Advanced Placement Human Geography
Summer Assignments and Readings- Due first week of school

I. *Required Study Guides*- The 2015 Cracking the AP Human Geography Exam by the Princeton Review- (Available used on Amazon.com) will need to be purchased **during the summer. This book will be used as a supplemental textbook as it is more up to date and is a better read.**

II. Create an account on Edmodo.com, Quizlet, and Learnerator. Codes will be posted for the class in June.

III. *Required Readings*

1. Global Weirdness: Severe Storms, Deadly Heat Waves, Relentless Drought, Rising Seas, and the Weather of the Future by Climate Central, May 7, 2013
*Available on Amazon for as little as $4.00

2. The Hot Zone: The Terrifying True Story of the Origins of the Ebola Virus by Richard Preston, Jul 20, 1995
*Available on Amazon for as little as $4.00

3. Ten Billion by Stephen Emmott, Sep 10, 2013
*Available on Amazon for as little as #3.48

4. Half the Sky: Turning Oppression into Opportunity for Women Worldwide, by Nicholas D. Kristof and Sheryl WuDunn, Jun 1, 2010
*Available on Amazon for as little as $1.53

5. Rebel Music: Race, Empire, and the New Muslim Youth Culture, by Hisham Aidi, Dec 2, 2014
*Available on Amazon for as little as $5.50

6. There Goes the Neighborhood: Racial, Ethnic, and Class Tensions in Four Chicago Neighborhoods and Their Meaning for America by William Julius Wilson (Author), Richard P. Taub (Author), October 9, 2007
*Available on Amazon for as little as $2.23

7. The Death and Life of Great American Cities, by Jane Jacobs, Dec 1, 1992
*Available on Amazon for as little as $1.93

Key Terms/Concepts to Know
Unit I. Geography: Its Nature and Perspectives

*****What you need to know by the first week of school. Check them off once you have a full comprehension of the concept.**

_____1. Geography and the Inquiry method and the scientific method
_____2. The Geographic questions- "The Why of Where"
_____3. The Four Traditions in Geography versus The Five Themes in Geography
_____4. Site versus Situation
_____5. Spatial interaction
_____6. Place versus Space
_____7. Time-space convergence versus space-time compression
_____8. Intervening obstacles versus intervening opportunities
_____9. Expansion diffusion versus relocation diffusion
_____10. Stimulus diffusion; Hierarchical diffusion; Contagious diffusion
_____11. Sense of place; toponyms
_____12. Scale of analysis
_____13. MAPS- Scale, types, projections, Mental maps, Elements of a map
_____14. Pattern, Distribution, Concentration (Dispersed and/or clustered)
_____15. Geometric patterns (linear, rectangular, square)
_____17. Networks and Linkages
_____18. Interdependence versus Regionalization versus Globalization
_____19. REGIONS- Formal region (uniform), Functional region (nodal), Vernacular region (perceptual)
_____20. Computer mapping; GIS; GPS; Remote sensing; Satellite imagery; Aerial photography
_____21. Absolute distance versus Functional distance
_____22. Distance-decay versus Friction of distance

Name: _____

APHG Summer Assignments- UNIT ONE

Assignment #1- Use your own paper when needed.

1. Define map:
2. Name and define the five concepts that guide geographers
3. Define cartography:

● MAPS

4. A map serves which two purposes?
5. Give two examples of early mapmaking and its (unusual?) materials for the maps.
6. Who first demonstrated that the earth was round? How?

7a. Who was the first to use the term "geography?" What does it mean?

7b. List three of his contributions in geography at that time.

8. Provide an example of developments in geography for each of the following:
9. Define scale:
10. When geographers convert the round earth to a flat map, they use a projection. All projections have some distortion (only a globe has none). List the four things that typically become distorted in various projections.
11. Two important projections are the Mercator and the Robinson. Create a Venn diagram or a chart to compare their advantages and disadvantages.
12. With regard to the Land Ordinance of 1785, which became the official survey system for the United States, define the following: a) township, b) sections

● CONTEMPORARY TOOLS

13. Geographers use a GIS (Geographic Information System) to store "layers" of data. Give three examples of types of data stored in a single layer.

14a. Define remote sensing:

14b. Remotely sensed images consist of pixels. What is the smallest area on the surface of the earth that can be scanned as a single pixel?

14c. List several things that geographers can map using remotely sensed data.

● PLACE: UNIQUE LOCATION OF A FEATURE

1. Define **toponym**:
2. Identify four ways in which places can receive names
3. Identify three reasons for which places sometimes change names
4. Define **site**
5. List some **site characteristics**.
6. Complete the following sentence about site: Human actions can _____ the characteristics of a site.
7. Define **situation**
8. What role do familiar places have understanding **situation** of unfamiliar places?
9. What place is designated as 0 degrees longitude?
10. What is the name for the line drawn at 0 degrees longitude?

