

MODERN GEOHISTORY

A Study of
Time and Space



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BRIEF CONTENTS

Preface

PART ONE

The First Era of Global Interactions (The Early Modern Period)

1. **Foundations of Civilization** – The Great Catalyst of Change (12,000 BCE – 1350 CE); Perspectives; Agricultural and Urban Geography
 2. **The Rise of the Western World** – Europe’s Expansion and America’s Discovery (1350 – 1650 CE); Migration; Agricultural and Economic Geography
 3. **The Great Divergence** – A Clash of Cultures Between East and West (1350 – 1650 CE); Cultural and Political Geography
 4. **Trading Places** – The Decline of Islamic and African Empires (1350 – 1650 CE); Population and Cultural Geography
 5. **Devolution of Power** – From Absolutism to the Enlightenment (1540 – 1789 CE); Political and Economic Geography
-

PART TWO

The Turbulent Transition into the Modern Era

6. **Clash of the Enlightened** – The Dawn of the Modern Era (1789 – 1815 CE); Population and Political Geography
7. **Diffusion of Dissent** – The Latin American Revolutions (1789 – 1825 CE); Population and Cultural Geography
8. **A Revolution of Sustenance, Steam, and Steel** – Agricultural and Industrial Change (1750 – 1850 CE); Agricultural and Economic Geography
9. **The Spring of Nations** – Political and National Transformation in Europe (1815 – 1914 CE); Cultural and Political Geography
10. **An Age of Synergy and Growth** – The Second Urban and Industrial Revolutions (1800 – 1914 CE); Population; Cultural and Economic Geography

PART THREE

The Modern Era of Global Integration

11. **A Tale of [a Few] Cities** – Modern Urban Structure and Impact
(1800 – 1973 CE); Urban and Economic Geography
 12. **The Age of Imperialism** – The Second Age of European Expansion
(1850 – 1914 CE); Cultural, Political, and Economic Geography
 13. **A Perfect Storm** – The First World War and Its Aftermath
(1914 - 1935 CE); Political and Economic Geography
 14. **A Clash of Civilizations** – The Second World War
(1931 – 1945 CE); Cultural and Political Geography
 15. **Emergence of a Bipolar World** – The First Cold War
(1945 - 1973 CE); Population; Political and Agricultural Geography
-

PART FOUR

Contemporary Geohistory (An Era of Accelerating Global Change)

16. **The Rebalancing of Global Power** – The Second Cold War
(1974 - 1992 CE); Political and Economic Geography
17. **Rural and Urban Transformations** – The Third Urban Revolution
(1974 – 2015 CE); Agricultural and Urban Geography
18. **Industrial and Economic Development** – The Third Industrial Revolution
(1974 – 2015 CE); Population and Economic Geography
19. **Cultural and Political Organization of Space** – The Changing Society and State
(1974 – 2015 CE); Cultural and Political Geography
20. **Medical and Environmental Geography** – Our World in the New Millennium
(1974 – 2015 CE); Population Geography

Preface

Be prepared to see the world as you never have before, and get ready to understand the world better than you ever have before. While most people have a strong understanding that history is the study of events through time, many people find geography more difficult to define and fully comprehend. Geography is divided into two primary sub-fields; the first is physical geography, which studies the patterns and processes in the natural environment. This subject area will not be overly emphasized in this course. The second sub-field, human geography, is the study of patterns and processes humans follow and create over space and place. It is this subject area, which concentrates on the study of human activities that will predominantly influence the course material.

The focus of this course mainly revolves around the AP Human Geography curriculum and standards as prescribed by the College Board. That being said, the Freshmen Advanced Placement Human Geography course at Pine Crest School is structured differently from most other institutions, in that history is often taught concurrently with geography. This has been done in a very methodical and thoughtful manner since the inception of the course in 2005. In that time more than 650 freshmen have taken the AP Exam in Human Geography at Pine Crest with a pass rate of almost 99 percent. Our freshmen have also scored an average of 4.2 based on a five-point scale. Compare that number with the national average of 2.6 within the same time frame and their performance is even more impressive.

The Benefits of Geohistory

Most schools present the human geography content and concepts thematically around its main subfields of geography: population, culture, politics, rural and urban studies, as well as economics. While all of these themes are thoroughly presented and studied at Pine Crest, we employ a more chronological approach. Our course revolves around *geohistory*, which is history interpreted on the basis of geographic factors. The reasoning for this is simple; one cannot truly comprehend why the world operates as it does today without understanding how it functioned in the past. Furthermore, our current world did not emerge out of a vacuum; the events of the past provide a narrative to explain the processes that led us to the present day. To this end, our starting point is 1350 CE, at the time the world transformed into a globalized network of people and places.

Freshmen in high school are obviously not the same as freshmen in college. The AP Human Geography course was designed for students with a working knowledge of modern history. This is knowledge that most high school freshmen lack, and what this specific course is designed to provide. Without an understanding of history it is impossible to fully appreciate the compounding effects the events of the past have had on the framework of our world today. A familiarity of

modern history that more fully explains the geographic framework and concepts of the current world are vital for success on the AP Human Geography Exam. Most freshmen have never formally studied key events such as the Enlightenment, the Age of Imperialism, the World Wars, or the Cold War. Most freshmen have limited understanding of major revolutions, whether they were American, French, or Industrial. This is through no fault of their own, nor their previous teachers or courses; it is merely the reality in which we find ourselves.

The Nature of Geohistory

History and geography are two sides of the same coin. It is truly impossible to fully appreciate the temporal investigation of history without the spatial investigation of geography. History is a narrative of events that occur in a place, whereas geography is a study of places in which events occur.

To clarify, history is focused on temporal continuity and change over time, whereas geography is focused on dimensional continuity and change over space. In this context, “space” does not refer to outer space, but rather the geometric surface – or area – on the earth. So, while history is the study of patterns over *eras*, geography is the study of patterns over *areas*. They are both methodologies – unique ways of thinking about our world and its events, conditions, and patterns. Historians focus their studies by asking, “What happened when and why then?” By contrast, geographers ask “What is where and why there?” Geohistory purposefully fuses both fields of study into a coherent discipline that is neither inferior, nor superior to any other, but unique in its own right. All students should add another element and ask, “Why care?” All geographic and historic learning should relate to the human need to know.

Answering the Big Question

Combining the key inquiries of history and geography into geohistory, a big question arises that asks, “What is Where and When, Why There and Then, and Why Care?” Tackling the first part of the question – “What is?” – requires a phenomenological approach (the study of phenomena, or observable occurrences). Any study requires its basic components; geography has space and history has time. In geography we look at the features of the Earth’s surface that occur in space. In history we look at the events on Earth’s surface that occur over time. The physical features and events (e.g., a volcanic eruption in Indonesia) are what constitute nature. The human features and events (e.g., a revolution in France) constitute culture. Nature and culture are the palette and paint that allow us to create our understanding of the world around us.

The second part of the big question – “Where and When?” – employs the spatial and temporal elements of geohistory. As such, to understand what is important about all features and events, we must consider both space as well as time. In geography, we utilize maps and other data to contemplate the spatial perspective.

To better understand geographic interrelationships at different scales, we categorize areas into regions. To this end we divide the regions into local (the immediate area), regional (the intermediate area – often national), and global levels (the distant area). To fully appreciate geography we need to consider different scales at the same time; global events are often felt at a local level, and national occurrences often have an international impact.

Historians use artifacts, primary documents, and other data to study the temporal perspective. To better understand historic interrelationships at different scales, we classify eras into time periods. We can divide these periods at the micro level (regarding specific individuals or events), the meso level (neither excessively particular nor general), and at the macro level (often encompassing centuries or millennia). As with geography, in history we need to also consider different scales concurrently; most of the significant events of the past are told through the eyes of individuals, and the impact of the actions of many notable people transcend generations.

The third part of the big question – “Why There and Then” – initially requires us to analyze and explain the distribution of processes and connections over space. Human geographers consider the Five Themes of Geography that are derived from the spatial perspective. The first theme, location, focuses on how the position of people and places affect what happens and why. Secondly, we look at regions not only to categorize people and places, but also to make sense of the information. The third theme, human-environmental interaction, looks to cultural ecology, which analyzes the reciprocal relationship between humans and the spaces on the Earth. The fourth theme, place, considers physical characteristics (e.g., topography and ecosystems) as well as human characteristics (e.g., transportation and communication networks). Places have physical and human characteristics that make them unique. Geographers investigate why certain places are distinct or similar to other places. Finally, the theme of movement refers to the mobility of people, goods, and ideas. People and places are interconnected, and why we move, trade, and share or protect information is of particular interest.

