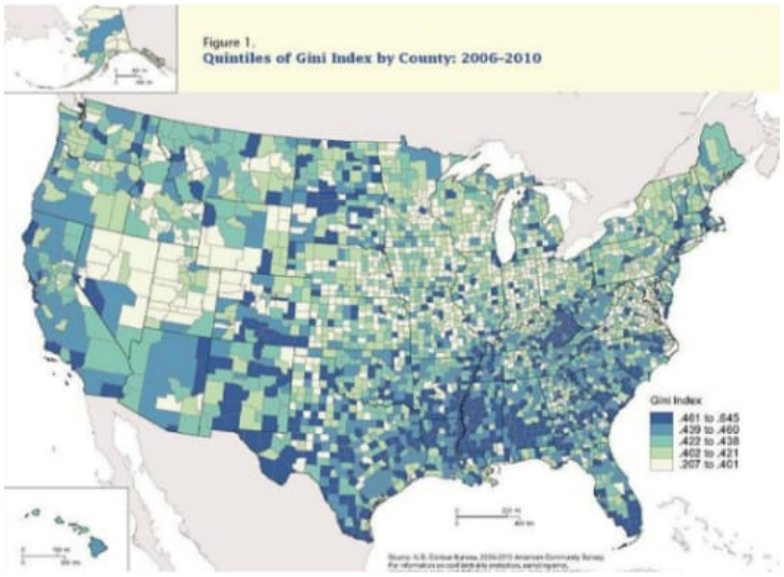


Figure Gini Coefficient by County. Source: Wikimedia

In many of the poorest regions of the United States, low-paying service sector jobs dominate the local economy. Most of these service sector jobs, especially in retail, are *non basic*, which you will recall, indicates that they do not bring money in from outside the local area. Depending on the ownership of the retail operation, some retail stores, like WalMart, effectively *remove* more money from the local economy than the jobs create, helping impoverished local people via a process opposite the *multiplier effect*.

Neckerman, Kathryn M., and Florencia Torche. "Inequality: Causes and consequences." *Annu. Rev. Sociol.* 33 (2007): 335-357.

Wal-Mart

Locally owned and operated businesses tend to circulate money within a local economy. Large retail chain stores, though they may employ many dozens of people, often pay little and rarely do their profits stay *local*. This effect has been called the ***Wal-Martization*** (sometimes *Wal-Marting*) of the economy by some observers because Wal-Mart pays poor wages and provides few benefits.

Wal-Mart's business model has negative consequences for the economic structure of many small towns. Wal-Marts are accused of bleeding local economies dry by squashing locally owned (mom and pop) competition in the retail sector using their massive advantage in *economies of scale*. Wal-Mart also undermines businesses that *do business with* locally owned rivals of Wal-Mart. Manufacturers, transportation workers, and even local radio/newspaper businesses often suffer when Wal-Mart comes to town.

A large service sector can be beneficial if jobs are well-paying quality and/or function as generators of *basic income*. Los Angeles, for example, has a large service sector. A significant number of service sector jobs in L.A. are in the entertainment industry. People that work in television, movie, and music production are numerous and many are well-paid. Tourism also thrives in Los Angeles and though there are many more low paying jobs (hotel workers, e.g.) within the tourism industry, these jobs represent a significant source of *basic income* for the economy of Southern California, which generates a *multiplier effect*.



Figure Natchitoches, LA - This general store manages to remain open in this small town in Louisiana, thanks to its touristy appeal. Most similar "mom and pop" operations fail competing with Wal-Mart.

Tourism

Tourism is likely the world's largest industry, employing more people and generating more revenue than any other economic activity. Locations attracting numerous visitors are lucky. Not every place is attractive to tourists. Tourism can be great because it functions as a valuable source of *basic income*, especially in locations where extractive industries and/or manufacturing is not possible or profitable. Remote locations, in mountains or along sea coasts with nothing but great scenery and relaxation can attract visitors and their money.

Tourists are defined by their spatial behavior. Generally, if you stay more than 24 hours in a location outside your hometown, then you are considered a tourist. California is, by a wide margin, the top destination for Americans traveling within the US. If you stay a day or more in another country, then you are an *international tourist*. While European countries rank consistently high for the total number of international tourists, the United States easily outpaces all other countries in terms of the amount of money spent by international tourists. International tourists favor New York, Florida, and California by wide margins. Domestic tourism is important as well.

Tourism geography is an exciting sub-discipline within geography. Part of what makes it so interesting is analyzing the variety of strategies and tactics used to attract visitors. Nice beaches and warm weather are major attractions(Hawaii, Florida, California), but people also will visit a desert wasteland if the right type of entertainment can be provided (Las Vegas). Amusement parks (Disney), historic sites (the Alamo, the Washington Monument), unusual natural features (Niagara Falls, Grand Canyon) sporting venues, and even museums can be major attractors. In recent years, festival mall spaces, like the Mall of America near Minneapolis, Minnesota have become significant tourist hot spots, attracting tens of millions of visitors annually. Small towns and locations without exceptional natural resources frequently market themselves as "historic" or "quaint", or rely upon themed festivals to attract people from out of town. Most are not successful.



Figure Ft. Stockton, TX - Paisano Pete, a statue of a roadrunner, serves as a tourist attraction in a remote town in West Texas. It reminds us of the lengths some locations will go to attract tourist dollars.

Tourism, if well managed, may also be minimally damaging to the environment and even promote ecosystem conservation (ecotourism). Yosemite National Park, for example, draws nearly four million visitors yearly, and in turn, generates millions of dollars for the regional economy all the while ensuring the maintenance of an exceptional natural resource. Meanwhile, the neighboring Hetch Hetchy Valley, dammed by the Federal Government in 1923, attracts only a few visitors (though it does supply water to the Bay Area). Ecotourism may serve to help protect endangered rainforests, the Serengeti Plains in Africa, glacial regions of the Arctic and Antarctica, among others.

Poorly managed, tourism fails to benefit local economies, causes environmental havoc and endangers local cultural traditions. Tourist destinations in many developing economies are almost completely run by outside interests. If you were to visit Cozumel, Mexico for example, you might arrive on an American-owned cruise ship or airline. You might go snorkeling, but you may find the coral reefs damaged by the construction of the deep water port where your cruise ship docked, and the effluent from an overtaxed sewage system not designed to handle thousands of tourists. If you stay in an "All-Exclusive" resort (and there are many), your vacation dollars probably pay local housekeepers, kitchen workers, and maintenance men, but the *profits* probably go back to the ownership group in the US or Europe. This is part of a classic economic problem known as the ***multiplier leakage***. The overall benefit to locals might be minimal or even harmful in the long-run. Still, most locations work very hard to establish a vibrant tourist economy.

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11.6: Quaternary Sector

Quaternary Sector

Around 1970, advances in communication technology touched off an information revolution that today is an integral part of all industries. So important is the collection, management, and analysis of data, that some have suggested that this part of the service industry should be removed from the tertiary sector and placed in the *quaternary sector of the economy*. Education, government and financial planning are part of the quaternary sector, but most of the focus is on high-tech software and information technology jobs.

High-skill information sector jobs come with good pay, solid benefits, little pollution and a generally higher quality of life. Although these kinds of jobs require a substantial investment in human capital by local governments (i.e. education), generating information sector jobs has become a key objective of many local/regional economic development efforts. California's Silicon Valley, unofficially headquartered in Palo Alto, is the model high tech region that other regions try to copy. The evolution of Silicon Valley into the high-tech capital of the world has been a topic of intense study by geographers, economists, and historians for many years. Most agree that pre-existing aerospace and defense industries located in California were a key starting point for the semiconductor industry that gave birth to the computing revolution. Fueling the high-tech industries in the region were several universities, chief among them Stanford, which actively engaged in partnerships with local businesses, like Hewlett-Packard, Xerox and Bell Telephone. There was also an ample pool of *venture capitalists* willing to take chances investing in experimental electronics. However, those factors alone don't seem to explain the extraordinary success enjoyed by tech companies in the Bay Area. After all, lots of places have elite universities, defense industries, and venture capitalists. California's peculiar *cultural* climate appears to have played a significant role in the evolution of Silicon Valley into the pre-eminent center of high-tech innovation in the world.



Figure Palo Alto, CA - Stanford University was a key element in the development of the Silicon Valley high tech region in California.

The Creative Class

A series of spatially-informed research studies by Richard Florida suggests that *culture* is especially important in the development of high tech and other high-end service sector jobs. He calls the people who work in these industries "*The Creative Class*". Florida analyzed the growth of the quaternary sector of the economy and found that some regions were leaping ahead. In addition to California's Silicon Valley, The "128 Corridor" near Boston; Austin, Texas, and Seattle, Washington stood out as hubs for high tech innovation.



Figure Austin TX - This billboard proclaims Austin as the City of Ideas - and quirkily notes "Planet Earth". Bumper stickers around town urge residents to "Keep Austin Weird" and "Live Music Capital of the World" all speak to this city's embrace of difference – a characteristic especially unusual in Texas where social conservative dominate.

Florida argued that these locations stood out because each had permissive cultural environments that allowed the creative energy of individuals to flourish. Essentially, he argued that in places where people are free to be weird, cultural innovation is encouraged and economic success follows. Florida's position stands in stark contrast to most *neoclassical* economists who argue that economic development is best promoted through tax breaks and business incentives, along with government deregulation (lax environmental, bureaucratic rules).

By studying the characteristics of high-tech cities, like San Jose, Richard Florida found little evidence that neoclassical economic principles promote business growth. Instead, he identified a strong relationship between the *quality of life* in various locations and the ability of employers in those regions to attract high and nurture *talented people*. The central part of his argument was that talented people were attracted to places with a good *quality of life*; things like good schools, parks, health care, and entertainment. More controversially, Florida posited that *tolerance of diversity* was a secret ingredient in the business formula of places like Silicon Valley. He argued that creative, talented people tend to embrace ideas and lifestyles out of step with the mainstream, so places that permitted individuals to express their individuality (and creativity) without fear of personal, societal or industrial condemnation, attracted and nurtured talent.



Figure : Portland, OR - By embracing its quirkiness, Portland has managed to attract business investment and thousands of new residents. Its growth threatens Portland's unique cultural life.

A key indicator of a region's tolerance of diversity and/orits openness to creativity was its *gay friendliness*, which, of course, was interpreted by some as a threat to family values, etc. Florida argues that gay-friendly places also welcome a great variety of lifestyles, ethnicities and cultural orientations. Still, it is worth noting that Tim Cook, CEO of Apple Inc., perhaps the most emblematic of all creative class companies, is openly gay. What is evident is that locations where *social conservatives* discourage

or “squelch” personal and/or industrial innovation, high tech innovation is rare. The prevailing culture in some locations encourages creative people to either abandon their ideas or to move elsewhere. So, according to this argument, eccentric people with big ideas migrate to places like San Francisco, Boston or Austin, where fellow citizens embrace eccentricity and diversity of opinion and lifestyle. Entire companies may move to creative cities to attract workers with creative ideas. The implications of these migration patterns are significant over time. One analyst called the process, *The Big Sort*, a process in which thousands of individual migrations have created increasingly different cultural conditions in various parts of the US. This process led another observer to predict that intolerance of diversity will lead some places to enter into a “dumb state death spiral” – where all the smart, creative, tolerant people move away, and only the less talented, less creative and less tolerant people remain.

FIRE Industries

Finance, Insurance and Real Estate (FIRE) industries also have a definite spatial logic. New York City is the headquarters for a lot of companies in this sector, but Chicago, San Francisco, Boston, and other cities have large FIRE sectors as well. The most obvious reason is that these locations function as service centers for large metropolitan areas and they have massive economic hinterlands. People and businesses require banking services, so populous regions generate many FIRE jobs. The internet has eroded some of the spatial logic of the FIRE industries, but for many people, *personal networking* still matters, so face-to-face interaction is still common in FIRE industries, and that is facilitated by *agglomeration*.



Figure Map of LGBTIQ+ rights in the United States (2014). Note the correlation between business innovation and tolerance of sexual differences. In 2020, the US Supreme court struck down these laws nationwide. Source: ACLU / Huffington Post.

Hartford – The Insurance Capital

Some locations specialize in particular types of FIRE industries. Hartford, Connecticut for example, was for many years known as the “Insurance Capital of the World”. It may or may not have deserved the title, but Hartford is home to an unusually large number of insurance companies. Nearly one-tenth of Hartford’s population works in the insurance industry.

Hartford’s location near the coast and on the navigable Connecticut River helped make it both a manufacturing center and a port during the colonial period. Locals interested in protecting the value of their cargo being shipped across the Atlantic established one of the country’s first insurance companies. That company made a lot of money and dozens of spin-off companies were started by employees of the first company established competing companies (contagious diffusion). Over the years, other insurance companies moved to Hartford to take advantage of the existing pool of workers with advanced knowledge of the insurance industry. In recent years, some insurance companies have moved from away from Hartford. Some simply moved to nearby locations where real estate was cheaper, and quality-of-life issues were better. Like many other cities with a lot of FIRE industry workers, a huge gap evolved separating Hartford’s richest and poorest residents. While Hartford is one of the wealthier American metropolitan areas in terms of Gross Domestic Product per Capita (GDP), it also suffers from a high poverty rate.

Dover – The Credit Card Capital

As you begin to develop a geographer's habit of mind and begin thinking spatially, you may notice things like the fact that the return address on some of your least favorite pieces of US mail is Dover, Delaware – the credit card capital of the United States. You may ask yourself, "Why do I send so much of my money to Delaware?" The answer isn't quite as rooted in geography, as it was for Hartford or Detroit. Delaware doesn't have a long history of banking. Credit cards are a recent invention as well. Bank of America (now VISA) first introduced credit cards in Fresno, California in 1958. Delaware became the credit card capital of the world when their state legislature eliminated almost all its traditional *usury laws* in the state in 1981. Because in Delaware there's virtually no cap on interest rates and few other rules regarding how they can treat customers, credit card companies in Delaware quickly became far more profitable than those operating elsewhere. Many banks quickly moved their credit card divisions to Delaware. Utah and South Dakota have tried to emulate Delaware's success by weakening laws protecting credit card users as well. Variations in usury law in the United States create a wildly uneven distribution of predatory lending companies engaged in payday lending, car title lending and check cashing services.

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11.7: Business Geography

Business Geography

Setting up a new business, or expanding existing operations is an expensive proposition. Even slight mistakes in locating a new store can result in the loss of millions of dollars. Even more money is lost by companies that do a poor job locating factories or warehousing facilities. Geography offers many protections against costly mistakes. Geography is also a key element of strategies aimed at expanding customer bases for companies that engage in marketing geography, a growing field that overlaps with advertising and business informatics.

Economic Base Analysis

One of the most useful methodologies available to business geographers is called *economic base analysis,* a technique devised to determine whether or not any particular economic activity functions as a *basic* or *non-basic industry*. A standard mathematical formula, called the *location quotient* is most often used to identify economic bases for places at various scales. In other words, you can learn which industries in the local economy are bringing in money from outside, and which serve mostly a local population. By mapping the location quotient, you can identify which counties, cities or even ZIP codes specialize in specific industries. You can also use the location quotient formula to map locations saturated with specific industries/businesses, as well as places with a deficit of specific industries or businesses. It's a good first step for anyone interested in opening a new business because it helps identify locations with too much competition.

Location Quotient

Say, for example, there are 10 hotels in your town and 100 total businesses. Ten percent of your town's businesses are hotels. However, in your entire state, there are 3,000 hotels and 50,000 businesses. Statewide, 6% of all businesses are hotels, which is less than the ratio in your town. The location quotient for hotels in your town is therefore equal to 1.667. (.10/.6 = 1.667). Any location quotient greater than 1.0 indicates *concentration*. Therefore, you could argue that the hotel industry is stronger in your town than one would expect based on statewide trends. This might indicate that your town's tourism industry is doing well. It might mean there are too many hotels in your town, and that some are destined to go out of business. You could repeat this calculation for every town in the state and then repeat it for things like restaurants or other tourism-related industries. You could get a clear picture of where tourists are spending money, and where business opportunities may arise.

Sometimes the most useful statistics are the simplest ones because they are easy to use, which makes them available to lots of people, but simple statistics are also easier to understand. There's less chance of a simple statistic being cast into the "lies, damn lies, and statistics" category. Of course, there are criticisms of the location quotient, and more sophisticated analyses are possible, but this is a great starting point for those wanting to *do geography*. Besides, there are numerous uses for this simple formula because it can show concentrations of just about any phenomena across space.

Location Quotient

$$LQ = \frac{e_x/e_t}{E_x/E_t}$$

Where:

e_x = Local employment in industry x

e_t = Total local employment in all industries

E_x = Regional employment in industry x

E_t = Total regional employment in all industries

Figure 12-25: Location Quotient Formula.

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11.8: Site Location Analysis

Site Location Analysis

As the saying goes, “the three most important words in business are ‘location, location, location!’” Finding an ideal site for a new business is a key element in the success, or failure, of many businesses. Site location analysis is the primary job of geographers working in *location intelligence* jobs; a major source of high-quality employment for those with a geography degree. Many companies, including McDonald’s, Kohl’s, Wal-Mart, and Walgreens employ geographers to help them select optimal site locations for both retail and warehousing operations. Governments also need geographers to select ideal sites for schools, police departments, airports and fire stations. Sometimes geographers help decide where to *close* a business or public service facility. The process can be quite complex because multiple factors must be considered at each location. GIS is an indispensable tool for analyzing the interplay of multiple factors simultaneously. A site location analyst analyzes things like traffic patterns, real estate costs, zoning laws, economic competition, as well as the socio-economic, ethnicity and age structures of nearby customers/ citizens among other things. Doing *fieldwork* to collect data about potential site locations is another important step in the decision-making process of location analysts.

Hotelling Model

Harold Hotelling developed the most basic site location model in the late 1920s. It is useful for understanding some basic patterns of retail in many cities. Hotelling’s basic premise was that when competing firms sell a similar product, customers will travel the shortest distance possible to purchase that product. Since competitors frequently sell products that are virtually indistinguishable from each other (gasoline, aspirins, Coca-Colas, etc.), the behavior of customers creates an incentive to *agglomerate* at a point that maximizes the potential number of customers.

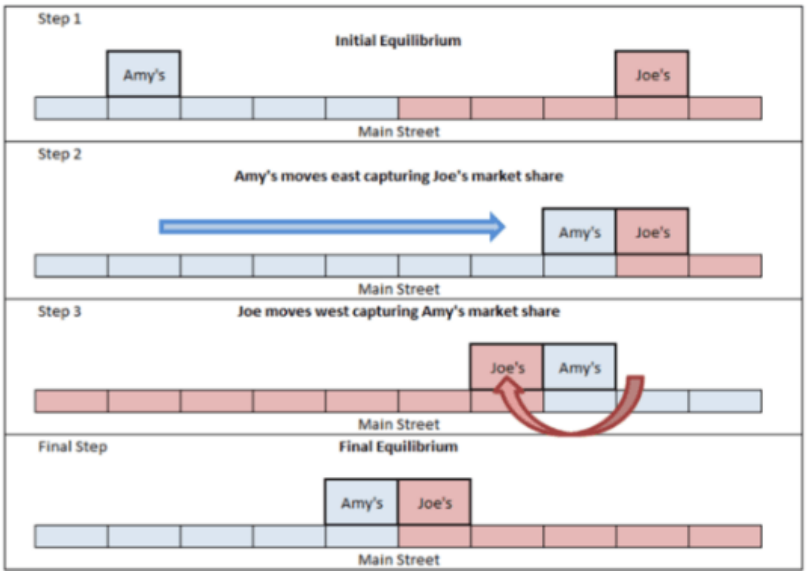


Figure Infographic. The logic of the Hotelling Model plays out in a series of moves and counter-moves by competitors arranged in a linear market, like a street or on a beach. Eventually agglomeration will occur.

Suppose there are two competing firms on Main Street in some small town. Each firm has an incentive to capture the market share of its competitor by moving into the territory of the other. To capture the maximum number of customers, Firm A (Amy in the graphic) should move next door to Firm B (Joe), thereby making Amy’s store an ***intervening opportunity***. By moving, Firm A (Amy) will capture the maximum number of customers traveling along Main Street. If Firm B (Joe) is smart, he will leapfrog Firm A (Amy), thereby capturing the maximum number of customers. Under this logic, after a series of moves and counter moves, a state of equilibrium will be reached that finds Firm A and Firm B located adjacent to each other, with each firm capturing nearly fifty percent of the customers. Of course, most businesses try to distinguish themselves from their competition through price, service,

and product. Still, if you are the type of person that notices patterns on the landscape, you will have recognized that certain businesses (gas stations, pharmacies, etc.) cluster together in the fashion predicted by this simplistic model, and it's generally a sign that such businesses are *not competing* primarily on price, service or quality.



YouTube

Video explanation of the Hotelling Model from TedEd

Huff Model

Another of the measures frequently used by retail site location analysts is the ***Huff Model***. It is used to predict the likelihood of a customer at any distance from a proposed store is likely to shop there. It rests on the premise that people won't drive very far to shop unless the store is worth the effort. Successful stores, according to the model are bigger, have highly desirable goods and lack competition. Those three elements are all calculated using the formula in the figure at right. To those with math phobias, the formula may look daunting, but it's nothing more than a series of basic math operations (multiplication, division, exponents, subtraction). Luckily, GIS and spreadsheet programs do most of the work, and software can calculate the formula millions of times over, permitting geographers to estimate the number of customers for many stores simultaneously. Not only could this single formula help a geographic information analyst decide the feasibility of a store (or hospital, etc.), but it also indicates to the marketing department where advertising dollars should be spent; a business geography tactic from the realm of *marketing geography*.

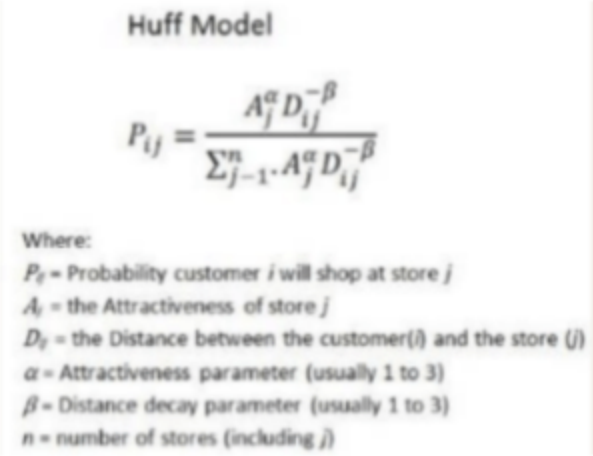


Figure : Huff Model Formula. See ESRI David Huff

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11.9: Marketing Geography

Marketing Geography

Business geographers also are very good at helping companies identify customers and sell products. Spatial analysts, equipped with sophisticated databases about customers' income, lifestyles, and shopping tendencies can identify locations where marketing dollars can be most wisely spent, as well as where advertising (or even stores) dollars are wasted. Marketing geographers rely on a number of the same tools as the site location analysts, they just use them for different ends; and they often work for marketing firms rather than for retailers.

Landscape geography, a humanities-flavored component of cultural geography, figures prominently in many contemporary marketing campaigns. Landscapes, because they are saturated with meaning, form an important component of most visual advertisements today. Consider for example, that only 30 years ago, if you watched a car commercial on TV, a spokesperson would generally extoll the virtues of the automobile; its safety features, horsepower, ride characteristics, etc. Nowadays, it is not uncommon to see a TV ad for a car that mentions none of that. In the 2000s Volkswagen had an entire series of car commercials featuring nothing more than cool people riding around VW'sin cool places. If you saw these ads, you may not have even known what product being advertised until the very end, when the VW slogan flashed across the TV screen. The message VW was sending was "buy this car and you could be like the cool, youthful, urban people in this commercial." Many marketing campaigns use this technique. Alcohol advertisements are especially fond of using landscape to see beer, wine, and liquor. Corona Beer's long-time marketing campaign is a classic example. Corona ads never tell you the beer tastes great, they only try to get you to imagine yourself on a secluded, tropical beach. Corona wants you to associate luxurious relaxation with a relatively inexpensive beer. Those ads help Corona drinkers to project, or at least think they are projecting, an identity connected to wealth and leisure.



YouTube: 1997 Volkswagen Commercial

YouTube: A compilation of 1950s era car commercials

Abercrombie & Fitch

Abercrombie & Fitch, a popular clothing brand trademarked the slogan "casual luxury" to sell their line of slightly upscale jeans, sweaters, and other outerwear. One of the most powerful marketing tools used by this clothier was the landscape imagery of the East Coast yacht club.



Figure: Hyannis Port, MA. Elitist landscapes frequently serve as backdrops in advertising campaigns because they evoke desires for wealth, exclusivity, sex and comfort. The Kennedys seem to have inspired Abercrombie & Fitch. Photos: PBS

An argument can be made that the Kennedy Family supplied the prototype A&F models. Landscapes are like the setting of a movie that helps frame the plot. Even their company CEO characterized the in-store experience as a movie, noting that shoppers "*...buy into the emotional experience of a movie...And that's what we're creating. Here I am walking into a movie, and I say, 'What's going to be [at] the box office today?"* (*Time*, 2/14/2000). Those who have been to an A&F store would suggest that their "movie" is set on Martha's Vineyard in Massachusetts, or perhaps The Hamptons on Long Island. Both places are historic coastal playgrounds for New England's "blue blood" families, like the Kennedys.

Place Product Packaging

Landscape geography figures prominently in marketing places in the physical world. Many chain stores use what geographer John Jakle calls ***place-product-packaging*** to help sell goods and services. Essentially, the goal of place product packaging is to customers to visit chain or franchise stores repeatedly by using the architecture and landscape of the store itself. Chain restaurants started this practice first in the 1950s. By using consistent architectural designs, interior décors, worker uniforms, logos, and even parking lot layouts, customers are conditioned to expect uniform service, product, and price. Tourists traveling far from home quickly learn that restaurants that look exactly like those back home offer a safe and entirely "predictable oasis ... away from home". Hotels (especially Holiday Inn) followed suit because their operators knew that most travelers are not interested in experimenting with food or lodging. This is especially true for families traveling with children. Scads of other commercial interests followed suit. This strategy contributes greatly to the creation of *placelessness* discussed in an earlier chapter. Strict conformity to corporate designs and architecture have loosened in recent years. McDonald's and Holiday Inns don't all look *exactly* the same today the way they did in the 1970s. Those chains long ago established their reputation and no longer need to aggressively remind customers what they are getting. New chains are wise to use place product packaging as they build a customer base and a brand identity.

Architecture, landscape design, and product logos also function to evoke emotional or cognitive responses that advance company interests. Clever business people understand that their customers "read" the landscape, and so strive to design their stores or advertisements in a way that allows the subtext of the landscape to help sell their product or service. These strategies are found at the intersection of psychology, geography, and business. A couple of examples below are presented to help you recognize how landscape can be used to manipulate you as a consumer.

> John A. Jakle 1982.
>
> Roadside Restaurants and Place-Product Packaginug *Jornal of Cultural Geography* 3:1

HAMBURGER STANDS

Fast food joints are a nearly ubiquitous element of the American landscape. Many franchises employ similar architectural design formulas to sell burgers and fried food. One of the most instructive design strategies was borrowed from *modernist architecture* more than 100 years ago. Today, many Americans read the modernist landscape of a hamburger chain like In-N-Out Burger, as an evocation of the 1950s, which is tied to an atmosphere of nostalgic fun. However, the white porcelain, glass, and stainless steel

motif pre-dates the 1950s and is rooted in the suspicions Americans had about hamburger meat 100 years ago. Americans first began eating hamburgers, as fast food around the turn of the 20th century. Though hamburgers were ideal for factory workers who often had no other option for a hot lunch, people were apprehensive about the quality of ground meat with good reason.

Landscape and architecture were two potent ways hamburger restaurant owners convinced the public that ground beef was safe. First, the kitchen areas were kept in plain sight of customers. Glass, stainless steel and white porcelain were liberally incorporated into the design of buildings to project a modern, *hygienic look*. Hamburger joints were designed with a dentist's office aesthetic to assure the public that the food was safe. Even the cooks wore all-white uniforms, to mimic the uniforms worn by medical professionals.



Figure Winchester, VA - This hamburger joint appeals to nostalgia today, but when it was built shortly after World War II, the design was futuristic, hygienic and modern, assuring customers that the sandwiches were safe to eat

During the early 20th century restaurateurs hoping to convince customers that their food was safe also borrowed design elements from, what was at the time, extremely high-tech machinery:steamships and streamliner trains. Actual dining cars from railroads were used for several decades as hamburger restaurants. Today we call these places diners. Others tried to evoke, through architecture, the slick and luxurious oceangoing streamliners of the day by putting port-hole windows on buildings. After the war, airplanes and spaceships served as inspiration for a period and buildings sprouted angular features that evoked jet aircraft.

Once Americans were assured that hamburgers were indeed reasonably safe to eat, restaurant owners no longer needed to design restaurants that evoked high-tech machinery or hygienic places like hospitals. Eventually, the hyper-modern stainless steel, glass and porcelain buildings began to look outdated, and perhaps *unclean*. Around 1970, McDonald's abandoned the hygienic-modern look for an "environmental" themed landscape that featured weathered brick and mansard roofs; all painted in brown, burnt orange and yellowish earth tones. Burger King, Wendy's, Pizza Hut and a host of other retail chains followed suit.





Figure : West Hills, CA (left) and Warsaw, VA (right). The environmental look (left) replaced the glass-steel-porcelain look of the post-war era around the 1970s, only to fall out of favor by the 1990s. The building on the right is an attempt to recover the 1950s look with a 1970s era building (mansard roof, brick, etc.)

By the 1990s however, the 1970s "environmental" look itself faded from fashion and several fast food chains adopted nostalgic looks, mostly to evoke the wholesome fun of 1950s America. Some of the attempts at leveraging 1950s imagery have been blatant and perhaps over-done, but others like In-N-Out Burger are subtler, because they never really abandoned the 1950s motif in the first place. Today, many newer restaurant chains appear to once again be borrowing from high-tech industries by adopting what might be called the "iPhone" or "Apple" aesthetic, with clean, simple lines that suggest quality and wholesomeness. Think about that the next time you visit a Pinkberry or a Chipotle restaurant.



Figure Runnemede, NJ (left) and Canoga Park, CA (right). The post-was 1950s era is used to evoke nostalgia among customers, but the hygienic motif at one time was very forward looking and helpful to assure customers of food safety.

ADDITIONAL LINKS

Directions Magazine. GeoInspirations: Ken Smith's Passion for Area Research and Retail Analytics. https://www.directionsmag.com/article/7257 - A great summary of the role of geography in business analytics.

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11.10: Industry Introduction

Chapter 11: Part 2: Industry

David Dorrell and Todd Lindley



Figure | Factory in Katerini, Greece Author | Jason Blackeye Source | Wikimedia Commons License | CC 0

By the end of this section, the student will be able to:

1. Understand: the origins and diffusion of industrial production
2. Explain: the impact of industry on places
3. Describe: the industrial basis of modern cultures
4. Connect: industrialization, technology, the service sector and globalization

Introduction to Industry

We live in a globalized world. Products are designed in one place, assembled in another from parts produced in multiple other places. These products are marketed nearly everywhere. Until a few decades ago, such a process would have been impossible. Two hundred years ago, such an idea would have been beyond comprehension. What happened to change the world in such a way. What eventually tied all the economies of the world into a global economy? Industry did. The Industrial Revolution changed the world as much as the Agricultural Revolution. Industry has made the modern lifestyle possible.



Figure The Volkswagen Jetta The Volkswagen Jetta is designed in Germany and assembled in Mexico from parts from the represented countries. It is marketed as “German Engineered.” Does it matter if the car wasn’t made in Germany from German parts? Author | David Dorrell Source | Original Work License | CC BY SA 4.0

During the 2016 U.S. presidential election, something very peculiar happened. Candidates from both major parties (Donald Trump and Hillary Clinton) agreed over and over again on one thing (and only one thing). The U.S. needed to create and/or bring back manufacturing jobs. Both candidates promised, if elected, to create new, well-paid manufacturing jobs. This was an odd shift, because for the previous 40+ years Republicans typically embraced free trade that allows manufacturers to choose where and what to produce (and many chose to move operations outside of the U.S.), while Democrats claimed to be working for the interests of blue-collar, working class people, whose jobs and wages had diminished since the 1980s period of de-industrialization both in the U.S. and throughout the developed/industrialized world. In the U.S. manufacturing provided jobs to 13 million workers in 1950, rising to 20 million in 1980 but by 2017 that number was back to 12 million – similar to levels last seen in 1941. A similar story can be found in Great Britain where jobs in manufacturing in 2017 were half of what they were in 1978 and output that once was 30% of GDP accounts for only 10% in 2017. Similar stories can be found in Germany, Japan, and other ‘industrialized’ economies. You may ask yourself, “Where did all of those jobs go?” But if you think about it, you can probably come up with your own answers.

It’s important to note that even as jobs declined, manufacturing output in most industrialized countries continued to increase, so fewer people were producing more things. The first and simplest explanation for this is automation. For years, science fiction writers have warned us that the robots are coming. In the case of manufacturing technology…they’re already here! Workers today are aided by software, robots, and sophisticated tools that have simply replaced millions of workers. Working at a manufacturing facility is no longer simply a labor-intensive effort, but one that requires extensive training, knowledge, and willingness to learn new technologies all the time. The second explanation is the relocation of manufacturing from wealthy countries to poorer ones because of lower wages in the latter.