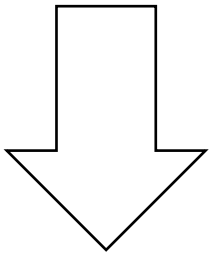
11a. How is a degree of longitude or latitude further subdivided?

11b. Give an example.

12. How many degrees of longitude do you need to travel across to pass through one "hour" of time (or one time zone)?
13. How many time zones are there?
14. What is the longitude of the International Date Line?

15. Use the map below to do the following:

- Draw the **Prime Meridian** and **International Date Line**.
- Shade and label all countries (or regions) which use **non-standard time zones**.
- Label the **country** which has forced the 3000 mile **deviation** of the Prime Meridian.



● REGIONS: AREAS OF UNIQUE CHARACTERISTICS

16. A region is an area of Earth defined by one or more characteristics. A region derives its unified character through the cultural landscape – a combination of 6 cultural features. Name them.

17. One contemporary (current) approach to studying the cultural landscape is called the regional studies approach. What do geographers who adopt this view believe regarding regions?

18. Geographers using the regional studies approach argue that that distinctive landscapes of different regions result from what two things?

19. Complete the chart below which details types of regions identified by geographers.

	FORMAL REGION	FUNCTIONAL REGION	VERNACULAR REGION
also called			
definition			
example			

20. Define the word CULTURE and all of its characteristics.

21. Very carefully define the following terms:

a. Cultural Ecology b. Environmental Determinism c. Possiblism

22. How many major types of **climates** do geographers identify?

23. In what major way does climate influence human activities? (Give an example.)
24. List the four major **biomes**, or **major plant communities**, found naturally on earth.

● SCALE: FROM LOCAL TO GLOBAL

1. Define globalization:

a) Globalization of the economy has been led primarily by transnational corporations. What do these corporations do?

2. How has modern technology played a role in globalization?
3. In what ways is globalization of culture manifest in the landscape?
4. In what ways has the communications revolution played a role in globalization?
5. What is the difference between globalism and globalization?

SPACE: DISTRIBUTION OF FEATURES

6. The _____ of a feature in _____ is known as its distribution.

7a. Define density: 7b. What is arithmetic density? 7c. What is physiological density?

8. The way in which a feature is spread over space is known as concentration. What are the opposite ends of the spectrum of concentration?

8b. The boxes below – practice by drawing 10 dots in each so that the density is the same in each, but illustrate and label the two different kinds of concentration- dispersed and clustered.

9. List the three different types of **pattern**.

● CONNECTIONS BETWEEN PLACES

12. What is space-time compression? How is it different from time-space convergence?

13a. In the past, most interaction between places required what? 13b. How has this changed?

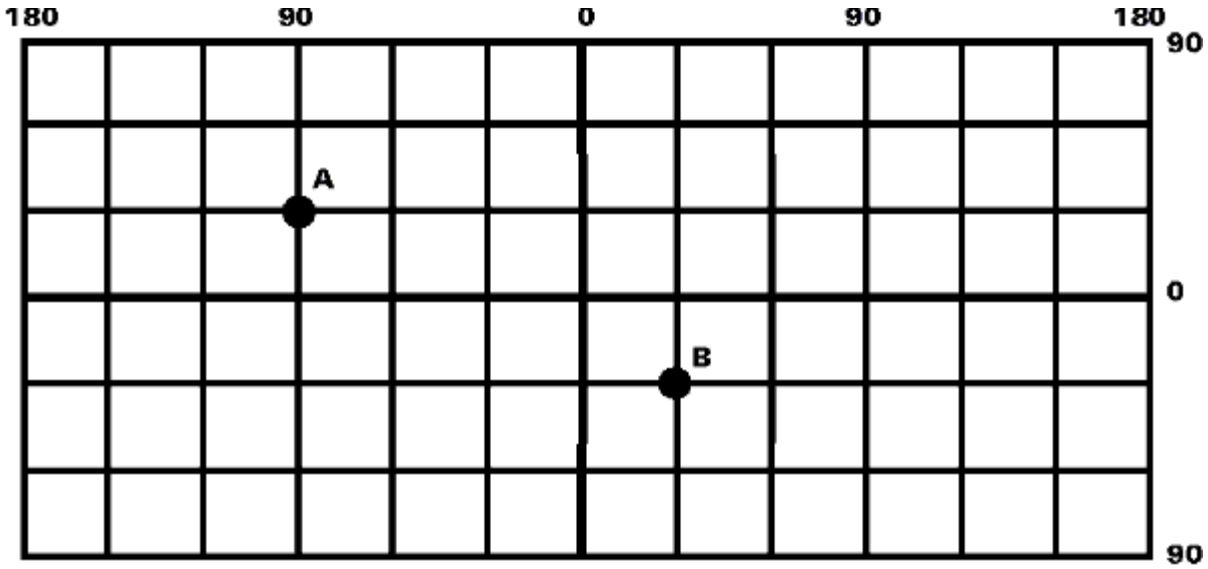
14. Give some examples of things that retard interaction among groups.
15. Describe the phenomenon known as **distance-decay**.
16. **Diffusion** is defined as the process by which a characteristic spreads across space. With regard to diffusion, define and, where possible, give an example of each of the following.