History requires us to analyze and explain the distribution of developments and connections over time. Historians often focus on cause and effect, as well as continuity and change over time to clarify the importance of the temporal perspective. We consider the importance of certain events by looking at short-term as well as long-term effects. We also analyze and evaluate the interaction of multiple causes and/or effects. Additionally, we seek to explain the dynamics of historical continuity and change over periods of time of varying length, as well as seeking to relate these patterns to larger historical processes or themes.

The final part of the big question – “Why Care?” – may be quintessentially the most important and most difficult question to answer. If what we are studying lacks any practical utility, then we invariably ask ourselves another question, “What is the point?” We investigate geography and history because it is important. These studies are relevant to our lives; they explain that who we are is who we were, and that where we are affects us individually and collectively. In geohistory, as a social science that studies humans, there are few absolutes and multiple interpretations. Critiquing the existing explanations of events over time and space, as well as developing our own hypotheses are both of paramount importance. We live in a three dimensional world that perpetually travels into the future. As such, we are all geographers and historians – so embrace it.

What Else is in Store?

This course is not only designed to prepare students for the AP exam, but also to prepare them for future Social Science courses. Studying modern world history, global regions, and patterns of human behavior will lay a strong foundation of knowledge useful for any subjects taken after this year. However, the main benefits of the course are in the skills students employ and practice throughout the course. They are engaged in the multiple processes of writing, critical thinking, problem solving, analyzing and synthesizing, as well as a myriad of other vital and useful life skills.

Equally as important, a great deal of time and effort has been made to create a curriculum that is engaging and entertaining. Learning, at its core, is best when balanced between work and play. As educators we find our fields of study to be fascinating, but we are also human. That said, we are at our happiest when we see our students performing well while also enjoying themselves. In this way, learning is an end in itself, not just a means to an end – for all of us.

Get ready for a fantastic course and an awesome year!

Defining Geohistory: “What is Where and When, Why There and Then, and Why Care?”					
What is (Phenomenological)	Where (Spatial)	and When (Temporal)	Why There (Analytical)	and Then (Analytical)	and Why Care (Implicational)
<ul style="list-style-type: none"> • Geographic: the features of Earth’s surface that occur in space ... • Historic: the events on Earth’s surface that occur over time ... ○ Physical features and events (nature) ○ Human features and events (culture) 	<ul style="list-style-type: none"> • Space • Pattern • Area (Scale) ○ local ○ regional ○ global 	<ul style="list-style-type: none"> • Time • Events • Era (Scale) ○ micro ○ meso ○ macro 	<ul style="list-style-type: none"> • Processes and connections over space ○ Five Themes: <ul style="list-style-type: none"> - Location - Region - Human-environmental interaction - Place - Movement 	<ul style="list-style-type: none"> • Developments and connections over time ○ Cause and Effect ○ Continuity and Change 	<ul style="list-style-type: none"> • Importance ○ Relevance ○ Action/ reaction
Descriptive			Conceptual		

Adapted from Charles F Gritzner, “What is Where, Why There, and Why Care?,” Journal of Geography 101, no. 1 (January February 2002), pp 38-40

Chapter 1: Foundations of Civilization

Ancient to Early Modern Period (12,000 BCE-1350 CE)

All human civilizations engage in some form of activity to provide food, clothing, shelter and the other amenities of life. However, the varied activities of today owe their success to the actions of the past, and many of these decisions were made not through choice and convenience, but out of chance and compulsion. One of the great constants throughout history is that change is inevitable. Simultaneously, one of the great constants in geography is that no two places are exactly alike. When change occurs in a place, people react, and how they react tends to make all the difference.

The Impact of Change

Bottlenecks

The world we know today has changed dramatically over millions of years from one geologic period to another. A significant starting point for this discussion took place around 542 million years ago. The **Cambrian explosion** occurred during the geologic period of the same name, in which most of the complex life that has ever existed on the planet emerged. A significant diversification of species resulted from some sort of catastrophic event such as significant climate change, asteroid impacts, or massive volcanism. For example, when supermassive volcanoes erupt they spew vast amounts of particulates into the atmosphere, blocking out much of the Sun's energy. Catastrophic climatic events such as these caused animals and fauna at the bottom of the food chain to die. As a result, this resulted in fewer resources for other organisms, which in turn, died out as well.

What resulted from whatever activity was at play during the Cambrian explosion, caused a mass extinction that created an evolutionary **bottleneck**, in which most types of living organisms perished. A bottleneck is an event that causes an acute reduction in the size of a population due to major environmental stress. The explanation for this drastic event has not been settled, but the most likely culprits were asteroid impacts, volcanic eruptions, a long-lasting cold phase in climate, or some combination of multiple factors. Nonetheless, prior to this period, most living organisms were simple and single-celled. This event, which lasted millions of years, created the necessity for species to adapt through **natural selection**. In this process, certain inherited traits proved to be better suited for the changing environment. Certain organisms lived on while others died out. The necessity to adapt under changing conditions is a **pattern** that repeats itself in nature, as well as human nature – as we will investigate later.

Life hasn't changed because of bottlenecks only, or because of limited resources. As the land and terrain itself has been transformed, life also has adapted to the changing terrain. The world map that we see now was im-

mensely different in the past. Sometime around 250 million years ago the supercontinent, **Pangaea**, began to break apart into fragments that make up the continents today. The speculation that continents might have 'drifted' was first put forward toward the end of the 16th century; however, it wasn't until the 20th century that this supposition turned into science.

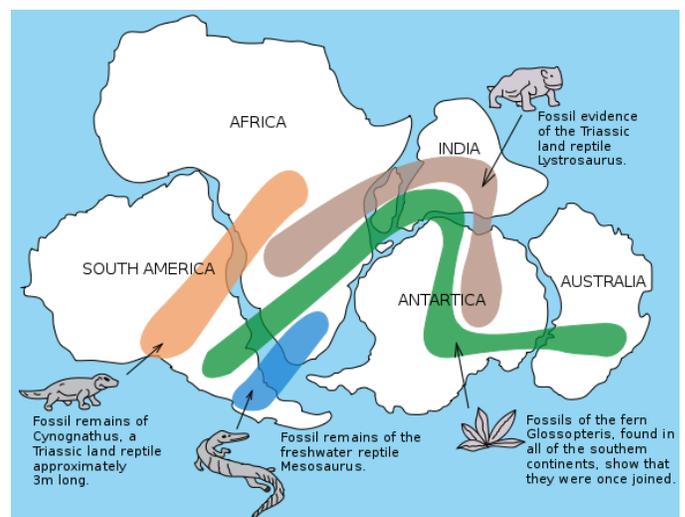
Plate tectonics

In 1912, Alfred Wegener formed his theory of **continental drift** independently, whose research was much more complete than his predecessors. He noted that many fossils of extinct organisms were found on lands that were now far apart. Wegener suggested that when the organisms were alive, the lands were joined and the organisms were living side-by-side. Today this is all but proven through

plate tectonics – a theory that describes the large-scale motions of the Earth's crust and upper mantle. These gargantuan plates ride on top of the molten magma below, often moving no more than an inch a year. The vast majority of our planet is actually a hot liquid of various elements, with a fraction of a percent of it making up the solid surface we walk on. If our planet were to be compared to an apple, the skin of the apple would actually be thicker than the Earth's crust.



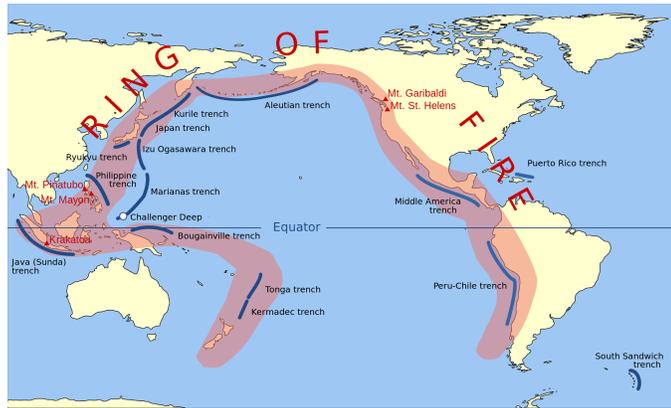
Pangaea with modern landform labels.
Credit: Kieff



A map showing Wegener's fossil excavations.
Credit: U.S. Geological Survey

When the tectonic plates move, they sometimes converge and build up tension, and eventually cause tremors or earthquakes once the energy is released when they

give way. The constant motion causes volcanoes to form, mountains to rise and fall, and continents to move. A direct result of the movement of the tectonic plates is the **Ring of Fire**, an area around the basin of the Pacific Ocean. It is aptly named because it contains around 75 percent of the world's active and dormant volcanoes. An even higher percentage of earthquakes occur along this vast belt.