As discussed earlier in this chapter, most countries have moved away from the protectionist model of development, allowing corporations to choose for themselves the location of production. No better example of this shift can be found than Walmart, which in the 1970’s advertised that the majority of all of the products it sold were made in the USA. Thirty years later, it would be difficult for to find ANY manufactured product that was still ‘made in the USA’. A third reason for the decline in manufacturing jobs is a decrease in demand for certain types of items. Steel production in the U.S. and England dropped precipitously during the period of deindustrialization (since the 1980’s) not just due to automation or cheaper wages elsewhere, but also because demand for steel also declined. During the 20th century the U.S., Europe, and Japan required enormous amounts of steel in the construction of bridges, dams, railroad, skyscrapers, and even automobiles. Building of such items in the 21st century has slowed down, not because those countries are in decline, but because there is a limit as to how many bridges and skyscrapers are needed in any country! Demand for steel in a country diminishes as GDP per capita reaches about $20,000. Meanwhile, demand for steel will continue to rise in Japan and India for several years as they (and other industrializing countries) continue to expand cities, rail lines, and other large-scale construction projects. Such a decline in steel production does NOT mean that a country is in decline, but rather that there has been a shift in the type of manufacturing that occurs. The U.S., Germany, and Japan all continue to increase manufacturing output (Figure 11.3), even as their share of global output continues to decline.

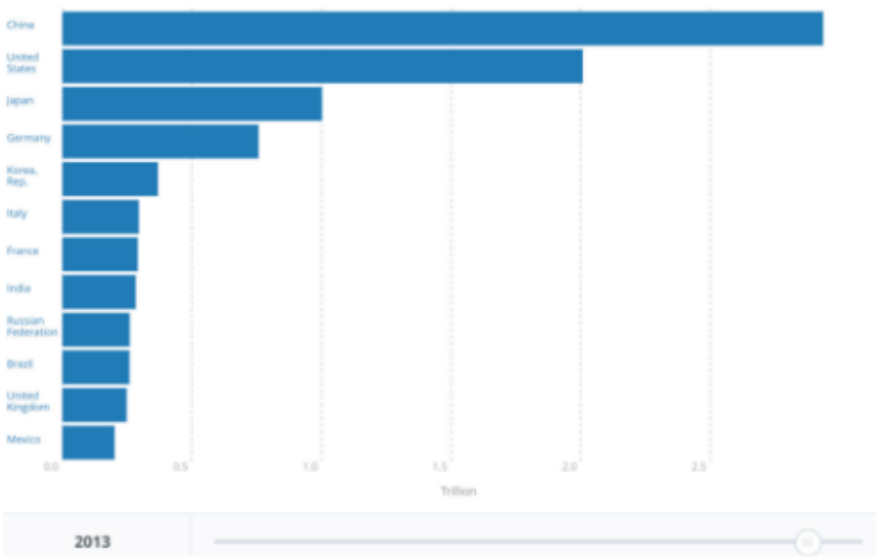


Figure | Leading Countries in Manufacturing Output, 2013 Author | The World Bank Source | The World Bank License | CC BY 4.0

Another significant shift in manufacturing relates specifically to the geography of production and is best understood in the consideration of 2 different modes of production: 1) Fordism 2) Post-Fordism. Fordism is associated with the assembly line style of production credited to Henry Ford, who dramatically improved efficiency by instituting assembly line techniques to specialize/simplify jobs, standardize parts, reduce production errors, and keep wages high. Those techniques drove massive growth in manufacturing output throughout most of the 20th century and brought the cost of goods down to levels affordable by the masses. Nearly all of the automobile assembly plants located in and around the Great Lakes region of North America adopted the same strategies, which also provided healthy amounts of competition and new innovation for decades, as North America became the world's leading producer of automobiles. Post-Fordism begins to take hold in the 1980's as a new, global mode of production that seeks to relocate various components of production across multiple places, regions, and countries. Under Fordism, the entire unit would be produced locally, while Post-Fordism seeks the lowest cost location for every different component, no matter where that might be. Consider an optical, wireless mouse for a moment. The optical component may come from Korea, the rubber cord from Thailand, the plastic from Taiwan, and the patent from the U.S. Meanwhile, all of those items are most likely transported to China, where low-wage workers manually assemble the finished project and an automated packing system boxes and wraps it for shipping to all corners of the world. Global trade has been occurring for hundreds of years, dating back to the days of the Silk Road, Marco Polo, and the Dutch East India Company, but PostFordism, in which a single item is comprised of multiple layers of manufacturing from multiple places around the world, is a very recent innovation. The system has reconfigured the globe, such that manufacturers are constantly searching for new locations of cheap production. Consumers tend to benefit greatly from the system in that even poor middle school students in the U.S. can somehow afford to own a pocket computer (smart phone) that is more powerful than the most advanced computer system in the world from the previous generation. This is kind of a miracle. On the other hand, manufacturing jobs that once were a pathway to upward economic mobility, no longer assure people of such a decent standard of living as they once did.

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11.11: History of Industrialization

History of Industrialization

Industrialization was not a process that emerged, fully-formed in England in the eighteenth century. It was the result of centuries of incremental developments that were assembled and deployed in the 18th century. Early industrialization involved using water power to run giant looms that produced cloth at a very low cost. This early manufacturing didn't use coal and belch smoke into the sky, but it initiated an industrial mindset. Costs could be reduced by relying on inanimate power (first water, then steam, then electricity), converting production to simple steps that cheap low-skilled laborers could do (Taylorism), getting larger and concentrated in an area (economy of scale), and cranking out large numbers of the same thing (Fordism). This is industry in a nutshell. The advantage of industry was that a company could sell a cheaper product, but at a greater profit.

As this mindset was applied to other goods, and then services, the world was changed forever. Places which had been producing goods for millennia suddenly (really suddenly) found themselves competing with a product that was far cheaper. Economist Joseph Schumpeter coined the term "creative destruction" to describe the process in which new industries destroy old ones. Hand production of goods for the masses began to decline precipitously. They quickly became too expensive in comparison to manufactured goods. Today, hand produced goods are often reserved for the wealthy.

A contemporary example of the industrial mode of production is fast food. Looking inside the kitchen of a fast food restaurant will reveal industrially prepared ingredients prepared just in time for sale to a customer. It is not the same process that you would use at home.

In the abstract, companies do not exist to provide jobs or even to make things. Companies exist to produce a profit. If changing the method of making a profit is necessary, then the company will do that in order to survive. If it cannot, then it will go away. For example, many companies today are highly diversified, for example Mitsubishi produces such unrelated products as cars and tuna fish. What is the connection between the two. They both produce profit.

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11.12: Industrial Geography

Industrial Geography

How is industry related to geography? For one thing, industrial societies have more goods in them. Since the goods are cheaper, people just have more things. For another, the means of production, the factories, shipping terminals, and distribution centers are visible for anyone to see. The lifestyles of industrialized people are different. Pre-industrialized societies are not regulated by clocks, for example, people wear lass-produced similar clothing. They listen to globally marketed music. If it seems like you already read this in the chapter on pop culture, you have. Pop culture is a function of industry. Geography is concerned with places and industry changed the way the world operates. It changed the relationships between places. Places that industrialized early gained the ability to economically and politically dominate other parts of the world that had not industrialized. Something as simple as having access to cheap, mass produced guns had impacts far beyond mere trade relationships.

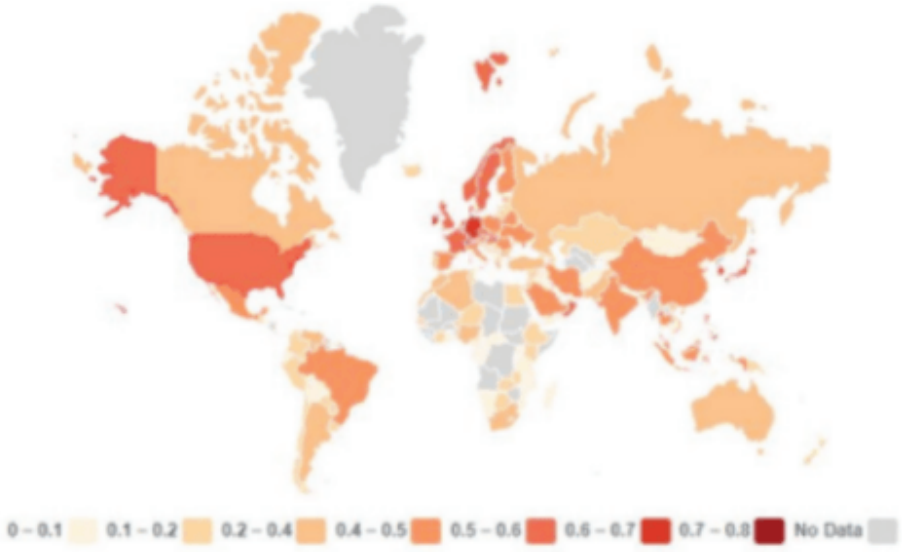


Figure | Map of Medium- And High-Tech Manufacturing Value Added Share in Total Manufacturing1 Author | David Dorrell Source | Original Work License | CC BY SA 4.0

Over time industrial production changed from one that disrupted local economies to one that completely changed the relationship that most human beings had with their material culture, their environment, and with one another. Industry has improved standards of living and increased food production on one hand and it has despoiled environments and promoted massive inequality on the other.

Industrialization is about applying rational thought to production of goods. Specifically, this form of rational thought refers to discovering ways to reduce unnecessary labor, materials, capital (money), and time. In the same way that factories changed how things were produced, it also changed where things were produced. Locational criteria are used to determine where a factory even gets built.

Marx's Tendency of the Rate of Profit to Fall

Karl Marx spent his working life trying to understand the nature of production. One of the things he noticed was that products have lifespans. When they are invented, they are new on the market and the producer has a monopoly. As soon as a product is released, competitors will quickly begin to provide alternative products at a lower price. The race begins to produce the product at an ever cheaper price, but also with an acceptable level of profit. This process occurs across both time and space as any mechanism possible to reduce the cost to manufacture the product is discovered and used.

Advancements in materials will often occur. Instead of using a metal case, plastic may be good enough. Capital infusion may allow automation of the production. Eventually, after every other possibility to reduce costs is exhausted, the only way to maintain production is to cut labor costs. Few workers will accept a dramatic reduction in pay. It's time to move the factory to a place with lower labor costs. Marx called this footloose capitalism. We call it offshoring. It's the same thing and it has always been part of capitalism. One aspect of this is that we who have grown up in a capitalistic world just naturally expect the price of goods to fall over time. In the United States we experienced a shift in manufacturing from the Northeast to the Midwest, then to the South and West. People in the United States have long moved to follow employment, and only stopped doing so when it left the confines of the country.

Factors for Location

Industrial location is a balance between capital, material, and labor and markets. The goal is overall lowest cost. Sometimes pushing down one category, like labor, can increase other costs, like transportation. Substitution is possible across categories. For example, additional capital can replace labor through automation.

Earlier factories were built in cities in order to use the labor that was available there. Building in the middle of nowhere could have created an immediate labor shortage. Of course, labor will also migrate to places with available employment.

Some industrial activities are determined by site, the physical characteristic of a location. If you want to have a coal mine, it is probably a good idea to locate in a place that has coal. This is the most extreme form of restriction, but bear in mind that many places have mineral wealth, but not all of them are extracting that wealth right now. Many places that would otherwise be candidates for resource extraction are not currently being used because the resources cannot be extracted and sold for a profit. If the resource cannot make money, it will not be used. Remember that government subsidies can make some resources more profitable than they normally would be.

Other industrial locations are products of their situation. The maquiladoras that line the southern side of the Rio Grande (Rio Bravo in Mexico) border would not be there if the United States were not on the other side of the river. The proximity to the United States is the determining characteristic in the choice to locate there. Industries moved to Mexico because it appeared to make economic sense to do so. They were able to lower labor costs while remaining within the US/Canadian market. Transportations costs increased initially, but transportation costs overall have fallen due to more efficient methods of moving goods. Were the North American Free Trade Agreement (NAFTA) to be revoked the situation of Mexico would change, their access to the markets of the United States and Canada would diminish, and the factories that are there would have a much harder time selling their goods.

Land (or Materials/Energy) Costs

Classic economics lumped raw materials and energy under the category of land. Few companies bother to buy the land that produces a particular material, nor do they generally invest in power generation, or their own oil fields. These inputs are subject to the same price pressures as everything else in the manufacturing process.

The land that a factory sits on has become less important over time. In earlier factories, most workers walked to work and factories were compelled to locate on expensive land in cities. That is no longer the case. Due to the widespread diffusion of the automobile, factories can be built in more suburban or even rural areas and workers will commute to the factory. This shifts part of the cost of securing labor onto the workers themselves. It lowers costs for the company. It is still necessary for the company to have access to the transport network, so new factories are usually built to take advantage of existing road networks, often next to interstates.

Sourcing materials has become global. Commodified inputs like steel are bought wherever they are relatively cheap and are shipped to where they are needed. Whichever source provider has the lowest cost, including shipping, will likely be chosen by the company. If you have ever bough something online, generally you want to know which company has the product with the lowest overall price. Companies operate the same way.

There are differences in energy costs across space. For energy intensive industrial activities, cheap energy is essential. China rose from producing very little steel a few decades ago to leading the world today. It this by leveraging low labor costs and a very cheap energy source- vast supplies of (highly-polluting) coal.81.3.2 Labor

Labor costs can be reduced in a number of ways. One way is simply to pay the workers that you have less money. Workers, however

do not like having their pay cut. Sending the work to a place with lower wages has been a common response to higher wages. A large portion of industrial labor requires minimal education. A company can choose to hire high school graduates in wealthy countries for a high wage or equivalently educated workers in poorer countries for far less. The labor pool has thus become globalized. Instead of competing for jobs with the other workers in a particular city, today's workers are competing for jobs with much of the human population. Labor-intensive industries are particularly sensitive to labor costs. Clothing production has shifted to places with cheap labor as wages in developed countries have increased.

Besides the option of simply shipping jobs offshore, there is also the option of replacing workers outright. Most of the industrial jobs that have been lost in the United States in the last 30 years have not been to overseas production, they have been due to automation. Replacing people with machines is as old as industry itself. The difference now is that machines are much more capable than they were in the past and they are much cheaper. Referencing the earlier example of clothing manufacture, production of athletic shirts in the United States got a large boost with the introduction of a factory in Little Rock, Arkansas that relies on a robot called Sewbot. The factory will produce millions of shirts at very low costs ($.33 in labor per shirt). This low cost of labor renders in nearly negligible in importance compared to other factors, such as transporting the materials to the factory and transporting the finished clothes to market. The factory was built by a Chinese company in the center of the United States to minimize transport costs. More factories will likely migrate nearer their markets as the cost of labor becomes less important. Developed countries are already seeing an expansion of manufacturing, but not an expansion of manufacturing employment, due to the influence of automation.

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11.13: Transportation

Transportation

An important contributor to geographic thinking regarding industrial locations was Alfred Weber (1868-1958). Weber took the concept of using lowest overall cost for the locations of industry and expanded it. He developed models that held many inputs to manufacturing constant in order to demonstrate the importance of transportation in determining least cost.

Weber believed that transportation costs were the most relevant factor in determining the location of an industry. The best way to minimize the cost of transport depends on the raw materials being transported. There are two kinds of raw material, things that are more-or-less everywhere (ubiquitous) and local raw materials. For the ubiquitous material (e.g. water), you have more freedom to locate, because it's commonly available. In this case, you should build your facility near your market, then you won't really need to transport much. We see examples of this in the locations of breweries and soft-drink manufacture.

On the other hand, if the material is only in a particular place (like bauxite), then you have some calculating to do. First you need to figure out if your manufacturing condenses, distills or otherwise shrinks your material. We call these processes bulk reducing. If you aren't doing that, but instead took small pieces and assembled them into something that was harder to transport (like a tractor) then it is called bulk-gaining. In order to minimize transport costs for bulk-reducing activities, you want to process them as close as possible to their extraction site. Examples of this are metal smelters and lumber mills.

Bulk-gaining processes are a little more complicated. You need to find the least cost point between your source materials (which may be numerous) and your market. Remember that the goal is overall lowest cost, so that involves many calculations to determine which is the cheapest location, meaning your location might be in between several your inputs and/or market. A general rule of this is that these sorts of businesses tend to be fairly close to their final markets.

There were two last considerations that Weber discussed, agglomeration and deagglomeration. Weber called them secondary factors, because they were less important than the previously mentioned characteristics. Agglomeration is related to the idea of economy of scale. Sometimes there are advantages to having similar industries near one another. Consider the manufacture of computers. Computer manufacturers don't make their own components, they buy them, and they use similar tools to put them together, and they use similar labor, and so forth. When industries concentrate in a place they can share some resources and split the cost. This is not to say that this is a conscious process, in many instances it just develops on its own. Degglomerative factors produce diseconomies of scale and are responsible for redistribution of industry. Examples of this could be escalating prices for land or labor which drive production away from an area.



Figure | Mills and Mines This is a photo of a lead mine in South Dakota in the 19th Century. Notice the large piles of waste

material left behind. Author | John C. H. Grabill Source | Library of Congress License | Public Domain

Reducing Transportation Costs

Containerization has greatly changed the nature and cost of transportation. In the past, transporting goods required large numbers of people to move goods around. People loaded and unloaded goods at break-of-bulk points. Break-ofbulk points were places like railroad terminals, where goods were loaded onto trains, or ports, where goods were loaded into ships. Break-of-bulk points had large numbers of people loading and unloading items. Containerization changed that process tremendously. Goods are now packed into large metal boxes, then the bokes are moved from point to point. Cranes move the boxes from trucks to trains to ships, then reverse the process the process at the shipping destination. Intermodal transportation assumes that a container will seamlessly be transported by any number of different shipping methods. The number of people necessary to ship goods plummeted. The speed at which goods moved increased tremendously, since the bottlenecks were removed from the system. Containerization is a good example of an innovation that did not require a large technological shift, it simply required rationalizing a system that was labor intensive. Logistics, the commercial activity of transporting goods, is the glue that holds the global production network together. Without relatively inexpensive shipping, many offshored industries would not be able to make goods in distant factories, ship them to other places, and still make a profit.



Figure | Shipping Containers Uniform size and shape allow for rapid transport and sorting at minimal cost. Author | Frank McKenna Source | Unsplash License | CC 0

Reducing Capital Costs

Operating an industry has more costs than materials, labor, and shipping. Other factors such as taxes, regulatory compliance, and financial incentive packages can either attract of repel manufacturing. These factors increased tremendously in importance. It has become possible for many industries to ignite a “bidding war” in order to secure increasingly advantageous incentives to locate in a particular place. Tax breaks, construction allowances and other benefits will be paid by the places that desperately struggle to attract industries. This has triggered what has been described as a race for the bottom as places promise more than they can afford in the hopes of securing outside investment.

Another consideration is access to capital. Businesses often need investment funds, or short-term credit. Being unable to secure capital prevents many businesses in developing countries from starting or continuing. Countries without banking infrastructure find it nearly impossible to raise sufficient money to develop their own industries. Companies in countries like this are forced to hunt for financial backing in other countries.

Risk

Industries have large sunk costs. Corruption can take advantage of this to demand bribes, protection money, or other expenses that siphon off profit. High levels of corruption inhibit investment. Industries are risk averse. Places that are politically unstable will also have difficulty industrializing, since companies will be reluctant to build in places where any investment could be lost in a revolution or other political violence. This doesn't mean that industry requires representative government. Many places have experienced tremendous economic development without democracy. It just means that companies have to feel that any money that they invest in a place is safe.

Accessing a Market

One of the interesting examples of this concept is the number of foreign companies that establish themselves in the United States. Companies such as Foxconn (Taiwan), Hyundai (Korea), and BMW (Germany) build products in the United States. A good question to ask yourself would be "Why do they do that?" It turns out that locating in the United States is advantageous for them. First, they can reduce shipping costs, we have already addressed that. Second, although labor in the United States is relatively expensive, it's not appreciably different than in their home markets. Third, they may be able to avoid tariffs on imports. Finally, being in the United States places these products near a large market. The North American market is very large, being embedded in it can be advantageous for some companies.

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11.14: The Expansion and Decline of Industry

The Expansion & Decline of Industry

Transnational Corporations

Modern industry has become dominated by Transnational Corporations. Transnational Corporations (TNCs) have the ability to coordinate and control various processes and transactions within production networks, both within and between different countries. They also have the ability to take advantage of geographical differences of factors of production and state policies. Potential geographical flexibility for sales is a final benefit.

Foreign Direct Investment (FDI) is exactly what is sounds like. Companies invest in other countries. The usual narrative of this in the United States is simply offshoring for cheaper labor. The reality is more complicated. Just consider the examples above of the manufacturers who build facilities in the United States. They aren't seeking cheap labor. America companies moving production may be seeking to tap into a large pool of labor, but that labor is not as cheap as it was 20 years ago. Another reason for investing in China is the same reason that other companies invest here in North America, to gain entry into a large market. Companies and individuals investing in other countries have numerous motivations. Some of these motivations are altruistic. There is no shortage of entities that seek to use FDI as a mechanism to alleviate poverty. The earlier critique of financial incentives applies directly of foreign direct investment, for obvious reasons. Poor and desperate places will sometimes make economic decisions that make little economic sense.

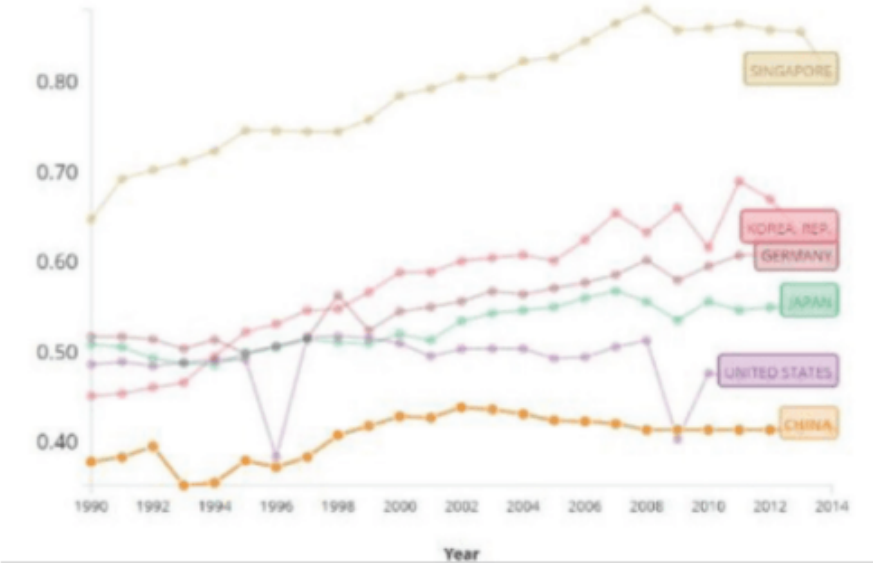


Figure | Medium-Tech And High-Tech Manufacturing Value Added Share In Total Manufacturing Author | The World Bank Source | The World Bank License | CC BY 4.0

FDI has an established history. Initially companies in wealthy countries were mostly interested in extracting raw materials from other, usually poorer, countries. This continues to this day. Countries like Niger, The Democratic Republic of Congo, and Venezuela function almost solely as a source of inputs for other companies based in other countries. Other places have seen investment in factories. Sometimes this is due to very low-cost labor, but in many instances, it is due to the fact that their wages are relatively low and they are relatively close to their market. An example of this was seen in Eastern Europe when many of these countries entered the European Union.

The next graph is slightly different. It shows the different trajectories of manufacturing in general as part of a country's economy. As you can see, manufacturing as a share of GDP in the United States has been quite low for some time. Manufacturing in China and Korea is much more important, but in both these places, the relative value of manufacturing is falling. In Germany, Japan and

Singapore, the value of manufacturing is rising, although at very moderate levels. Note that neither of these graphs account for wages produced from manufacturing employment.

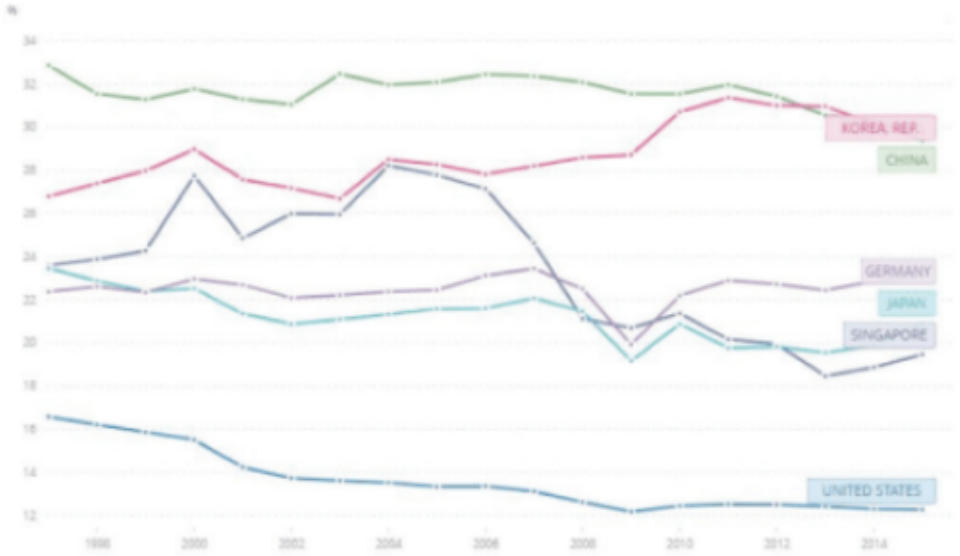


Figure 11.8 | Manufacturing Value Added Share In GDP Author | The World Bank Source | The World Bank License | CC BY 4.0

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11.15: Global Production

GLOBAL PRODUCTION

At times industrialization has propelled countries to great economic heights. Britain, The United States and Japan all rode an industrial wave to international prominence. In those countries and others, a (largely mythical) golden age centers around a time when low-skilled workers could earn a sufficient wage to secure economic security. This is more-or-less what the “American Dream” was. Deindustrialization has changed the economic trajectories of these countries and the people living in these countries. However, it must be noted that post-industrial countries have not seen rapid increases in poverty. Wages have been largely stagnant for decades, but they have not generally gone down. The largest difference has to do with relative prosperity for industrial and post-industrial countries. Countries such as Japan, the UK or the US are no longer far wealthier than their neighbors. In the same way that flooding a market with a particular product reduces the value of that product, flooding the world with industrial capacity lowers the relative value of that activity. Developing countries function as appendages to the larger economies in the world. The poor serve the needs of the wealthy. Industrialized countries buy goods from developed countries, or they license or copy technology and make the products themselves.

Space and Production

In the context of a globalized market, a factory built in one market may not built in another. This is not to say that producing goods is a zero-sum game, but there are limits to the amount of any good that can be sold. It’s a valid question to ask why transnational corporations (TNCs) have bought into China at rates far greater than in Cuba, Russia, or other Communist or formerly Communist (to varying degrees) countries? There is only so much spare capacity for production in the world. If one giant country (China) is taking all the extra capacity, then there will be none left for others. FDI is simply easier in China, since there is more bang for the buck. This is largely a function of population. The population of China is roughly two times the population of Sub Saharan Africa. And China has a single political/economic running class, as opposed to 55 different sets of often fractious political classes. If the industrialization of Africa happens at all, it will occur after China and its immediate neighbors who have been drawn into its larger economic functioning have largely finished their own industrializing. An example of this proximate effect is seen in the shift of some industries from China to Vietnam and Indonesia.

China’s industrialization had to do with promoting itself as a huge cheap labor pool, and as a gigantic market for goods. It successfully leveraged both of these characteristics to attract foreign investment, and to gain foreign technology from the companies that have invested in producing goods there. Industrialization overall seems to have slowed. The speed at which China industrialized has not been matched by other countries following China. One current idea is that the world is in a race between industrial expansion and rapid over capacity of production. In other words, the reason that industrialization isn’t expanding as rapidly as before is that we are already making enough goods to satisfy demand. Remember that goods require demand. Unsold goods don’t produce any income. If the factories in the world are already producing enough, or even too much, then new factories are much less likely to be built. Technological advances and the massive industrialization of China might have ended the expansion of industry.

It also appears that the highest levels of manufacturing income are well in the past. According to economist Dani Rodrik, the highest per capita incomes from manufacturing occurred between 1965 and 1975, and has fallen dramatically since then. This is even considering inflation. Many countries industrializing now only see modest improvements in income. This is related to supply and demand. When there are fewer factories, they make comparatively more money. When factories are everywhere, they are competing with everyone.

Trade

Even more than expansion of industrial production, the world has seen an expansion of trade. Global trade has produced an intricate web of exchanges as products are now designed in one country, parts are produced in 10 others, assembled in yet another country, and then marketed to the world. Consider something as complex as an automobile. The parts of a car can be sourced from any of dozens of countries, but they all have to be brought to one spot for assembly. Such coordination would have been impossible in the past.

Individuals can buy directly from another country on the internet, but most international trade is business-to-business. TNCs are able to conduct an internal form of international trade in goods that can be moved and produced in a way that is most advantageous for the company. Tax breaks, easy credit and banking privacy laws exist to siphon investment from one place to another.

Because of global trade, improvements in communication and transportation have enabled some companies to enact just in time delivery, in which the parts need for a product only arrive right before they are needed. The advantage of this is that a company has less money trapped in components in a storage facility, and it becomes easier to adjust production. Once again, such coordination at a global scale was not possible even in the relatively recent past.

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11.16: Deindustrialization

Deindustrialization

Historically industrialized countries were the wealthiest countries of the world. Industrialization, however, is now two centuries old. In the last decades of the twentieth century, deindustrialization began in earnest in the United Kingdom, the United States, and many other places. Factories left and the old jobs left with them. Classical economics holds that such jobs had become less valuable, and that moving them offshore was a good deal for everyone. Offshored goods were cheaper for consumers, and the lost jobs were replaced by better jobs. The problem with this idea is that it separates the condition of being a consumer from the condition of being a worker. Most people in any economy are workers. They can only consume as long as they have an income, and that is tied to their ability to work. Many workers whose jobs went elsewhere found that their new jobs paid less than their old jobs. 8.5.5 What Happens After Deindustrialization?

The simple answer to the above question is this. The service economy happens! As manufacturing provides fewer jobs, service industries tend to create new jobs. This is a very delicate balance, however. If you are a 50-year old coal miner whose job has been eliminated by automation, it is very difficult for you to simply change jobs and enter the 'service sector'. This transition is very damaging to those without the right skills, training, education, or geographic location. Many parts of the American Midwest, for example, have become known as the "rust belt" as industrial facilities closed, decayed, and literally rusted to the horror of those residents who once had good jobs there. The city of Detroit, for example, lost nearly half of its urban population from 1970-2010. Meanwhile the state of Illinois loses one resident every 15 minutes as job growth has weakened in the post-industrial age. However, job growth and productivity in the service economy have strengthened and provide more job opportunities today than the industrial era ever did in the U.S.

There are 3 sectors to every economy:

1. Primary (agriculture, fishing, and mining)
2. Secondary (manufacturing and construction)
3. Tertiary (service related jobs)

The vast majority of economic growth in the post-industrialized world comes in the tertiary sector. This doesn't mean that all tertiary jobs pay well. Just ask any fast-food worker if the service sector is making them rich! However, service sector jobs are very dynamic and offer tangible opportunities to millions of people around the world to earn a living providing services to somebody else. We can further break down the service sector into 1) public (the post office, public utilities, working for the government) 2) business (businesses providing services to other businesses) 3) consumer (anything that provides a service to a private consumer e.g. hotels, restaurants, barber shops, mechanics, financial services). Traditionally, service sector jobs worked very much like manufacturing jobs in that employees worked regular hours, earned benefits from the employer, gained raises through increased performance, and went to work somewhere outside of their home. Many service jobs in the 21st century, however, have been categorized as the gig economy, in which workers serve as contractors (rather than employees), have no regular work schedules, don't earn benefits, and often work in isolation from other workers rather than as a part of a team. Examples of 'jobs' in the gig economy include private tutor, Uber/Lyft driver, AirBNB host, blogger, and YouTuber. Work, in this economy, is not necessarily bound by particular places and spaces in the way that it did in manufacturing. Imagine a steel worker calling in to tell his/her boss that they're just going to work from home today! Even public schools have adapted to this model in the following manner. As schools cancel class due to weather, the new norm is to hold class online, whereby students do independent work submitted to the teacher even though nobody is at school. As such, some workers are freed up from the traditional constraints of time and place and can choose to live anywhere as long as they maintain access to a computer and the Internet. Services like fiverr. com facilitate a marketplace for freelance writers compose essays for others or for graphic artists to sell their design ideas directly to customers without every meeting one another.

The global marketplace continues to be defined as a place where the traditional relationships between employer and employee are changing dramatically. A word of caution is necessary here, however. As many choose to celebrate the freedom that accompanies flexible work schedules, there is also a darker side in that the traditional 'contract' and social cohesive element between workers and owners is very much at risk. One defining factor of the 20th century was the development of civil society that fought for and won a host of protective measures for workers, who otherwise could face abusive work conditions. Child labor

laws, minimum wage, environmental safety measures, overtime pay, and guards against discrimination were all based upon an employer-employee relationship that seems increasingly threatened by the gig economy. Uber drivers can work themselves to exhaustion since they are not employees. AirBNB hosts can skirt environmental safety precautions since they do not face the same safety inspections required at hotels. These are just a few examples, but they are very worth consideration. Regardless of the positives and negatives, the new service economy is having a transformative effect upon all facets of society. Although, the authors of this textbook are all geography professors with PhD's from a variety of universities, perhaps the next version of this textbook will simply draw upon the gig economy to seek the lowest cost authors who are willing to write about all things geographical. Will you be able to tell the difference? (We hope so!!!)