DIFFUSION		
hearth		
relocation diffusion		
Expansion diffusion	*hierarchical diffusion*	
	contagious diffusion	
	stimulus diffusion	

17. Because of the a)_____ of the culture and economy a greater disparity has occurred between the levels of b)_____ and well-being enjoyed by people in the c) _____ and in the d)_____. This is called e)_____

Assignment # 2- LATITUDE AND LONGITUDE LAB
Refer to grid lines on a globe:

1. The lines running north-south represent degrees of_____which is measured from the _____in a _____ and _____ direction. These lines are known also as_____.
2. The lines running east-west represent degrees of_____which is measured from the _____in an _____and_____ direction. These lines are known also as_____.
3. The geographic grid used on the globe is based on the division of a circle in _____ degrees. Each degree is divided into _____equal parts called minutes, and each minute into _____equal parts called_____.
4. Latitude is numbered from _____degrees at the equator to_____degrees at either pole.
5. Longitude is numbered from _____degrees at the prime meridian to _____ degrees at the International Date Line.
6. A degree of latitude is approximately _____ miles at the equator and _____ miles at the poles. A degree of longitude is approximately _____miles at the equator and _____ miles at the poles.



7. What are the coordinates of point A?_____
8. Locate the same coordinates on a globe. In what country is point A located? _____
9. What are the coordinates of point B?_____
10. Locate the same coordinates on the globe. In what country is point B located? _____
11. Locate a point at 10 ° South Latitude and 45 ° West Longitude. Mark it CB.
12. Locate a point at 20 ° North Latitude and 75 ° East Longitude. Mark it D.
13. By examining the coordinates only, determine the APPROXIMATE distance between:
New Orleans and St. Louis_____
Philadelphia and Denver_____
Wilmington, N.C. and Los Angeles_____
Madrid, Spain and Edinburgh, Scotland_____
14. Write the following in their correct form:
60 degrees, 29 minutes, 5 seconds, North Latitude _____
10 degrees, 20 minutes, 50 seconds, South Latitude _____
125 degrees, 45 minutes, 3 seconds, West Longitude _____
15. Correct the errors in the following:
89° 47' 65" S _____
185° 24' 37" E _____
65° 77' 42" W _____
40° 50" 21' S _____

16. What is the latitude and longitude of Chicago Ill.?
17. What large European city has a similar latitude to that of Chicago?
18. What is this cities Latitude and longitude?
19. What large city in Asia has a similar latitude to that of Chicago?
20. What is this city's Latitude and Longitude?
21. The term "antipodes" refers to two places on opposite sides of the earth so that a straight line drawn through the earth from one to the other passes through the center of the earth. To be exact antipodes, two places must be 180 ° of longitude away from each other, antipode must be as many degrees north latitude as the other is south latitude.
What are the coordinates of the antipode of Chicago?_____
What is the nearest large land mass?_____
What is the nearest large city?_____
22. Below are some geographic grid coordinates for selected cities of the world. Examine an atlas and identify each city.
34° 03' N, 118 ° 15' W _____

34 ° 20' S, 58 ° 30' W _____

52° 21' N, 4 ° 52' E _____

61 ° 12'N, 149 ° 48' W _____
23. A number of cities are listed below. Using an atlas, give latitude and longitude of each in degrees and minutes.
Milwaukee, Wisconsin _____