The Pacific Ring of Fire. Credit: Gringer

Natural Influences on Our Environment

The Earth and Sun

Interestingly, the most common type of climate for the Earth can be described in two ways - cold and dry. In other words, ice ages are more common in the geologic record than the warmer temperatures we enjoy today. The most recent Ice Age began around 2 million years ago marking the beginning of the **Pleistocene** epoch (meaning "most new" in Greek). This lasted until around 12,000 years ago when the current **Holocene** epoch started (meaning "entirely new" in Greek). This time period is also known as the **Neolithic Era** ("neo" means new, and "lithic" means stone), which was the last stretch of the Stone Age before metal tools were used extensively.

For millions of years, long periods of **glaciations** have witnessed the expanse of ice sheets spreading from Antarctica and Greenland, off set by shorter periods of **interglaciations**, in which the ice sheets receded. Theories abound, but these ice ages are thought to be caused by changes in our Sun's energy cycles, volcanic activity, slight adjustments in the Earth's orbit over thousands of years, or possibly even other factors.

Remarkably, volcanism is reliably correlated with our Sun's activity. That is, there is more volcanic activity when the Sun is more active. This could be because more energy permeates into the Earth's crust causing greater tectonic movement. During times of lower solar activity, **supervolcanoes** are more likely. Since less energy would cause less tectonic movement, more tension would build up over long periods of time, therefore releasing more energy and causing even more powerful earthquakes and volcanic eruptions. These supervolcanoes eject immense amounts of particulates into the atmosphere all at once, and cause great devastation especially in the immediate

areas around them. Ash falls to the ground, destroying vegetation and poisoning the water. In fact, this is what causes most of the devastation and death, not the pyroclastic flows of hot ash that initially fall from the volcano itself.

Seismic and volcanic activity have likely caused some of the most extreme bottlenecks in human history. For instance, around 70,000 years ago Mount Toba erupted in what is modern day Sumatra, Indonesia. It was one of the largest known eruptions in history, which - interestingly - coincided with a major glaciation at that time. This ecological disaster likely led to a sharp decrease in the human population - perhaps as few as 10,000 individuals by some estimates. Nonetheless, humans continued to live as they had for millennia, even during this time of dire need.

Hunting and Gathering

Mankind generally existed through **hunting and gathering** whatever nature had to offer. Most hunter-gatherers lived in groups of no more than around 50 people, since it was impractical to provide enough caloric intake for more individuals through hunting game and foraging alone. If the populations exceeded this number by any significant degree, they would often split into two groups or more and travel to find more suitable areas for survival. Today, there are still societies that exist in much the same way. The San in South Africa, some aboriginal peoples in Australia and Papua New Guinea, the Native Americans of Brazil, and several others live by hunting and gathering. This style of living persisted because it was a natural and logical **division of labor**, in which co-operating individuals perform specific tasks and roles. In these small societies the males primarily carried out the hunting, while the females primarily carried out the gathering. While division of labor became much more complex over time, this simple adaptation allowed people to focus on fewer skills to master, increasing productivity and survivability. Originally, the hunting was done with poisoned spears, clubs, bows and arrows, and sticks - but in the modern era it is not unusual to find these people using rifles, jeeps, and other modern technologies.

The capacity of early human communities to sustain themselves was enhanced by their local knowledge of the terrain and its exploitable resources, as well as their ability to improve their tools and weapons. The first tools were simple - clubs and branches - but the use of bone and stone, and especially the development of spears made hunting more effective. Fashioning stone into hand axes enabled the hunters to skin their prey and cut their meat. The controlled use of fire was another important early achievement. Fire made their food more digestible and was even used to drive animals into traps or off cliffs. Controlled fire also enabled basic metalworking to be employed as well.

As the globe continued to warm, the flourishing of plants and animals made it easier for some people to begin living in more permanent and complex settlements. Fishing communities began to develop around the coasts, for example, using rudimentary rafts and canoes. Excavations dating back before the advent of farming strongly

suggests that some hunters and gatherers spent at least part of the year in settled villages.

Even though mankind had lived as hunter-gatherers for well over two hundred thousand years, clearly a new dominant lifestyle emerged. Today, hunter-gatherer groups make up only a tiny fraction of our population. A few societies essentially still live in the “stone age”, although they are few and far between. The vast majority of us live in communities and cities. What caused this turn of events was a catastrophic change in the environment at a global scale.

The Great Catalyst of Change

As Plato has often been paraphrased, “necessity is the mother of all invention.” Nothing in human history has been more essential for survival beyond our basic needs; land for living, water for drinking, and food for eating. When conditions change reducing the availability of these essentials, the **carrying capacity**, or capability of a place to indefinitely sustain a population, becomes exceedingly difficult to sustain.

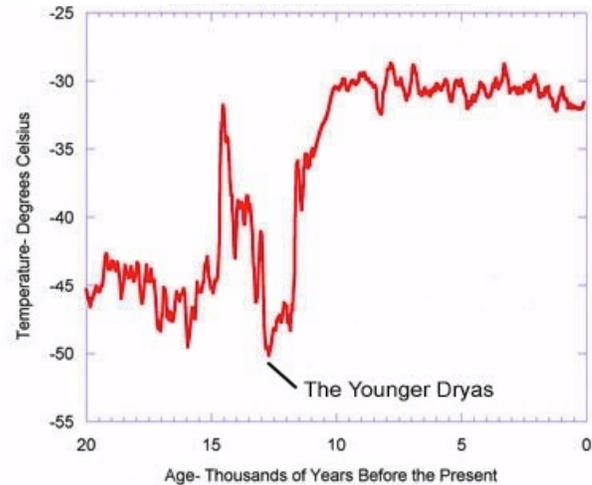
The great catalyst of change in history can be narrowed down to **climate**, the long-term patterns of weather in an area. More specifically, it has been during times of colder global temperatures that have resulted in fewer resources available for human survival, and virtually all life for that matter. Population bottlenecks ensue, resulting in the necessity for the creation of new inventions and techniques in order to survive. Colder temperatures lead to shorter growing seasons, which result in less food. Limited resources cause individuals and groups to adapt or die. Since nothing is evenly distributed across the planet, some places and peoples have more going for them as opposed to others.

Two key factors for determining the success of human adaptation can be established. The first is **geography**, more specifically, the specific environments most conducive for human survival and success under changing conditions. The second is **culture**, or the customs and beliefs of groups of people whose values and tendencies are best suited for the same changing conditions.

Since environments are different all over the world, and people adapt to their immediate areas, the **scale** of the changing conditions is vital. Many population bottlenecks occur only within a particular region because of local issues, such as floods, famines, or other natural disasters. This is why the times that have propelled mankind to advance the fastest and furthest are during times of global population bottlenecks brought on through large-scale changes. This is precisely what happened starting around 13,000 years ago.

For over a thousand years, a period of cold climatic conditions occurred known as **The Big Freeze**. The causes for this are disputed, but the results are unmistakable. This period of time has also been referred to as the Younger Dryas, named after an alpine flower that thrives under relatively cold conditions. Rapid global cooling caused temperatures to dip primarily in the Northern Hemisphere. This is significant because we humans are

terrestrial beings, in that we can only survive on land. Since more than two-thirds of all land exists in the Northern Hemisphere, this is where the largest human populations have been predominantly concentrated. Popular hunting game were large mammals such as woolly mammoths and giant sloths. These animals failed to adapt, and died out. Likewise, wild grains and berries also failed to grow as plentifully as they once had. Hunting and gathering became woefully inefficient and people starved and died, so an alternative was sorely needed. This alternative was developed through the invention of **agriculture**, the deliberate tending of crops and livestock in order to produce food and fiber.