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11.17: End of Chapter Synthesis

Section Summary

Industrial production changed the relationship of people to their environments. Folk (pre-industrial) cultures used local resources and knowledge to hand-produce goods. Now the production of goods and the provisioning of services can be split into innumerable spatially discrete pieces. Competition drives the costs of goods and services downward providing relentless pressure to cut costs. This process has pushed industrialization into most corners of the world as companies have looked further and further afield to find cheaper labor and materials and to find more customers. Industrialization has fueled a change in lifestyle, as goods have become cheaper, they have become more accessible to more people. Our lives have changed. We now live according to a schedule dictated by international production.

Key Terms

Back office services – interoffice services involving personnel who do not interact directly with clients.

Break-of-bulk point – point of transfer from one form of transport to another.

Bulk reducing – industrial activity that produces a product that weighs less than the inputs.

Commodification – The process of transforming a cultural activity into a saleable product.

Containerization – transport system using standardized shipping containers.

Deindustrialization – process of shifting from a manufacturing based economy to one based on other economic activities.

Economies of scale – efficiencies in production gained from operating at a larger scale.

Footloose capitalism – spatial flexibility of production.

Fordism – rational form of mass production for standardizing and simplifying production.

Gig economy – a labor market characterized by freelance work.

Globalization – the state in which economic and cultural systems have become global in scale.

Intermodal – transportation system using more than one of transport.

Just in time delivery – manufacturing system in which components are delivered just before they are need in order to reduce inventory and storage costs.

Locational criteria – factors determining whether an economic activity will occur in a place.

Logistics – the coordination of complex operations.

Outsourcing – shifting the production of a good or the provision of a service from within a company to an externals source.

Offshoring – shifting the production of a good or the provision of a service to another country.

Supply chain – all products and process involved in the production of goods.

Taylorism – the scientific management of production.

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ENDNOTES

1. Data source: World Bank. https://tcdata360.worldbank.org

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12: DEVELOPMENT GEOGRAPHY

12.1: Chapter Introduction and Objectives
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12.3: How Does a Country Improve Its Wealth and Well-Being?
12.4: Protectionist Model
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12.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

Learning Objectives

- **Understand** the concepts of global, national, and regional development and their interconnections.
- **Explain** various trade models, including free trade and protectionist models, and their impacts on development.
- **Analyze** the role of microfinance in fostering economic development, particularly in developing regions.
- **Describe** the stages of economic development and the factors that influence progression through these stages.
- **Evaluate** the effectiveness of different development strategies and policies at global, national, and regional levels.
- **Understand**: the primary measures and terms associated with wealth, poverty, economic growth, and social improvement for gauging levels of development by region and country
- **Explain**: the two paths to development and the attendant strengths and weaknesses of each.
- **Describe**: Regional differences in economic and social development across the world
- **Connect**: the processes of globalization to development efforts and outcomes that vary dramatically by place

Chapter 12: Development Geography

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Introduction: Development & Geography Section

If you could choose anywhere on the planet, where would you like to live? Would you choose a place with mountains or with beaches? A place with high taxes or few regulations? Do you love your community/state/country? Could you make more money somewhere else or might you be happier with warmer/colder weather? Do you think that you are able to realize your full personal potential in the place where you live now? Why or why not? Your answers might vary greatly from other people around the world based upon what language you speak, your religious preferences, your cultural framework, and your own personal values. Nonetheless, there are certain indicators that geographers can use to categorize places according to how developed they are in terms of technology, infrastructure, wealth, and opportunity. As you might guess, the differences between places can be quite stark, but it's important to understand the dynamics and geography of the patterns and processes associated with income, well-being, and opportunity. This chapter explains how those distinctions are made and how they vary across time and place using the concept of development (the processes related to improving people's lives through access to resources, technology, education, wealth, opportunity, and choice).

Which places on earth are the most developed? There is no simple answer to this question. San Francisco is often voted as the most beautiful city in the U.S. but the cost of living makes this place unaffordable for all but the wealthiest of residents. Ancient cities like Jerusalem, Athens, and Baghdad contain amazing architecture and the roots of western civilization, but streets also tend to be narrow and housing crowded. China has experienced the fastest economic growth of any other country in the past 30 years, but it is accompanied by catastrophic levels of air pollution, poor working conditions, and severe limits on personal liberty. Within the United States, people in Colorado tend to be the healthiest while those in Utah have the largest houses and people in Texas are the most loyal to their home state. There are multiple ways to measure development, and geographers spend a great deal of time and effort studying, measuring, and quantifying the differences and commonalities.

A few general truths about development and wealth in our 21st century world can simplify the complexity:

1. The world continues to be divided into the Global North and Global South by the Brandt Line (See Figure 9.1). Levels of wealth, wellbeing, access to technology, and health tend to be higher in northern countries than in southern ones. The line is problematic because it over-generalizes, but it remains a meaningful starting point to understanding development from a global scale.

2. The majority of people living in the 21st century have a higher standard of living, earn more money, are healthier, and live longer than was the case for people 50 years ago.
3. In spite of #2, the wealth disparity between those at the bottom and those at the top remains greater than ever before. According to Credit Suisse's global wealth report, the globe's richest 1% (of people) control more than half of the world's wealth, up from 42.5% in 2008.

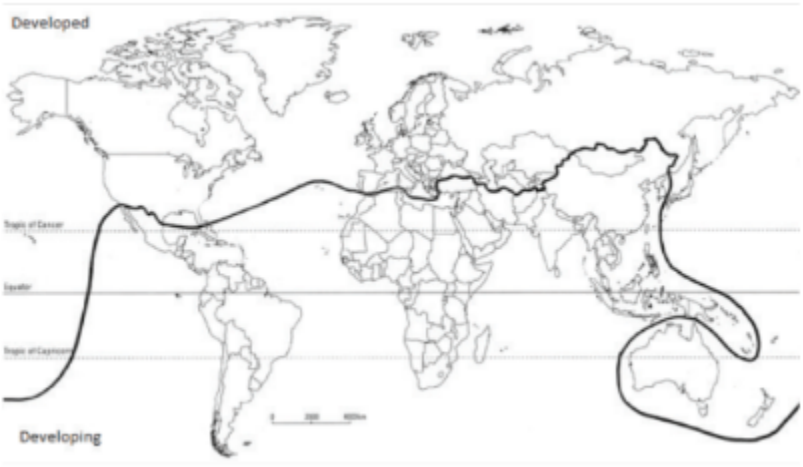


Figure | The Global North as defined by the Brandt Line in 1980 Author | User "Jovan.gec" Source | Wikimedia Commons License | CC BY SA 4.0

Important Terms & Concepts from this section

People in more developed countries (MDC) and less developed countries (LDC) experience the world very differently, but let's think about the meaning of such terms. MDC's tend to have higher incomes, levels of technology, infrastructure development, and life expectancies while LDCs tend to have lower levels of those and other indicators. The simplest measure to consider is income. The World Bank (more on this institution later in the chapter) places countries into 4 categories. In 2017, low-income economies were defined as those with a gross national income (GNI) per capita, of $1,025 or less in 2016; lower middle-income economies are those with a GNI per capita between $1,026and $4,035; upper middle-income economies are those with a GNI per capita between $4,036 and $12,475; high-income economies are those with a GNI per capita of $12,476 or more. The map in Figure 9.2 displays the general geographic patterns associated with the 4 categories. Take a moment to look at the map to see if any of the countries or regions surprise you. For example, are all African countries in the same category? What about countries in Latin America or Asia? Which country is in a higher category, China or Russia?

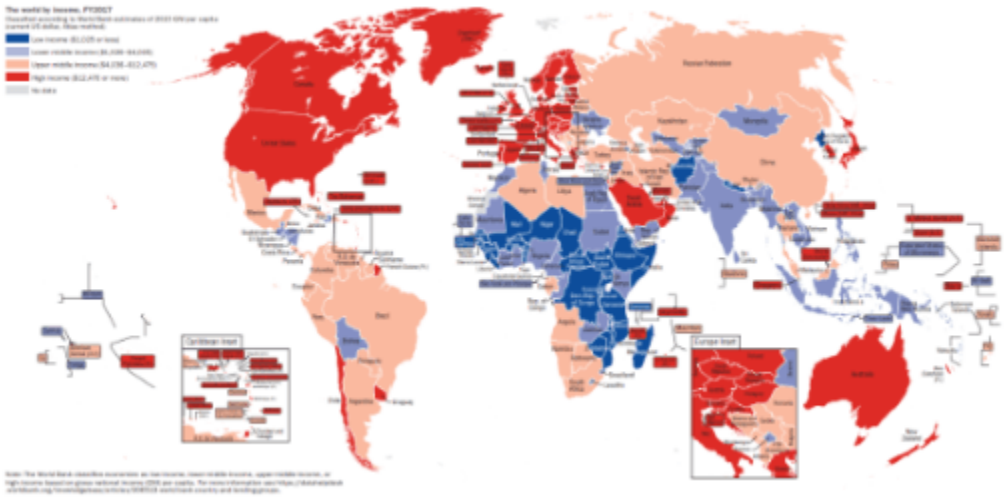


Figure | Income Categories for Countries as Defined by the World Bank in 2017 Author | The World Bank Source | The World Bank License | CC BY 4.0

Now that you have pondered these categories and spatial patterns, let's take a step back. What exactly is meant by Gross National Income per capita? It is the sum of a nation's gross domestic product (GDP) and the net income it receives from overseas. GDP includes all of the goods and services produced with a country in a given year and is calculated according to the following formula: Consumption + Investment + Government Spending + Net exports. So if a government increases spending on the military or on road construction in a given year that will increase GDP (and GNI). If a country imports a lot of things but doesn't export many things, it will decrease that country's GDP (and GNI). Finally, if consumers buy a lot of alcohol for New Year's Eve, that will also increase GDP (and GNI). GNI also includes income derived outside of the country by members of the country. For example, Coca Cola, headquartered in Atlanta, Georgia, earns profits in 200 different countries around the world. Those profits outside of the U.S. are not included in GDP, but they are included in GNI. It's a little confusing, but this measure provides a valuable way to compare economic outputs between multiple countries and is the metric that is most often used in recent years. The total GNI for a country is divided by the total population of that country to arrive at a per capita figure, which includes children, the elderly, those imprisoned, etc. So, the figure of $12,476 does NOT mean that the average adult earns that amount annually as income, but rather it represents total income and economic output divided by the total population. Take a look at the cartogram in Figure 9.3, which shows countries represented, not by their physical size, but by the size of their respective GNI. Table 11.2 shows the top 15 countries by GNI, with the United States ranked at the top and China second. The next table shows countries ranked according to GNI per capita (per person). Notice how the list of the top 15 countries changes dramatically. Can you think of reasons to explain why this might be? First, small oil-producing countries tend to have high incomes that are spread across a small population (e.g. Qatar, United Arab Emirates, Brunei). Second, countries with high incomes, high exports, and few children (e.g. Singapore and Switzerland) have high GNI. Third, certain small countries attract very wealthy member of society to live there in order to avoid paying higher tax rates elsewhere (e.g. Switzerland, Isle of Man, and Bermuda).

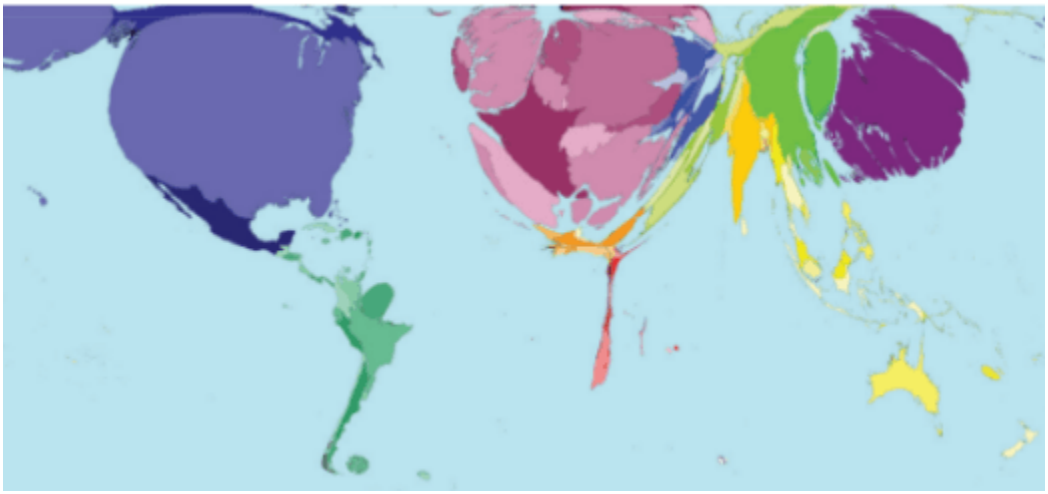


Figure | Gross National Income by Country Author | © Copyright Worldmapper.org / Benjamin D. Hennig Source | WorldMapper License | CC BY NC ND 4.0

The difference between GNI and GNI per capita tends to be more pronounced in large, highly populated countries. The U.S. and China, for example, are the top two countries for total GNI, but neither appears in the top 15 for GNI per capita, in which the U.S. ranks 18th ($58,700 per person) and China drops all the way to 103 ($15,500 per person). A final important term useful to understand economic differences is Purchasing Power Parity (PPP). The PPP accounts for differences in the cost of living and goods between 2 places to allow for a more meaningful comparison. Think about it this way. If you earned $60,000 per year in New York City or in Lincoln, Nebraska, where would your salary be more valuable? Most items are cheaper in Lincoln, so your salary would be worth more there than in NYC. Similarly, the cost of living in Mexico is much lower than in Sweden, so the PPP figures in Table 11.1 account for such differences. If you are considering a move, you can check on salary equivalencies here: http://money.cnn.com/ calculator/pf/cost-of-living/index.html.

Ranking	Economy	(millions of US dollars)
1	United States	18,357,322
2	China	11,374,227
3	Japan	4,816,892
4	Germany	3,624,638
5	United Kingdom	2,778,488
6	France	2,590,030
7	India	2,212,306
8	Italy	1,923,095
9	Brazil	1,835,993
10	Canada	1,584,301
11	Russian Federation	1,425,702
12	Korea, Rep.	1,414,400
13	Australia	1,313,016
14	Spain	1,281,828
15	Mexico	1,153,529

Ranking		Economy	Purchasing power parity (international dollars)
1		Monaco	..
2		Qatar	125,000
3		Liechtenstein	..
4		Channel Islar	..
5		Macao SAR,	98,650
6		Isle of Man	..
7		Singapore	85,190
8		Kuwait	83,310
9		Brunei Darus	83,170
10		Gibraltar	..
11		United Arab	72,980
12		Luxembourg	70,430
13		Bermuda	..
14		Switzerland	63,660
15		Norway	62,550

World	**16,161**
East Asia & Pacific	17,023
Europe & Central Asia	30,825
Latin America & Caribbean	15,027
Middle East & North Africa	19,619
North America	57,163
South Asia	6,063
Sub-Saharan Africa	3,613

Figure | Gross National Income & Gross National Income per capita (PPP) in 2016 Author | The World Bank Source | The World Bank License | CC BY 4.0

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12.2: Global, National, Regional and Local Patterns

Global, National, Regional & Local Patterns

How Fast Does the Global Economy Grow and How Much Money Is There in the World?

With 78 of the world's more than 200 countries and territories categorized by the World Bank as high and 64 are low or lower middle income, it is tempting to believe that wealth distribution might be relatively balanced in the world. After all, more people than ever are connected to the global economy. Instead, inequalities have been exacerbated by global capitalism in recent years. Jeff Bezos, the founder of Amazon, has a net worth of $105 billion, a figure that is larger than the annual GDP of 150 countries! Meanwhile, 800 million people earn less than $2.00 per day. Such click-bait worthy headlines, while fascinating, can also be misleading. Thirty-five percent of the world lived in extreme poverty in 1990. By 2013 that figure dropped to 11%, representing a shift of nearly 1.1 billion people out of extreme poverty. Nonetheless, economic differences between most wealthy countries compared to most poor countries have widened over that same period rather than narrowed.

The number of those entering the formal economy rose dramatically during that time period, so categorizing somebody as not in 'extreme poverty' simply because they earn more than $2.00 a day is also quite problematic. The majority of those that rose out of extreme poverty were in just two countries (India or in China), where hundreds of millions of people left unpaid work on subsistence farms and moved to cities, where they earned just a little bit of money. Does that make a country more developed or a person better off? In economic terms, the answer is yes, but in more qualitative terms, the answer is not quite so clear.

The global economy has grown persistently since 1960 as evidenced by Figure 9.5, with the most dramatic growth occurring since 2000. As a matter of fact, global GDP nearly doubled between 2002 ($34.6 trillion) and 2016 ($76 trillion)! So it took all of the economies of the planet tens of thousands of years to go from zero to $34 trillion, but then only 14 years to double that figure. Hmmm. Does this represent sustainable development – one that can continue into the future? Moreover, can the planet handle the effects of continued growth, consumption, CO2 emissions, and water pollution across the world at such a persistent growth rate? Such questions are difficult to assess and will be dealt with more substantially in the last chapter of this text. For now, it's important simply to understand that economic growth is just one of many indicators used to understand development and well-being, and the implications for economic growth come with complications. Finally, economic growth across the planet is uneven and difficult to predict. In spite of what appears to be a fairly even upward movement in global GDP, one can see more clearly the complex nature of GDP growth in Figure 9.5 that shows the wild changes in growth that vary dramatically by place and time. In the 20 years from 1996-2016, Russia (an upper tier country) experienced many years of negative growth, while Rwanda (a lowest tier country) experienced rates of growth up to 14%, much higher than that of any other country. U.S. growth was negative in 2009 and has hovered around 2-3% in subsequent years. China's annual growth, that had averaged 12% for several years dropped to around 7%, where it is expected to remain into the 2020's.

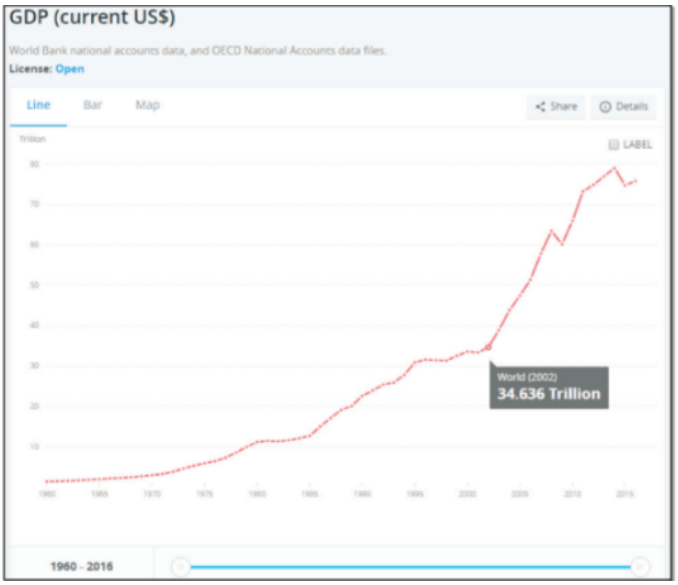


Figure Gross Domestic Product 1960-2016 in current US$ Author | The World Bank Source | The World Bank License | CC BY 4.0

The most basic spatial patterns of wealth and income can be easily observed in the maps and figures presented thus far in this chapter. Wealthier countries tend to be those in the Global North (North America, Europe, Japan, Australia, New Zealand), while poorer countries tend to be in the Global South (everywhere else). However, such generalizations are problematic in truly understanding wealth and well-being around the planet. Let's take a brief look at Latin America, for example. Mexico, by most accounts, is considered a developing country (another name for 'less developed country' that is on a pathway to improving). It falls south of the Brandt line, and is considered poor by most American standards. However, its per capita income places it in the top third of all countries and its economy is the 15th largest in the world. Carlos Slim, once the wealthiest person in the world, is Mexican and its economic performance far outpaces all of its neighboring countries to the south. The difference in economic indicators between Mexico and Haiti, for example, is greater than the difference between Mexico and the U.S. As such, it's important to be wary of simplistic categorization schemes in terms of wealth and development.

Moreover, in recent decades dozens of newly industrialized countries (NIC's) have emerged that have reached or approached MDC status. Such places have moved away from agriculture-based economies to more industrial, service, and information-based systems. One example is a group of places known as the Asian Tigers or Asian Dragons (Singapore, South Korea, Hong Kong, and Taiwan), where massive investment in infrastructure and education facilitated an equally massive transformation of the economy in a very short period of time. South Korea, for example, lay in ruins at the climax of its civil war (1953), but has miraculously risen to a level of wealth similar to that of Italy. Another group of countries termed the BRICS (Brazil, Russia, India, China, and South Africa) fall outside of the Global North, but have experienced dramatic economic growth, raising its collective share of the global economy from 11% to 30% in just 25 years. Those countries continue to wield more political power in direct relation to the rise in economic might, and this could shift the economic, social, and political landscape of the world in the coming decades. Another group of NIC's are the oil-rich Gulf States of Qatar, United Arab Emirates, Saudi Arabia, Kuwait, Iran, and possibly a few others. Such entities have accumulated massive amounts of wealth as a result of absolute advantage, the abundance of rare and high-valued commodities. Other countries enjoy absolute advantage due to climatic conditions for growing coffee, tobacco, tropical fruit, etc. The high price of oil and its concentrated supply, however, have facilitate massive economic growth in places that were traditionally poor and less developed than in recent years. Perhaps you are familiar with some of the recent development projects in this region of the world. The tallest building in the world (Burj Khalifa) and the world's most ambitious set of artificial island construction projects are both located in the United Arab Emirates (UAE) (Figure 9.6) as evidence of the Gulf States development efforts in the 21st century.

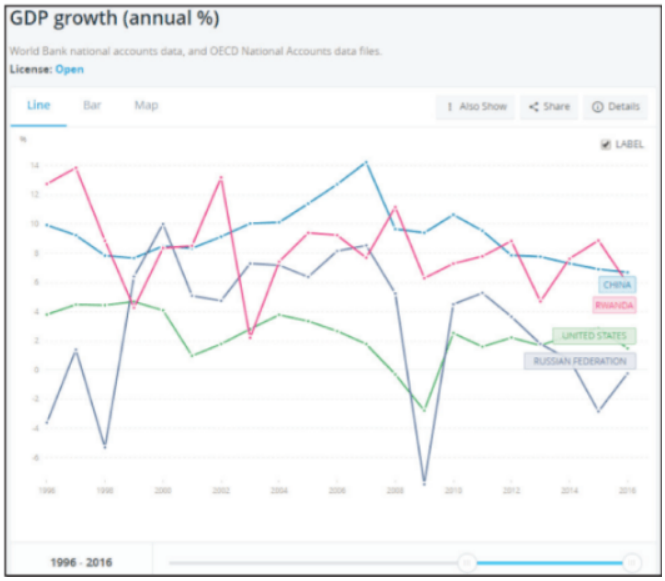


Figure | Annual Growth Rates in GDP, selected countries, 1996-2016 Author | The World Bank Source | The World Bank License | CC BY 4.0

In spite of the obvious wealth benefits that accrue in oil-rich or other resource laden countries, they can also suffer what's termed the Resource Curse (aka Dutch Disease), as the benefits of a highly valuable commodity do not spread to other members of society and violence/conflict emerge as groups fight over the resource. While income may be very high, millions of workers continue to face horrendous work conditions directly related to development efforts. In Qatar, for example, thousands of workers have died during the massive construction of new stadiums and other infrastructure required to host the World Cup in 2022. Other examples of Dutch Disease can be found in Nigeria (oil), South Africa (diamonds), and the Democratic Republic of Congo (coltan).



Figure | Burj Khalifa, Dubai, United Arab Emirates Author | User "Donaldytong" Source | Wikipedia License | CC BY SA 3.0

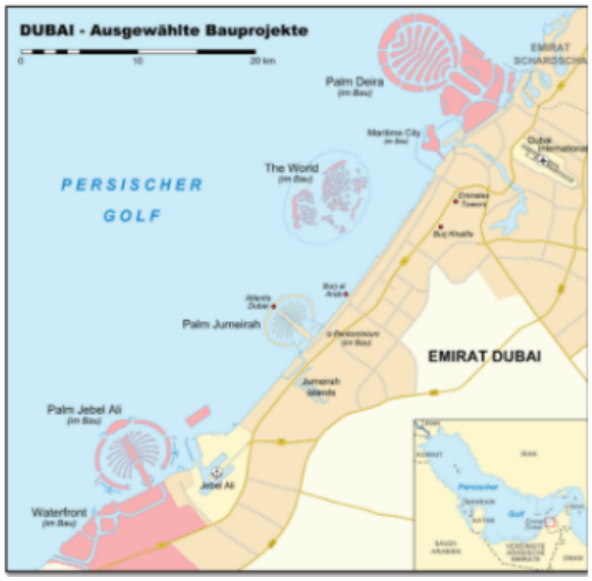


Figure | Artificial Island Construction, Dubai, United Arab Emirates Author | User “Lencer” Source | Wikimedia Commons License | CC BY SA 3.0

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12.3: How Does a Country Improve Its Wealth and Well-Being?

How Does a Country Improve Its Wealth and Well-Being?

The International Trade Model

The characteristics of this model are quite simple on the surface. In this strategy, a country embraces free trade (removing barriers to all imports and exports in a country) and willingly participates in all facets of the global economy. The basic benefits of the strategy are as follows:

1. Potential High ROI (Return on Investment)
2. Increased specialization leading to technological advantages
3. Simplified development strategy
4. Less government involvement

Libraries of books have been written about the transformative power of capitalism and other libraries of books have criticized the system. The international trade model asserts that trade between nations is the best way to bring about mutual prosperity for all. As a country removes barriers to trade, there will invariably be winners and losers, but classical macroeconomics (the branch of economics that focuses on entire systems rather than individuals or firms) theory posits that the overall benefit will be greater than the losses. The U.S. has championed the strategy since the end of WWII (1945) as it encouraged allies, neighbors, and adversaries to open borders, allow imports, and reduce controls on the free exchange of goods and services between countries. The European Union has done the same as it moved towards a common currency and a free flow of goods and services throughout Europe. The Asian Tigers and BRICS also embrace the global trade system to various degrees, having gained enormous growth in wealth following a recipe that calls for an intensive export oriented economy.

Countries following the strategy remove domestic producer subsidies and allow global competition to decide the 'winners' and 'losers'. As such, countries must find specific services and industries in which to gain specialization. South Korea, for example, elected to focus on low-end electronics initially before moving into other sectors such as ship-building and automobiles. Initially, the products were inferior to those produced elsewhere, but with each generation it improved its workforce, technical knowledge, and facilities until it gained a comparative advantage (ability to produce particular items/services more efficiently than competitors given all the alternatives) in those industries. Specialization requires a lot of practice with an intensity of focus, investment, and time to gain price and quality competitiveness on the global market, but if done correctly the rate of return on investment can be very high. For example, in the post-Korean War era (circa 1953), South Korea transitioned away from an economy based mostly on farming to become the 7th leading exporter in the world, specializing in cars, auto parts, ships, and integrated circuits. Moreover, the technological knowledge can then be used to foster other industries. Under this strategy, governments don't try to protect certain companies over others, and since tariffs are removed, it simplifies the development strategy.

As countries gain comparative advantages in certain areas, they also tend to relinquish efforts in other areas. For example, as Japan focused on developing its industrial sector after WWII, it focused less on agriculture, depending increasingly upon imports from other countries. Such a trade-off is termed opportunity cost in that choosing to do one thing prohibits you from doing something else. During the 1980's era, the United States aggressively pursued an international trade model that allowed for more manufactured goods to be imported into the country. People working in areas like steel production, and coal mining began to see their job opportunities diminish as more foreign goods entered the U.S. economy. Proponents of the system argue that such workers need to adapt and become re-trained in other high paying professions in order to escape the pain that comes with economic transformation. Can you think of other industries or jobs that suffer as a result of a country's choice to follow the international trade model?

A few other negative aspects to the strategy are:

- Susceptibility to unpredictable global markets
- Loss of local control
- Uneven benefits to the population.

Take a look at Figure 9.8. The dramatic price shift (first upward and then downward) represents the dramatic risk associated with global trade. For a farmer that has shifted away from food production and into palm oil (as did millions of farmers in Indonesia and Malaysia in the 2000's), this price drop is more than just economic theory. It can be the difference between living and dying. Focusing on a few key industries or products within a country comes with serious risks. What if prices drop unexpectedly or global preferences for certain products change without warning? Somebody gets left holding the bag and such shifts are very common in many commodity chains, with those at the bottom suffering the most serious consequences.



Figure | Palm Oil Prices, 2000-2009 Author | Todd Lindley Source | Original Work License | CC BY SA 4.0

The second risk, loss of local control, occurs when countries have entered into free-trade agreements such as the North American Free Trade Agreement (NAFTA) between Mexico, the U.S., and Canada. As U.S. corporations increasingly began to relocate production to Mexico, American workers' calls for politicians to intervene went unanswered because the agreement prevented state or local governments from taking intentional actions to protect jobs or to keep companies from moving.

Finally, international trade has generated significant growth in production and wealth, but it also brings new competition that disrupts local economies. While customers usually benefit from lower prices of imported products, many local producers lose their livelihoods entirely. As the U.S. lost manufacturing jobs to Mexico, more than 2 million small-scale Mexican farmers also lost their jobs, as Mexican corn could not possibly compete with the low-cost, mass produced crops from the U.S. and Canada. Corn exports to Mexico in 2016 were 5 times higher than in the year before NAFTA. It is not an accident that rates of immigration from Mexico to the U.S. increased dramatically during the same period. As farmers lost their jobs, they moved in search of new ones.

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12.4: Protectionist Model

The Protectionist Model

As you probably have guessed from its name, the protectionist model (also known as import substitution) requires that countries sustain themselves without significant trade with other countries. Protectionist policies are applied to safeguard domestic companies from foreign ones. The theory behind this strategy is grounded in the idea that over-reliance on foreign labor, products, and/or services can be detrimental to national sovereignty and/or security. As such, the strategy became very popular among countries that gained independence after many years of imperialism and colonization. India, Jamaica, the Philippines, the former Yugoslavia, the former Soviet Union, and most countries in the Caribbean and in Africa embarked up this strategy from the 1950's-1980's. Yugoslavia, for example, produced its own car, called a Yugo, and India did the same. These automobiles were designed to be affordable for domestic consumers, but in both cases the strategy failed to produce a reliable, affordable product and left consumers without access to better alternatives imported from Germany, Japan, or the U.S. Protectionism is closely tied to nationalism in many cases as politicians and/or consumers ask the basic question, "Why don't we take care of ourselves, by ourselves, rather than depending on workers and producers from other parts of the world?" How does this question relate to your own opinions about whatever country you live in or were born in? Does the argument make sense to you?

By the 21st century, the vast majority of countries in the world turned away from protectionism as a strategy in favor of adopting an international trade oriented economy. Nonetheless, protectionism does offer certain advantages worthy of consideration such as:

1. More controlled decision-making
2. Benefits spread to more members of society
3. More government involvement
4. Food security

Decision-making by governments can be more controlled and policy decisions can be easier to make and policies can be designed to benefit and spread to more members of society under protectionism. Until 1993, for example, corn farmers in Mexico were protected from cheap corn produced in the U.S. and Canada, because of restrictions on imports. Most of the millions of small-scale corn farmers in Mexico could grow enough corn for their own families and produce a small surplus to be sold locally, providing a small but meaningful wage for millions of families. Protecting farmers from outside competition offered a measure of predictability, political stability, and food security from one year to the next. Mexico is also blessed with generous reserves of oil and traditionally the government has controlled domestic oil and gas prices, which again can bring a certain level of predictability to consumers as opposed to the wild shifts in prices that can often accompany imported oil.

Disadvantages to this isolationist strategy are probably apparent to you as you read and think about this topic. A few of them are listed here:

- Susceptibility to corruption, inefficiency, and slow response to market conditions
- Lacking in creativity and innovation
- Absence of natural resources in some places necessitate trade to meet demand

When a government protects a company from outside competition, there is a tendency for that company to become susceptible to corruption. Since 1938 a single oil company called Pemex had exclusive rights to drill, process, and sell oil within Mexico, which provided a huge source of revenue, protected jobs, and helped build national pride. In recent decades, however, the company increasingly found itself entangled in one scandal after another involving bribes, kickbacks, and various schemes that have kept gasoline prices at the pump artificially high. In 2013, however, Mexico began reforms known as market liberalization (a process of removing barriers to foreign-owned companies from operating and competing with domestic ones), allowing BP, Shell, and other companies to import petroleum and open gas stations in certain parts of Mexico. Such a shift is having a serious impact upon the national landscape both symbolically and materially as residents have a choice between competitors for the first time in 80

years!