Quito, Ecuador _____

Calcutta, India _____

London England _____

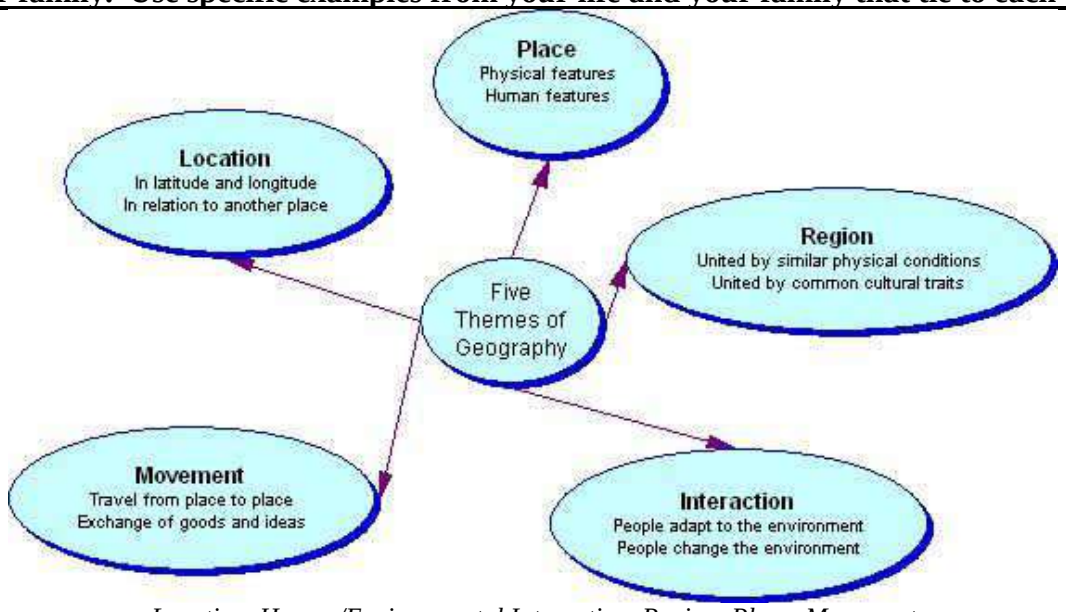
Capetown, South Africa _____

Moscow, Russia _____

Miami, Florida _____

Assignment #3- 5 Themes of Geography ASSIGNMENT-

Using the notes above, create a graphic organizer reflecting how the Five Themes of Geography applies to your family. Use specific examples from your life and your family that tie to each theme.



Location, Human/Environmental Interaction, Region, Place, Movement

A study of Geography begins with knowing *where* things are located on a map. But more important, it requires an understanding of *why* things are located in particular places, and *how* those places influence our lives. The "five themes of geography" were created in 1984 by the National Council for Geographic Education (NCGE) and the Association of American Geographers (AAG) to facilitate geographic education and

provide an effective organizational structure for the teaching of geography. By using these themes as a basis for understanding geographic information, we can gain a better appreciation of cultural and environmental changes around the world.
Location (***position*** on Earth's surface); the geographical ***situation*** of people and things; the ***distribution*** of various locations of a collection of people or objects.
Interaction (Cultural ecology - relations between cultures and environment).
Region (area of unique characteristics, ways of organizing people geographically); an ***area*** on the Earth's surface marked by some degree of homogeneity of some phenomenon.
Place (associations among phenomena *in* an area); the uniqueness (or sameness) of a location.
Movement (interconnections *between* areas); the mobility of people, goods, and ideas across the surface of the planet.

Location (relates to the locational tradition) **Ways to indicate location (position):**
1) Maps: best way to show location and demonstrate insights gained through spatial analysis.
2) Place-name: a name given to a portion of the Earth's surface ("Miami").
3) Site: physical characteristics of a place; climate, water sources, topography, soil, vegetation, latitude, and elevation
4) Situation: the external locational attributes of a place; its relative location or regional position with reference to other nonlocal places.
5) Absolute location: latitude and longitude (parallels and meridians), mathematical measurements mainly useful in determining exact distances and direction (maps).
6) Relative location: location of a place relative to other places (situation), valuable way to indicate location for two reasons:
a) Finding an unfamiliar place - by comparing its location with a familiar one ("Miami – 35 miles northwest of Cincinnati").
b) Centrality, understanding its importance (Chicago – hub of sea & air transportation, close to four other states; Singapore – accessible to other countries in Southeast Asia).
6) Distribution: arrangement of something across Earth's surface.
a) Density – frequency with which something occurs in an area. *Arithmetic density* – total number of objects (people) in an area. *Physiologic density* – number of people per unit area of agriculturally productive land.
b) Concentration – extent of a feature's spread over an area. *Clustered* – relatively close. *Dispersed* – relatively far apart.
c) Pattern – geometric arrangement of objects.

Human/Environmental Interaction (relates to the man-land tradition)
1) Cultural landscape – includes all human-induced changes that involve the surface and the biosphere. Carl Sauer: "… the forms superimposed on the physical landscape by the activities of man."
2) Cultural ecology - the multiple interactions and relationships between a culture and the natural environment.
3) Environmental Determinism – human behavior, individually and collectively, is strongly affected by, and even controlled or determined by the environment
4) Possibilism – the natural environment merely serves to limit the range of choices available to a culture
5) Environmental Modification – positive and negative environmental alterations

Region (relates to the area-studies tradition)
1) Distinctive characteristics:
a) area: defined spatial extent
b) location: lie somewhere on Earth's surface
c) boundaries: sometimes evident on the ground, often based on specifically chosen criteria
d) other: cultural (language, religion), economic (agriculture, industry), physical (climate, vegetation)
2) Three types of regions:
a) Formal – (a.k.a. uniform, homogeneous), visible and measurable homogeneity (link to scale and detail)
b) Functional – product of interactions, and movement of various kinds, usually characterized by a core and hinterland (e.g. a city and its surrounding suburbs)
c) Perceptual – (a.k.a. vernacular), primarily in the minds of people (e.g. Sunbelt)
3) Regions can be seen in a hierarchy (vertical order, scale), (e.g. Ft. Lauderdale – Broward County – Florida – Southeastern US …)