Central Greenland climate over 20,000 years. Credit: NOAA

The Foundation of Farming

Agriculture

The development of agriculture may well be the single most important occurrence in human history. The success of farming supported both rural and urban populations, spreading from its origins in several global **hearths** – or origins – to virtually everywhere on the planet. It was agriculture that enabled societies to expand and plan for the future. Simply put, when you can grow enough food and store it, you can stay in one place for a long period of time.

After the shock of The Big Freeze, a shift to warmer global conditions began around 12,000 years ago. Whereas other organisms have adapted to bottlenecks by passively differentiating themselves through genetics (natural selection), we humans have adapted ourselves through purposefully driven intellectual pursuits (artificial selection).

Root Crops

The great invention of agriculture probably occurred first in the areas of the tropical seashores where settled fishermen were able to produce enough surplus so that they could invest some of their wealth and time into the experimentation and nurturing of plants and animals. As populations were dwindling, some survivors experi-

mented by burying plants into the very land from which they took them.

Carl Sauer, a renowned geographer, was a major proponent for the field of **cultural ecology**, which focuses on human adaptations to the environment. He proposed that **plant domestication** began with root crops through **vegetative planting** (e.g., ancestors to plants like beets and radishes), in which parts of plants were purposefully placed in the ground to grow new plants. Vegetables, and other plants, that possessed certain traits amenable to humans (e.g., taste, size, nutritional value) were selected ahead of others for replanting. Traits of plants that would have normally been useless or even unhelpful in the wild under natural selection, were now meeting the needs of hungry humans. This is known as artificial selection, or **selective breeding**. For the first time in history, these early farmers were engaging in horticulture; the cultivation of flowers, fruits, vegetables, or ornamental plants.

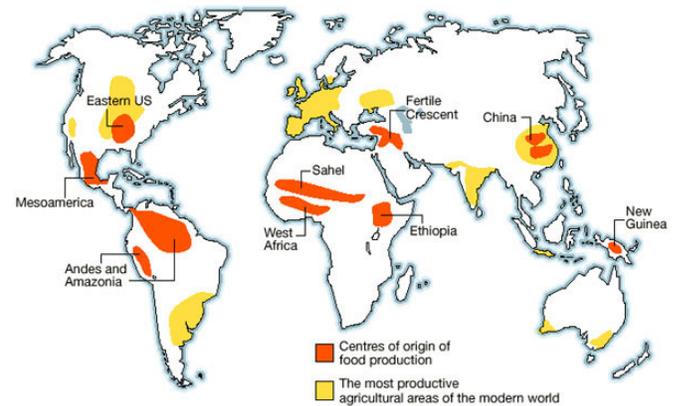
The hearths – or origins – of vegetative planting were likely in Central America and South America, Western Africa, and Southeast Asia. These locations were all within the Tropics with climate favorable for growing vegetation. They were also locations with sizeable enough populations to successfully domesticate these plants over long periods of time, where enough people would have had the ability and time to experiment.

Seed Crops

Seed crops (e.g., wheat, oats), as opposed to root crops, are much more difficult to grow efficiently. The cultivation of seed plants, beginning around 12,000 years ago, was the true beginning of the **First Agricultural Revolution** (also known as the **Neolithic Revolution**). It took a great deal of trial and error in selecting the best seeds from existing crops, sowing the land properly, maintaining the growth of crops through watering, and harvesting the plants at just the right time. It took specific regions many generations to reach the level of sophistication necessary to grow, harvest, and domesticate these crops efficiently. Hearths of seed agriculture were in places like Northern Africa along the Nile River, as well as places such as modern day China, India, and Mexico. However, the most important location of early agriculture took place in Southwest Asia along the Tigris and Euphrates Rivers, in what called the Fertile Crescent. This location in modern day Iraq had the best collection of plants and animals suitable for domestication. Examples include barley, wheat, and protein-rich legumes for food; flax for textiles; donkeys, horses, and oxen for beasts of burden and transport, goats, sheep and cattle for meat and leather, and in the case of sheep, wool.

The development of agriculture resulted from the necessity of a bottleneck brought on by similar climatic conditions across the globe. This is evident because farming developed in several regions by means of **independent invention**, with no direct contact to other parts of the world (e.g., Southwest Asia and Central America). Agriculture was a necessity; without it, these human developments would have collapsed and died out. Soon the knowledge needed to farm such crops **diffused**, or

spread, outward from certain agricultural hearths and into other regions.



Hearths of agriculture and the most productive areas of agriculture today. Credit: Nature Magazine.

Source Regions of Selected Plant Domestication	
Mesoamerica	Maize, beans, cacao, cotton, tomatoes
Andes	Potatoes, gourds, squash
West Africa	Millet, yams, sorghum
Fertile Crescent	Wheat, barley, lentils, peas
Ethiopia	Coffee, okra
China	Rice, soybeans
New Guinea	Taro root, bananas

Early Invention and Expansion

The development of agriculture around 12,000 years ago marked the beginning of the **Holocene epoch**, the geologic time period in which we currently find ourselves. This time period is significant because for the first time in history, humans embraced farming, providing them with the means to settle permanently in one area. Food supplies became more dependable and quantities increased, leading to permanent settlements and population increases. The **ecumene** – the proportion of earth’s surface occupied by permanent human settlement – expanded substantially from this time forward. Altogether, agriculture has changed more of the Earth’s surface than any other human activity. Logically, along with the expansion of the ecumene, so did the **cultural landscape**, which is the built environment, created by humans, as opposed to the natural – or physical – environment.

Perhaps the most key human invention of that time was the **plow**. Initially, people engaged in agriculture through simple digging sticks, but the desire to find a better means in producing food was inevitable. The plow enabled people to cultivate the land by turning over the upper layer of the soil, bringing nutrients to the surface, and burying plant remains for them to break down and become fertilizer in the future. Plowing also enabled people to sow their seeds in an organized fashion, so they

could estimate just how much food could be produced on a given tract of land.

Possibly just as important was the development of **granaries** – or an elevated structure designed to store excess grain. It was vital to keep grain away from pests, animals, and water that could spoil the crops. There is evidence that sophisticated ways of storing food through rudimentary “granaries” in the Middle East may have predated seed domestication of crops (such as wheat and oats) by as much as a millennium. Some have even suggested that the development of granaries actually may have helped lead to plant domestication in order to make the gathering process easier. Nonetheless, it was a major transformation for society that tools and technology for food and farming became more important than tools and technology for war and killing.



Archeological dig at Dhra, Jordan, site of some of the earliest uncovered granaries. Credit: Ana al'ain

Animal Domestication

While our ancestors were learning to plant crops, they were also beginning a long process of **animal domestication**, which only became possible on a large scale with the onset of plant domestication. Humans engaged in **animal husbandry** (*husband* in this sense means “to keep”), in which the most productive animals were carefully managed and deliberately interbred for specific genetic qualities.

Animal domestication probably began when animals attached themselves to human settlements as scavengers and even for protection against predators. Some scholars believe animal domestication may have begun before plant cultivation, however it was more likely to have taken hold after more permanent settlements were established. Wild cattle, for example, may have been kept for religious purposes – for ceremonies or for sacrifice. Eventually these animals were used as beasts of burden (e.g., pulling plows), or sources of sustenance (e.g., milk, meat). When animals such as wild cattle were penned in a corral, they underwent physical changes as humans chose certain animals with advantageous traits for selective breeding. Today’s domestic versions of the pig, cow, and horse differ considerably from those first kept by our ancestors. Indeed, throughout the world only about 40 species of animals have been domesticated – and most of these were domesticated thousands of years ago. On the Eurasian supercontinent, 14 species of large animals (over 100 lbs.) were domesticated, whereas South America had

just one (counting the llama and alpaca as breeds within the same species).¹

Many attributes are necessary for animal domestication to be successful. For instance, a flexible diet is advisable, especially one in which animals eat foods humans do not want, such as cattle grazing on grass. An animal should have a reasonably fast growth rate, such as a donkey, which can give birth to a foal around once a year. Animals with a modifiable social hierarchy are more desirable than the alternative. Dogs, descended from wolves, are pack animals, and instinctively follow an alpha – or leader. As such, humans are able to gain control over them with much greater ease as compared with more solitary species. A pleasant disposition and calm temperament are also advisable traits. Horses have proven very tamable, whereas zebras – part of the horse family – have not. This can be partially explained through **environmental determinism**, which states the physical environment predisposes development of living organisms toward specific trajectories. Most zebras evolved in African grasslands, an environment saturated with predators, which transformed them into a more erratic and wild version of their cousins.