Figure | Nationally Owned/Operated Gas Stations in Mexico Author | User “Diaper” Source | Flickr License | CC BY 2.0

Aside from corruption, another drawback to isolationism is the lack of creativity and innovation that otherwise comes from fierce competition. Venezuela, a country that has resisted international trade in favor of protectionism, currently is suffering from massive shortages in food and other necessary consumer items as domestic producers have failed to innovate and respond to consumer demand. Meanwhile, global supply chains of rice, beans, corn, tomatoes, mangoes, coffee, sriracha sauce, and fidget spinners have constantly evolved, innovated, and changed to efficiently provide for the demands of consumers internationally whether they happen to be in Sydney, Seoul, Santo Domingo, or Sao Paulo! It is very difficult for governments to plan for and anticipate the needs of an entire society for any length of time. Protectionism requires a government that can match consumers and producers efficiently, a task often handled much better by free-market forces than by public officials.

The final element that makes protectionism so problematic rests in simple geography. All countries have different conditions related to site, situation, climate, or natural resources, so trade isn’t just advantageous but rather it is essential to survival. An extreme case can be found in North Korea, a country with notoriously tightly controlled borders. Without trade the country routinely fails to produce enough rice, leaving millions desperate and undernourished. Likewise, China faced similar droughts, food shortages, and periods of starvation when it favored protectionism for most of the 20th century, but it began to reverse its strategy as it cautiously opened its economy to the rest of the world in the early 1980’s.

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12.5: 2 Models in Global Context

The 2 Models in Global Context

After reading the brief summaries of the 2 models above, you might ask yourself why any country would choose a protectionist model, given the obvious advantages and drawbacks of each. Most economists say the same thing. We need to exercise caution with overly simplistic conclusions, however. Here is where geography and history are worth careful consideration. Let's begin with Caribbean islands (most of them anyway). The majority of Caribbean countries were colonies until just very recently (1960's onward). During the colonial period, European powers established a monoculture (agricultural system heavily focused on a single item) plantation economic system in which particular islands or territories focused exclusively on one item such as sugar, bananas, or pineapple. Upon independence, many of these former colonies found that they had very little diversity in their own domestic economy, meaning that even after earning their freedom they were still almost entirely dependent upon the former colonizer economically because the plantation economy created a relationship of dependency. The concept of dependency theory explains the economic problems experienced by former colonies as a function of the disadvantageous terms and patterns of trade established over hundreds of years. Look at it this way. If all of the grocery stores around you closed permanently, would you be able to head into the wilderness tomorrow to find your own food? Would you know which berries are safe and which are poisonous? Probably not. This was the situation in which many former colonies found themselves, so it made sense for them to attempt to protect themselves from outside competition while domestic companies could emerge and develop. Moreover, world systems theory suggests that the global system of trade only works as long as there are a persistent set of winners (more developed countries), who mostly benefit from low-cost production in poor countries, and losers (less developed countries) that provide a readily available supply of laborers willing to work long hours for low wages.

While many countries have clearly benefited from the international trade model, others have actually been damaged by their participation in global competition. Ethiopia's largest export, for example, is coffee and although retail prices for a cup of coffee have increased dramatically, incomes of coffee farmers in that country have not reaped any of those benefits. Instead, prices paid for coffee beans have routinely been set by foreign commodities markets that tend to undervalue the product and harm small producers, leaving only large producers with a meaningful profit. Although just 3 cents more per kilo could bring these farmers out of poverty, global markets don't account for such disparities. One remedy for such a complicated problem is fair trade, a system that guarantees a basic living wage for those at the very bottom of the global production cycle.

Another meaningful problem with global trade is that it can be very disruptive and unpredictable. Following years of state controlled markets, Russia began to open itself to foreign competition and free-market reforms after 1989. While Western countries applauded the decision, many people in Russia suffered as they experienced a lower quality of life, loss of jobs, and massive economic and political instability. Social problems, most notably high unemployment and alcohol abuse, began to dominate society as life expectancy actually dropped significantly for Russian men, many of whom could not adapt to the new demands of a fully market based economy.

In summary, the decisions made by any country about the best path to increase development are not so clear. Leaders and policy-makers face very difficult, often contradictory decisions that vary from place to place, about how to make things better for citizens and residents. Moreover, what might be good in the short term, can be problematic in the long-term. For example, Jamaica's decision to protect its farmers from outside competition benefited local farmers in the short term, but the island government's subsidies to farmers proved too costly for the government in the long term. When the money ran out, the country found itself in crisis. Collectivist societies are particularly threatened by international trade models in that many traditional forms of society do not encourage competition, but rather they value cooperation for the good of the group over the desires of any individual. Finally, any development strategy that values short-term benefits over long-term costs is clearly problematic. As India and China have embraced international trade, for example, unprecedented levels of air and water pollution have become the norm in Shanghai, Bombay, Delhi, and Beijing (among others).

> **Sustainable Development** is a strategy that balances both current and future benefits and costs and attempts to balance them with any possible environmental damage (e.g. oil spills, loss of habitat, erosion, increased pollution, dangerous waste) that might occur.

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12.6: Rostow's Stages of Economic Development

Rostow's Stages of Economic Development

Do all countries follow a similar pattern of development over time? This is a simple question that does not have a simple answer. Just as different people each follow different career paths, depending upon their own unique talents, strengths, and weaknesses, the same is true of countries. While the Asian Tigers have successfully demonstrated the power of embracing an export-oriented economy, countries like Brazil, Jamaica, and South Africa have also embraced global trade but failed to achieve similar results in spite of grand efforts and reforms. Nonetheless, the dominant and consistent advice from Western countries (in the Global North) is for poorer countries to reject protectionism in favor of trade and globalization. Much of the debate is informed by economic theory that argues that the more we trade with one another, the more stuff there is for all of us – and who doesn't want more stuff, right? A leading proponent of trade was an American government official named Walter Rostow, who developed a model known as Rostow's Stages of Growth in 1960. He argued that countries historically follow a similar and predictable pathway to wealth and stability and that each country is in one of the 5 stages of growth described below:

1. **Traditional Society**: characterized by subsistence agriculture with intensive labor and low levels of trade in which most live on small farms, are mostly focused on local concerns, and remain largely disconnected from the rest of the world.
2. **Preconditions for Take-off**: initial manufacturing stage, beginning of trade, new ideas, emergence of banks, but society is still dominated by tradition.
3. **Take-off**: a short period of massive disruptive societal change, in which industrialization accelerates, high profits are reinvested in new technologies, often brought on from external forces.
4. **Drive to Maturity**: takes place over a long period of time, as standards of living rise, economic growth outpaces population growth, use of technology and education increases, and the national economy grows and diversifies.
5. **Age of High Mass Consumption**: final stage, in which most enjoy the luxury of consuming far more than they need. Advanced economies have a surplus that can be used to increase social welfare and reduce risks to society. (Rostow believed the U.S. had reached this stage in the 1920's, Western Europe and Japan in the 1950's and the Soviet Union could potentially reach it if it changed its political system).

Rostow's ideas represent the concept of modernization theory, which is the widely held belief that, with the proper intervention each country will pass through a similar pathway of development. Modernization geography recognizes the large disparities that exist from one place to another across the globe and represents an attempt to bring prosperity to places that have been left out or left behind. The goal to address such differences worldwide represents a shift in scale from one in which each country looks after itself to a new paradigm in which wealthy countries felt a keen responsibility to 'bring' development to those across the world, in what's been dubbed the 'development project'. The best evidence of this global effort can be seen in the Millennium Development Goals, which were a series of 8 measurable outcomes decided upon by 189 world leaders in 2000 that were to be achieved by 2015. Although not all of the goals were achieved, significant progress was demonstrated across most of the 8 goals. Much of the progress, however, has been found in Asia – most notably in China, where nearly 200 million people have left farms and moved to cities to work in manufacturing jobs, which pay far more than what they could earn as farmers. Critics of Rostow's model point out that it doesn't account for geographic differences, historical variations, or the long-standing effects of colonialism and they also argue that the model is more of a political document (critical of communism and triumphant of capitalism) than it is a serious economic blueprint for success. Nonetheless, efforts have been spearheaded by Europe and North America to jumpstart all economies of the world into action, so that all can eventually reach the age of high mass consumption. Can you identify any problems with this model? Is it possible for all countries of the world to live in a state of high consumption? Why or why not?

What do you think might be the biggest obstacle to development by poor countries today? It's the same obstacle that keeps you from going out to dinner every night – MONEY, of course! But the kind of money we're talking about in this case is not available from a regular bank. For that reason, the World Bank was formed in 1944 to provide funds to countries for the purpose of large development projects. For example, a World Bank loan financed the construction of the Tarbela Dam (1977) – see Figure 9.10. One of the largest in the world, the structure facilitates irrigation, helps to control flooding, and (most importantly) provides significant amounts of hydroelectricity to the region in Pakistan along the Indus River. Such projects are often controversial, however. During its construction, the dam displaced 120 villages and many claimed to have never received the compensation they were promised. Similar projects can be found all over the world, and most of them are designed to improve people's daily lives while also greasing

the wheels of global commerce.



Figure | World Bank Financed Tarbela Dam in Pakistan Author | Paul Duncan, U.S. Marine Corps Source | Wikimedia Commons License | Public Domain

Another source of funding to governments comes in the form of emergency loans, usually from the International Monetary Fund (IMF). The IMF is funded primarily from wealthy private sector banks and offers loans during times of financial crisis. The loans are smaller than those from the World Bank and are not designated for national infrastructure projects, rather they are intended to maintain stability when a country may otherwise be vulnerable to political revolution, dictatorship, or collapse. Such loans, however, come with strings attached. The borrowing country must agree to a series of structural adjustment programs. Namely, countries must:

1. Privatize government-owned assets (such as oil companies, utilities companies, or diamond mines)
2. Reduce spending on government programs (such as social services, food programs, or military spending)
3. Open themselves up to foreign investment and foreign competition (such as the case with Mexico and Pemex)

The end result of accepting an IMF loan, then, nudges that country away from the protectionist model of development and towards one that focuses on international trade. Most often, a country following the adjustments will experience a devaluation of their own currency, making imports more expensive, but exports more viable, which can be very beneficial to manufacturers searching for new, lower-cost manufacturing locations around the world. As with any major change to an economic system, there will always be big winners and big losers. The same can be said for structural adjustment programs and the IMF.

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12.7: New Models of Development

New Models of Development

Is There More to Life Than Money?

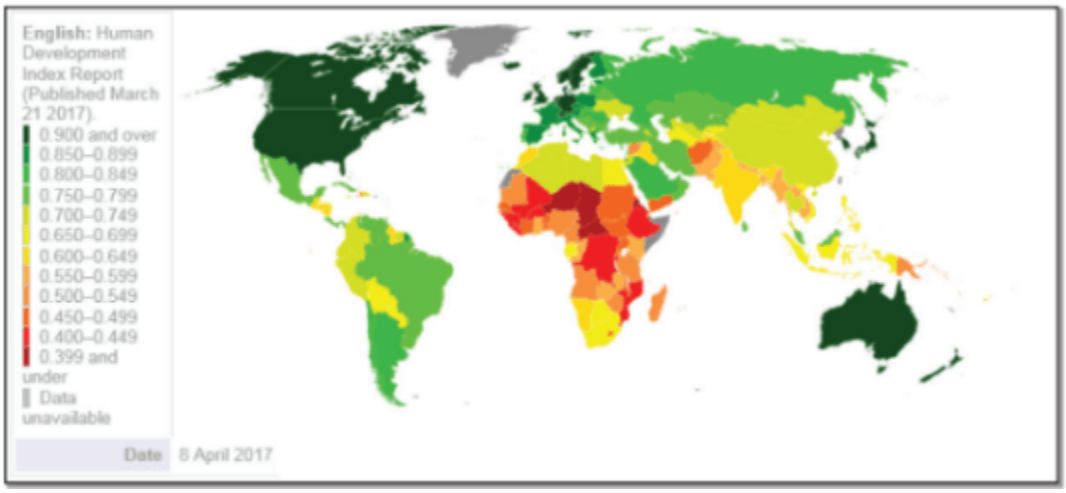


Figure Human Development Index (Based upon 2016 Human Development Report) Author | User "Happenstance" Source | Wikimedia Commons License | CC BY SA 4.0

This may seem like more of a philosophical question than one you'd find in a geography textbook, but it's an important one to consider. In the previous section, we learned that the end-point of development is to arrive to a state of high mass consumption relying primarily on indicators of wealth, income, and production to evaluate one place compared to another. Do you think this a fair assessment or are there other ways to gauge development? Think about some of the things that make you feel good or bad about any particular place. Does it have good parks, safe roads, low levels of traffic, or lots of fun things to do? While some of those things are connected to income and wealth, some markers of development do not necessarily have to be connected to wealth.

Indian economist and Nobel Prize winner Amartya Sen argued that our understanding of development needed to be dramatically altered to include a capabilities approach to measuring, encountering, and improving people's lives. In his book 'Development as Freedom', Sen argues that abject poverty comes from a lack of rights and the absence of freedom that are very different from simplistic notions of wealth and poverty. For example, a country that produces a lot of oil like Saudi Arabia may demonstrate high GDP growth, but if it doesn't positively affect the lives of most people in the country, then the GDP is not improving people's lives in a meaningful way. As obvious as it may sound today, this transformative thinking drove the United Nations to redefine thinking on development as the organization unveiled its first annual Human Development Report (http:// www.hdr.undp.org) in 1990, which incorporated a brand new index, called the Human Development Index (HDI) (Figure 9.9). Instead of relying solely on income, the index is derived from indicators of 1) life expectancy, 2) adult literacy, 3) school enrollment, and 4) income to provide a meaningful comparison for almost all countries (a few countries like North Korea choose not to participate). The index provides reason for optimism in that 105 countries are now categorized as 'very high' (51 countries) or 'high' (54) human development with an HDI of .70 or higher.

You can view the entire list of countries here: http://hdr.undp.org/en/ composite/trends, and the regional trends over time are included in Figure 9.10, which shows that the areas with the greatest improvement since 1990 have been East Asia and South Asia. Most notably, China moved from low human development to high and India moved from low to medium during the short period from 1990-2015. Sub-Saharan Africa contains the majority of those with the lowest levels of human development, but nearly every country experienced persistent improvement since 1990. Moreover, developing countries everywhere have seen improvements in educational access and life expectancy during the past 50 years. HDI helps us to quantify those improvements over time. One final point about this index is that some countries do a very good job of providing human development, in spite

of low income. Find Mexico and Cuba on the map, for example. In both countries, incomes are low, but life expectancy is high. In the case of Cuba, life expectancy is higher than it is in the U.S. Cuba has followed a protectionist strategy for several years, which has limited financial growth, but its provision of healthcare and education gives it a higher HDI than would otherwise be predicted. Meanwhile, countries like Kuwait and others in the Middle East enjoy high incomes but lower levels of development when measured by the index. HDI also has its limitations since it uses only 4 indicators. Can you think of some other measure that might be meaningful? Some examples might be gender empowerment, levels of inequality, or simply quality of life. Other indexes measure such things, and access to the Internet or to modern sanitation systems. Among those living in rural areas of India, for example, only one quarter of the population has access to a working toilet. The Population Reference Bureau (http://www.prb.org/DataFinder) collects data on these and other indicators by country that are readily accessible. You are encouraged to check out the website to find out more of these!

It's also important to keep in mind that differences within countries can be very stark. People living in Shanghai, China, for example enjoy a standard of living very similar to the average Italian. Meanwhile, rural dwellers in that country are not much better off than an average person from Sub-Saharan Africa. Just as many rural residents in Tennessee, Mississippi, and West Virginia struggle with access to basic health care and have unemployment rates much higher than in other parts of the U.S. The small country of Bhutan has taken a novel approach to measuring its own development by considering one factor above all others – happiness. Rather than measuring GDP, it closely monitors gross national happiness as a barometer of the spiritual, physical, social and environmental health of its citizens and natural environment. As stated by the Minister of Education, "It's easy to mine the land and fish the seas and get rich. Yet we believe you cannot have a prosperous nation in the long run that does not conserve its natural environment or take care of the wellbeing of its people." As you may have noticed, none of the indicators of development presented in this chapter take into account the well-being of the environment or the long-term cost of development. As people become wealthier, they consume more of the earth's resources. The Bhutan model might seem a little strange to the average American student, but it is one of the few models that takes seriously the notion of environmental sustainability as a component of development.

What Is Microfinance?

Inherent in all forms of development strategies is the importance of money. Previous sections described how the World Bank and the IMF offer development assistance to developing countries. Both of those entities are limited to relatively large-scale projects, however. In recent decades a new form of development assistance has emerged that has proven much more impactful at the local level. The term microfinance refers to all of the financial services normally available through a bank to the wealthy around the world. These include credit cards, short-term loans, interest bearing accounts, and financial insurance. Something as simple as a credit card that allows for a college student to buy books (not this book, however!) can be the difference between staying and leaving college. Small-scale farmers in less developed countries are at constant risk when they do not have access to such credit. With even a very small loan, or micro-loan (e.g. $500), hundreds of millions of farmers can increase their income significantly. If you sell milk, but you only own 3 cows, imagine what you could do with 6 cows! Large-scale development programs don't offer such things to individual farmers, but new programs and websites are doing exactly that. Perhaps most well-known among these is Kiva.org (http://kiva. org). What started as a small endeavor to match lenders and borrowers by 2 people has morphed into a major provider of loans to more than 100,000 people in 2016, while raising nearly $150 million. Most incredibly, the repayment rate of loans given to the poorest of the poor stands at 97%, an astounding accomplishment.

What Does the Future Hold For Development Around The World?

Predicting the future is always risky. Climate change, emergent untreatable diseases, and massive political upheavals have historically altered the course of history beyond anyone's imagination. Those caveats aside, the immediate future is expected to be a good one when measured by human development index. As total fertility rates decline across all of the developing world, women's empowerment will also increase. As more women enter the workforce globally, family incomes are expected to continue to rise. The overarching story of the 20th century was that life expectancies skyrocketed, infant mortality rates declined, and the spread of many communicable diseases was curtailed. Economists argue that, as more countries increase their connectivity to the global system via trade, that the wealth of everyone increases. As hundreds of millions of farmers left the countryside in China and India to seek manufacturing jobs, levels of development increased dramatically. Many predict that the same spatial pattern will occur in Africa and in other parts of the world in the coming decades as manufacturers seek new markets and new, lower cost labor deep into the 21st century. Many of the improvements worldwide are directly connected to technological improvements. Anyone with an Internet connection in 2018 has access to more information, imagery, and knowledge than average people had throughout their entire lifetime even just one generation ago. As globalization allows for the free flow of information, commerce, currency, and ideas, there is also an increased risk that dangerous things travel along those same routes. The dark web makes for easy illicit exchanges of drugs, weapons, stolen credit cards, human trafficking victims, and all sorts of other horrible things.

The challenge for development in the future clearly lies in balancing the risks and benefits of a world that has experienced such a massive time-space compression in such a short period of time.

	Human Development Index (HDI) Value				Average annual HDI growth (%)			
	1990	2000	2010	2015	1990-2000	2000-2010	2010-2015	1990-2015
Regions								
Arab States	0.556	0.611	0.672	0.687	0.96	0.95	0.45	0.85
East Asia and the Pacific	0.516	0.595	0.688	0.720	1.45	1.45	0.92	1.35
Europe and Central Asia	0.652	0.667	0.732	0.756	0.23	0.95	0.63	0.59
Latin America and the Caribbean	0.626	0.685	0.730	0.751	0.92	0.63	0.58	0.74
South Asia	0.438	0.502	0.583	0.621	1.38	1.51	1.25	1.40
Sub-Saharan Africa	0.399	0.421	0.497	0.523	0.54	1.67	1.04	1.09
Least developed countries	0.347	0.399	0.481	0.508	1.40	1.90	1.08	1.54
World	0.597	0.641	0.696	0.717	0.71	0.82	0.61	0.74

Figure 9.12 | Human Development Index by Region and Time Period Author | United Nations Development Programme Source | United Nations Development Programme License | CC BY SA 3.0

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12.8: End of Chapter Synthesis

Summary

In some ways, trying to describe and understand all facets of development around the world is a ridiculous task. The previous sections of this chapter barely scratch the surface, and yet the major questions pertaining to development are actually quite simple. Is it better for a country to be intricately connected to the global economy and to willingly import and export lots of things? Or is it better to close oneself off, protecting your own from the potential dangers of the outside world? History seems to be on the side of openness, but that also carries serious risk. Governments can spend huge amounts of money trying to make people's lives better only to find themselves in massive debt, followed by massive political upheaval (as recently happened in Brazil). There is no single magical formula, yet the general principles laid out in this chapter do offer some valuable insight from what has occurred in the past 70 years. On average, human beings in the 21st century are healthier, living longer, earning more money, having fewer children, consuming more, and knowing more about their world than at any other time in the history of our species. Given these realities, there is reason for cautious optimism as we look forward to the next hundred years. In spite of all of that, it's imperative that we realize the fragility of our planet and the environmental cost that comes with the overconsumption of resources. As large countries like China become wealthier, hundreds of millions of new consumers create more plastic waste, more toxic runoff, more carbon emissions, more copper mines, and more demand for energy than ever before. The rush to development has often hastened ecological catastrophe, making it essential that future development efforts consider long-term sustainability as an anchor for decision-making in the 21st century and beyond.

Key Terms Defined

Definition: Term

- **Absolute Advantage** – In economic terms, a country that is blessed with abundant natural resources or geographic advantages that are rare or in short supply and in high demand elsewhere.
- **Adult Literacy Rate** – The proportion of the adult population aged 15 years and over that is literate. This indicator provides a measure of the stock of literate persons within the adult population who are capable of using written words in daily life and to continue to learn.
- **Asian Dragons (Asian Tigers)** – The high-growth economies of Hong Kong, Singapore, South Korea and Taiwan: all of which focus on exports, an educated populace and high savings rates as pathways to development.
- **BRICS Countries** – The countries of Brazil, Russia, India, China, and South Africa – countries that collectively account for 40% of the world's population and 25% of the world's land. From 1990-2014 these countries' share of the global economy rose from 11% to almost 30%. In recent years, economic growth in the BRICS has been slowed by corruption, crisis, and dropping commodity prices.
- **Capitalism** – The historically contingent economic system of trade in which parties are categorized into laborers and capitalists, both of whom seek to maximize their profit/wages. Within capitalism prices, production, and wages are determined by market conditions including, but not limited to supply and demand. Contemporary capitalism is intimately tied to the industrial revolution and ensuing societal transformations in England that diffused across Europe initially and then to many other parts of the world. Capitalism assumes that rational consumers seek to maximize their own utility.
- **Collectivism (Collective Societies)** – A socio-political-economic system that prioritizes the well-being of the group over the individual. Collectivist modes of development, for example, tend to include progressive tax regimes, affordable access to healthcare and higher education for all, and protections for marginalized groups. In LDCs this may also include communal ownership of land or other assets.
- **Comparative Advantage** – The principle whereby individuals (or territories) produce those goods or services for which they have the greatest cost or efficiency advantage over others and the lowest opportunity cost. The outcome tends to be specialization across places.
- **Dependency Theory** – A theory of development positing that the global economic system disadvantages certain regions and countries. It is argued that prior colonial relationships created systems of trade that benefitted the colonizer much more than the colonized. Countries that were made producers of pineapple, sugar, rubber, and other products during colonial times continue to be dependent upon the production of very low-profit items, limiting opportunities to produce other more valuable products and services long after independence, because the trade systems remain the same.

- **Developing Country** – A term that includes all countries, other than those in the wealthiest category, that continue to improve their levels of development in the late 20th and early 21st centuries. The label has come to replace the less preferred term, LDC, to account for the fact that LDC is a static identifier while 'Developing' is a dynamic one.
- **Development** – Processes related to improving people's lives through improved access to resources, technology, education, wealth, opportunity, and choice. Governments, individuals, non-profit organizations, and inter-government agencies all work towards similar goals with a variety of different approaches.
- **Domestic subsidy** – A government-sponsored financial incentive that provides a production advantage to a company or entity. This may take a variety of forms. Examples include no-interest loans or cash payouts to farmers that meet certain criteria. Such programs are designed to lower risks and increase productivity of particular industries, services, or products and to protect them from competition that comes from outside of that country.
- **Fair Trade** – One of a variety of different global trading systems that seek to guarantee fair (higher) payment for producers; often with other social and environmental considerations.
- **Free Trade** – A system of trade that removes (or attempts to remove) all 'artificial' barriers that otherwise limit exports and exports between countries. A major component of free trade is the elimination of tariffs, duties, domestic subsidies, or laws that favor one country or company over another.
- **Gig Economy** – A labor market characterized by the prevalence of short-term contracts or freelance work as opposed to permanent jobs.
- **Gross Domestic Product (GDP)** – All of the goods and services produced within a country within a given year. The formula for GDP is Consumption + Investment + Government Spending + Net Exports. Global GDP was approximately $76 trillion in 2016.
- **Gross National Happiness** – a holistic and sustainable approach to development, which balances material and non-material values with the conviction that humans want to search for happiness. The objective of GNH is to achieve a balanced development in all the facets of life that are essential for collective and individual happiness. The 4 pillars of happiness are: 1) sustainable & equitable socio-economic development; 2) environmental conservation; 3) preservation & promotion of culture; 4) good governance.
- **Gross National Income** – All of the goods and services produced within a country in addition to all of the net income its companies and citizens receive from overseas.
- **GDP per capital** – GDP divided by total population.
- **Global North** – Those countries generally considered to be 'more developed', which also fall primarily north of the Brandt line as drawn in 1980. See Figure 9.1.
- **Global South** – Those countries generally considered to be 'less developed', which also fall primarily south of the Brandt line as drawn in 1980. See Figure 9.1.
- **Human Agency** – The concept that human beings take an active role in their own situation to invoke change. The concept is of critical importance in understanding how and why models and theories of development are so complex.
- **Human Development Index (HDI)** – A measure developed by the United Nations in 1990 to consider and compare levels of development by all countries of the world using life expectancy, literacy, school enrollment, and income as the indicators. This provides a more meaningful way to compare countries than looking only at income/GDP. Those with the highest HDI tend to be in Australia and Northern Europe. Those with the lowest tend to be in Sub-Saharan Africa.
- **Human Development Report** – An annual comprehensive analysis, assessment, and ranking of every country in the world based upon the Human Development Index. The report has been compiled and released every year since 1990.
- **Infant Mortality Rate** – A measure of how many children die in any given year compared to 1,000 live births. Countries with low levels of development tend to have high infant mortality.
- **Informal Economy** – Those activities within any economic system that are unregulated, untaxed, and/or unquantified. Includes, but not limited to: selling anything illegally, unreported paid work, consuming unlicensed/artificial products (movies, music, watches, etc.). Women, children, and the poor are those most likely engaged in the informal economy, but globalization and technology also plays an important role in driving new forms of informalization. This sector of the economy is also related to the rise of the gig economy, in which workers increasingly are contractors rather than employees – an important distinction.
- **International Trade Model of Development** – A strategy of development in which a country embraces free trade and elects to seek specialization of certain products and services that are valuable as exports in the global marketplace. Following such a strategy necessitates the embrace of increasing imports and removing barriers to trade.
- **International Monetary Fund (IMF)** – An intergovernmental organization that provides short-term loans to governments that are in economic crisis.
- **Least Developed Countries (LDC's)** – Defined by the United Nations, those countries with the lowest levels of combined income, human assets, and economic vulnerability. In 2015, LDC criteria was given to 48 countries, where 950 million resided and more than half earned less than $1.25/day.

- **Life Expectancy** – The average predicted number of years of life for any given person beginning at birth. In 2015, global life expectancy was about 72 years.
- **Macroeconomic Theory** – The branch of economics concerned with large-scale or general economic factors, such as interest rates and national productivity.
- **Market liberalization** – A process of removing barriers to foreign companies from operating and competing with domestic ones
- **Modernization theory** –Belief that, with the proper intervention each country will pass through a similar pathway of development
- **Micro-finance** – Financial and banking services designed for those who otherwise would be excluded due to their socioeconomic situation.
- **Micro-loans** – Very small loans designed for those who otherwise would be excluded due to their socioeconomic situation.
- **More Developed Country (MDC's)** – A category for those countries that have the highest levels of development as measured by income, education, and industrialization. MDC's tend to derive most of their GDP from services rather than from agriculture or manufacturing in the 21st century. The term MDC is used less commonly than the term 'Developed Country' but serves as a convenient way to refer to the wealthiest countries collectively.
- **Newly Industrialized Country (NIC)** – Newly industrialized country. Examples include (but not limited to): India, China, Singapore, Taiwan, Turkey, Brazil, Mexico, South Africa and Thailand
- **Nontariff barrier to trade** – Any impediment to trade placed by governments, including regulations based upon environmental, cultural, or political concerns. Examples include political trade embargoes or the prohibition of trade in eagle feathers, 'blood' diamonds, and human organs.
- **Opportunity Cost** – The activity that has to be given up (forgone) in order to conduct the current activity. A country, for example, may choose to specialize in the production of coffee or cocoa. If it chooses coffee, then the opportunity cost is represented by the cocoa production that it could have, but did not produce. In classical economic terms, the opportunity cost is the difference between the two outcomes.
- **Purchase Power Parity (PPP)** – A formula that accounts for cost of living variability from one place to another. PPP adjusted income allows for a meaningful comparison between two places with different cost structures.
- **Quota** – A control on trade that limits amounts of particular items that may be imported or exported from/to a particular country.
- **Remittance** – Money sent to the country of origin by overseas workers. This has become a significant driver of development in many countries in recent years.
- **Resource Curse/Dutch Disease** – The idea that those places blessed with valuable natural resources often are negatively affected by the activities associated with cultivation, mining, and/or extracting those resources.
- **Self Sufficiency Model of Development** – A centralized strategy of development for a country that seeks to develop all sectors of an economy within one's own borders and reduce dependency on outside entities. Such an approach requires tight controls on imports and exports as well as considerable protections on domestic producers against outside competitors.
- **Specialization** – A focus upon skills, experience, and resources that improve capacity to produce one or more types of goods or services that are in high demand in the global economy. Specialization is directly related to the international trade model of development.
- **Stages of Growth** – A concept that aims to categorize any national economy according to its stage. Stages are deterministic. The 5 stages are: traditional, transitional, takeoff, drive to maturity, and high mass consumption.
- **Structural Adjustment Program** – A series of requirements (adjustments) placed upon any country that accepts a loan from the IMF.
- **Sustainable development** – A mode of development theory and strategy that considers and accounts for the impacts of economic growth upon society, culture, and environment.
- **Tariff** – A tax placed upon imports.
- **Universalism** – idea that phenomena, conceptual definitions or moral, aesthetic or epistemological truths hold for all times and places, transcending their immediate local circumstances. Its significance for development lies in the belief that human development is not for the few, not even for the most, but for everyone.
- **World Bank** – a financial institution established near the end of WWII with the purpose of providing capital in the form of loans to developing countries and to those in need of reconstruction at the end of the war. The bank offers loans to countries for large-scale projects.
- **World Systems Theory** – an approach to world history and social change that suggests there is a world economic system in which some countries benefit while others are exploited
- **WTO** – World Trade Organization. An intergovernmental organization created in 1994 that promotes international trade between countries. It seeks to reduce trade restrictions, enforce existing agreements, and protect intellectual property.

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13: AGRICULTURAL GEOGRAPHY, NATURAL RESOURCES AND SUSTAINABLE DEVELOPMENT

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13.1: Chapter Introduction and Objectives

Chapter Introduction & Objectives

Learning Objectives

1. **Understand** the origin and evolution of agriculture across the globe.
2. **Explain** the environment-agriculture relationship, market forces, institutions, agricultural industrialization, and the biorevolution versus sustainable agriculture.
3. **Describe** agricultural regions, comparing and contrasting subsistence and commercial agriculture.
4. **Analyze** the role of natural resources in cultural geography, focusing on their distribution, utilization, and management.
5. **Evaluate** sustainable development practices and their implications for resource conservation and agricultural productivity.
6. **Understand** the impact of cultural practices on the sustainable use of natural resources.
7. **Explain** the relationship between cultural values and the management of natural resources.
8. **Discuss** the challenges and opportunities of integrating sustainable development principles into agricultural practices globally.
9. **Identify** case studies of sustainable agricultural practices and natural resource management from various cultural contexts.
10. **Assess** the effectiveness of different strategies for promoting sustainable development in agricultural regions.

Introduction to Agricultural Geography, Natural Resources, and Sustainable Development

Agricultural geography examines the spatial patterns and processes associated with agriculture and its impact on the environment and society. This chapter delves into the intricate relationship between agricultural practices and urban cultures, exploring how environmental agriculture and the industrialization of agriculture shape our world. We will contrast subsistence farming with commercial agriculture, highlighting the global changes in food practices and agricultural methods.

The chapter covers diverse agricultural practices, from cultivation and pastoralism to mixed crop, grain, and dairy farming, livestock ranching, and plantation farming. We'll explore agricultural activities worldwide, including wet rice cultivation, slash and burn techniques, and the role of cadastral patterns such as township and range and metes and bounds.

In addition, we will discuss the significance of irrigated drylands and apply von Thünen's model to understand agricultural land use. Sustainable agriculture practices will be emphasized, along with the critical interplay between migration, ethnicity, and food production. The chapter will also address the challenges and opportunities of non-renewable energy sources and sustainable development, highlighting the urgent need for global changes in food systems and agricultural sustainability.

This comprehensive overview aims to provide a deeper understanding of how agriculture, natural resources, and sustainable development are interconnected, influencing and shaping human societies across the globe.