Place
1) Culture – people's lifestyles, values, beliefs, and traits
a) What people care about: language, religion, ethnicity
b) What people take care of: 1) daily necessities of survival (food, clothing, shelter) and 2) leisure activities (artistic expressions, recreation)
c) Cultural institutions: political institutions (a country, its laws and rights)
2) Components of culture:
a) Culture region – the area within which a particular culture system prevails (dress, building styles, farms and fields, material manifestations,…)
b) Culture trait – a single attribute of culture
c) Culture complex – a discrete combination of traits
d) Culture system – grouping of certain complexes, may be based on ethnicity, language, religion,…
e) Culture realm – an assemblage of culture (or geographic) regions, the most highly generalized regionalization of culture and geography (e.g. sub-Saharan Africa)
3) Physical Processes – environmental processes, which explain the distribution of human activities
a) Climate – long-term average weather condition at a particular location. Vladimir Koppen's five main climate regions (expresses humans' limited tolerance for extreme temperature and precipitation levels)
b) Vegetation – plant life.
c) Soil – the material that forms Earth's surface, in the thin interface between the air and the rocks. Erosion and the depletion of nutrients are two basic problems concerning the destruction of the soil.
d) Landforms – Earth's surface features (geomorphology), limited population near poles and at high altitudes

Movement

1) Culture Hearths – sources of civilization from which an idea, innovation, or ideology originates (e.g. Mesopotamia, Nile Valley), viewed in the context of time as well as space
2) Cultural diffusion – spread of an innovation, or ideology from its source area to another culture
a) Expansion diffusion – an innovation, or ideology develops in a source area and remains strong there while also spreading outward
1) Contagious diffusion – nearly all adjacent individuals are affected (e.g. spread of Islam, disease)
2) Hierarchical diffusion – the main channel of diffusion some segment of those who are susceptible to (or adopting) what is being diffused (e.g. spread of AIDS, use of fax machines)
3) Stimulus diffusion – spread of an underlying principle (e.g. idea of industrialization)
b) Relocation diffusion – spread of an innovation, or ideology through physical movement of individuals
1) Migrant diffusion – when an innovation originates somewhere and enjoys strong-but brief-adoption, loses strength at origin by the time it reaches another area (e.g. mild pandemics)
2) Acculturation – when a culture is substantially changed through interaction with another culture
3) Transculturation – a near equal exchange between culture complexes
c) Forces that work against diffusion:
1) Time-distance decay – the longer and farther it has to go, the less likely it will get there
2) Cultural barriers – prevailing attitudes or taboos

Assignment #4- Place versus Space

Use the internet and the notes given to fill in each

PLACE:

1. define-

2. List and define all the ways we describe place
3. How can you apply this to your life? What examples of place are there in your life?

SPACE:

1. define-

2. List and define all the ways we describe space
3. How can you apply this to your life? What examples of space are there in your life?

NOTES

The Four Traditions of Geography

The Spatial, Area Studies, Man-Land, and Earth Science Traditions
By Matt Rosenberg, About.com

The four traditions of geography were originally espoused by geographer William D. Pattison at the opening session of the annual convention of the National Council for Geographic Education, Columbus, Ohio, November 29, 1963. His four traditions attempted to define the discipline: 1) spatial tradition, 2) area studies tradition, 3) man-land tradition, and 4) earth science tradition. Below are the traditions along with some core concepts of each.

Spatial Tradition (also called **Locational Tradition**)
- Mapping
- Spatial analysis
- Boundaries and densities
- Movement and transportation
- Quantitative techniques and tools, such as computerized mapping and Geographic Information Systems
- Central Place Theory
- Areal distribution
- Spatial patterns

Area Studies Tradition (also called **Regional Tradition**)
- Description of regions or areas
- World regional geography
- International trends and relationships
- How regions are different from one another
- The chorographic tradition (regions)

Man-Land Tradition (also called **Human-Environmental**, **Human-Land**, or **Culture-Environment Tradition**)
- Human impact on nature
- Impact of nature on humans
- Natural hazards
- Perception of environment
- Environmentalism
- Cultural, political, and population geography

Earth Science Tradition
- Physical geography
- The lithosphere, hydrosphere, atmosphere, and biosphere
- Earth-sun interaction
- Offshoots are geology, mineralogy, paleontology, glaciology, geomorphology, and meteorology
- The study of the earth as the home to humans

Pattison's original article can be downloaded from the National Council for Geographic Education website.

5 Themes of Geography

Location, Human/Environmental Interactions, Regions, Place, Movement
The first three themes correspond to Pattison's four traditions.