Adaptation to Place

Societies have advanced, in large part, due to the constraints and advantages their spaces and places have provided them. **Space** simply refers to a geometric surface or area on the earth. **Place**, more specifically, is an area of bounded space. When considering the concept of place, we focus on the distinctiveness of an area that is often created out of human experiences. We emphasize the **phenomenological** aspects of a place. That is, we consider the events and circumstances that have happened over time in an area.

Many historians and geographers have discounted environmental determinism as the sole means for the success or failure of societies. Rather, they look to cultural ecology in understanding that while the environment has influenced human adaptation, it does not determine it. A theory that falls in between the two is **possibilism**, which suggests the environment sets certain constraints or limitations, but culture is otherwise determined by social conditions. Two primary examples of agriculture – shifting cultivation and nomadic pastoralism – help to illustrate how humans adapted to differing places.

Many early cultivators were **subsistence farmers** who produced food for themselves, their families, or their local communities. They usually farmed for survival, not for profit. While many subsistence farmers are sedentary, remaining in one location, others have adapted a more mobile lifestyle. One of these types of agriculture is **shifting cultivation**, in which new farm fields are established after a few years in order to find more productive land. This activity is primarily located in tropical and subtropical areas, such as the rainforests in Amazonian Brazil, Central Africa, and Southeast Asia. Crops grown in these places deplete nutrients in the fertile, yet shallow soil, which erode relatively quickly without the decaying vegetation that normally covers the land. Usually after a few years, farmers move – or shift – to another area, cut down

trees and vegetation, plow the open land, and then plant their crops on the new ground.

A common type of shifting cultivation is **slash-and-burn agriculture** (e.g., swidden, milpa, ladang, patch). This style of farming is carried out by cutting down trees, and then burning them in order for the ash to fertilize the soil. Rights to the fields are more “traditional” and not owned, since the plots of land are farmed successively. The dirt that is left behind is usually dreadfully unproductive for many years. This activity can be harmful for the immediate ecosystem, as the massive rains can further erode the soil without the natural vegetation to prevent the runoff of silt into the rivers and oceans.



Shifting cultivation in Northeast India. Credit: Prashanthns

Opposite the tropical rain forests are the arid and drier climates in and around the world’s deserts. In these areas, a second form of subsistence agriculture emerged almost diametrically opposed to that of shifting cultivation. Nomadic pastoralism occurs where livestock is herded either seasonally or continuously in order to find fresh pastures with the necessary resources for grazing. The typical animals utilized are goats, sheep, and camels. Nomadic pastoralists primarily emerged in central Asia, and the African Sahel – a semi-arid zone between the Sahara Desert to the north, and the tropical savannas to the south. Nomads typically move their herds to higher elevations in the summer, and then to lower elevations in the winter to find the most productive pastures. These nomadic pastoralists usually traded their animal products – milk, skins, and meat – for other crops such as wheat or barley.

The practices of shifting cultivation and nomadic pastoralism are both examples of **extensive subsistence agriculture**, in which relatively large areas are farmed, but with relatively low inputs of labor. Extensive agriculture is also more efficient than other types of subsistence agriculture with regard to the amount of fertilizer needed relative to the land area being farmed. Nonetheless, it is not very productive with respect to the amount of food produced per unit area, so villages and populations in these places tend to be less dense.

The Dawn of Urbanization

Intensification

Some places – more than others – were blessed with highly nutritious crops, superior animals for domestication, and **arable land** (farmable) located in river valleys with amenable climate. In some of these places, people settled more permanently, and vehemently defended their lands. In order for their settlements to thrive, one of the most impactful innovations of the First Agricultural Revolution was developed, **intensive subsistence agriculture**, in which smaller plots of land are intensely cultivated with regard to labor and resource inputs. The fields adjacent to these settlements would be tended on a daily basis, and food surpluses were produced at a much greater rate than with extensive subsistence agriculture.

The most successful places where this style of farming took root (pun intended) were predominantly along fertile river valleys in semi-arid regions where annual flooding restored the soil fertility each year. Instead of the people moving to find more arable land – as in shifting cultivation – the nutrients for their farmland came to them. Through flooding, the land renewed itself, allowing for more long-term permanent settlements and greater population densities. The increasing numbers of people in these communities used up greater amounts of resources, which is what necessitated intensive subsistence agriculture in the first place. The most significant regions in which this occurred were the Nile River in Northern Africa, the Indus River in modern day Pakistan, the Yellow River (Huang He) in China, along the Andes in modern day Peru, and around Mesoamerica in modern day Mexico. However, the most productive area of the ancient world was along the Tigris and Euphrates Rivers in modern day Iraq.

The Mixed Bag of Sedentary Living

Due to permanent settlements along fertile river valleys, **agricultural villages** formed, in which virtually the entire population was involved in producing food. Most of these villages were largely **egalitarian** in nature, where people shared resources in order to survive. Over thousands of years agriculture won out over hunting and gathering. However, farming – for most people – was not an obvious improvement over the alternative.

Compared with hunting and gathering, most farmers had to work longer and harder hours. They needed to produce enough for themselves as well as a surplus for taxes within the villages (which was usually paid with food). They worked longer, but they were shorter. Archaeological evidence strongly suggests they had a worse diet, with less variety and nutrition, stunting their growth over time. There were greater instances of tooth decay, anemia, and malnutrition. **Morbidity rates**, or the relative frequency of sickness or disease in a population, was also higher. Living in close proximity to animals – and each other – exposed farming communities to more diseases such as smallpox, rabies, influenza, measles, and tuberculosis, to name a few. Large-scale breakouts of disease, or

epidemics, occurred with much more frequency in these villages.

Regardless of the disadvantages that existed, people still gravitated toward agriculture. Three notable advantages included productivity, security, and predictability. With regard to productivity, very little surplus can be produced or maintained in hunting-gathering societies. In agricultural villages, however, greater surpluses of food stored in granaries allowed more people to work in other capacities other than farming. **Specialists** emerged with skills in areas such as metalworking for tools, engineering for irrigation, or writing for the accounting of resources and codifying of laws. The division of labor became more intricate and often more hereditary, with parents passing on their expertise to their children.

A “**secondary products revolution**” took hold perhaps around 4000 BCE. Aside from meat and hides, new uses for domesticated animals were realized. Agricultural people used their milk for better diets, wool for clothing, and even their manure for fertilizer. Additionally, they began to ride horses and camels, and hitch oxen – as well as other animals – to plows. Even if most people remained as simple farmers, the availability of more goods and services offered by specialists brought more variety and entertainment to life, making it more attractive than hunting and gathering.

Another advantage of the agricultural village was security. **Mortality rates**, or the relative frequency of deaths in a population, tended to be higher in hunter-gatherer societies. It has been suggested by many researchers that hunter-gatherers were more likely to die by violent means as compared with their agricultural counterparts. The idea that hunter-gatherers lived only in a harmonious and peaceful state of nature is quite inaccurate. If a group lacked food or resources, they would sometimes take what they needed from other groups. As many as 30% of adult hunter-gatherer males died from homicide due to raids, skirmishes, or warfare.³ Therefore, a reason why the average hunter-gatherer may have been taller and healthier could simply be because the weaker individuals had died off, or had been killed. As the saying goes, “there is strength in numbers.” An agricultural village could support a greater number of people as opposed to a hunter-gatherer group. With greater numbers of people and food surpluses, the average villager was less likely to meet his or her end at the hands of another.

While many other reasons for the success of agriculture exist, a final one to discuss is predictability. Hunter-gatherers may have been healthier on the average. However, with little to no storage of surplus food, there was a greater chance to starve or die if conditions grew more difficult. Invariably, there would be times of feast or famine – of greater, or less food – and the steadier supply of nourishment afforded in villages was extremely appealing. The perception of a more certain future created a very enticing situation. So, while most individuals may have been worse off in the long run, to their eyes and ears, life in the village was more alluring on a day-to-day basis.