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13.2: Agricultural Geography

13: Agricultural Geography Natural Resources & Sustainable Development

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13: Agriculture Geography

Urban and Agricultural Cultural Geography

Introduction

Most of the world's population lives in urban areas, and understanding how cities and agriculture have evolved is critical for comprehending modern societies. Both urban and agricultural landscapes are central to our daily lives, influencing where we live, how we work, and what we eat. This chapter explores the cultural geography of urban areas and agriculture, focusing on the evolution, functioning, and interconnections between these spaces.

Urban Areas and Their Evolution

Most people today are urban dwellers. Cities have evolved due to a variety of factors, including technological advancements and economic opportunities. Urban areas are defined by their population density and land use, with a minimum density of 1,000 people per square mile and significant non-residential urban land uses. Economies of agglomeration make cities convenient and cost-efficient places for living and working, explaining why nearly 80% of Americans live in urban areas.

Agricultural Geography: Origins and Evolution

Before agriculture, humans were hunter-gatherers, leading a nomadic existence. The transition to agriculture began around 12,000-10,000 years ago, marking the start of the Neolithic Revolution. Agriculture involves the cultivation of crops and the raising of livestock for sustenance and economic gain. It originated independently in various regions, including the Middle East, Mesoamerica, and East Africa, transforming human societies by enabling sedentary lifestyles and new social, cultural, political, and economic relationships.

Environment-Agriculture Relationship

Agriculture is deeply connected to the environment, influenced by factors such as climate, soil, and water availability. Different regions develop distinct agricultural practices based on their environmental conditions. For instance, rice paddies are common in water-abundant regions, while arid areas might focus on drought-resistant crops. Market forces and institutions also shape agricultural practices, with policies and economic incentives influencing what crops are grown and how they are marketed.

Agricultural Industrialization and the Biorevolution

The industrialization of agriculture has significantly changed food production, making it more efficient and large-scale. This shift, known as the Green Revolution, introduced high-yield crop varieties and advanced farming techniques, increasing food production but also raising concerns about sustainability and environmental impact. The ongoing biorevolution involves genetic modification and biotechnology, offering potential benefits but also sparking debates about ethics and ecological consequences.

Subsistence vs. Commercial Agriculture

Agriculture can be categorized into subsistence and commercial types. Subsistence agriculture focuses on growing food primarily for the farmer's family, prevalent in developing regions. In contrast, commercial agriculture aims to produce food for sale in markets, typical in developed countries. The methods, scale, and economic implications of these two types of agriculture differ significantly, impacting global food production and consumption patterns.

Global Changes in Food Production and Consumption

Globalization has profoundly affected food production and consumption. Advances in transportation and communication have created a global food market, allowing products to be shipped worldwide. This has led to increased availability and variety of foods but also raised issues such as food security, sustainability, and the impact of agricultural practices on local environments and economies.

Understanding the cultural geography of urban and agricultural landscapes is essential for grasping the complexities of modern life. Cities and agricultural regions are interconnected, shaping and being shaped by economic, social, and environmental factors. As urbanization continues to grow and agricultural practices evolve, these landscapes will remain central to our global society, influencing how we live, work, and eat.



Figure | Hadza Hunters Author | User “Idobi” Source | Wikimedia Commons License | CC BY SA 3.0



Figure | Pumé Hunter and Gatherers Author | User “Ajimai” Source | Wikimedia Commons License | CC BY SA 4.0



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13.2.1: Agricultural Practices

AGRICULTURAL PRACTICES

Agriculture is a science, a business, and an art (Figures 10.4 and 10.5). Spatially, agriculture is the world's most widely distributed industry. It occupies more area than all other industries combined, changing the surface of the Earth more than any other. Farming, with its multiple methods, has significantly transformed the landscape (small or large fields, terraces, polders, livestock grazing), being an important reflection of the two-way relationship between people and their environments. The world's agricultural societies today are very diverse and complex, with agricultural practices ranging from the most rudimentary, such as using the ox-pulled plow, to the most complex, such as using machines, tractors, satellite navigation, and genetic engineering methods. Customarily, scholars divide agricultural societies into categories such as subsistence, intermediate, and developed, words that express the same ideas as primitive, traditional, and modern, respectively. For the purpose of simplification, farming practices described in this chapter are classified into two categories, subsistence and commercial, with fundamental differences between their practice in developed and developing countries.



Figure | Trading Floor at the Chicago Board of Trade Author | Jeremy Kemp Source | Wikimedia Commons License | Public Domain



Figure | Tulip Fields in The Netherlands Author | Alf van Beem Source | Wikimedia Commons License | CC 0

Subsistence Agriculture

Subsistence agriculture replaced hunting and gathering in many parts of the globe. The term subsistence, when it relates to farming, refers to growing food only to sustain the farmers themselves and their families, consuming most of what they produce, without entering into the cash economy of the country. The farm size is small, 2-5 acres (1-2 hectares), but the agriculture is less mechanized; therefore, the percentage of workers engaged directly in farming is very high, reaching 50 percent or more in some developing countries (Figure 10.6). Climate regions play an important role in determining agricultural regions. Farming activities

range from shifting cultivation to pastoralism, both extensive forms that still prevail over large regions, to intensive subsistence.

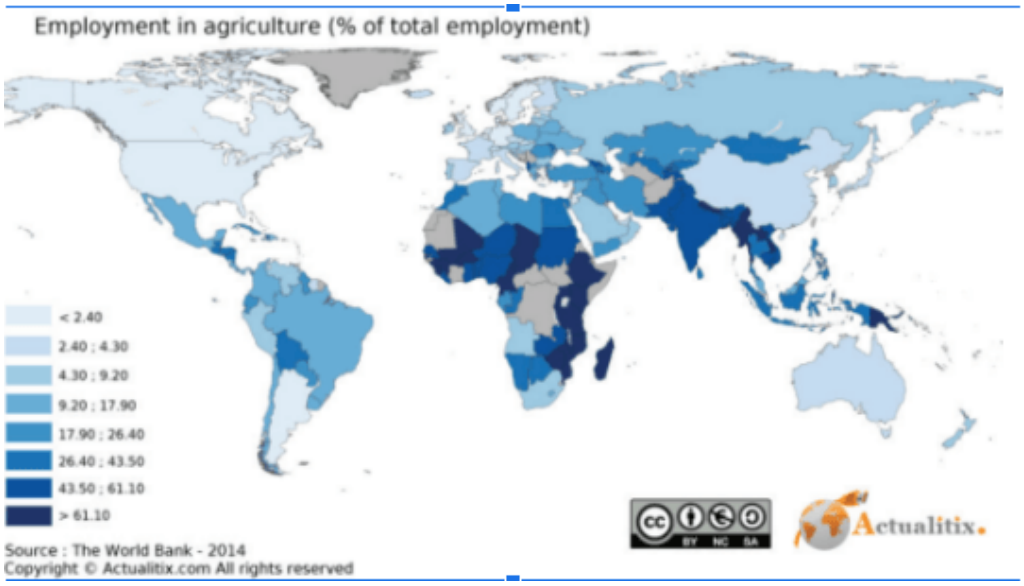


Figure Employment in Agriculture, 2014 Author | Actualitix Source | Actualitix.com License | CC BY NC SA 4.0

Shifting Cultivation

Shifting cultivation, also known as slash-and-burn agriculture, is a form of subsistence agriculture that involves a kind of natural rotation system. Shifting cultivation is a way of life for 150-200 million people, globally distributed in the tropical areas, especially in the rain forests of South America, Central and West Africa, and Southeast Asia. The practices involve removing dense vegetation, burning the debris, clearing the area, known as swidden, and preparing it for cultivation (Figures 10.7). Shifting cultivation can successfully support only low population densities and, as a result of rapid depletion of soil fertility, the fields are actively cultivated usually for three years. As a result, the infertile land has to be abandoned and another site has to be identified, starting again the process of clearing and planting. The slash-and-burn technique thus requires extensive acreage for new lots, as well as a great deal of human labor, involving at the same time a frequent gender division of labor. The kinds of crops grown can be different from region to region, dominated by tubers, sweet potatoes especially, and grains such as rice and corn. The practice of mixing different seeds in the same swidden in the warm and humid tropics is favorable for harvesting two or even three times per year. Yet, the slash-and-burn practice has some negative impacts on the environment, being seen as ecologically destructive especially for areas with vulnerable and endangered species.



Figure | Slash-and-Burn Farming in Thailand Author | User “mattmangum” Source | Wikimedia Commons License | CC BY SA 2.0

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13.2.2: Pastoralism

Involving the breeding and herding of animals, pastoralism is another extensive form of subsistence agriculture. It is adapted to cold and/or dry climates of savannas (grasslands), deserts, steppes, high plateaus, and Arctic zones where planting crops is impracticable. Specifically, the practice is characteristic in Africa [north, central (Sahel) and south], the Middle East, central and southwest Asia, the Mediterranean basin, and Scandinavia. The species of animals vary with the region of the world including especially sheep, goats, cattle, reindeer, and camels. Pastoralism is a successful strategy to support a population on less productive land, and adapts well to the environment.

Three categories of pastoralism can be individualized: sedentary, nomadic, and transhumance -

Sedentary pastoralism refers to those farmers who live in their villages and their herd animals in nearby pastures. A number of men usually are hired by the villagers in order to take care of their animals. Equally important is the practice in which the hired men gather the animals (cattle especially) in the morning, feed them during the day in the nearby pasture, and then return them to the village early in the evening. This is the typical pattern for many traditional European pastoralists.

Nomadic pastoralism is a traditional form of subsistence agriculture in which the pastoralists travel with their herds over long distances and with no fixed pattern. This is a continuous movement of groups of herds and people such as the Bedouins of Saudi Arabia, the Bakhtiaris of Iran, the Berbers of North Africa, the Maasai of East Africa, the Zulus of South Africa, the Mongols of Central Asia, and other groups. The settlement landscape of pastoral nomads reflects their need for mobility and flexibility. Usually, they live in a type of tent (known as yurt in Central Asia) and move their herds to any available pasture (Figure 10.8). Although there are approximately 10-15 million nomadic pastoralists in the world, they occupy about 20 percent of Earth's land area. Today, their life is in decline, the victim of more constricting political borders, competing land uses, selective overgrazing, and government resettlement programs.

Transhumance is a seasonal vertical movement by herding the livestock (cows, sheep, goats, and horses) to cooler, greener high-country pastures in the summer and then returning them to lowland settings for fall and winter grazing. Herders have a permanent home, typically in the valleys. Generally, the herds travel with a certain number of people necessary to tend them, while the main population stays at the base. This is a traditional practice in the Mediterranean and the Black Sea basins such as southern European countries, the Carpathian Mountains, and the Caucasus countries (Figures 10.9 and 10.10). In addition, near highland zones such as the Atlas Mountains (northwest Africa) and the Anatolian Plateau (Turkey), as well as in Sub-Saharan Africa, the Middle East countries, and Central Asia, the pastoralists have to practice another type of transhumance, such as the movement of animals between wet-season and dry-season pasture.



Figure | Mongolian Nomads Moving to Autumn Encampment Author | User "Yaan" Source | Wikimedia Commons License | CC BY SA 3.0



Figure | Transhumance in the Pyrenees Mountains Author | User “Clicgauche” Source | Wikimedia Commons License | CC BY SA 1.0



Figure | Romanian and Vlachs Transhumance in Balkans Author | User “Julieta39” Source | Wikimedia Commons License | CC BY SA 4.0

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13.2.3: Intensive Subsistence Agriculture

Intensive Subsistence Agriculture

Intensive subsistence agriculture, characteristic of densely populated regions especially in southern, southeastern, and eastern Asia, involves the effective and efficient use of small parcels of land in order to maximize crop yield per acre. The practice requires intensive human labor, with most of the work being done by hand and/or with animals. The landscape of intensive subsistence agriculture is significantly transformed, including hillside terraces and raised fields, adding the irrigation systems and fertilizers (Figures 10.11 and 10.12). As a result, intensive subsistence agriculture is able to support large rural populations. Rice is the dominant crop in the humid areas of southern, southeastern, and eastern Asia. In the drier areas, other crops are cultivated such as grains (wheat, corn, barley, millet, sorghum, and oats), as well as peanuts, soybeans, tubers, and vegetables. In both situations, the land is intensively used, and the milder climate of those regions allows double cropping (the fields are planted and harvested two times per year).



Figure | Rice Terraces, the Philippines Author | Susan McCouch Source | Wikimedia Commons License | CC BY 2.5

Rice Terraces in the Philippines



Figure | Raised fields, Vietnam Author | Dennis Jarvis Source | Wikimedia Commons License | CC BY SA 2.0

In recent decades, as the result of the introduction of higher-yielding grain varieties such as wheat, corn, and rice, known as Green Revolution, tens of millions of subsistence farmers have been lifted above the survival level. The spread of these new varieties throughout the farmlands of South, Southeast, and East Asia, and Mexico greatly improved the supply of food in these areas. Equally important was the use of fertilizers, pesticides, irrigation, and new machines. Today, China and India are self-sufficient in basic foods, while Thailand and Vietnam are two of the top rice exporters in the world. Although hunger and famine

still persist in some regions of the world, especially in Africa, many people accept that they would be much worse without using these innovations.

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13.2.4: Commercial Agriculture

Commercial Agriculture

Commercial agriculture, generally practiced in core countries outside the tropics, is developed primarily to generate products for sale to food processing companies. An exception is plantation farming, a form of commercial agriculture which persists in developing countries side by side with subsistence. Unlike the small subsistence farms (1-2 hectares/2-5 acres), the average of the commercial farm size is over 150 hectares/370 acres (178 ha/193 acres U.S.) and, being mechanized, many of them are family owned and operated. Mechanization also determines the percentage of the labor force in agriculture, with many developed countries being even below two percent of the total employment, such as Israel, the United Kingdom, Germany, the United States, Canada, Norway, Denmark, and Sweden. Moreover, as the result of industrialization and urbanization, many developed countries continue to lose significant areas of agricultural land. North America, for example, had 28.3 percent agricultural land out of the total land area in 1961 and 26 percent in 2014. The European Union decreased its agricultural land from 54.7 percent to 43.8 percent for the same period, during which some countries recorded outstanding decreases, such as Ireland from 81.9 to 64.8 percent, the United Kingdom from 81.8 to 71.2 percent, and Denmark from 74.6 to 62.2 percent to mention only a few. In addition to the high level of mechanization, in order to increase their productivity, commercial farmers use scientific advances in research and technology such as the Global Positioning System (autonomous precision seed-planting robot, intelligent systems for animal monitoring, savings in field vegetable-growing through the use of a GPS automatic steering system), and satellite imagery (finding efficient routes for selective harvesting based on remote sensing management).

Climate regions also play an important role in determining agricultural regions. In developed countries, these regions can be individualized as six types of commercial agriculture: mixed crop and livestock, grain farming, dairy farming, livestock ranching, commercial gardening and fruit farming, and Mediterranean agriculture

Mixed Crop and Livestock

Mixed crop and livestock farming extends over much of the eastern United States, central and western Europe, western Russia, Japan, and smaller areas in South America (Brazil and Uruguay) and South Africa. The rich soils, typically involving crop rotation, produce high yields primarily of corn and wheat, adding also soybeans, sugar beets, sunflower, potatoes, fruit orchards, and forage crops for livestock. In practice, there is a wide variation in mixed systems. At a higher level, a region can consist of individual specialized farms (corn, for example) and service systems that together act as a mixed system. Other forms of mixed farming include cultivation of different crops on the same field or several varieties of the same crop with different life cycles, using space more efficiently and spreading risks more uniformly. The same farm may grow cereal crops or orchards, for example, and keep cattle, sheep, pigs, or poultry (Figure 10.13).



Figure | Crop-livestock Integration Sheep grazing under tall-stemmed fruit trees (the Netherlands). Author | FAO Source | FAO License | © FAO. Used with permission.

Grain Farming

Commercial grain farming is an extensive and mechanized form of agriculture. This is a development in the continental lands of the mid-latitudes (mostly between 30° and 55° North and South latitudes), in regions that are too dry for mixed crop and livestock farming. The major world regions of commercial grain farming are located in Eurasia (from Kiev, in Ukraine, along southern Russia, to Omsk in western Siberia and Kazakhstan) and North America (the Great Plains). In the southern hemisphere, Argentina, in South America, has a large region of commercial grain farming, and Australia has two such areas, one in the southwest and another in the southeast. Commercial grain farming is highly specialized and, generally, one single crop is grown. The most important crop grown is wheat (winter and spring), used to make flour (Figure 10.14). The wheat farms are very large, ranging from 240 to 16,000 hectares (593-40000 acres). The average size of a farm in the U.S. is about 1000 acres (405 hectares). In these areas land is cheap, making it possible for a farmer to own very large holdings.

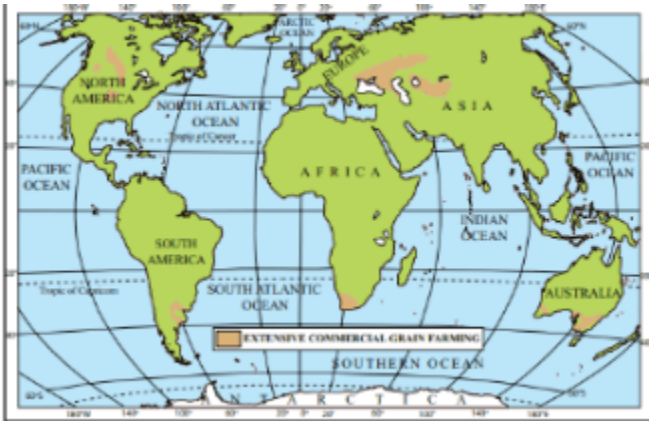


Figure | World Commercial Grain Farming Author | CIET NCERT Source | NROER License | CC BY SA 4.0

Dairy Farming

Dairy farming is a branch of agriculture designed for long-term production of milk, processed either on a farm or at a dairy plant, for sale. It is practiced near large urban areas in both developed and developing countries. The location of this type of farm is dictated by the highly perishable milk. The ring surrounding a city where fresh milk is economically viable, supplied without spoiling, is about a 100-mile radius. In the 1980s and 1990s, robotic milking systems were developed and introduced in some developing countries, principally in the EU (Figure 10.15). There is an important variation in the pattern of dairy production worldwide. Many countries that are large producers consume most of this internally, while others, in particular New Zealand, export a large percentage of their production, some from the organic farms.



Figure | Rotary Milking Parlor Author | Gunnar Richter Source | Wikimedia Commons License | CC BY SA 3.0



Figure | Calves at Organic Dairy Farm Author | Julia Rubinic Source | Wikimedia Commons License | CC BY 2.0

Livestock Ranching

Ranching is the commercial grazing of livestock on large tracts of land. It is an efficient way to raise livestock to provide meat, dairy products, and raw materials for fabrics. Contemporary ranching has become part of the meat-processing industry. Primarily, ranching is practiced on semiarid or arid land where the vegetation is too sparse and the soil too poor to support crops, being a vital part of economies and rural development around the world. In Australia, like in the Americas, ranching is a way of life (Figure 10.17). In the United States, near Greeley, Colorado, there is the world's largest cattle feedlot, with over 120,000 head, a subsidiary of the food giant ConAgra (Figure 10.18). The largest beef-producing company in the world is the Brazilian multinational corporation JBS-Friboi. Argentina and Uruguay are the world's top per capita consumers of beef. China is the leading producer of pig meat while the United States leads in the production of chicken and beef.



Figure: Interstate 5, Kern County, CA. This massive feedlot operation is essentially a "beef factory" serving Southern California. Grain and silage is brought to this site to fatten cattle for slaughter. Angus and Hereford breeds dominate.



Figure | Ranching Author | William Henry Jackson Source | Wikimedia Commons License | Public Domain



Figure | Feedlot in the Texas Panhandle Author | User “H2O” Source | Wikimedia Commons License | CC BY SA 3.0

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13.2.5: Commercial Gardening and Fruit Farming

Commercial Gardening and Fruit Farming

A market garden is a relatively small scale business, growing vegetables, fruits, and flowers (Figure 10.19). The farms are small, from under one acre to a few acres (.5-1.5 hectares). The diversity of crops is sometimes cultivated in greenhouses, distinguishing it from other types of farming. Commercial gardening and fruit farming is quite diverse, requiring more manual labor and gardening techniques. In the United States, commercial gardening and fruit farming is the predominant type of agriculture in the Southeast, the region with a warm and humid climate and a long growing season. In addition to the traditional vegetables and fruits (tomatoes, lettuce, onions, peaches, apples, cherries), a new kind of commercial gardening has developed in the Northeast. This is a non-traditional market garden, growing crops that, although limited, are increasingly demanded by consumers, such as asparagus, mushrooms, peppers, and strawberries. Market gardening has become an alternative business, significantly profitable and sustainable especially with the recent popularity of organic and local food.



Figure | Market Farming A garden with edible plants for use in a culinary school in Lawrenceville, Georgia. Author | U.S. Department of Agriculture Source | Wikimedia Commons License | Public Domain

Mediterranean Agriculture

The term 'Mediterranean agriculture' applies to the agriculture done in those regions which have a Mediterranean type of climate, hot and dry summers and moist and mild winters. Five major regions in the world have a Mediterranean type of agriculture, such as the lands that border the Mediterranean Sea (South Europe, North Africa, and the Middle East), California, central Chile, South Africa's Cape, and in parts of southwestern and southern Australia (Figure 10.20). Farming is intensive, highly specialized and varied in the kinds of crops raised. The hilly Mediterranean lands, also known as 'orchard lands of the world,' are dominated by citrus fruits (oranges, lemons, and grapefruits), olives (primary for cooking oil), figs, dates, and grapes (primarily for wine), which are mainly for export. These and other commodities flow to distant markets, Mediterranean products tending to be popular and commanding high prices. Yet, the warm and sunny Mediterranean climate also allows a wide range of other food crops, such as cereals (wheat, especially) and vegetables, cultivated especially for domestic consumption.

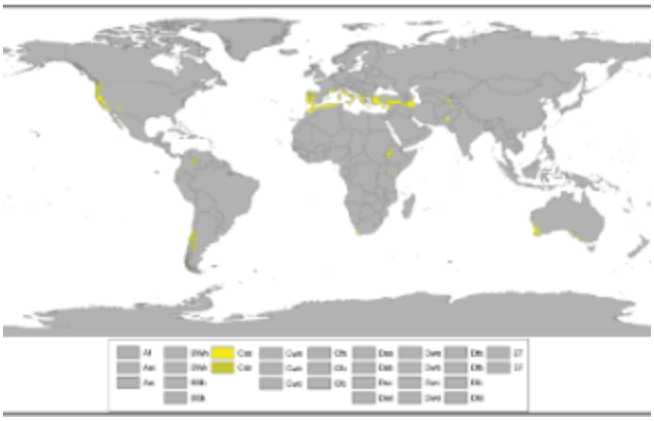


Figure | Mediterranean Regions Author | User “me ne frego” Source | Wikimedia Commons License | CC BY SA 4.0

Plantation Farming

Plantations are large landholdings in developing regions designed to produce crops for export. Usually, they specialize in the production of one particular crop for market laid out to produce coffee, cocoa, bananas, or sugar in South and Central America; cocoa, tea, rice, or rubber in West and East Africa; tea in South Asia; rubber in Southeast Asia, and/or other specialized and luxury crops such as palm oil, peanuts, cotton, and tobacco (Figures 10.21 and 10.22). Plantations are located in the tropical and subtropical regions of Asia, Africa, and Latin America and, although they are located in the developing countries, many are owned and operated by European or North American individuals or corporations. Even those taken by governments of the newly independent countries continued to be operated by foreigners in order to receive income from foreign sources. These plantations survived during decolonization, continuing to serve the rich markets of the world.

Unlike coffee, sugar, rice, cotton and other traditional crops, exported from large plantations, other crops can be required by the international market such as flowers and specific fruits and vegetables. These represent the nontraditional agricultural exports, which have become increasingly important in some countries or regions such as Argentina, Colombia, Chile, Mexico, and Central America, to mention a few. One important reason for sustaining nontraditional exports is that they complement the traditional exports, generating foreign exchange and employment. Thus, plantation agriculture, designed to produce crops for export, is critical to the economies of many developing countries.



Figure| Coffee Plantation Author | User “Prince Tigereye” Source | Wikimedia Commons License | CC BY 2.0



Figure | Tea Plantation Author | User “Joydeep” Source | Wikimedia Commons License | CC BY SA 3.0

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13.2.6: Agriculture around the world

Agriculture around the World

Farming outside North America is different, but still subject to the same climatic constraints and market logics that shape agriculture in the US and Canada. Some foreign agribusinesses compete with farmers in North America, but the majority of farmers in the world engage only in ***subsistence agriculture***, a type of farming designed to feed only the farmer's family, rather than the international marketplace. In some parts of Africa and Asia, over 80% of the population is engaged in *subsistence farming*. Still, food shortages are common in many parts of the world. By comparison, in the US, agricultural workers account for only 2% of the workforce, yet food is somewhat abundant, leaving the rest of the population to pursue other activities.

Agricultural success and failures are easy to find. Food shortages occur in many countries because the population of many regions has exceeded the local ***carrying capacity*** of the land. Unfortunately, too many people live in regions of the world where poor soils and harsh climates limit agricultural productivity. Despite harsh climates and poor soils, farmers in some *developing countries*, have developed highly efficient farming techniques uniquely adapted to local conditions. Agricultural economists have suggested that some techniques, including slash-and-burn, and wet rice farming are more productive per acre or unit of energy than the best US farms.

Herding and Ranching

In the places where there is not enough rain or it's too cold for field crops, livestock production predominates. Many regions focus on cattle ranching as we do in the drylands of the US, but sheep ranching is more popular in regions where the British colonial influences linger. ***Pastoralism*** is a *nomadic* herding alternate to ranching occupying large stretches of our planet's lands ill-suited for crop agriculture. Nomadic herding requires those who tend herds of animals (e.g., cattle, sheep, reindeer, etc.) to move frequently in search of grazing pastureland. Without constant migration, herds may ***overgraze*** the land, causing livestock and people to starve. Pastoralism can only support a small population, so it is the world's most land-*extensive* form of agriculture.

Wet Rice Cultivation

Rice feeds more people on earth than any other crop. Billions rely on rice as the main *staple* of their diet. The great rice production areas of the world are in South and East Asia, where the seasonal monsoons and quality soils make it a logical agricultural option. Americans grow rice too, mainly on irrigated acreage in California and the Mississippi Delta, using advanced machinery, and even airplanes, for seeding. Not only is most Asian rice still planted, weeded, harvested, and processed by hand, but there is also a significant amount of manual labor involved in the maintenance of the rice *paddies* to keep water in the fields at an ideal depth to ensure that rice matures properly. Luckily, for those who depend on rice for sustenance, it is a wildly productive plant, capable of massive caloric yields per acre. In the last two generations, thanks to scientific advancements in rice genetics and fertilizer science, known as the ***Green Revolution***, rice farmers in Asia often harvest fields twice or even three times per year, vastly increasing yields over the levels known in the 1940s. Asian rice cultivation remains exceptionally labor-intensive and ***land-intensive***– making it the opposite of nomadic pastoralism which requires few people and supports few.



Figure: Cambodia. Agricultural laborers work to plant rice in a flooded "paddy". The water functions mainly to inhibit weed growth. Sometimes fish are intercropped in the field, helping control mosquitoes and providing protein.

Because rice provides only carbohydrates, people living in wet rice regions must supplement their diets to remain healthy. So many Asians, even those living in big cities, maintain intensively cultivated vegetable gardens. Paddy rice farmers also practice a type of ***intercropping*** by introducing fish and other forms of *aquaculture* into fields. By putting fish that eat bugs into rice paddies, farmers can reduce both pesticide and fertilizer costs while adding dietary protein and a commodity they can sell at local markets. As a bonus, fish also eat mosquito larvae, helping reduce the instance of mosquito-borne diseases, like malaria.

Rice Paddies and Math Tests

Gladwell, Malcolm. Outliers: The story of success. Hachette UK, 2008.

RICE AND MATH SCORES

Paddy rice farming may also contribute to the success of Asians on math tests as well. At least that's the argument forwarded by Malcolm Gladwell a journalist who writes best selling books that explain a variety of cultural phenomena with statistical analyses, and often, the spatial logic of geography. One theory Gladwell forwards is that Asians may be good at math because many Asian societies have long engaged in *labor-intensive* wet rice cultivation. The theory goes that over centuries wet rice cultivation taught Asians cultural lessons about the value of burdensome work in the rice paddies. The intense work ethic embraced by communities living in wet rice regions can be applied to other burdensome activities, like learning math. Alternatively, people from regions where agricultural abundance traditional comes without intense effort, it became easier to *not recognize* the relationship between effort and reward. This theory is an attempt to replace a *racial* or genetic narrative with a narrative about cultural practice. Geographers often argue that cultural and physical environments have a significant influence upon each other, but the specter of *environmental determinism* continues to prohibit many geographers from fully embracing ideas like Gladwell's. It's a reminder to keep in mind the logical pitfalls associated with the *ecological fallacy*.

Slash-and-Burn – Shifting Cultivation

Very different from wet rice farming is ***slash and-burn agriculture***, also known as *swidden* or *milpa* farming. Whereas wet rice farming predominates in monsoonal climates, requires good soils, a substantial labor force, and is capable of feeding millions, slash and burn farming is practiced exclusively in *equatorial rainforestclimates* where poor soils support only small populations.

Slash-and-burn is practiced in rainforest areas because soils there are ***leached*** by excessive rainfall, a process that removes soil nutrients essential for farming. To add nutrients, farmers cut down patches of forest, allow the felled vegetation to dry, then burn the logs and debris. The ashes of the burnt plants are worked into the depleted soil as fertilizer. Each burnt field remains somewhat fertile for a few years before the rains once again leach away soil nutrients. When soils grow infertile, farmers must begin the process anew in a nearby field. Farmers must leave exhausted fields ***fallow for*** several years so the forest can regrow.

Eventually, farmers can return to the regrown patches of forest and begin the process once again. This type of farming requires much land, but luckily very little labor, so it is characterized as a ***land rotation system*** (rather than a *crop rotation* system), and it is an example of ***land extensive*** farming. Remarkably, because slash and burn farming requires so few laborers, and minimal effort to produce a crop, this kind of farming is characterized as exceptionally *caloric efficient*.



Figure: Quiche Guatemala - Typical of the three sisters field cropping system. Corn (maize), beans and squash grow in this field. Note the way in which weeds have also grown along the walkway where squash leaves have not shaded them to death. Source: Wikimedia

Slash and burn farming has also proven to be *sustainable* in locations where the population relying on it remains small. For thousands of years, people living in the rainforests of Asia, Africa, and Latin America used slash-and-burn agriculture without seriously threatening the ability of the fragile soils to produce food. However, explosive population growth in many of these regions threatens precious rainforest reserves as farmers burn ever larger patches of forest and shorten fallow intervals. *Inga Alley Cropping*, or planting crops between rows of *nitrogen-fixing* Inga trees, offers an intriguing alternative to slash and burn, that preserves forest cultures.



Figure: India – Farmers recently cleared this land for cropping. Done occasionally, it's OK, but population growth makes this practice unsustainable. Source: Wikimedia.

In the Americas, slash and burn farmers often plant within the same field the *three sisters*: corn, beans, and squash. These plants offer an ingenious solution to a variety of agricultural and dietary problems. Corn provides carbohydrates to the diet and supports bean plant vines. Beans provide protein to the diet, often deficient in poor regions of the world where fish and/or game are scarce. Beans also are *nitrogen fixers*, meaning they help fertilize the soil for the corn and squash. Vitamins and minerals are provided by the squash, and the broad leaves of squash plants help preserve soil moisture while discouraging weed growth. Some also believe that when *intercropped* (planted together in the same field), the three sisters create a sort of natural pesticide. After the harvest, farmers plow dying plants back into the ground to fertilize the poor soils.

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13.2.7: Plantation Agriculture

Plantation Agriculture

In many coastal regions of the developing world, especially where European colonial powers once ruled, ***plantation agriculture*** is the dominant style of farming. In this agricultural system, agricultural land is dedicated to growing *cash crops*, generally at the expense of *staple* crops. Some of the more popular plantation crops are bananas, cotton, tea, cacao trees, and coffee.

There are multiple, serious problems with the plantation agricultural systems, but most countries find it difficult to develop viable, profitable alternatives. Many countries in Africa, Asia, and Latin America rely on plantation-style agriculture because they have no other industry capable of earning much needed *foreign currency* like US Dollars or Euros. An over-reliance on cash crops can lead to food insecurity – or famine. When all the best farmlands in a country are planted with export-oriented cash crops, the production of food for local consumption is diminished. Secondly, many plantation regions are guilty of ***monocropping***, the practice of relying on a single crop. Not only are *monoculture* economies vulnerable to crop failure (e.g., insect invasions, diseases, droughts, etc.), they can be devastated by unpredictable swings in market prices for their product. The US has regions where monoculture is common, but the US economy is *diverse* and can easily withstand the failure of a single crop or commodity market. Many developing economies do not have this luxury. If the market price for the main farm commodity falls, or a blight attacks the main crop, the entire economy can be in trouble and the burden of such failures always falls on the poor, especially those working on plantations.



Figure: Coffee Prices, like many other agricultural commodities, are prone to dramatic changes in price, supply and demand. Unpredictable economic conditions are a result. Source: Financial Times

Commodity prices can fall when too many competitors join a market, bloating the supply and crashing the price. Coffee, in particular, has seen wild price swings since the 1960s. One cause of the famous *Latin American Debt Crisis* of the 1980s was a collapse of export agricultural commodity prices at the same time as a spike in world oil prices that caused a global recession.