Location (*position* on Earth's surface)
Distribution – various locations of a collection of people or objects
Ways to indicate location (position):

1) Maps: best way to show location and demonstrate insights gained through spatial analysis
2) Place-name: a name given to a portion of the Earth's surface
3) Site: physical characteristics of a place; climate, water sources, topography, soil, vegetation, latitude, and elevation
4) Absolute location: latitude and longitude (parallels and meridians), mathematical measurements
5) Relative location: location of a place relative to other places (situation), valuable way for:
    a) Finding an unfamiliar place - by comparing its location with a familiar one
    b) Centrality, understanding its importance
6) Distribution: arrangement of something across Earth's surface
    a) Density – frequency with which something occurs in an area. *Arithmetic–Physiologic–Agricultural*
    b) Concentration – extent of a feature's spread over an area. *Clustered- Dispersed*
    c) Pattern – geometric arrangement of objects.

Human/Environmental Interactions (Cultural ecology - relations between cultures and environment)
1) Cultural landscape – includes all human-induced changes that involve the surface and the biosphere. Carl Sauer: "… the forms superimposed on the physical landscape by the activities of man."
2) Environmental Determinism – human behavior, individually and collectively, is strongly affected by, and even controlled or determined by the environment
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Regions (areas of unique characteristics, ways of organizing people geographically)
1) Distinctive characteristics:
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a) Formal – (a.k.a. uniform, homogeneous), visible and measurable homogeneity (link to scale and detail)
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c) Perceptual – (a.k.a. vernacular), primarily in the minds of people (e.g. Sunbelt)
3) Regions can be seen in a hierarchy (vertical order, scale), (e.g. Hampton – Henry County – GA – Southeastern US …)

Place (associations among phenomena *in* an area)
1) Culture – people's lifestyles, values, beliefs, and traits
a) What people care about: language, religion, ethnicity
b) What people take care of: (food, clothing, shelter) and (artistic expressions, recreation)
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a) Culture region – the area within which a particular culture system prevails (dress, building styles, farms and fields, material manifestations,…)
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Movement (interconnections *between* areas)
1) Culture Hearths – sources of civilization from which an idea, innovation, or ideology originates (e.g. Mesopotamia, Nile Valley), viewed in the context of time as well as space
2) Cultural diffusion – spread of an innovation, or ideology from its source area to another culture
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c) Forces that work against diffusion:
1) Time-distance decay – the longer and farther it has to go, the less likely it will get there
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Place, Space, and Scale

Three Parts of the Geographical Perspective:

The AP course identifies three key perspectives at the core of the geographical perspective: integration in place, interdependencies between places (space), and interdependencies among scales.

Place: place identity – shaped by physical and cultural forces, associations among phenomena *in* a given area

Space: spatial relationships *between* people, places, and the environment.

Scale: truth is scale dependent, phenomena you study at one scale (e.g. local) may well be influenced by developments at other scales (e.g. regional, national, or global)

CHAPTER 1. GEOGRAPHY AND HUMAN GEOGRAPHY- CHAPTER INTRODUCTION

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

Divisions

Two branches: Physical and human geography- origins can be traced to the Greeks who were curious about the world and collected information from traders and travelers; and the Romans who were empire builders and brought many different cultures under their control- added to the Greek knowledge of the physical Earth and added information about different cultures they encountered or conquered. By the end of the Roman era, theories about a spherical Earth, latitudinal climatic zones, environmental influences on humans, and humans' role in modifying the Earth were established.

Four Traditions

During the twentieth century, geography was marked by four durable traditions:
earth-science (physical geography);
cultural-environmental (encompasses a wide range of topics with a difficult, even controversial history);
locational theory (the spatial focus of the discipline), which has be-come a modern element of human geography;
area-analysis (primarily involving the description of areas and regions), giving rise to what is today called regional science.

New Themes

In the 1980s, rising concerns about geographic illiteracy in America prompted the National Geographic Society, and several other organizations, to begin campaigns to reintroduce geography into school curricula- themes: location, human-environment interaction, regions, place, and movement. All places on the surface of the Earth have distinguishing human and physical characteristics.