The Birth of Urbanization

People are social beings, and as such, we prefer to be near the company of others. We also prefer to be in relatively close proximity to the goods and services we need for survival, but also to the goods and services we want for amusement. Because of these human tendencies, **agglomeration** occurs, or the clustering of people and businesses for mutual advantage. A key explanation for this consistent human inclination was put forth in 1970 by geographer Waldo Tobler. In what he deemed as the **first law of geography**, “Everything is related to everything else, but near things are more related than distant things.” As humans we constantly seek out ways to make our lives easier. Whether this can be attributed to laziness or efficiency, people prefer to have as much **accessibility** to goods and services as they can afford. Since people mostly traveled by foot, the closer their homes, industries, and markets were to each other the more efficiently they operated. Cities and civilizations formed for this very reason.

Waldo Tobler’s First Law of Geography

Everything is related to everything else, but near things are more related than distant things.

A major turning point in human history arose several millennia after the introduction of agriculture. Over thousands of years food surpluses grew, and the egalitarian nature of villages shrank. Around 3500 BCE, the first **civilizations** emerged; advanced cultures characterized by social hierarchies, symbolic communication forms, and a separation from the natural environment. Societies had existed since the dawn of man, but the development of the more complex civilizations, based in cities and states, was one of the most significant steps toward our modern world today.

Three elements are essential to the establishment of civilizations. The first two – agricultural surplus and sedentary living – have been discussed previously. Without excess food to allow the development of specialists, or permanent settlements that expanded over time, civilizations would not be possible. The third element is **social stratification**, a hierarchy of power and class structure within a society. In virtually all regions where agriculture took hold, a **leadership class**, or elite, emerged who maintained control and organization of the villages. Members of the leadership class often passed their authority onto their families, establishing a hierarchy of power within the village that was hereditary.

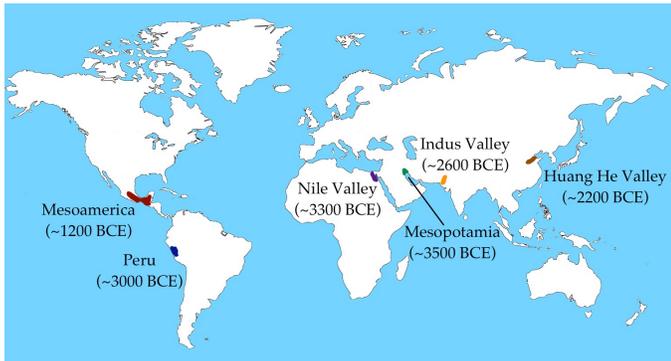
Over time, **urban areas** became more distinct, characterized by high population densities. The buildings and homes were **nucleated**, or concentrated, around **core areas** close to the centers of towns and cities. These core areas are where governmental, industrial, commercial, and religious structures were agglomerated for efficiency. These settlement patterns were noticeably different from the **rural areas**, which were more **dispersed** and the population was less dense, with houses further apart. The rural areas are where most of the farming occurred, and

were further from the centers of activity. Many leaders protected themselves and the citizens by organizing the construction of walls around their cities. These walls often distinguished the boundary between urban, which was inside the walls, and rural, which was outside.

The Start of Civilization

The First Cities and States

The hearths of urbanization, and therefore civilization, grew out of the same places as the hearths of agriculture. The beginning of the **First Urban Revolution** started around 3500 BCE on the supercontinent of Eurasia and specifically along the Fertile Crescent, which has aptly been named the “Cradle of Civilization.”⁴ Villages grew in size and complexity to the point that cities and states materialized. For clarification, a **state** is a political community operating under a single system of government. The power of a state is often concentrated in cities, but especially in the city designated as its **capital**, which usually contains the **seat of government** (where the government exercises its authority). Technology in the ancient world limited travel primarily to foot, horse, or camelback. Because of this limitation, power was often more concentrated into **city-states**, each of which was a sovereign state unto itself comprised of a main city and its dependent territories.



Six Hearths of Urbanization.

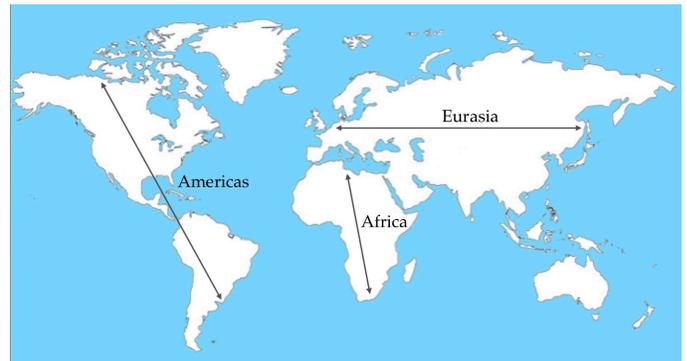
Between the Tigris and Euphrates was a region known as **Mesopotamia** (Greek for “land between rivers”), which is where the Sumerian civilization took hold. Another region of the Fertile Crescent along the **Nile River Valley** gave birth to the Egyptian civilization soon after the Sumerians had risen to power. Somewhat later, around 2,600 BCE and adjacent to the **Indus River Valley** of modern day Pakistan in South Asia, the Harappan civilization matured (named after the first site to be excavated). This society likely developed out of its connections and trade with other societies such as those in Mesopotamia. Around 2200 BCE and along the **Yellow River (Huang He) Valley** of East Asia, the early Chinese civilization came into being. Aside from Eurasia, two early civilizations emerged in the Americas. One of the oldest and less well-known civilizations developed in South America between the central coast of modern day **Peru** and the Andes Mountains beginning around 3000 BCE. The most recent of the first civilizations, the Olmec, began

to urbanize in **Mesoamerica** along the eastern coast in modern day southern Mexico around 1200 BCE.

Place Characteristics of the First Civilizations

The physical characteristics, or **site characteristics**, of the places where the first urban hearths were located were the most advantageous at that time to support large populations. They were often founded along **resource nodes**, where valuable natural resources were available. Their specific, or **absolute locations**, were sites of plentiful arable land adjacent to water, and with relatively flat territory to expand. Sites were often chosen because the locations offered some physical defensibility against invasion. Higher elevations for viewing, or locations near bodies of water offered natural protection that low-lying valleys do not. Additionally, these early hearths of urbanization were all somewhat equidistant from the equator, and mostly found in the Northern Hemisphere relatively close to the Tropic of Cancer. The exception was the Peruvian civilization, which was located somewhat close to the Tropic of Capricorn, however.

The shape, or **territorial morphology**, of the Eurasian supercontinent also proved to be significant. These urban centers possessed favorable **relative locations** with respect to other places. As Jared Diamond explained in *Guns, Germs, and Steel* (1997), Eurasia’s East-West orientation allowed breeds of plants and animals domesticated in one part of the continent to be used elsewhere through similarities in climate and the cycle of seasons. Places along similar lines of latitude have the same length of day, and in many cases, very similar climates. The largest cities tended to be located along **transport nodes**, or intersections of two or more lines of transportation (e.g., roads, rivers, oceans). The early Eurasian civilizations found themselves in a favorable **situation**, that is, their locations relative to other places were advantageous. For example, the civilizations that developed along the Indus River Valley, borrowed heavily from the cultures in Mesopotamia.



The continental orientations of the Americas, Africa, and Eurasia.

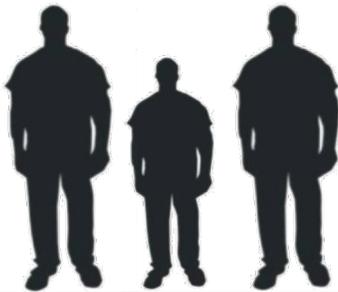
By contrast, the other continents of Africa and the Americas contain a largely North-South orientation, and their civilizations remained largely isolated and fragmented by the extreme variations in climate from North to South. Plants, animals, technology, and culture could not be as easily transported due to this orientation. For

instance, the Peruvian civilization did not evolve through grain-based agriculture, in part due to the arid climate. Rather, they relied heavily on fishing along the Pacific coast. Additionally, they did not develop pottery or writing of any kind, nor did the other Andean civilizations that followed. Even though the Olmec in Mesoamerica built a grain-based civilization centered on corn, and developed their own system of writing, they did not establish trade networks with their neighbors in South America. Certainly, geography does matter.

The civilizations that arose out of the First Urban Revolution varied greatly, and unique societies formed. However, because people around the world naturally developed urbanization and civilization, some similar characteristics can be determined with regard to the ways these human constructs were organized.