Plantation agriculture is also responsible for most of the nearly intractable ***land tenure*** problems that plague many countries engaged in plantation agriculture. During the 18th and 19th century, colonial powers like England and Spain robbed indigenous people of their land and forced them to work on plantations. Others became peasants, confined to marginal lands least desired by the colonial, landed elites. In many cases, families of elites and peasants continued in their roles for many generations, and in the process, created both a permanent underclass and a landed *oligarchy*. Violent clashes between socialist or communist land reform advocates and capitalists who favored the status quo erupted frequently during the 20th century, especially in Latin America. The economic hopelessness and violence that plantation agriculture spawned spurred migration. In Latin America, those fleeing plantation economies came to the United States, where opponents of land reform efforts in Latin America *simultaneously*

oppose immigration from Latin America.

Because plantation agriculture is often highly competitive, and sometimes a highly profitable endeavor, efficiency is a paramount concern. Large plantation operations take advantage of ***economies of scale*** that *small-hold farming* cannot, so there is significant pressure from the market, and the agribusiness corporations who own large plantation, to ensure that massive farms continue to use the best farmlands in a country. In those rare instances where land reform has taken place, and highly productive agribusiness farmlands were redistributed to the poor; the export economy has faltered, and economic chaos ensued. Zimbabwe's land redistribution is the classic modern example.

WE ARE THE WORLD

In the mid-1980s, a drought, war, and bad governmental policies in the Horn of Africa led to one of the great humanitarian crises of the modern era. Famine struck Eritrea and Ethiopia causing an estimated half-million deaths. A documentary news crew broadcast the tragedy back to the rest of the world, shocking many into action. Two of the better-known charity relief efforts came from pop and rock musicians. Live Aid, Band Aid and USA for Africawere efforts launched by famous music acts to raise money and awareness of the crisis. Donations poured in because people believed that the crisis was largely the result of a natural disaster. Few knew that during this great famine, Ethiopia remained a net exporter of food. Grain and other agricultural commodities were being shipped from Ethiopia around the world, often as animal feed, while thousands within the country starved. Transportation and safety issues were partly to blame, but in the end, the Ethiopian famine was caused by a land tenure crisis and poverty as much as drought and desertification. When poor people can't grow food, they often cannot buy food either. The aid money that poured in did help some in the region, but corrupt local officials likely siphoned off much of the food aid intended for the truly needy.



Figure: Philadelphia, PA. Live Aid was a significant cultural event raising awareness of African famine. Though money and awareness were raised, most involved failed to understand the economics and politics behind the famine. Source: Wikimedia

Agricultural Landscapes

The United States has more arable land than any other country. If you drove around the US, about half of what you would see out your window would be farmland of some sort. About 400 million acres within the US are planted in crops, and over 600 million are used to graze livestock. Those numbers have been shrinking by about 3,000 acres per year, as suburbs and commercial developments gobble up farmland (EPA). Still, farming remains extremely important both as an economic activity and as a hidden element in our daily existence. So, reading the landscapes of farming is a valuable skill for the well-educated citizen.

Cadastral Patterns

If you're flying over the US, looking out the window of the plane and paying attention, you'll notice a variety of ***cadastral patterns***,

which reflect are the various systems the government has used to divide the land among people. Cadastral systems are most evident in farm country, but they also affect the division of land in cities. The patterns created by the various land division schemes both reflect and shape our politics, culture, and economy. There are several cadastral systems used worldwide, but in the US, only a few merit our attention.

Metes and Bounds

English settlers introduced the *metes and bounds* cadastral system during the colonial period. Generally, those who wished to obtain land during the 17th and 18th century would scout a piece of unclaimed land, perhaps near the town where they lived or on the frontier, and upon finding a suitable location they would hire a surveyor to inspect the land and write a description of the desired plot of land. This description constituted a legal claim to the land that was in turn registered with government authorities. The shape and size of the land parcels were quite random, often described using *very* local landmarks, like trees, boulders, or streams. Here's an example:

> *Beginning at a stone on the Bank of Doe River, at a point where the highway from A. to B. crosses said river (see point marked C. on Diagram 1); thence 40 degrees North of West 100 rods to a large stump; then 10 degrees North of West 90 rods; thence 15 degrees West of North 80 rods to an oak tree (see Witness Tree on Diagram 1); then due East 150 rods to the highway; thence following the course of the highway 50 rods due North; then 5 degrees North of East 90 rods; thence 45 degrees of South 60 rods; thence 10 degrees North of East 200 rods to the Doe River; thence following the course of the river Southwesterly to the place of beginning. Source:* surveyhistory.org

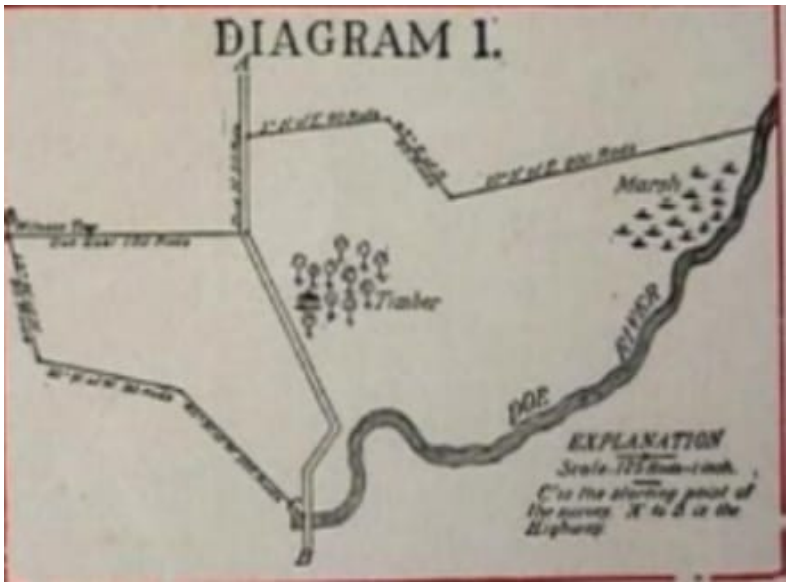


Figure: Diagram of the land parcel described by the passage quoted below. Note the highly irregular outline. Source: Virtual Museum of Surveying.

In the regions of the country using metes and bounds, local property maps eventually came to look like a huge jigsaw puzzle, as waves of settlers made claims to unoccupied plots of land. The irregularity of this land division system created numerous problems, not the least of which was the difficulty in determining property lines demarcated by moveable objects like trees, rocks, and streams.

Metes and bounds also contributed to an unfair distribution of *quality* farmland. People that arrived early to a location on the frontier often carved out parcels of high-quality land for themselves, leaving poorer quality land for latecomers. Often, those who carved out choice parcels were wealthy land speculators, the surveyors themselves, or politically well connected people. Once in possession of the best lands, they stood to dominate local politics and the local economy. Many *land speculators*, made fortunes buying up choice lands early and cheaply, then selling them to those arriving later the frontier.

Today, so-called "house flippers" engage a similar business model. People who arrived late to the frontier often found available parcels of land were of poor quality and expensive. In some places, this exacerbated class distinctions because the quality of farm fields varied greatly. Colonial tobacco farming regions were especially vulnerable to this condition because tobacco plants quickly

exhaust the soil. Farmers with poor soil and without adequate farmlands to leave some fields *fallow* would soon face bankruptcy, only to be bought out by wealthier neighbors who were bought, or inherited, prime farmlands earlier.



Figure: Ross County, Ohio. The region west of the Scioto River is the Virginia Military District. It uses meters and bounds. East of the river, the township and range system is used. Note the stark difference in pattern. Think about the implications these patterns have upon the culture, politics and economics of each region. Data courtesy of Ross County GIS (Greg Rouse)

Township and Range –Grid Squares

Thomas Jefferson recognized several problems with the metes and bounds system, so he introduced the ***township and range*** cadastral system, officially known as *the Public Land Survey System*, as a logical, well-ordered replacement for metes and bounds that divided land using a rectangular grid system. Jefferson hoped that if each farm family moving to the frontier could buy a farmstead of roughly the same size as all his/her neighbors, as long as the quality of that land was reasonably similar, a robust middle class of *yeoman farmers* would emerge, invigorating democracy.



Figure: San Joaquin Valley, CA. Multiple political ideas and government policies are evident on this farming landscape in arid California.

Deeply in debt following the War for Independence, but flush with land acquired from the British in the war, the continental congress passed into law Jefferson's idea as the *Land Ordinance of 1785*. This law has since regulated the sale of most of

American land west of the Appalachian Mountains. It allowed homesteaders to buy land without seeing it first, did not require complex surveying and description, and sped up the settlement of the frontier.

The basic unit of division in the grid system is the *township*, a square parcel of land six miles wide. Townships were sub-divided first into 36 one-square-mile parcels called *sections*. Square mile sections (640 acres) were subdivided further into quarter sections (160 acres) and quarter-quarter sections of forty acres. *Homesteaders* generally purchased quarter sections where rain was plentiful. But where the climate is drier, and ranching displaced farming, larger parcels were more common.

The grid square dominates the American landscape. It's hard to overstate the impact of this system. Roads, farmlands, houses, property lines, telephone poles are just but a few items on the landscape locked onto "the grid". Even the room you're in now, along with your desk, couch, or chest of drawers, is probably aligned with Jefferson's grid. The brilliant landscape essayist JB Jackson argued that the grid is a grand symbol of the kind of thinking that characterized the ***Age of Enlightenment*** while also affecting the cultural practices in regions dominated by the grid, perhaps imparting a sense of order and conformity to communities locked into the grid. Even the personal insult "square" that refers to persons who are orderly and conformist may be tied to the pervasiveness of the grid.

In much of New England, the land was divided very differently. Colonial-era communal style agricultural villages were centered on *village greens*. These were abandoned in the Midwest and far west, and communal agriculture gave way to independent farming – a type of individualism encouraged by the grid. The implications are profound in terms of the political and economic philosophies characterizing modern American politics. Chapter 8 explores more deeply the competing political philosophies deeply associated with the various US cadastral systems.

Jefferson's cultural and political goals have been mostly realized. Democracy did indeed flourish, and to this day, the region of the country with the most equitable distribution of wealth remains where the township and range system created innumerable farmsteads of roughly equal size and equal quality. Interestingly, the *Gini coefficient*, a measure of income equality, is generally lowest in the grid-dominated states of the Midwest where the middle class remains large.



Figure: Fayette County, Ohio - Section 16 in many townships was given to the local school district to generate school funding and to provide space for a local school. Abandoned one-room school houses like this dot the rural landscapes of the Midwest.

Perhaps the only disadvantage to the grid system is that it seems to encourage farmers to plow their fields in straight lines, regardless of the topography of the fields, a practice that increases soil erosion and water loss, compared to the more eco-friendly *contour plowing* practiced more frequently by farmers living on metes and bounds lands in the East.

Long Lots

Colonists from other parts of Europe, especially the French, introduced the ***Long Lots*** cadastral system. Derived from the seigneurial land tenure system used by the French in their colonial holdings (mostly in what is now Canada), it was replicated in

elsewhere in North America where French settlement occurred, most notably Louisiana, but you can find evidence of Long Lots near other French settlements like St. Louis, Detroit, and Vincennes, Indiana. Long lots are narrow parcels of land, typically one-tenth as wide as long, with one of the narrow ends generally bordering a transportation corridor, generally a river or stream.



Figure: Saint James Parish, LA. Long lot cadastral patterns create numerous ribbon farms along the Mississippi River. This land division system profoundly affects the road network, housing and perhaps even social and cultural systems. Note the equal access to the river (and now highway). Data courtesy of St. James Parish GIS.

The political implications of long lots are like Jefferson's grid because each property owner had a roughly equal chance to succeed in the regional farming economy. Access to transportation (e.g., a river) was a crucial element for farmers hoping to sell their crops. Dividing land in this fashion also insured farmers reasonably equal access to quality farmland. Soil characteristics near rivers differ by distance *from* the riverbank. Sandier Soils are often found near the river. High-quality loamy soils are found at an intermediate distance from the river, and in the bottomlands more distant from the riverbank, less desirable, clay-rich soils are more common. Farmers in this system commonly arranged farm activities to mimic the spatial logic of Von Thünen's model presented earlier in the chapter. *Can you apply the logic of the Von Thünen model to a long lot?* Long lots create cultural conditions as well. Because families built their houses near the river, neighbors lived close to one another. The French also divided family holdings evenly among all children (or just males) upon the death of a family elder, resulting in the creation of additional narrow strip farms, each with a house at the riverfront after each successive generation. You'll remember from Chapter 2, that shotgun houses may have become more popular in part because they fit nicely on long lot style land parcels.

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13.2.8: Spanish Land Grants

Spanish Land Grants

In the American Southwest, where vast areas were once governed by Spain (1521-1821) and later Mexico (1820-1846). Spain and Mexico both advanced land distribution policies that created massive *land grants* that are still evident on the landscape, especially in California.

Spanish (like the French) families were less likely to practice *primogeniture*, the tradition in which families bequeath *all* their lands to the oldest son. The Spanish and French were more likely to divide property among children. As a result, there was a smaller pool of landless people willing to move to the Americas from those areas. The British, as well as some other parts of Northern Europe, did practice primogeniture, which encouraged vast numbers of “second sons" to move to North America. Without an excess of landless young men and/or significant religious minorities, the Spanish had some trouble getting Spaniards to colonize their lands in the Americas.



Figure: Solvang, CA - Mission Santa Ynez once controlled all the lands in this photo, a massive land grant from the King of Spain. Soon after the fall of the Spanish crown, these lands were acquired by wealthy elites (Californios). Land tenure issues would likely plague California today, like they do in Latin America, had the US not taken California from Mexico by force in 1848 and instituted metes and bounds

A lack of willing migrants and a very difficult path to the Pacific Coast, combined with challenging farming conditions discouraged European settlement of the western margins of North America for hundreds of years. To entice settlement of their claims in the Americas Spanish Kings made significant land grants available to those willing to move to “New Spain”, especially if the person was a political ally of the king. In California, about 30 grants were made by the Spanish crown, but corrupt and weak Mexican governors granted many thousands of acres in land grants to political allies, friends, and family members and the process created a huge network of plantation-style *ranchos* across California during the Mexican era.

A *feudal* style land tenure system evolved in California during the Mexican era, characterized by an exceptional concentration of land, wealth, and power into the hands of a few dozen families, almost all of whom operated massive cattle ranches, employing Indians and mestizo peasant-laborers. Dozens of huge ranchos remained in the late 19th century. Some mimicked the large agricultural plantations of the Deep South – but without the enslaved labor force. However, after the Mexican-American War(1848), mostelarge ranchos were broken up, because either the US government did not recognize the legitimacy of the property claims, or powerful American interests simply wanted to steal the land – which had been previously stolen from Native Californians. Real estate developers made fortunes by buying well-placed ranchos and turning them into thousands of small suburban home lots. A few have managed to survive, sometimes as state parks or wilderness areas, like the Ahmanson Ranch, at the western border of

Los Angeles County, which was formerly part of the 113,000-acre Rancho San Jose de Gracias de Simi.

Where the Spanish system survived in Latin America, the maldistribution of land had profound effects on the region's political, economic, and social structures. Where agriculture is the predominant industry, land equals wealth. Therefore, where large percentages of the land were given to a few powerful families, oligarchies developed alongside a disenfranchised peasantry.

The Spanish Land Grant system worked well to advance plantation economic systems discussed earlier in the text and together created enormous hardship for many people in Latin America. Democracy, urbanization, and industrialization diminished the effects of the Spanish Land Grant system in the US, but inequality remains high in regions of the country where this system was predominant.



Figure: San Fernando Valley, Los Angeles, CA. The Spanish and Mexican governments made many very large land grants to powerful interests. For example, the El Encino ranch on this map was 4,460 acres. After the US acquired California, the US government allowed homesteaders access to the small 40-acre plots, but many American claimed more in the West.

Farm Buildings

Agricultural buildings provide clues about past and modern farm systems. Barns are the most obvious element of the agricultural landscape, but fencing, barbed wire, grain silos, and other outbuildings are sources of landscape information, readable by the trained geographer. As you ride in the agricultural countryside, try to understand the narrative evident in the landscape.

Consider for example the different styles of barns found across the United States. Barns can be general-purpose structures or may be built specifically for farmers engaged in a specific type of agriculture. The style of the barn and agricultural outbuildings sometimes reflect the ethnic groups that settled a region and simultaneously provide clues to the political, cultural, and religious environment in which barns were built. For example, the tobacco barn below serves as a reminder to passers-by of the economics of tobacco farming, slavery, inequality, and soil exhaustion. If you were to see Bavarian hay barns dotting the American roadside, you could expect the local culture to exhibit many other cultural traits from Germany.



Figure: Green County, TN. This tobacco barn is a good example of a purpose-built barn. The crop hangs from many poles arranged in the well-ventilated barn to allow proper drying before the product is shipped for processing. Source: Wikimedia.



Figure: Mittenwald, Germany. In the Bavarian Alps, settlement and land stewardship. Silage, animals and small hay barns, made of locally available logs, dot the equipment were stored in this barn. What are the risks of landscape and provide a clue to the folk heritage associated with such a building? community here. Similar structures were introduced to the American landscape, but are rare in the US today.



Figure: A Diary in the middle a green field

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13.2.9: Agricultural Regions

Agricultural Regions

As is the case with BBQ, numerous geographic variables inform the choices farmers make about what to do with their land. The first factor is climate. Weather is a controlling factor in most agricultural decisions. Many crops and some livestock just can't survive in harsh climates. Some crops are exceptionally hardy, and some even require harsh weather conditions to thrive. The availability of water, either via rain or irrigation is another fundamental issue for farmers. Most farmers also need to turn a profit; and the clear majority prefer to maximize their profits, so farmers carefully choose the crops and animals they raise. Farmer decisions, in turn, affect what we eat, just as what we eat affects what they plant. Taken together, these decisions have created roughly five major agricultural zones in the US, each aligned with a climate zone. The paragraphs below explore the evolution and function of some of the major agricultural regions in the US, and elsewhere

Corn and Wheat Belts

The two largest agricultural regions in the United States are roughly split by the ***100th meridian***, a line of longitude that marks a transition zone between the humid eastern half of the US and the drier western half. The 100th meridian runs straight through the middle of the US, where the land is flat and ideal for row cropping. Farmers east of the 100th meridian generally plant corn (maize) and *soybeans*, and therefore this region is called the ***Corn Belt***. It's roughly centered on Iowa, "The Tall Corn State". Much of this land now used to grow corn was once *tallgrass prairie* before it was plowed under and made into cropland. Tallgrass prairies are marked by very fertile soil conditions. Over centuries, deep rich topsoil developed in this region where adequate summer rains fueled abundant plant growth, and winter snows helped plants decompose slowly into organic, fertile, *humus*. Almost no tallgrass prairie remains in the US. It's all been plowed under for agriculture.



Figure: US - Each point on this map represents 10,000 acres of grain corn harvested in 2012. Note the steep decline west of the 100th meridian. Source: USDA

Farmers on flatlands west of the 100th meridian tend to plant wheat. Farmers in this region would probably prefer to plant soybeans and corn because they are more profitable per acre (see the case study on the economics of corn below). West of the 100th meridian, it is generally too dry for corn and soybeans, so farmers plant wheat instead. The ***wheat belt*** extends from the panhandle of Texas up through the Dakotas, in a region that was originally dominated by *short grass prairie* before it was converted to agriculture. The soils of shortgrass prairie are less productive than those created by tallgrass prairies because the region's dryness both slows plant growth in the summer and provides a less reliable snowpack in the winter thus reducing the effectiveness of the decomposition processes that turn dead plants into soil.

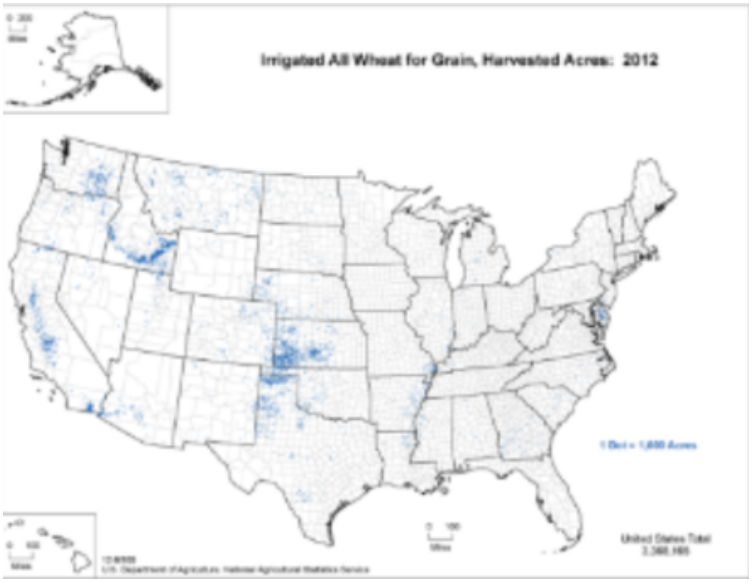


Figure: US - Each point on this map represents 1,000 acres of wheat harvested in 2012. Note its predominance west of the 100th meridian, and compare it to the corn map. Source: USDA.

There are hundreds of types of wheat, but American farmers favor only a few varieties. Farmers plant *winter wheat* in the fall and harvest it in the early summer. Winter wheat accounts for about three-quarters of all the wheat produced in the US, and we used it to make bread and rolls. Kansas is at the heart of the winter wheat (formal) region. Further north, in the Dakotas, wheat farmers favor *spring wheat*. They plant it in April and harvest it in the fall. Bakeries use flour made from spring wheat to make dough for pastries and cakes. *Durum wheat* is a special variety of spring wheat, planted mostly by Americans in North Dakota. Pasta makers prefer Durum wheat to make the semolina flour used in the production of pasta. Durum is a beloved wheat variety of Italians as well.

Wheat is the leading agricultural export from the US, and the US leads the world in wheat exports, but thanks to shifting government policies and ***climate change***, wheat production has fallen in the US since the 1970s. Since 1900, the length and timing of growing seasons have changed so much that corn production is displacing wheat production in regions where the growing season was once too short for profitable corn production. For example, in North Dakota, the first killing frost of the year is now often in October, rather than September asit was for centuries. This allows corn plants to ripen a few weeks longer, and as a result, corn is now more profitable than wheat even in North Dakota - especially given the subsidies for corn production (see below). An interesting positive ***externality*** of climate change has been that the alarming out-migration of young people from North Dakota has slowed as farming has once again become profitable in the north-central United States.

Irrigated Drylands

In some arid regions, including parts of California and Arizona, farmers apply vast amounts of irrigation water to fields that would otherwise be too dry for most crops. Elaborate systems of dams, irrigation canals, pumping facilities, and water storage facilities, built with taxpayer funds, allow farmers in arid regions to grow an enormous variety of foods and sometimes reap great profits. Because the Southwestern US has abundant sunshine, long growing seasons, and in many places, excellent soils, the addition of irrigation creates exceptionally productive, and profitable farmlands. Perhaps the greatest irrigated farmlands in the world are found in California's ***Great Central Valley*** where individual *counties* have larger farm economies than most US states. Most of the fruit and vegetables that you've eaten in your life came from irrigated fields in California

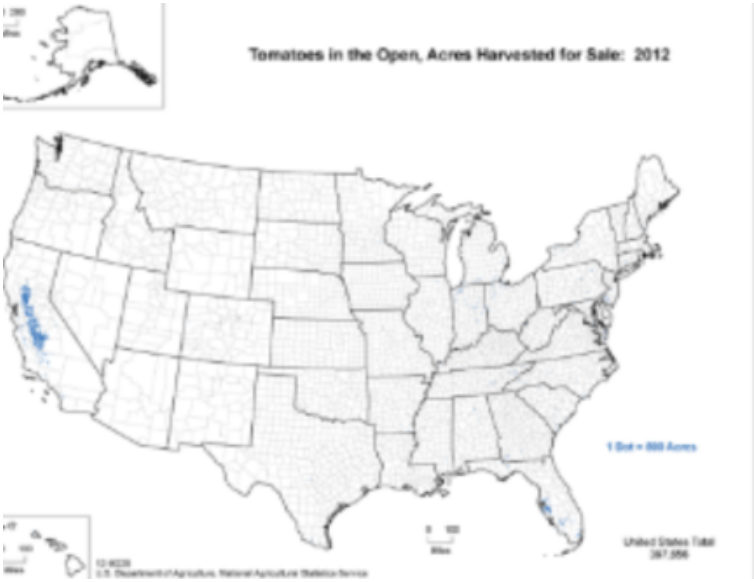


Figure: US - Point map of Tomato acreage in the US. Most tomatoes in the US are grown on irrigated fields in California's dry Great Central Valley. Source: USDA.

Fruit and vegetable farming, like that practiced in California, is often the most labor intensive style of agriculture in the United States, requiring large numbers of farmworkers to pick, process, pack, and ship fruits and vegetables because few machines are capable of doing these tasks. Because low-wage laborers both willing and able to do this kind of work are critical to the *profitability* of fruit and vegetable farming, immigrant labor is highly desirable. California's Great Central Valley has been for many decades a point of entry for many thousands of immigrants seeking to live in the United States. Many migrants find work in the fields for some years before moving on to other occupations. Immigrant farm workers fundamentally alter the societies where they live in terms of culture and the economy. Debates rage both in the US and internationally about the benefits and costs of immigrant labor, especially when the immigrants are undocumented. Two points are irrefutable. First, very few American citizens are willing to work picking fruits and vegetables for the prevailing wages offered to farmworkers. Two, if farm wages rose enough to attract native-born workers (say, $20 to 30/hr.), the fruits and vegetables would become too expensive to be competitive with those grown outside the US, and the farm economies in the US that are dependent upon immigrant labor would suffer. The issues surrounding farm economics, environment, politics, demographics, culture, and foodways represent a classic example of the concept of ***cultural integration*** and the value of a spatial geographic framework for understanding.

> Wages rise on California farms. Americans still don't want the job.
>
> *Los Angeles Times* March 17, 2017

Red Dirt and Chickens

In the Southeastern US and the Pacific Northwest, over-abundant rainfall makes it difficult to profitably grow many crops. In damp climates, numerous diseases attack plant roots. Insects and other blights also undermine farm profits in humid locations. Also, soils in many parts of the southeastern US are ***leached*** because over abundant rainfall washes away many of the nutrients necessary for vigorous crop growth. The famous "red dirt" of Georgia and Alabama is not ideal for many crops. Still, farmers adapt and they search for agricultural activities that maximize the potential of local soils and climate. In both the Pacific Northwest and Southeastern US, where pine trees grow well in poor soil, harvesting timber provides an alternative to row crops. However, lengthy harvest intervals make forestry less reliably profitable. Another common option is to focus on raising poultry. Southeastern states dominate the "broiler" industry – chickens raised for meat. In the Pacific Northwest, marijuana has become the leading agricultural pursuit.



Figure: Cottondale, AL -The presence of reddish soil and pine trees is an indicator of the limited agricultural possibilities at this location. Geographers read this also as an indicator of the economic profile of the region.



Figure: US - Southeastern states dominate chicken production in the US. Source: USDA

Specialty Crop Areas

In some locations, peculiar local soil and/or climate conditions allow farmers to grow very specialized crops. Sometimes these crops are very profitable because they grow well in so few locations. This reduces the supply of the crop, and if demand is high prices will follow, according to the economic model of ***supply and demand***. You can probably think of several locations that specialize in very specific crops. Idaho is famous for its potatoes. Georgia is famous for peanuts, peaches, and onions. Washington is famous for apples. Thanks to irrigation and its rare Mediterranean climate, farmers in California are the dominant producers of many crops including broccoli, carrots, cauliflower, celery, lettuce, and spinach. California farmers grow more than 99% of America's almonds, artichokes, dates, figs, raisin grapes, kiwis, olives, pomegranates, pistachios, and walnuts.



Figure : Peaches, peanuts and onions are three crops that grow well in specific places in Georgia. Many other locations in the state are poor for agriculture.

Dairy Lands

Dairy farmers raise milk cows across the US. The Northeast and Great Lakes regions are famous for their vast herds and are known as “America’s Dairyland.” California produces more milk than any other state, despite not having a reputation as a dairy state. Dairy farming is nearly ubiquitous across the US because almost everyone drinks milk, and it is perishable. Regions with large populations create high demand for milk, and since milk must be transported quickly to market, the map of milk production echoes the map of the population. Each large city has a regional hinterland of milk production known as a ***milkshed***. Milksheds were once found in about a 50-mile radius around cities, but now thanks to improvement in refrigeration and transport speed, milksheds have radii of over 500 miles.

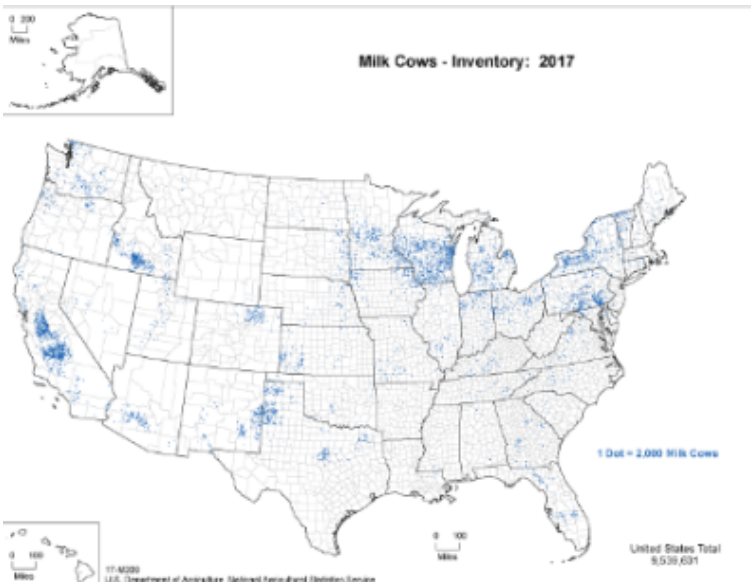


Figure: US - Dairy farms are generally near population centers - New York, Illinois and California Source: USDA

Most European Americans are lactose *tolerant*, which boosts demand for milk, cheese, butter, and ice cream. This seems especially true in places like Wisconsin, where a pronounced Germanic heritage exerts a strong influence on regional demand for dairy products. This is an example of ***cultural integration*** because patterns of regional ethnic heritage affect regional agro-

economics.

Hay farming, which supports the dairy industry, also tends to be ***co-located*** with dairy regions because milk cows are fed a steady diet of hay, especially during winter months when field grazing is limited.

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13.2.10: Von Thünen's Model

Von Thünen's Model

Weather, climate, and soils are important variables affecting the decision-making process of farmers, but the cost of transporting agricultural products is just as important. Two hundred years ago, economic geographer *Johann Heinrich von Thünen* recognized that because each crop presented a different set of transportation costs and challenges, profitable farming was partly dependent on distance to markets. His ideas led him to develop a theory of agricultural ***land rent*** that is now widely known as the ***Von Thünen Model***.

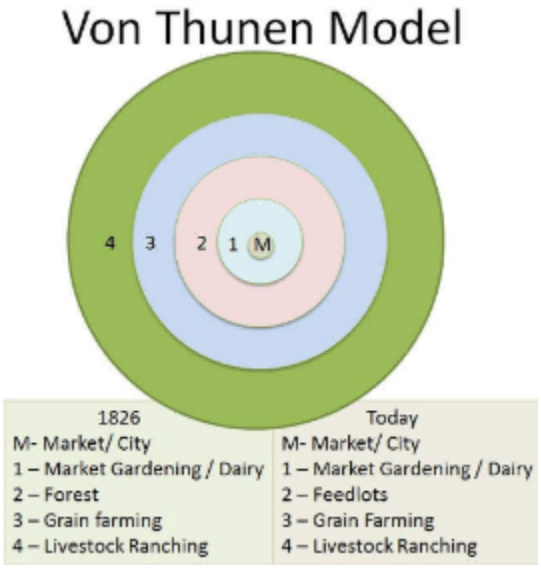


Figure: An adaptation of Von Thünen's Model that predicts and/or suggests ideal locations for agricultural production based on distance to market and cost of transportation.

This model incorporates several assumptions that are not always present in the real world, but the model is useful for understanding the decision-making process of agriculturalists. First, the model assumes that all farmland is of equal quality (topography, soil, water, etc.) and that no place has a transport advantage over any other (a river or rail line). Second, the model assumes there is only one market city where farmers sell their goods. Third, the model assumes farmers are economically rational: they understand how to maximize profit and always choose the most profitable use for their land.



Figure: Oxnard, CA. A sign protesting the conversion of prime farmland on the Oxnard Plain into suburban housing tracts. Consider the difficulty of creating laws to prevent farm loss.

Von Thünen argued that farmers living closest to the market city will produce dairy and/or fruits and vegetables because those products are both *perishable* and expensive to transport. Dairy farmers who live closest to urban markets will specialize in liquid milk, while dairy operations further from large cities will convert milk to less perishable dairy items like butter, cheese, and ice cream because those products are less perishable. It would be foolish, especially in 1826, for farmers living at a great distance to the city to specialize in foods that spoil quickly. Von Thünen argued that farmers living far from the city market specialize in grain crops because they are cheaply transported and can be stored for long periods. Tree crops, used for home heating in the 1800s, will be grown near the city because firewood was heavy and expensive to transport.