CHAPTER 2. CULTURES, ENVIRONMENTS, AND REGIONS

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

Culture and Human Geography

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

Components

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

Topics

- *cultural landscapes*—the human imprint on the Earth's surface. These create a distinct and characteristic landscape that reveals much about the culture presently occupying the area, as well as those that came before.
- *cultural hearths*—the sources of civilizations from which radiate ideas, innovations, and ideologies. Cultural geographers identify both ancient and modern cultural hearths.
- *Cultural diffusion*—the process by which innovations and ideas spread to other areas—involves several types of diffusion.
- *Expansion diffusion* may take the form of contagious diffusion, where some item of culture is spread through a local population by contact from person to person.
- *Hierarchical diffusion*, another form of expansion diffusion, an idea or innovation spreads by trickling down from larger to smaller adoption units. Innovations often leapfrog over wide areas, with geographic distance a less important influence. The early spread of the FAX machine is a good example of this type of diffusion.
- *Stimulus diffusion*, a process where an idea or innovation is not readily adopted by a population but results in local experimentation and eventual changes in the way of doing things. The Industrial Revolution, for example, did not immediately spread to pre- or non-industrial societies, but did stimulate attempts to mechanize local handicraft production.
- *Relocation diffusion*—the spreading of innovations by a migrating population—involves the actual movement of individuals who have already adopted the idea or innovation, and who carry it to a new, perhaps distant locale, where they disseminate it. The spread of European emigrants around the world during the period of Europeanization is a classic example.
- *cultural perception*—the way that members of a culture view themselves as well as how they view other cultures—is a combination of tangible and intangible elements that help to define the personality of a region. We all have impressions and images of various regions and cultures, even though they may not always be accurate.
- *Perceptual regions* are intellectual constructs designed to help us understand the nature and distribution of phenomena in human geography. These perceptions are based on our accumulated knowledge about such regions and cultures. Perceptual regions can differ considerably, depending on the individual's mental maps of various communities and cultures.
- *cultural environment*—the relationships between human societies and the natural environment—is complex. Environment affects societies in countless ways from the types of crops grown to the houses they build, but societies also modify their natural environments in ways that range from slight to severe. One thing is certain, however. While human behavior is not controlled by the environment (as the now-defunct concept of environmental determinism suggested), no culture, no matter how sophisticated, can completely escape the forces of nature.

CHAPTER 3. THE EARTH AS HUMANITY'S HOME

CHAPTER INTRODUCTION

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

Environment

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

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

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

Human Development and Innovation

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

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

Human Population

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

During the Holocene the Earth changed as never before, not because of geologic forces but because of humanity's humanity. That imprint has become stronger over time, especially over the last 200 years when human population growth and pressure on resources have reached unprecedented

levels. This began with the Industrial Revolution in Europe and spread globally during the period of Europeanization and colonialization. During the twentieth century, the Earth especially felt the strains created by the human population. Raw materials were used up at an ever faster rate while the air, water, and land became polluted or damaged. Together, these events have rendered environmental change one of the key issues of the twenty-first century.

Maps

Maps—graphic representations of all or part of the Earth's surface drawn to scale
Maps and geography are practically synonymous, and mapmaking (cartography) is as old as geography.
Maps are our "window on the world."
Maps are used to portray the distinctive character of places; their relationship to environmental issues; the movements of people, goods, and ideas; and regions of various types. Maps are used to wage war, make political propaganda, solve medical problems, locate shopping centers, bring relief to refugees, and warn of natural hazards.
Maps are not always printed. Mental maps—a map in their mind—that have developed over years of looking at wall maps, atlas maps, and maps in books, magazines, and newspapers.

Types of Maps

Maps differ in the amount and kind of information they give, and the graphic devices used to convey the information. Some of the types of maps in common use are the following:

General Reference Maps are maps, usually of relatively large areas, that show major land and water areas, and such features as cities and political boundaries. Atlas maps are generally of this kind.

Topographic Maps, prepared from original surveys and aerial photographs, show all important natural and man-made features in relatively small areas, usually in considerable detail. Military and most maps published by the U.S. Geological Survey are of this kind.

Planimetric Maps, unlike topographic maps, make no attempt to show varying elevations. They are drawn as though the earth were a plane (flat) surface.

Charts are maps used in sea and air navigation. They are specially designed for plotting a course.

Thematic, or Topical, Maps provide information on a single subject. Usually the mere outline of the area under consideration is shown. Against this simplified background the special information is made to stand out by various methods. For example, colors or patterns may be used to show the distribution of rainfall, soil types, or election results. Dots may represent places where a firm has retail sale outlets, the location of historical sites, or the like. Variations of quantity—of rainfall, population, or crop yields, for example—may be shown as variations in color or tones of gray; or isopleths ("equal value" lines), such as the isobars on weather maps.

Cartograms are map like diagrams. They present statistics in a pictorial way. A cartogram might show, for example, the countries of the world in their proper map position, but with each country distorted to a size proportionate to its population. On such a cartogram, Italy would be more than twice the size of Canada.

Map Projections

Azimuthal, or Zenithal, Projections are centered around a point. Any straight line passing through the map's center point represents a great circle. Every point on the map is shown at its true direction, or azimuth, from the center point. Examples of azimuthal projections:

The Orthographic Projection views the globe from an extremely distant point. Thus, the projection resembles a photograph of the earth. The largest area that can be shown is one hemisphere. Shapes are much compressed at the map's outer edges. Orthographic maps are best for picturing the earth as a globe, in cases where this visual impression is needed.

The Gnomonic Projection has its center within, and at the center of, the globe. Surface features are much distorted, since the spacing of meridians and parallels increases greatly toward the margins of the map. It is impossible to show a complete hemisphere. Gnomonic projection has the unique property of showing all great circles as straight lines, anywhere on the map. It is used almost exclusively for sailing charts and air charts (in establishing the shortest course between two points).