Negative Characteristics of the First Civilizations

While cities obviously formed around the world, they were not always positive in terms of human progress. There were plenty of negative characteristics associated with urbanization and civilization. Cities were relatively compact since most people generally walked from place to place. Nicer accommodations emanated from the immediate city centers, but most people lived under meager conditions in mud-bricked houses. The lanes between homes were usually very narrow, and were strewn with trash, as waste disposal or sanitation control was often scant or nonexistent. Under these conditions, disease was rampant, and along with limited resources, the urban populations remained relatively small by today's standards. After two millennia of development, cities in Mesopotamia and the Nile maxed out their city populations somewhere between 10,000 and 15,000 inhabitants.



Urban dwelling in antiquity was detrimental to many individuals, but it was more beneficial in the aggregate.

As stated previously, urban dwellers worked harder, had worse diets, and individually may have been worse off. The average hunter-gatherer was healthier, taller, stronger, and lived longer. It is an interesting paradox, therefore, that urbanization turned out to be so successful. For one, people are social beings, and we prefer to be around others. Invariably some people would prosper, and their successes would give others hope and encouragement for their futures as well. The potential for individual or family success was certainly greater in the cities, however, for most people this was more of an illusion than a reality.

Aside from the negatives of the cities, the greater civilizations were also not without their problems as well. As occupational specialization increased, so did inequality with regard to wealth and power. The production of the farmers, artisans, and other workers was often taken – at

least in some part – by the elite through taxes and tribute. Civilizations competed against each other for productive land and regional power. Wars became more expensive and more destructive. Many slaves were taken as the spoils of war and were subjugated to domestic service, or forced labor. In this capacity, slavery and civilization grew together. Gender differences, the social values ascribed to the different sexes, increasingly favored the males over the females. For example, farming with heavier plows and domesticated animals required more strength, so this task was usually assigned to males. Patriarchal societies became the norm as people became more sedentary and specialized. Women were relegated to more domestic duties, in no small part because many were pregnant more frequently. Increasingly, laws passed by the powerful and elite were established that preserved their privileges and status, often at the expense of the power of the lower classes.

Positive Characteristics of the First Civilizations

Regardless of the negatives, clearly there were enough positive attributes associated with the first cities and states to ensure their success. The first cities were all agriculturally based, being dependent on the surpluses of food in order to sustain their permanent settlements. Food surpluses allowed for specialists in all civilizations – merchants, government officials, priests, scholars, and artisans of all types. Specialization and sustainability were keys to progress.

Cities served as political, religious, economic, educational, and cultural centers. Leaders arose and administered their lands from cities designated as capitals. These leaders were often viewed as divinely powerful, and believed to have been chosen by their god – or gods – to rule, or even to be god-kings themselves. The cities were economic nodes where merchants from distant lands and local traders exchanged goods in the marketplaces. They were educational centers, where teachers, philosophers, and students learned from each other. Nonetheless, these cities developed their own distinctive cultures, even within their own larger civilizations.

A sort of “**preindustrial revolution**” took hold along with the onset of urbanization. With more specialists thinking and working collectively in distinct locations, new innovations were invented at an ever-increasing rate. In order to facilitate efficient communication, language underwent greater specialization. Distinctive written symbols and characters were invented by relatively few civilizations; the Sumerians, Chinese, and Olmec are believed to be a few. The specialists to have invented writing were likely accountants who kept records of resources, taxes, and earnings. Literacy was initially almost exclusively a benefit for the elites, who had the time and means to acquire it. Laws were codified into texts and they brought more order to civilizations, but typically favored the powerful. Recording information for others to learn from in the future led to improvements in other areas such as history, science, and technology.

Mathematics led to larger and more imposing building structures, as well as **irrigation**, in which water was di-

rected through a matrix of small channels into fields for farming. Mathematics also allowed astronomy to become more useful; for instance, in creating complex calendars to accurately predict growing seasons or religious ceremonies. **Metallurgy**, the separating of metals from their ores, allowed civilizations, especially those in Eurasia, to transcend into the Bronze Age and later, the Iron Age. However, metallurgy was far less developed among the societies of the Americas, who were separated by the vast Atlantic and Pacific oceans.



Sumerian cuneiform (from Mesopotamia) was one of the earliest forms of writing. This inscription dates back to c. 2600 BCE.

Unique cultural and artistic forms developed within each civilization, often reflecting adaptation to the physical environment as well as rival civilizations. Distinctive religions took hold, and often became more important to the people than perhaps anything else in their lives. Leaders and the elite often utilized religion as a means to influence and control their populations.

For better or for worse, one of the most long-standing innovations to come from the First Civilizations was the formation of states. Kings, or absolute rulers of some sort, usually headed these political communities operating under their own governments. States established laws, brought order, and protected property. Palaces, pyramids, ziggurats, and temples illustrated the power that states – and their leaders – possessed. However, the implementation of the state differed from place to place. Ancient Egypt and China established strong states that extended their power over all of their territories. Pharaohs and emperors, respectively, typically possessed almost absolute and unchallenged authority.

On the other hand, the ancient Peruvian and Indus civilizations did not develop large-scale state authority for millennia. Cities formed in these regions similarly to others, however, very little evidence has shown the presence of a sophisticated state in either place. Why no temples, palaces, or significant evidence of ruling classes emerged is still not certain. However, while some civilizations did develop without a defined state structure, it is virtually impossible to imagine our world today without it.

Interestingly, while city living was less beneficial for the individual as compared with hunting and gathering,

urbanization was more beneficial in the aggregate. That is, even though the average person was worse off, collectively, the civilization benefited from the agglomeration of people and activities. Again, specialization and sustainability were key factors in the progress of humanity. With more experts in one place, they were able to benefit from each other's ideas and ingenuity. Since "near things are more related than distant things," (Tobler) the density of human settlement allowed for more interaction between specialists and intellectuals. The many inventions and innovations that grew out of the first civilizations would never have been possible had the vast majority of people remained as hunter-gatherers. Cities and states also set up trade routes with each other, benefitting from ideas and products from other places. While they continued to compete and even combat one another, they improved each other through the compounding effects of economic and intellectual interaction.

The Pre-Globalized World (from 1000 BCE to 1350 CE)

The first major turning point in human history took place with the independent inventions of agriculture and civilization, brought on by colder climate causing a severe global bottleneck. This scale of change would not be seen again until millennia later when another global bottleneck, brought on again by colder climate, instigated another agricultural revolution that led to the revolutionary development of industrialization. In between were the **Classical** and **Post-Classical Eras**, which encompassed more than 2,300 years of history. Although the fundamental economic and social patterns that grew out of the First Civilizations did not change substantially, many notable transformations occurred. Populations grew, as did the size of cities and states; however, the populations were not evenly distributed. Of the three supercontinents, the great world island of Eurasia contained perhaps more than three-fourths of the world population by the Classical Era. Africa, connected to Eurasia, possessed approximately ten percent of the global population at that time, whereas the Americas contained around half that.

During these eras, the great religions and philosophies of the world materialized, providing the varied moral and cultural frameworks of today. Many technological achievements led to increased wealth, however, primarily for the privileged. Nonetheless, these technologies facilitated and motivated people to connect with each other as never before, bolstered by improved infrastructure, and the desire for unique goods from far away lands. The following narratives are far from a comprehensive account of world history and geography; they are purely intended to provide a description of major topics and events during those times. For instance, most notable societies experienced times of great wealth, power, and influence. However, all societies eventually declined, often due to overexpansion beyond their means, overexploitation of the environment, or invasions of foreign powers, and in many cases, a combination of all three.

A Very Brief History of the Classical Era (1000 BCE – 500 CE)

Although the Classical Era is often regarded as a Eurocentric term, we will use it to describe the world between 1000 BCE and 500 CE. A thematic approach will be taken to better understand some of the major events that took place during this era, and the impact geography had on its progression.

Population and Politics

Persia and Greece

Most empires are **multinational states**, that is, they have several different groups of people who identify more with those like themselves as opposed to the country as a whole. Empires usually encompass a large amount of territory, and therefore incorporate a considerable number of cultures within their borders. A good example of a multinational state in early sixth century BCE was the **Persian Empire**, which spanned the greatest area and arguably possessed the greatest amount of power in the world at that time. It was highly **centralized**, with kings who possessed almost absolute power. They readily absorbed other nations into their own society and assimilated many of the foreign cultural traits into their own.