Figure: Union Stockyards, Chicago, IL 1947- livestock is prepared for slaughter near meat packing plants. Advances in transportation and refrigeration forced urban feedlots out of business by the mid-1900s. Source: Library of Congress

Von Thünen knew that farmland near cities was more valuable because that land was also valuable for those interested in building housing, factories, etc. If farmers living near cities wanted to maximize the value of their land by farming, they had to engage in ***intensive agriculture***, like fruit and vegetable farming known as ***market gardening***. Otherwise, they should simply convert their farmland to some other purpose to maximize their *land rent*. Farmers living further from cities, because they have greater costs associated with transporting crops to market, must engage in ***extensive agriculture***, the type of farming best suited for less

valuable land, which requires less costly farm labor.

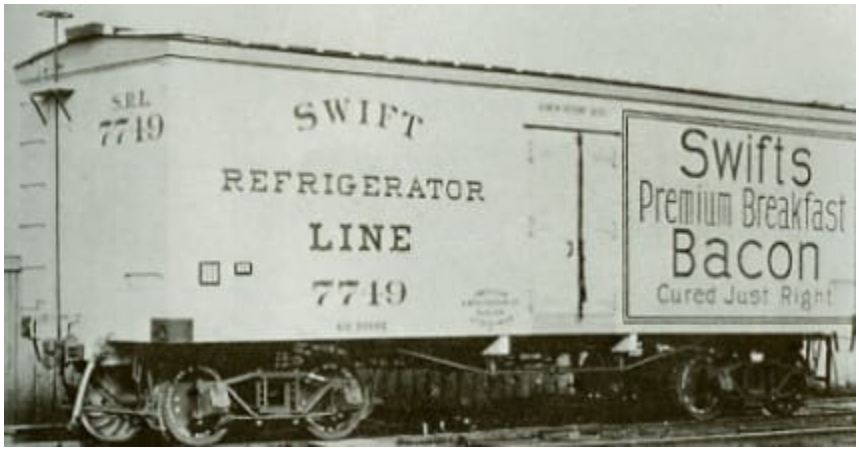


Figure: The refrigerated rail car radically changed the way distance factored into the operation of the Von Thünen Model. Can you think of affected farm commodities? Source: Wikimedia

Technological innovations, particularly refrigeration and rapid transportation undermine some of the applicability of Von Thünen's model today, but the logic behind it is still very potent, and current agricultural maps reflect the ongoing importance of transportation costs to farmers. New York City, Los Angeles, and Chicago all have large *hinterlands* where farmers remain engaged in intensive *market gardening* and liquid milk production. New Jersey is called the "Garden State" for exactly this reason.

Market gardening farms still tend to be found in the US within a one-day drive to a nearby city's central produce warehouse district. California, with the largest population of any state, therefore, leads the country in the production of fruits, vegetables, and milk – just as Von Thünen's model would suggest. It's not just the weather. Large grain farms continue to be rare in those same areas. The biggest changes from Von Thünen's original model are the location of forestry operations and livestock feedlots. Thankfully, most hogs and cattle are fattened and slaughtered far from cities nowadays. Thanks to the elimination of wood as a heating fuel, fuel forestry regions, which once supplied wood *to heat homes* in the nearby city no longer exist.



Cattle cars

Figure: Los Angeles, CA - Cattle Cars like this one in a museum were rendered obsolete by the invention of refrigerated box cars, which in turn allowed urban stock yards also obsolete.

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13.2.11: Global Changes in Food Production and Consumption

GLOBAL CHANGES IN FOOD PRODUCTION AND CONSUMPTION

Commercial Agriculture and Market Forces

Farming is part of agribusiness as a complex political and economic system that organizes food production from the development of seeds to the retailing and consumption of the agricultural product. Although farming is just one stage of the complex economic process, it is incorporated into the world economic system of capitalism (globalized). Most farms are owned by individual families, but, in this context, many other aspects of agribusiness are controlled by large corporations. Consequently, this type of farming responds to market forces rather than to feeding the farmer. Using Von Thünen's isolated state model, which generated four concentric rings of agricultural activity, geographers explain that the choice of crops on commercial farms is only worthwhile within certain distances from the city. The effect of distance determines that highly perishable products (milk, fresh fruits, and vegetables) need to be produced near the market, whereas grain farming and livestock ranching can be located on the peripheral rings (Figure 10.23).

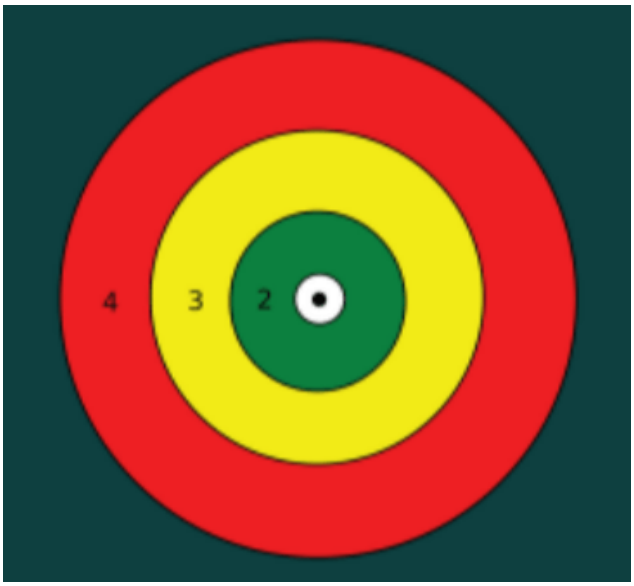


Figure | Von Thünen Model The dot represents a city. The white area around it (1) represents dairy and market gardening; 2) (green) the forest for fuel; 3) (yellow) field crops and grains; 4) (red) Ranching and livestock ;and the outer (dark green) region represents the wilderness where agriculture is not practiced. Author | Erin Silversmith Source | Wikimedia Commons License | Public Domain

New Zealand, for example, is a particular case of a country whose agriculture was thrown into a global free market. More specifically, its agriculture has changed in response to the restructuring of the global food system and, at the same time, is responding to a new global food regime. For New Zealand to remain competitive, farmers have to intensify production of high added value or more customized products, also focusing on nontraditional exports such as kiwi, Asian pears, vegetables, flowers, and venison (meat produced on deer farms) (Figure 10.24). The New Zealand agricultural sector is unique in being the only developed country to be totally exposed to the international markets since the government subsidies were removed.



Figure | Deer Farm, New Zealand Author | User “LBM1948” Source | Wikimedia Commons License | CC BY SA 4.0

Biotechnology and Agriculture

Since the 19th century, manipulation and management of biological organisms have been a key to the development of agriculture. In addition to Green Revolution, agriculture has also undergone a Biorevolution, involving agricultural biotechnology (agritech), an area of agricultural science involving the use of scientific tools and genetic engineering techniques to modify living organisms (or part of organisms) of plants and animals with the potential of outstripping the productivity increases of the Green Revolution and, at the same time, reducing agricultural production costs. Within the agricultural biotechnology process, desired traits are exported from a particular species of crop or animal to the different species obtaining transgenic crops, which possess desirable characteristics in terms of flavor, color of flowers, growth rate, size of harvested products, and resistance to diseases and pests (BT corn, for example, can produce its own pesticides).

By removing the genetic material from one organism and inserting it into the permanent genetic code of another, the biotech industry has created an astounding number of organisms that are not produced by nature. It has been estimated that upwards of 75 percent of processed foods on supermarket shelves – from soda to soup, crackers to condiments – contain genetically engineered ingredients. So far, little is known about the impacts of genetically modified (GM) foods on human health and the environment. Consequently, it is difficult to sort the benefits from the costs of their increasing incorporation into global food production. The United States is the leader not only for the number of the genetically engineered (GE) food crops but also for the largest areas planted with commercialized biotech crops. Many countries, in Europe, for example, consider that the genetic modification has not been proven safe, the reason for which they require all food to be labeled and refuse to import GM food. Yet, in the United States, genetic modification is permitted, taking into consideration that there is no evidence yet supporting that it is dangerous. Many people instead consider that they have the right to decide what they eat and, consequently, in their opinion, labeling of GM products must be mandatory. Protests against GMO regulatory structures have been very effective in many counties including the United States (Figure 10.25).



Figure | Protest against GMOs Author | Rosalee Yagihara Source | Wikimedia Commons License | CC BY SA 2.0

Currently, over 60 countries around the world require labeling of genetically modified foods, including the 28 nations in the European Union, Japan, Australia, Brazil, Russia, India, South Africa, China, and other countries (Figure 10.26). The debates regarding labeling certainly will continue. Since no one knows whether GM foods are entirely bad or entirely good, regulatory structures are crucial, protecting human health and the environment.



Figure | GM Labeling Around the Globe Author | User "Co9man" Source | Wikimedia Commons License | CC 0

Food and Health

Since the end of World War II, the world's technically and economically feasible food production potential has significantly expanded. As a result, today, there is more than enough food to feed all the people on the Earth (Figure 10.27) Yet, the major issue is the access to food, which is uneven, the reason for which millions of individuals in both the core and the periphery are affected by poverty, preventing them from securing adequate nutrition.

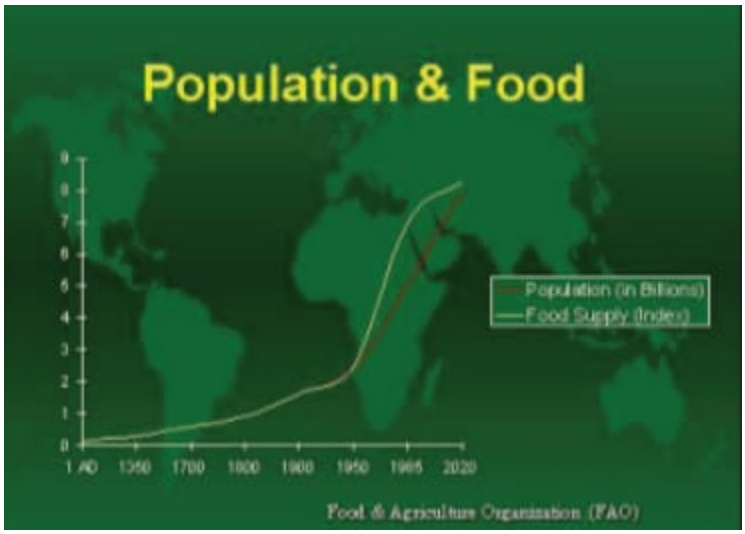


Figure | Population & Food supply Author | FAO Source | Infogram License | © FAO. Used with permission.

Hunger, chronic (long-term) or acute (short-term), therefore, is one of the most pressing issues facing the world today. Chronic hunger, also known as undernutrition, is an inadequate consumption of the necessary nutrients and/ or calories. The Food and Agriculture Organization of the United Nations (FAO) considers at least 1,800 kcal/day for an individual to consume in order to maintain a healthy life. The world average consumption is 2,780 kcal/day, but there is a significant difference between developed countries, with an average of 3,470 kcal/day (3,800 kcal/day in the U.S.), and developing countries, recording an average of 2,630 kcal/day (even less in sub-Saharan countries). FAO estimates that currently about 800 million people are undernourished globally, significantly less than in the early 1990s, but the majority continue to be counted in southern Asia and sub-Saharan Africa (Figure 10.28). One form of hunger is famine, an acute starvation caused even by a population's command over food resources, natural disasters (e.g., drought, Ethiopia in 1984-1985), or wars. In contrast, in North America, the United States especially, where the food is abundant and inspected for quality, overeating is a national problem, the reason for which the general condition of the

population is reflected more by obesity (Figure 10.29).

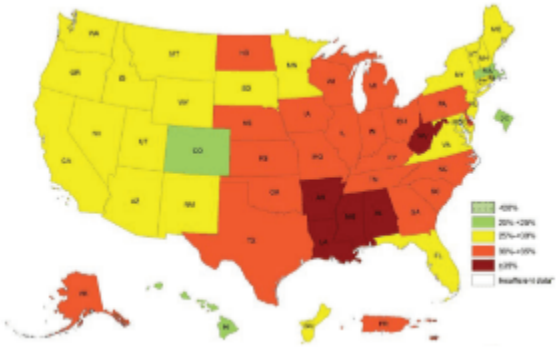


Figure | U.S. Adult obesity rates, 2016 Author | CDC Source | CDC License | Public Domain

Nutritional vulnerability is conceptualized in terms of the notion of food security. According to FAO, food security exists when all people, at all times, have access to food for an active and healthy life. Related to food security is the concept of food sovereignty, which is the right of people, communities, and countries to define their own agricultural policies. One factor connected with food in general and food sovereignty especially is the fact that more cropland is redirected to raising biofuels, fuels derived from biological materials. They not only have a significant and increasing impact on global food systems but also result in evictions of small farmers and poor communities.

Sustainable Agriculture

Alongside the emergence of a core-oriented food regime especially of fresh fruits and vegetables, a new orientation in agriculture is sustainability. According to the Sustainable Agriculture Initiative (SAI), “sustainable agriculture is the efficient production of safe, high quality agricultural products, in a way that protects and improves the natural environment, the social and economic conditions of farmers, their employees and local communities, and safeguards the health and welfare of all farmed species” (SAI Platform 2010- 2018) . More specifically, sustainability in agriculture is the increased commitment to organic farming, the principles and practices for sustainable agriculture developed by SAI being articulated around three main pillars: society, economy, and environment.

Although organic food production is not the primary mode of the agricultural practice, it has already become a growing force alongside the dominant conventional farming. Yet, unlike conventional farming, which promotes monoculture on large commercial farms and uses chemicals and intensive hormone-practices, organic farming, which puts small-scale farmers at the center of food production, does not use genetically modified seeds, synthetic pesticides, herbicides, or fertilizers. Thus, sustainable agricultural practices not only promote diversity and healthy food but also preserve and enhance environmental quality.

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13.3: Food

Food

Introduction: Why do we eat this stuff?

> ***What you eat and where your food comes from are fundamental issues. Our foodways greatly affect agricultural practices both near and far away. In turn, agricultural practices have profound effects on the environment, the economy, our diets, and our health.***

Why we eat the things we eat is a complex question. The answer might seem as simple as "I eat what tastes good", or "I eat what my mom cooks", but as any mom who cooks for her family will tell you, opinions often vary wildly on the issue of "what tastes good" among individuals, even within the same household. Despite the presence of picky eaters in almost every family, it's easy to identify food preferences that characterize towns, regions, countries, and even continents. Food preferences of individuals are generally conditioned by their geography or the geographic histories of their family. So, what tastes yummy to people in one location might be considered disgusting to people elsewhere. Consider Vegemite, a type of sandwich spread much beloved by Australians, yet considered horrid by most Americans. Within the US, crawfish is a favored delicacy to many Louisianans, but many other Americans find crawfish too gross to eat. Foodways are so varied across the US and the world because there are so many variables that affect what we eat. It is often said, "you are what you eat," and that might be true, but geographers might add "what you eat depends on *where* you eat."

Migration-Ethnicity

One of the main variables explaining what Americans eat can be found by looking at our immigration history. European immigrants to the US established many mainstream American foodways because they migrated to North America early and in large numbers. The first Europeans to arrive in the Americas would readily recognize many modern American dietary *staples*, such as beef, pork, chicken, bread, pasta, cheese, and milk, as well as a number of the fruits and vegetables we commonly eat today.



Figure: New Orleans, LA – This dish of boiled crawfish represents a lengthy history of folk adaptation to a locally abundant, food source. The preference for crawfish seems to have evolved among the Cajuns who dwelled among the swampy regions of Louisiana, and diffused outward from there. Source: Wikimedia

The grandparents of the first Europeans arriving on American shores, those living before the *Columbian Exchange*, (1492) would not have recognized many foods we eat regularly today, including maize (corn), tomatoes, and potatoes – all of which are native to the Western Hemisphere. It's hard to imagine, but tomato-based marinara sauce is relatively new to Italy. The tomato was not

introduced to Italy until the 1500s. Germans once drank beer and ate sausages without their famous potato salad, because the potato was not introduced to Europe until the 1500s.



Figure: Antwerp, Belgium. Chocolate is a national obsession in Belgium. Brought from Meso-America by the Spanish in the 1600s, chocolate has become an important part of European culture, and a valuable export.

The French, Belgians, and Swiss, who so love chocolate, had none before transatlantic trade. Alternatively, bananas, onions, and coffee were unknown to the people of the Americas before 1492. The exchange of agricultural wisdom and food processing techniques between the indigenous people of the Americas, Africans, and Europeans is largely responsible for most food traditions and agricultural practices found in the US today. Several elements of the North American's diet are also traceable to Asia (e.g., citrus, sugar, rice, soybeans) as well, though much of those traditions were introduced to the Americas via Europe, rather than being directly imported by Asian migrants. Can you think of new foodstuffs and foodways actively entering the US diet? Your diet?

Our eating habits also offer an interesting glimpse into how certain cultural practices function. Eating is a *daily ritual*, which helps deeply engrain our food preferences into our cultural habits. This is evident by looking at how resistant to change our foodways are, even over generations. This fact is a causal factor in America's obesity crisis. Our lifestyle has changed rapidly as technologies have helped us become more sedentary, but many of our foodways have not evolved accordingly. The diets that served our ancestors, who worked exceptionally long hours, engaged in strenuous activities, provide far too many calories and/or fat for modern people working and living in the digital age. ***Cultural lag*** is the concept that describes the inability of cultural practices to keep pace with changes in technology and the economy. Numerous behaviors exhibit cultural lag, and culturally conservative regions, many of which are *geographically isolated*, exhibit more cultural lag than less isolated places where greater exposure to new ideas and greater exposure to food traditions from afar alter local foodways.

Alberts, Heike C., and Julie L. Cidell.

"Chocolate Consumption Manufacturing and Quality in Western Europe and the United States." *Geography* (2006): 218-226.

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13.3.1: Geography of BBQ

The Geography of Barbecue (BBQ)

Local food traditions are affected by the specificities of place and geographers have done a great job exploring many foodways. *Barbeque* (BBQ), a favorite American dish that involves cooking meat, very slowly, over indirect heat (it's not the same as *grilling* meat over an open flame) is a great example of how geography affects diet. Worldwide, there are many dozens of BBQ styles. Jamaica, Mexico, and South Africa each have well-known practices, and within the US there are a dozen or more distinct practices. BBQ was probably introduced to the Americas in the 1600s by the Spanish, who may have learned how to BBQ from Caribbean Indians.

BBQ restaurants can be found in most of the US, but it is most popular in the US South where a warm climate and poverty combined to encourage the adoption of BBQ. Before the invention of refrigeration, fresh meat had to be eaten quickly, or otherwise preserved to avoid spoiling or *rancidification*. BBQ offered a solution.



Figure: Nashville, TN- Pork Barbeque is the most popular type of BBQ in much of the South and Appalachian. This restaurant is on Music Row – which invites us to think of connections between music and food

There are several ways to preserve meat: *salting*, *pickling,* and *drying* are popular methods, but the one that gained favor in the US South was *smoking* meat in a pit or some other container. Using the pit BBQ method, anyone who slaughtered a pig or a cow could cook the entire animal in a few hours. This style of cooking also makes some of the less desirable cuts of meat easier to eat while improving the flavor. Most importantly, smoking meat extends the length of time before it turns rancid. Because poor people often have little protein in their diet, any strategy to prevent spoilage was embraced. Southerners 100 years ago often had too much starch (carbohydrates) in their diet and too little protein.

Other areas of the US copied the process, but as the practice diffused, adopters were forced to alter the practice to fit local conditions (stimulus diffusion). As a result, more than a dozen recognizable BBQ styles emerged in the US alone, each with a unique combination of meat preference, cut of meat, smoking wood, and flavoring strategies. In the Carolinas alone, there are more than a half-dozen variations on the basic recipe for BBQ sauce or marinade.

Edible Geography A Blog about Food, Place, and Space Read: Smog

Meringue

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13.3.2: Meat, Wood and Flavorings

Meat

The meat used in BBQ varies by region. Mostly this is because different regions have different agricultural potential. So for example, in Appalachia, the Piedmont region, and much of the piney-woods South, there is a strong preference for pork BBQ. In these heavily forested regions, Anglo settlers raised hogs for meat because it was easy to free-range hogs in nearby woodlands. Pigs will wander within a forest where they eat acorns, tree nuts and whatever else they could forage - at no cost to the farmer. Hogs only needed to be trained so they could be "called" back to the farm. Sometimes pork BBQ is served as ribs, but in the Carolinas, it is often served "off-the-bone" or "whole hog" served chopped or "pulled" into little pieces and served on a bun.



Figure: Hutto, TX - This restaurant featured beef, which is the most commonly used meat for BBQ in Texas where the climate favors cattle ranching.

Where the land is flat and grassy, like most of Texas, the Great Plains, and parts of California, grazing cattle evolved as the prevalent agricultural practice, beef became the most popular BBQ meat. In some places, beef ribs are preferred, in other regions, *brisket* or rumps are preferred. Californians often serve a cut called *tri-tip*, which is typically used to make hamburgers outside the West Coast. Other regions of the US prefer chicken, turkey, or fish, depending on local availability.



YouTube Video: Hog Calling demonstration.

Pigs were trained to come to farmers upon being “called”

Wood

The type of wood that is most locally available is another critical ingredient in differentiating American BBQ regions. Hickory, a hardwood tree common to the forests of the Eastern US is a favored wood for smoking pork BBQ in Appalachia. Oak or Pecan wood is popular in eastern Texas, but out in West Texas, they use the wood of mesquite trees. In West Texas and the other parts of the dry southwestern US, mesquite is plentiful. Most mesquite trees are shrubby, but their wood is hard, burns slowly, and has a unique flavor, making it great for BBQ. In California, Spanish/Mexican settlers invented Santa Maria-style BBQ. There, they roast tri-tip over the wood of Coast Live Oak trees. Maple and Apple trees furnish wood for smoking chicken and flavoring pork in other parts of the US, particularly in New England, where BBQ is not as popular

Flavorings

The last, and perhaps most geographically random, element of the geography of BBQ is the flavoring technique. Many regions apply a wet sauce. The most widely known and copied sauce comes from Kansas City. Variations on the sweet, dark *Kansas City BBQ* sauce are available at most supermarkets in the US alongside ketchup. Many South Carolinians favor a mustard based sauce, perhaps an innovation introduced by Germans who migrated there a century or more ago. Many East Carolinians pour a vinegar-and-hot pepper sauce on their BBQ. In the more mountainous areas of the Carolinas, they add a tomato sauce to that mixture. In Louisiana, of course, the Cajun influence means that their BBQ sauce is going to contain their special cayenne pepper flavored hot-sauce (like Tabasco brand). Cooks in Memphis, Tennessee; another city famous for its BBQ, tends not to use BBQ sauce at all. Instead, they flavor their meats with a dry rub mixture of spices, like paprika, pepper, chili powder, garlic, etc. Santa Maria-style BBQ in California also uses a simple “dry rub”. Even the side dishes vary regionally – again based on the local availability of beans, bread, and greens. For example, Santa Maria BBQ in California always features pinquitos, a type of small pink or white bean, grown in the Santa Maria Valley. Hushpuppies, a kind of deep-fried corn cakes are often served with spicy cole-slaw in parts of the Carolinas.



Figure: North Carolina - This plate features pulled pork and red coleslaw combo flavored with vinegar. It is commonly served with beans and hush puppies. Source: Wikimedia.

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13.3.3: Corn, Sugar, Farm Policy and Public Health

CORN, SUGAR, FARM POLICY AND PUBLIC HEALTH

Today, the operation of Von Thünen's Model is also affected by numerous government policies that greatly influence what farmers do and what we eat. To provide you some insight into how geography is useful in analyzing complex questions, the section below offers a quick case study into some of the relationships between politics, farming, dietary practices, and public health.

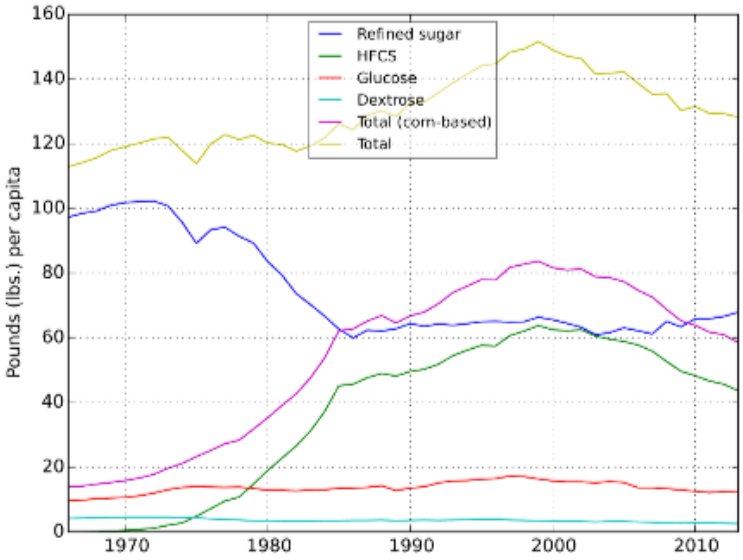


Figure : Infographic - Since 1970 cheaply produced HFCS has replaced cane sugar, driving a significant increase in total sugar consumption in the US. Source: Wikimedia

Perhaps the most important food in the world is *maize*, popularly known as "corn" in the US. Domesticated by the indigenous people of Mexico thousands of years ago, maize has proven an exceptionally versatile and hardy plant. It's so adaptable, that much of the world eats maize in some fashion today. There are multiple varieties of maize. Most Americans know maize as *sweet corn* or *corn on the cob* Sweet corn is also available canned and frozen and appears in a wide variety of dishes. Less well known are the dozens of maize varieties known as *field corn*, even though vastly more field corn is grown than sweet corn. Field corn is processed into dozens of other products. Some of it is ground into cornmeal and cornstarch, which we use to make things like corn chips, tortillas, and sauces. We also convert millions of tons of field corn into corn syrup and *high fructose corn syrup* (HFCS). Corn syrups are used as sweeteners, thickeners, and to keep foods moist or fresh. Since the early 1970s, HFCS has become a common and inexpensive replacement for *cane sugar* and *beet sugar*. HFCS is now the most common sweetener used in processed foods and soft drinks.



Figure: Sweet Corn. This variety of maize is consumed directly by humans, unlike field corn which is generally processed into flours, syrups or used for animal feed or fuel. Source: Wikimedia



Figure Croatia. Field corn is the most common crop in the US, and ranks only behind wheat and rice worldwide. Source: Wikimedia

Cost is the main reason the displacement of granulated cane and beet sugars by HFCS in the American diet and the geography of sugar production explains the difference in costs. Field corn grows well in much of the US, so lots of it can be produced, which drives supply up and costs down. Sugar cane, on the other hand, is poorly adapted to most American climates. Sugar cane *yields* are highly dependent on climate. A good crop of sugarcane requires plenty of rain and a very long growing season. In the US, only Hawaii has *ideal* conditions for profitable sugar cane production. Cane yields in Hawaii are triple those in Louisiana, but delivery costs from Hawaii and competition for prime farmland on the islands drive up the price of Hawaiian sugar. Sugar beets grow well in a variety of climates. You might drive past a field of sugar beets in the desert of California and up in Minnesota. Half of the US granulated sugar production is made from sugar beets. Climate conditions and cheaper labor outside the US make foreign-produced sugar cheaper than domestic sources.



Figure: Brawley, CA. This massive sugar beet factory relies upon irrigation waters and helps promote the local dairy industry via by products. Note the sea-level marker

Since the Great Depression of the 1930s, the US government has provided special ***subsidies*** to cane sugar producers to help keep them in business via tax breaks and a variety of other incentives. The government even buys cane sugar at prices above world market value if American sugar producers cannot profitably sell it on the international market. The US government also restricts sugar imports, especially from Cuba, which supplies sugar cheaply to Mexico and Canada. Tariffs on imported sugar also increase prices within the US.

These ***trade protection*** policies help sugar farmers stay in business, but they create burdens elsewhere in the economy that are often hidden. Those hidden costs are known as ***externalities*** or ***external costs***. Geographers tend to be *very* interested in identifying and calculating external costs because our discipline approaches most topics *holistically*. Geographers think it is important to calculate *all* costs and benefits of government programs including those that subsidize sugar production. Geographers keep a keen eye on hidden environmental and societal costs often overlooked by economists and accountants.



Figure: US Sugar Production Corn sweeteners are produced in the Midwest. Sugar Beets (green) are produced in California and elsewhere. Sugar cane is grown in Louisiana, Florida, Hawaii and Texas. Source: US Sugar Alliance

In addition to costing taxpayers billions of dollars, sugar subsidies and tariffs act to make *cane* sugar more expensive at the grocery store than it would be otherwise. Candy and soda manufacturers also pay higher prices for sugar because of these policies. As a result, many thousands of manufacturing jobs involving sugar (i.e., candy making) have left the US for foreign countries where sugar is cheaper. For example, in Mexico, where the industry is not subsidized or protected by tariffs, cane sugar costs about half of what it does in the US, so numerous candy factories have moved there. Brach's Confections and Kraft Foods have both moved candy manufacturing plants out of the US in recent years because of the high costs of cane sugar. Many of you have probably drunk a so-called *Mexican Coke*: a Coca Cola produced in Mexico. Many cola aficionados prefer these because in Mexico Cokes are still made with cane sugar, rather than the cheaper HFCS used to make Coke at most US bottling plants.



Figure: Coca Cola bottles from Mexico. Soft drinks produced outside the US are more likely to contain cane sugar because those manufacturers outside the US may buy cheap cane sugar from Cuba and elsewhere. Flickr

While the US government drives *up* the price of granulated sugar, US farm policy simultaneously drives down the price of corn and products made from corn. In 2014, there were about 1.63 *billion* bushels of corn left unsold at harvest. So abundant and cheap is field corn, that Americans are wasteful with it. About half of the yearly US crop of field corn is used (along with excess sugar cane bought by the government) to make biofuels, particularly *ethanol fuel* that is blended with gasoline. Much of the additional corn crop (both grain and *silage*) is used to feed cattle. Rather than feeding cattle grass and/or hay, which is their natural diet, we feed them corn because it is cheaper and fattens animals quickly. Chickens and hogs are also fed corn. The government even tries to get rid of corn by manipulating the definition of what counts as "healthy" in school lunches. In 2011, the US Congress famously declared pizza sauce a "vegetable", over the objections of health advocatesin an effort to help specific agribusiness interests.

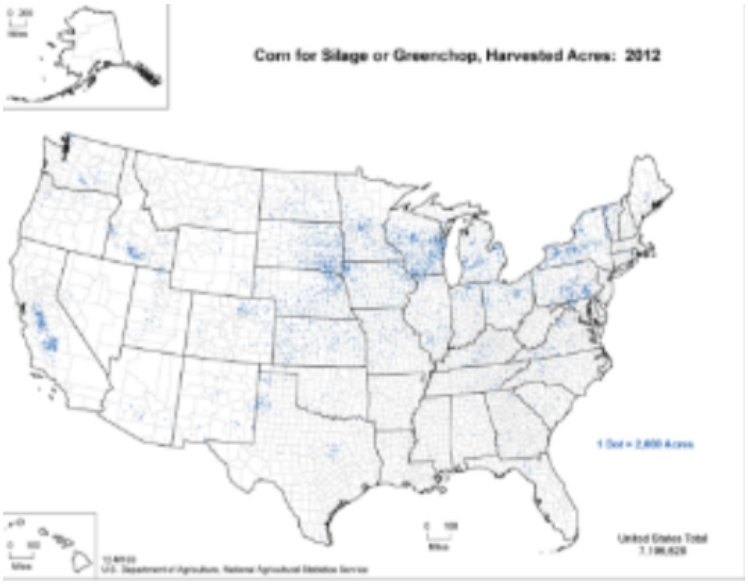


Figure US Map - Each point on this map represents 2,000 acres of corn grown for silage. Why might so many dots appear in Wisconsin? Source: USDA

Government policies make corn-based products cheaper than they would be in a free-market environment. Farmers growing fruits and vegetables are subsidized so those products are relatively more expensive. The differential government subsidies help explain why it's a lot cheaper to buy a burger combo than a green salad in most places.



Figure: Northridge, CA - An advertisement for a burger combo meal at a campus fast food restaurant. A salad at a nearby restaurant on campus cost double on the day this photo was taken.

Poor people, whose health is often at risk from a variety of other factors, often become over-dependent on a diet of cheap, but fatty (corn-fed) meats, sugary processed foods, and starchy carbohydrates. Some scientists suspect that corn sweeteners play an additional role in the worldwide obesity crisis. They argue that although corn sugars taste similar to traditional sugars, HFCS alter human metabolisms, pointing to the fact that in the years since HFCS replaced cane sugar as the most common sweetener, a variety of obesity-related health issues have appeared in the US and elsewhere. Of course, the corn industry disputes these charges. Even if HFCS is not worse for you than granulated sugars, it is commonly accepted that diets high in fats and carbohydrates and low in vegetables invite a variety of chronic health issues, which in turn costs taxpayers even more via government-subsidized health care for the poor – yet another external cost perhaps overlooked by others.