The Lambert Azimuthal Equal-area Projection has true equal-area properties, unlike the other zenithal projections discussed here. It is based on mathematical formulas worked out by the German scientist Johann Heinrich Lambert (1728-1777). This projection is favored for world, hemispheric, and continental maps of a general nature.

Conic Projections are based on the fact that a piece of paper can be rolled into the shape of a cone. The cone can be placed over a globe, and the global grid projected upon the cone. When the cone is unrolled to lie flat, a map grid is obtained. The cone rests upon the globe like a cap on the head. The apex (point) of the cone is always directly above one of the poles. The line of contact between cone and globe is called the standard parallel. Distortion occurs above and below (north and south of) this parallel. All meridians are straight lines converging to a point (the apex of the cone). All parallels are arcs of concentric circles (like the cone's rim). Unlike an azimuthal projection, the conic projection gives only a sector of a circle and cannot show the entire globe. Most conic projections are variations of the cone-on-globe technique. Examples of conic projections:

The Lambert Conformal Conic Projection has two standard parallels. Other parallels are spaced in a way that gives a high degree of conformity throughout the map. For example, a Lambert conformal conic projection using the 33rd and 45th parallels as standard is capable of showing most of the United States in nearly its true global proportion. For limited areas of the globe, the Lambert projection permits great circles to be shown as straight lines. For this reason it is used for aeronautical charts.

The Polyconic Projection uses a number of cones to establish several standard parallels. The resulting grid is nearly both conformal and equal-area. The polyconic projection serves well as a basis for topographic maps of limited areas, and for general-purpose world maps.

Cylindrical Projections, like conic projections, use the method of projecting the global grid upon a figure that is capable of being flattened. In this case the figure is a cylinder. The resulting map grid is rectangular. Meridians and parallels intersect at right angles, as on the globe. The spacing of parallels depends on the orientation of the cylinder in relation to the globe's axis. Cylindrical projections can have more than one standard parallel. A cylindrical projection can show the entire world. Example of cylindrical projection:

The Mercator Projection, one of the most commonly used of all projections, was developed by the Flemish geographer Gerhardus Mercator (1512-1594). For equatorial areas of the globe it is a true conformal projection. Polar areas, however, are enormously enlarged. Greenland, for example, appears larger than South America. Mercator maps are much used in navigation, since any straight line on the map represents a true compass bearing.

Other Projections include the homolographic and sinusoidal types and a combination of these types, the homolosine. These projections are oval, or nearly so. They are based on mathematical calculations aimed chiefly at obtaining equal-area properties within selected latitudes. Homolosine maps sometimes are interrupted, or deeply notched. The Robinson projection, which is used by the National Geographic Society for its world maps, provides nearly equal-area coverage.

Reading A Map

To read a map properly a person must (1) keep the principles of projection in mind; (2) consult the legend and other aids found on the map itself.

Scale is the relationship between the length of a line on the map and the corresponding actual distance on the earth's surface. For example, if two towns are shown one inch apart on the map but actually are 100 miles apart, any of the following methods of expressing scale might be used:

Miles-per-inch Scale states the relationship in words and figures, thus: “Scale: 1 inch to 100 miles.”

Representative Fraction (RF) gives the scale as an arithmetically exact ratio, thus: “1: 6,336,000.” This means that one inch on the map is equal to 6,336,000 inches (the number of inches in 100 miles).

Graphic Scale gives the relationship visually, by means of a short, graduated line. For example, a line one inch long is marked “100 miles” and divided into five equal lengths, each representing 20 miles. Unlike numerical methods of indicating scale, a graphic scale remains true if the map is enlarged or reduced.

Coordinates are lines drawn horizontally and vertically across the map. They are an aid in locating surface features. On many maps, parallels serve as coordinates; on other maps the coordinates are arbitrarily established. Coordinates may be lettered or numbered in the map margins for index purposes.

Much of the United States is mapped on a coordinate system that is often used descriptively in property deeds and tax rolls. Large square areas are divided into townships, each six miles (9.6 km) square. The townships are numbered consecutively north or south of a base parallel, and are further identified as lying within ranges numbered consecutively east or west of a base meridian. Each township is divided into 36 sections, each one mile (1.6 km) square. Locations are described by abbreviations fitting this system.
Example: A 40-acre farm occupies “NE1/4 SW1/4 Sec 11 T4N R3E.” This means the farm is in the northeastern quarter of the southwestern quarter of the 11th section, in the fourth township north (of the base parallel) within the third range east (of the base meridian). Using only a few letters and numbers, this description precisely locates the farm within its township.

Large Versus Small Scale Maps

- Large scale maps refer to maps with a relatively large representative fraction such as 1/10,000.
  - Large scale maps show a small area of the Earth in great detail.
- Small scale maps refer to maps with a relatively small representative fraction like 1/1,000,000.
  - Small scale maps show large areas in less detail.