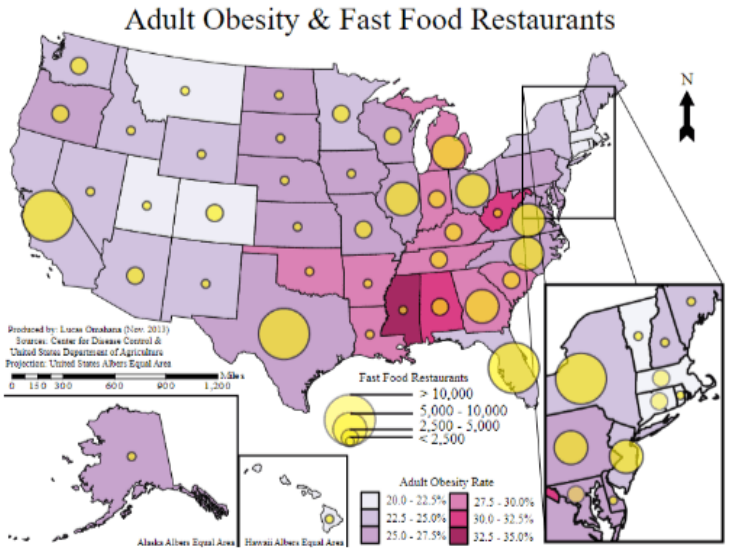


Figure: US Map - The number of fast food restaurants and the rate of adult obesity are depicted simultaneously on this map. What criticisms of this map would you provide? Source: Wikimedia.

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1. OER (1 of 2): Introduction to Human Geography edited by Dorrell & Henderson, Published by University of North Georgia University Press. https://web.ung.edu/media/university-press/human-geography_v2.pdf?t=1700179494361
2. OER (2 of 2): Introduction to human Geography A Disciplinary Approach 3rd Edition by Graves. Published California State University Northridge Department of Geography https://sites.google.com/site/gravesgeography/introduction-to-human-geography

Food Section Conclusion

Agriculture was the key development in the rise of sedentary human civilization, domesticating species of plants and animals and creating food surpluses that nurtured the development of civilization. It began independently in different parts of the globe, both the Old and New World. Throughout history, agriculture played a dynamic role in expanding food supplies, creating employment, and providing a rapidly growing market for industrial products. Although subsistence, self-sufficient agriculture has largely disappeared in Europe and North America, it continues today in large parts of rural Africa, and parts of Asia and Latin America. While traditional forms of agricultural practices continue to exist, they are overshadowed by the global industrialization of agriculture, which has accelerated in the last few decades. Yet, commercial agriculture differs significantly from subsistence agriculture, as the main objective of commercial agriculture is achieving higher profits.

Farmers in both the core and the periphery have had to adjust to many changes that occurred at all levels, from the local to the global. Although states have become important players in the regulation and support of agriculture, at the global level, the World Trade Organization (WTO) has significant implications in agriculture. Social reactions to genetically engineered foods have repercussions throughout the world food system. Currently, the focus is especially on the option that a balanced, safe, and sustainable approach can be the solution not only to achieve sustainable intensification of crop productivity but also to protect the environment. Therefore, agriculture has become a highly complex, globally integrated system, and achieving the transformation to sustainable agriculture is a major challenge.

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13.3.4: Food Key Terms

Part 1 KEY TERMS DEFINED

agribusiness: commercial agriculture engaged in the production, processing, and distribution of food

agriculture: a science, art, and business directed to modify some specific portions of the Earth's surface through the cultivation of crops and the raising of livestock for sustenance and profit

biofuels: fuel derived from biological materials

biorevolution: the genetic engineering of plant and animals with the potential to exceed the production of the Green Revolution

biotechnology: the manipulation through genetic engineering of living organisms or their components to make or modify products or processes for specific use

commercial agriculture: a system in which farmers produce crops and animals primarily for sale

conventional farming: agriculture that uses chemicals (fertilizers, pesticides, and herbicides) and/or hormone-based practices

crop rotation: method in which the field under cultivation remain the same, but the crop is changed in order to avoid exhausting the soil

double cropping: method used in the milder climates in which intensive subsistence fields are planted and harvested twice per year

famine: extreme scarcity of food

food regime: specific set of links, indicating the ways a particular type of food is dominant during a specific time

food security: the situation when all people, at all times, have access to food for an active and healthy life

food sovereignty: the right of people, communities, and countries to define their own agricultural policies

globalized agriculture: agriculture increasingly influenced more at the global or regional levels than at national level

genetically modified organisms (GMOs): organisms that have their DNA modified in a laboratory

Green Revolution: a new agricultural technology characterized by high-yield seeds and fertilizers exported from the core to the periphery in order to increase their agricultural productivity

hunting and gathering: activities through which people obtain food from hunting wild animals, fishing, and gathering fruits, nuts and roots

intensive subsistence agriculture: a form of subsistence agriculture in which farmers involve the effective and efficient use of small parcels of land in order to maximize crop yield per hectare

nontraditional agricultural exports: new export crops that contrast with traditional exports

organic farming: a method of crop and livestock production without commercial fertilizers, pesticides, growth hormones, and genetically modified organisms

pastoralism: subsistence activity that involves the breeding and herding of animals to satisfy the human needs of food, shelter, and clothing

pastoral nomadism: a traditional form of subsistence agriculture in which the pastoralists travel with their herds over long distances and with no fixed pattern

plantation: large landholdings in developing regions specialized in the production of one or two crops usually for export to more developed countries

ranching: a form of commercial agriculture in which the livestock graze over an extensive area shifting cultivation: a form of subsistence agriculture, which involves a kind of natural rotation system

slash-and-burn agriculture: a method for obtaining more agricultural land in which fields are cleared (swidden) by slashing the vegetation and burning the debris

subsistence agriculture: farming designed to grow food only to sustain farmers and their families, consuming most of that they produce without entering into cash economy of the country

sustainable agriculture: the efficient production of safe, high quality agricultural products, in a way that protects and improves the natural environment, the social and economic conditions of farmers, and safeguards the health and welfare of all farmed species

swidden: land that is cleared for planting using the slash-and-burn process

transhumance: a seasonal vertical movement by herding the livestock to cooler, greener high country pastures in the summer and returning them to lowland settings for fall and winter grazing

undernourishment/undernutrition: inadequate dietary consumption that is below the minimum requirement for maintaining a healthy life

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13.4: Natural Resources

13: Part 2: Natural Resources

Joseph Henderson

STUDENT LEARNING OUTCOMES

By the end of this section, the student will be able to:

1. Understand: the problems associated with the demand for nonrenewable energy resources and the available supply.
2. Explain: the issues associated with the pollution of air, land, and water.
3. Describe: the types of renewable and alternative energy resources and global initiatives to leverage these resources.
4. Connect: preservation efforts worldwide to anthropogenic pressures on the environment.

INTRODUCTION

A discussion of resources makes an excellent capstone for this textbook, as most major topics that have been discussed previously relate to the consumption of resources in some way. Global population increase means a greater demand for resources. Job opportunities in fossil fuel mining and drilling are a significant pull factor for migration in many countries where fossil fuel extraction is an important part of the economy. Cultures, and their associated political and economic systems and settlements, affect and are affected by the availability of resources and how resources are used in a country. For example, as discussed in Ch. 9, the availability of coal in the United Kingdom helped bring about the industrial revolution in that country. Furthermore, as developing countries modernize, their energy needs for transportation and electricity grow, and there is a continued increase in the demand for such energy sources as fossil fuels.

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13.4.1: Non-renewable Energy Resources

NONRENEWABLE ENERGY RESOURCES

Fossil fuels are by far the most significant energy source for most countries worldwide, and these resources are nonrenewable, or in finite supply. Fossil fuels are burned in electric power plants, and provide energy to power vehicles, aircraft, and ships. While the technology exists to burn fossil fuels in power plants so that the emissions are not particularly significant in terms of air pollution, air quality reduction because of the combustion of fossil fuels is still considerable and is a cause for concern at the international level.

The major fossil fuels are coal, oil, and natural gas. Fossil fuels are formed from ancient living matter. In the case of coal, this fossil fuel was likely formed from primordial plant material in swamps that was buried and metamorphosed through time. The origin of oil and natural gas is attributed to microscopic organisms that sank to the bottom of prehistoric oceans and over time, transformed into these two fossil fuels.

The countries that hold the greatest share of fossil fuel proven reserves, or deposits that can be recovered with some certainty, are varied. For coal, the United States has the largest reserves, followed by Russia and China. In the case of oil, the vast majority of proven reserves are located in the Middle East in countries like Saudi Arabia (with the largest reserves) and Canada. Other countries that hold substantial reserves include Iraq and Venezuela. Lastly, for natural gas, Russia and the Iran have the largest reserves. These statistics do not take into account potential reserves of fossils fuels, or fossil fuels that may be exist but have not been definitively verified. One example of potential reserves in the United States is the Green River Formation in parts of Colorado, Utah, and Wyoming. This large deposit of shale rock may contain up to three trillion barrels of oil, only half of which is recoverable (7). 1.5 trillion barrels of oil, though, is roughly equivalent to the entire world's proven oil reserves. The Green River Formation is not likely to be tapped because of complications associated with extracting oil from the rock, as the process would require heating the rock and using significant quantities of water in a rather arid region. Another example of potential reserves is the deposits of oil and gas in the Arctic, a region that has not been extensively explored, but the melting of sea ice caused by rising temperatures in the Arctic is increasing opportunities for experimental drilling.

The countries that have the largest reserves are not necessarily the countries with the leading amount of fossil fuel production. Production refers to the extraction of fossil fuels from the Earth by drilling and mining. The leading coal producers are China, India, and the United States, largely because of significant demands for electric power. Saudi Arabia, Russia, and the United States currently lead the world in oil production. Natural gas is extracted most heavily in the United States and Russia.

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13.4.2: Renewable Energy Sources

RENEWABLE ENERGY SOURCES

Fossil fuel resources are finite, so efforts to seek other types of energy resources are ongoing in many countries around the world. Because fossil fuels are not limitless, some researchers are concerned that supply will eventually exceed demand, particularly as developing countries increase economically and technologically. Moreover, as we will see in a later section on pollution, the emissions from the burning of fossil fuels are a serious concern for the global atmosphere, and clean energy is seen as a better alternative to coal, oil, and natural gas.

The shift away from fossils fuels involves a number of different types of renewable energy and alternative energy sources. Renewable resources are those that are in infinite supply. Major types of renewable energy include solar, wind, hydroelectric power, biofuels, and geothermal energy. Although the risks are considered to be significant, an alternative energy source is nuclear power, but nuclear power is not renewable as it depends on the supply of uranium. Significant efforts worldwide to harness these energy sources can be seen in many regions of the world.

For example, in Europe, a concerted effort to fund renewable energy projects has been underway since the 1990s. In 2016, wind energy overtook coal as the second largest form of power production (after natural gas) in Europe, and 80 percent of new energy projects were from renewable energy sources. France, Ireland, Lithuania, the Netherlands, and Finland all set records for windfarm installation, while Germany continues to lead in wind power. Norway and Sweden are the leading countries overall in terms of renewable energy consumption in Europe, as more than half of their energy consumption is from renewables (Figure 13.1).

In Asia, while China continues to build many coal-powered plants, it is investing hundreds of billions of dollars on renewable energy, more money than the United Kingdom, the United States, and Japan, combined. This development is important as China is the world's largest emitter of greenhouse gases, and this pollution may contribute to global warming. Moreover, China is already the world leader in wind power and plans to build the largest solar farm on the planet. India's goal is to produce over 50 percent of its power from renewable energy by 2027. All of these efforts require a considerable amount of capital investment to help cover the costs of the energy transformation.

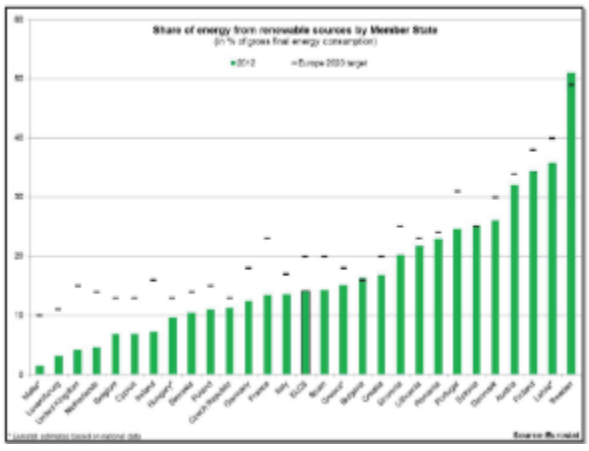


Figure | Renewable energy for selected countries in Europe Author | Eurostat Source | Flickr License | CC BY SA 2.0

In the Middle East, even the world leader in oil production, Saudi Arabia, is looking toward renewable energy as they are expected to be a net importer of oil by 2038 as their domestic supplies dwindle. The Middle East is an excellent location for solar power because of the number of cloud-free days in a year.

In the United States, only about 12 percent of energy production is from renewables, and much of that production is from hydroelectric power. However, America has some of the largest wind and solar farms in the world. Texas leads in wind power production, and California has the most solar energy generating capacity (Figure 13.2). Efforts to promote electric car use have also been promoted in California, as the state government has set a goal of having 1.5 million electric cars on the road by 2025. Although using a battery to power a car instead of fossil fuels is generally environmentally friendly, electricity generated primarily

from fossil fuels is still used to charge the vehicles.



Figure | The Smoky Hills Wind Farm in Kansas Author | User “Drenaline” Source | Wikimedia Commons License | CC BY SA 3.0

One of the more controversial types of renewable energy is biofuels. Biofuels produce energy from living matter, and much of the biofuel used in the world is from a variety of crops such as corn, cassava, sweet potato, sugar cane, and sorghum. The United States and Brazil lead the world in biofuel production, followed by China. In the United States, most gasoline has a certain percentage of ethanol, derived from corn. The major controversy with biofuels stems from the fact that many of the plants used for biofuels could also be used to feed people, so whether or not using scarce land to produce fuel as opposed to food is a good idea is hotly debated. However, other biofuel sources exist besides agricultural crops, and these biofuels include bio-methane and even bacteria such as E. coli. In the United States, India, and Germany, methane derived from cow manure and decaying plant matter is used to power electric plants. In Gwinnett County, Georgia, methane extracted during the wastewater treatment process is used to provide electric power for the wastewater treatment process (Figure 13.3).



Figure | Egg-shaped “digesters” at the Newton Creek Wastewater Treatment Plant Author | Jim Henderson Source | Wikimedia Commons License | Public Domain

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13.4.3: Pollution

POLLUTION

Air Pollution

While the technology exists to burn fossil fuels so that the emissions are not particularly significant in terms of air pollution, air quality reduction because of the combustion of fossil fuels is still considerable and is a cause for concern at the international level. Another pollutant that has received worldwide attention is chlorofluorocarbons (CFCs) and their impact on the ozone layer. Water pollution and the disposal problem of solid wastes are also important environmental concerns.

One of the major issues internationally is the suspected anthropogenic, or human-caused, warming of the Earth's atmosphere because of carbon dioxide in fossil fuel emissions. The issue is complex because "climate change", as global warming has been dubbed, is affected by both natural and anthropogenic processes. A number of scientists are concerned with warming temperatures in the lower atmosphere because this warming could contribute to rising sea levels, an increase in the frequency of storms and drought, a greater number of heat injuries, and the spread of tropical pests into higher latitudes. Many climatic factors operate to affect global temperatures, so carbon dioxide produced by the burning of coal, oil, and natural gas is not the only important element that dictates temperatures worldwide. Ocean currents, shifts in large warm and cold pools of the Oceans such as El Ǹino/La Ǹina, changes in sunspot activity, photosynthesis from global plant life, the extent of global sea ice, the type and extent of global cloud cover, the natural cycling of carbon, and volcanic activity are but a few of the climate controls of global temperatures.

Despite the complexity of the Earth's climate system, many scientists attribute the slight warming (degrees C) of the average temperature of the Earth since the Industrial Revolution to increased levels of carbon dioxide, a natural component of the Earth's atmosphere. Scientists have been measuring atmospheric carbon dioxide in Hawaii since the 1960s, and the trend has been upward for virtually every year on record. The increase in carbon dioxide levels has been linked by many scientists to the burning of fossil fuels. So, how does this increase in carbon dioxide relate to warming temperatures around the globe?

Scientists suspect that a natural phenomenon called the greenhouse effect is related to this warming. The greenhouse effect is the trapping of longwave radiation (heat) by certain greenhouse gases in the lower atmosphere, as these greenhouse gases absorb and reradiate the heat from the Earth, essentially forming a blanket in the Earth's lower atmosphere. Without the greenhouse effect, the Earth would be over 35o C cooler, and life on Earth would likely not exist. Global warming is thought to be related to the greenhouse effect because carbon dioxide is one of the many greenhouse gases that traps heat from the Earth, and by humans increasing the concentration of greenhouse gases in the atmosphere, the greenhouse effect is enhanced, leading to increased warming above and beyond the "natural" effect (Figure 13.4).

International efforts to curb emissions of anthropogenic carbon began in earnest with the Kyoto Protocol in 1997. This agreement, signed and ratified by many countries around the world, sought to establish goals whereby countries would reduce their greenhouse gas emissions. The U.S. never ratified the treaty, particularly because India and China, two of the world's biggest producers of carbon dioxide, were not required to reduce their emissions. However, the U.S. and other countries have continued their dialogue about lowering emissions, and the recent Paris Climate Summit is 2016, signed by 194 countries (5), is the newest plan for global cooperation in carbon dioxide reductions and with a goal to keep global average temperatures at less than 2o C above preindustrial levels.



Figure | Natural and anthropogenically-forced greenhouse effect Author | National Park Service and U.S. Global Change Research Program Source | U.S. Global Change Research Program License | Used with Permission.

Another example of international cooperation to decrease atmospheric pollutants involves the ozone layer. The ozone layer is in the stratosphere or upper atmosphere from 10–50 kilometers above the Earth's surface. This important layer of ozone gas protects the Earth from harmful ultraviolet radiation that can be harmful to skin by causing sunburn and skin cancer. Scientists believe that chlorofluorocarbons (CFCs), used in refrigeration equipment and aerosols, have damaged the ozone layer and caused it to become dangerously thin over some parts of the globe. This thinning of the ozone layer has been named an "ozone hole", and is most pronounced around the South Pole during the Antarctic spring.

In response to these scientific findings, in 1987, 105 countries signed an international agreement known as the Montreal Protocol. The participating countries agreed to reduce the consumption and production of CFCs and to cease producing CFCs by the year 2000. The Montreal Protocol process continues as countries work to find ever-better substitutes for CFCs. Although CFCs will linger in the upper atmosphere for many years, scientists have already seen some evidence of recovery in the ozone layer.

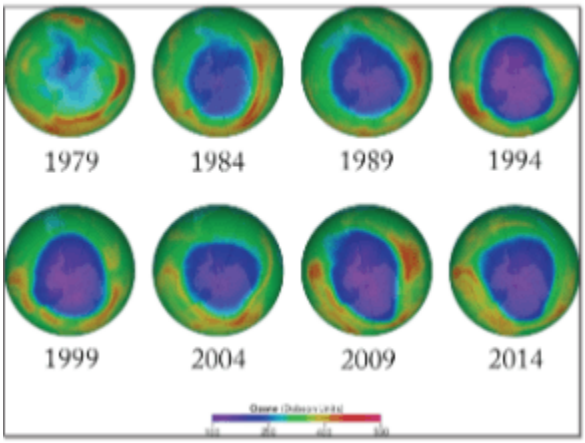


Figure | Ozone depletion around Antarctica from 1979 to 2014 Author | NASA Source | NASA License | Public Domain

Water Pollution

While air pollution of the atmospheric global "commons" is an international issue, pollution of water and land areas is likewise problematic. The supply of clean, fresh water for drinking and other uses such as irrigation is under stress as population pressure continues to increase demand. Many regions with water deficits experience periodic droughts that strain available supplies. Unfortunately, both ground and surface waters are being polluted both in the United States and abroad. Pollutants such as industrial chemicals, runoff from roadways, and untreated sewage place a heavy toll on water supplies.

Not only is unclean water unsafe to drink and in some cases unfit for irrigation purposes, but pollution can also have a deleterious effect on aquatic life. Large industrial spills, discharge from paper mills, and other types of pollutants can render a lake or stream

devoid of life for considerably long periods. Another type of pollutant that is of considerable concern in the United States and abroad is commercial fertilizers used in large-scale agriculture. Although it would seem that fertilizers would encourage plant growth and help aquatic ecosystems thrive, the opposite is, in fact, true in many cases. Rainfall washes commercial fertilizers into surface lakes and streams, and these fertilizers increase the growth of algae. Through a process called eutrophication, the abundant algal blooms die, and in the process of decomposition of the dead plant material, large amounts of oxygen are consumed. The lack of oxygen can result in extensive fish kills. One stark example of the harmful effects of eutrophication can be seen in the Gulf of Mexico. The Mississippi River carries a significant load of commercial fertilizers, and where the river discharges into the Gulf, “dead zones” form at certain times of the year. The bottom and near-bottom portions of the Gulf can become almost devoid of marine life over several thousand square miles. As a result, the Gulf of Mexico has the second largest “dead zone” of depleted oxygen area in the entire world, with the largest being in the Baltic Sea. (Figure 13.7).

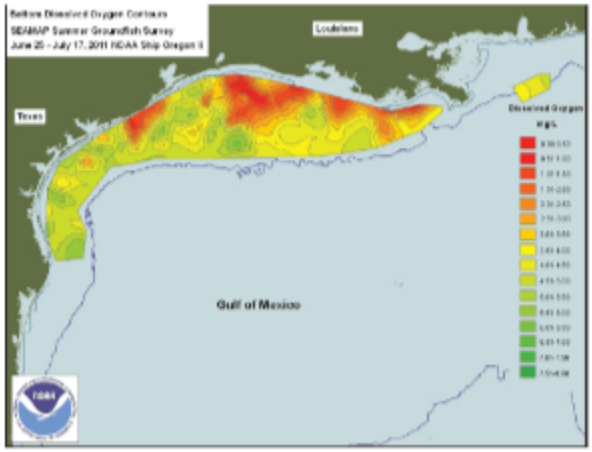


Figure | The 2010 Dead Zone in the Gulf of Mexico Author | NASA NOAA Source | NASA NOAA License | Public Domain

Solid Waste

As countries struggle to maintain clean water sources, a related problem with pollution occurs with solid waste and its disposal. Solid waste that is buried beneath the ground can, overtime, begin to pollute the groundwater below it. Water percolating downward through the rubbish can pick up harmful pollutants and deposit them in subsurface water sources. These groundwater reservoirs feed surface streams and are also tapped for well water. In the state of Florida, for example, the pollution of groundwater reservoirs, known as aquifers, is a significant issue because the state relies heavily on groundwater for its water supply.

Three primary solutions to the problem of solid wastes is disposal in landfills, incineration of the trash, or recycling. In the United States, solid waste collectors pick up trash in cities and neighborhoods and transports the waste to landfills where it is buried daily to decrease the pervasive odor and protect it from marauding pests. This is the most common method of dealing with solid waste in the United States, but unfortunately, as urban sprawl expands towards areas where landfills were on the periphery of populated areas, the matter of residents having to live close to landfills is problematic. Moreover, landfills require extensive areas of land, and in some states with heavy population concentrations such as New York City, government officials have resorted to shipping their refuse into adjacent states such as Pennsylvania where space for landfills is more available.

Another less common alternative to landfills is incineration, a process made famous in Disney’s Toy Story 2 (Figure 13.7). At incineration facilities, trash is dumped into an enormous pile, and a claw-like machine picks up the trash and continually feeds the fire of the incinerator. The advantage of incineration is the vast reduction in the amount of trash that must be disposed of in landfills, and these facilities also generate electricity from the combustion of the burning trash. Fortunately, because of advanced technology in the smokestack systems, the emissions from modern incinerators are not particularly harmful in the atmosphere. Because of its enormous output of daily solid waste, New York City takes advantage of incineration through a facility on the Hudson River just north of the city.



Figure 13.7 | The “Claw” moving plant waste and rubbish to incinerator Author | Senior Airman Sam Fogleman Source | U.S. Air Force License | Public Domain

The last method to deal with solid waste, recycling, is the most sustainable. Recycling involves the conversion of waste or other unwanted material into something that is reusable. Common wastes that are recycled include paper products, metals, plastics, and glass. In the United States, efforts to improve the percent of waste material that is recycled instead of disposed of in trash disposal units are many. For example, Recyclemania, started in 2001, is a nation-wide competition amongst colleges and universities to promote student knowledge and participation in recycling. Georgia Gwinnett College in Lawrenceville, GA, is one of the many competitors in Recyclemania every spring. Despite efforts such as these, the United States only recycles about 30 percent of solid waste, even though approximately 75 percent of the waste is recyclable. In contrast, Germany recycles about 65 percent of its municipal waste and leads the world, followed closely by South Korea at 59 percent. Germany’s recycling emphasis reflects the generally strong emphasis on recycling in most European countries, thanks to rather strict recycling laws.

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13.4.4: Preservation of Natural Resources

PRESERVATION OF NATURAL RESOURCES

Given the tremendous impact that human activities and settlements have on the environment, the question of how to preserve and protect the Earth's land areas and its resources is particularly important, especially as the global population continues to grow. Two major concepts in this effort are conservation and preservation. Conservation involves using the Earth's resources sustainably, which means they will be available to future generations. Ways in which conservation can be applied include not overfishing, replanting trees when they are logged, and protecting soil in farming areas from erosion. Preservation is the idea of protecting natural areas and trying to keep them as close as possible to their original, unspoiled state. As such, human impacts should me minimal, and resources in preserved areas are not for human use.

One of the foremost examples of preservation is the national park. The governments in nearly 100 countries worldwide have established these parks in wilderness areas where visitors can come and enjoy the scenery and the flora and fauna. The United States is a world leader in national parks, and in fact, the first national park in the world, Yellowstone, was created in the United States in 1872. However, the United States only has 59 national parks, much less than the 685 parks in Australia, the world leader in total parks. In Asia, China boasts the largest number of parks at over 200.



Figure | Sundarban National Park, India Author | User "Pradiptaray" Source | Wikimedia Commons License | Public Domain

These parks help protect some of the most vulnerable plant and animal species in the world. For example, in the coastal mangrove forests of eastern India, the Bengal tiger, an endangered species, is protected in the Sundarban National Park. Endangered species are species that are at risk of becoming extinct, and the International Union for the Conservation of Nature is an international organization aimed at protecting habitats, such as forests, and species around the globe (website at: https://www.iucn.org/). Deforestation is one of the greatest threats to endangered species, particularly in tropical rainforests in places like the Brazilian Amazon, as depicted in Chapter 1, but also in the United States in the forests of the Pacific Northwest, for example. Thousands of endangered species exist worldwide, and in the United States, the U.S. Fish and Wildlife Service oversees the identification, protection and restoration of endangered species. The Endangered Species Act of 1973 protects vulnerable plant and animals in the United States, but the needs and demands of human development often clash with the preservation of habitat. With the world in the midst of one of the highest rates of extinction in the history of the Earth, the necessity to protect the remaining species from disappearing is a cause for alarm, both in the United States and abroad.



Figure | Sundarban National Park, India Author | User “Pradiptaray” Source | Wikimedia Commons License | Public Domain

Chapter 13 Part 3: KEY TERMS DEFINED

Biofuels – energy sources from living matter.

Conservation – using natural resources in a sustainable way so that they are preserved for future generations.

Eutrophication – the process by which nutrient-rich waters promote the growth of algae, and when the abundant algal blooms die, the decomposition of the dead plant material consumes large amounts of oxygen.

Fossil Fuels – energy sources such as coal, oil, and natural gas, derived from ancient plant and animal matter.

Greenhouse effect - the trapping of longwave radiation (heat) by certain greenhouse gases in the lower atmosphere; greenhouse gases absorb and reradiate the heat radiated from the Earth, increasing global temperatures by 35o C compared to an atmosphere with no greenhouse effect.

Landfill – An area where solid waste is deposited and buried to reduce odor, vermin proliferation, and unsightly trash.

Nonrenewable resource – a resource that is in finite supply and is depleted by humans.

Potential reserves – estimates on available energy in deposits that are thought to exist but have not been completely verified.

Production – the extraction of fossil fuels from the ground.

Proven reserves - state in which the territorial boundaries encompass a group of people with a shared ethnicity.

Preservation – setting aside areas so that resources are essentially untouched with as little human impact as feasible.

Renewable resource – a resource that is in infinite supply such as solar and wind energy.

Chapter 13 Part 3: WORKS CONSULTED AND FURTHER READING

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13.5: Sustainable Development Overview

13: Part 3 : Sustainable Development

Sustainable Development Through the Lens of Cultural Geography

Introduction

Sustainable development seeks to meet the needs of the present without compromising the ability of future generations to meet their own needs. This chapter explores sustainable development through the lens of cultural geography, emphasizing the interplay between human cultures and their environments. We will cover resource use globally and in the United States, resource management, climate change, social wellbeing, and sustainable economic growth.

Resource Use

Global Resource Use

Resource use varies significantly across the globe, influenced by factors such as population density, economic development, and cultural practices. In many developing countries, resources are often exploited to meet immediate needs, leading to deforestation, soil degradation, and water scarcity. Conversely, developed countries consume resources at a much higher rate, contributing to global environmental challenges like pollution and greenhouse gas emissions.

Resource Use in the USA

The United States, with its high standard of living and consumer-driven economy, is one of the largest resource consumers in the world. Americans use a vast amount of water, fossil fuels, and raw materials. This extensive use has significant environmental impacts, including habitat destruction, pollution, and a high carbon footprint. However, there is a growing movement toward sustainable practices, such as renewable energy adoption and sustainable agriculture.

Resource Management

Global Resource Management

Effective resource management is critical for sustainable development. It involves the responsible use and protection of natural resources through conservation and sustainable practices. Globally, various strategies are employed, including reforestation, sustainable agriculture, water management, and the promotion of renewable energy sources. International cooperation, such as the Paris Agreement, aims to address global resource management challenges by setting targets for reducing emissions and conserving resources.

Resource Management in the USA

In the United States, resource management is a complex interplay of federal, state, and local regulations. Agencies like the Environmental Protection Agency (EPA) and the Department of Agriculture (USDA) oversee the management of natural resources. Policies promoting energy efficiency, waste reduction, and the protection of natural habitats are integral to sustainable resource management. Additionally, there is an increasing focus on community-based management practices that involve local stakeholders in decision-making processes.

Climate Change

Global Climate Change

Climate change, driven by human activities such as burning fossil fuels and deforestation, is a significant threat to sustainable development. Its impacts are felt worldwide, with rising temperatures, melting ice caps, and increased frequency of extreme weather events. Climate change exacerbates existing environmental problems, affecting water supply, agriculture, and biodiversity. Addressing climate change requires global cooperation and significant reductions in greenhouse gas emissions.

Climate Change in the USA

The United States is both a major contributor to and a victim of climate change. Extreme weather events, such as hurricanes, wildfires, and droughts, are becoming more common and severe. The U.S. has made strides in combating climate change through policies promoting renewable energy, emission reductions, and conservation efforts. However, political and economic challenges often hinder comprehensive climate action.

Social Wellbeing

Global Social Wellbeing

Sustainable development aims to improve social wellbeing by addressing issues such as poverty, inequality, and access to essential services. Education, healthcare, and housing are critical components of social wellbeing. Globally, efforts to enhance social wellbeing include poverty alleviation programs, healthcare initiatives, and educational reforms. Cultural geography plays a role in understanding how cultural practices and beliefs influence social wellbeing and the adoption of sustainable practices.

Social Wellbeing in the USA

In the United States, social wellbeing is a key focus of sustainable development. Efforts to reduce poverty, improve healthcare access, and provide quality education are ongoing. Social programs, community development initiatives, and policies aimed at reducing inequality contribute to enhanced social wellbeing. The cultural diversity of the U.S. influences the implementation of these programs, requiring culturally sensitive approaches to address the unique needs of different communities.

Sustainable Economic Growth

Global Sustainable Economic Growth

Sustainable economic growth involves increasing economic output while ensuring environmental protection and social equity. Globally, strategies for sustainable economic growth include investing in green technologies, promoting sustainable agriculture, and encouraging fair trade. Economic policies that integrate environmental and social considerations are essential for achieving long-ter m sustainability.

Sustainable Economic Growth in the USA

In the United States, sustainable economic growth is pursued through innovation, green technologies, and sustainable business practices. The transition to a green economy involves sectors such as renewable energy, sustainable agriculture, and green manufacturing. Policies and incentives that support sustainable businesses and reduce environmental impact are crucial. Additionally, education and workforce development programs are essential for preparing the workforce for green jobs.

Sustainable development is a multifaceted and dynamic process that requires the integration of environmental, social, and economic considerations. Through the lens of cultural geography, we gain a deeper understanding of how human cultures interact with their environments and how these interactions shape sustainable development. Addressing the challenges of resource use, climate change, social wellbeing, and economic growth requires a holistic and collaborative approach. By fostering sustainable practices and policies, we can work towards a more equitable and sustainable future for all.

Part 2

Resource extraction and sustainable development:

1. OER (1 of 2): Introduction to Human Geography edited by Dorrell & Henderson, Published by University of North Georgia University Press. https://web.ung.edu/media/university-press/human-geography_v2.pdf?t=1700179494361

- Dorrell ch10, 13

2. OER (2 of 2): Introduction to human Geography A Disciplinary Approach 3rd Edition by Graves. Published California State University Northridge Department of Geography https://sites.google.com/site/gravesgeography/introduction-to-human-geography

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GLOSSARY

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