During the same time, **Greece** emerged as a significant power, and became the foundation of Western civilization. Politically, it was almost a mirror image of Persia, consisting of several small city-states, most of which offered some degree of popular participation in politics, or **democracy**. This was in stark contrast to Persia's centralized government and its contiguous land-based empire. In some cases, Greek citizens (often referred to as Hellenes) voted on public policy, a privilege not seen elsewhere to any major degree in the ancient world. Its geography contributed to this cultural phenomenon. The Greek civilization developed on a peninsula as well as several islands in the Mediterranean, internally divided by valleys and mountains. The physical landscape kept them from forming a united, singular empire. The Greeks were more likely to refer to their respective nationalities – Athenians, Spartans, and the like. While they competed with each other, they possessed several commonalities, such as worshipping the same gods and speaking the same language. This made Classical Greece a **multistate nation** – one people, with a common language and ancestry, but separated into different states.

The Four Traditions of Geography

One of the key contributions of the Greeks toward scholarship lied in the fact they were the first society to establish **geography** as a subject of study. Breaking down the word itself, *geo* means "Earth" and *graphy* means "to write." In 1964, **W.D. Pattison**, a professor at the University of Chicago, wanted to counter the idea that geography was an undisciplined science. He revealed that geographers had exhibited broad enough consistency inasmuch that there were four distinctive, but affiliated traditions. The first was an **earth-science**

tradition, which corresponded with physical geography. Aristotle (384-322 B.C.), a Greek philosopher, established this intellectual legacy. Aristotle looked at many natural processes, believed the Earth was spherical, and believed all matter fell together toward a common center. A **man-land** tradition was established by Hippocrates, the great Greek physician of the fifth century BCE. He wrote that places affected the health and character of men, establishing the direct relationship between human societies and natural environments. A **spatial** tradition followed the teachings of Claudius Ptolemy (also the father of geometry) in the second century BCE, who wrote the eight-volume *Geographia*, containing numerous maps of the world known at that time. Finally, an **area-studies** tradition grew out of the Roman society; a culture that was strongly influenced by the Greeks. Strabo (64 BCE – 24 CE) was a Roman investigator who wrote a report called *Geographica*, which viewed the world according to different regions. In this context, regions are man-made categories in which some degree of commonality is found on the landscape. Strabo's massive production summed up and regularized knowledge of regions and places, their character, and their differentiation.

The Greek and Persian empires were often at odds with each other, but came head to head in a massive confrontation after Macedonia took over all of the Greek city-states. Alexander the Great set out on a ten-year conquest from 333-323 BCE, which only halted with his death in the Persian city of Babylon. In that time, the Hellenistic Empire (encompassing the Greek city-states and its conquered territories) had stretched from the Mediterranean into Egypt and Anatolia (modern day Turkey), and further east into Afghanistan and ultimately into India. This was a highly unusual feat at that time – and any time for that matter – that led to a great degree of cultural **diffusion**, or spread. Even though the Macedonian empire was divided after Alexander's death, Greek influence remained for centuries in monuments, theaters, politics, and even cities. Alexandria in Egypt, named after the Macedonian leader himself, was a center of massive cultural diversity, connecting Egyptians, Greeks, Jews, Persians, and many others.

Ancient Rome and Han China

While Greek and Persian civilizations clashed – often violently – most other empires of the age were very regional, forging little interaction with powers outside of their immediate areas. One of the most significant empires, **Rome**, began as a small city-state on the Italian peninsula around the eighth century BCE. Influenced by Greek culture, in the early sixth century BCE, Roman aristocrats established a **republic**, in which power resided with elected individuals who represented the citizens. Over time, Rome grew to encompass the entire Mediterranean region and expanded further into the British Isles to west and the Caspian Sea to the east. The Romans conquered many civilizations, enriching them with valuable lands and goods, but also providing them with an ample supply of slaves taken from their many vanquished adversaries. Unlike most civilizations of the Classical Era,

slavery played an enormous role in the Greco-Roman world.

The Romans connected their empire through a massive transportation network of roads, bridges, and aqueducts. This assemblage of infrastructure greatly reduced **distance decay** between cities; that is to say, it increased the pace of interaction between the far reaches of the empire, improving their power militarily and commercially. They crossed paths with and fought against many cultures and empires.



This itinerarium (road map) shows part of Ancient Rome's transportation network, c. fourth to fifth century CE.

In the fourth century CE, the empire split between Rome in the west and the Byzantine Empire in the east. Over time the Roman Empire had grown too large and had over expanded. Corruption depleted their wealth, and centuries of conquest led to multiple enemies eager to pounce at any sign of weakness. Their size made it more expensive and more difficult to maintain connections, as well as sustain the empire with adequate resources. After a series of attacks by Germanic peoples, the Western Roman Empire fell in 476 CE; it was the last time an all-encompassing empire dominated all of multicultural Europe. Nonetheless, the Byzantine Empire continued on for almost another millennium, defending the eastern edge of Christendom based out of Constantinople, now known as Istanbul in modern day Turkey.

China had emerged as one of the First Civilizations; however, by the early sixth century BCE it had become a shell of its former self, and descended into an age of war-

ring states. However, by the early third century BCE, a more unified Chinese state returned under the Han dynasty after years of warfare. Under their leadership, the Great Wall of China was expanded to protect against northern invaders. The Han expanded and asserted their authority throughout East Asia through a series of military campaigns. China mirrored Ancient Rome to a degree in that both empires connected vast amounts of territory under a single, powerful authority.

The Chinese economy expanded due to significant population growth, increasing urbanization, and unprecedented progress of industry and trade. The Han period was also an era of extensive development in science and technology, making China arguably the most sophisticated civilization in the world. Nonetheless, after a series of uprisings and rebellions, the Han dynasty collapsed around 220 CE, resulting in extensive political fragmentation throughout China's territories for centuries.

India, Africa, and the Americas

Around 600 BCE, new civilizations took shape in South Asia along the Ganges River in what is now northern **India**. What emerged was a vastly politically fragmented and culturally diverse region of towns and cities. In this respect, India resembled the pre and post-Roman European realm much more than the highly centralized and culturally homogenous empires of China or Persia. As was the case with virtually all civilizations, India grew more patriarchal with women becoming evermore subordinate. The "Golden Age of India" occurred between the fourth and sixth centuries CE, in which they were a global center of science, technology, philosophy, and mathematics.

Humans likely began the process of mass migration out of **Africa**, into Eurasia, and eventually to all the other reaches of the world. Yet many civilizations grew across the African continent, primarily along river valleys. The **Nubians** developed along the Nile River, south of Egypt, whom they traded with and sometimes fought against. They established a powerful empire that encompassed primarily where Sudan is today. Other city-based civilizations grew along the Niger River in West Africa. Their lack of major state-based empires, and their fragmented urban centers, resembled closer to the Indus Valley civilizations of India.

South of the Saharan Desert, few great civilizations existed during these times. However, an agriculturally based group of Bantu-speaking people migrated throughout equatorial Africa. Developing ironworking technology, possibly diffused from their northern neighbors, their culture either assimilated or eliminated many hunter-gatherer groups throughout the region. Their religions were fragmented and primarily **animistic**, believing that inanimate objects possessed spirits. Their beliefs were also often **shamanistic**, in which a medicine man, or shaman would perceive and interact with the spirit world.

All in all, the **Bantu** never developed sophisticated civilizations. A major reason for this could be due to trop-

ical diseases such as malaria and yellow fever. The more densely concentrated a population is, the more interactions there are between people, and therefore, the more rapidly a contagious disease can spread. Furthermore, the main **vectors** – or carriers – of these diseases are mosquitoes that mate and lay their eggs adjacent to water. Adjusting to their natural environment, the Bantu lived in smaller villages and communities, often distancing themselves from rivers to reduce the transmission of disease. By not establishing “civilizations,” they achieved a much more successful means of survival.

In the Americas, the **Mayan** civilization during the Classical Era was extremely advanced for that time. They developed their own system of mathematics that enabled them to establish an extremely accurate calendar, and build pyramids that rivaled many of those found in Egypt. They constructed massive irrigation networks, and developed their own style of **terracing** - cutting flat surfaces into hillsides for the purpose of more efficient farming. They created their own elaborate writing system, combining pictographs (like those used in Egyptian hieroglyphics) and phonetic symbols (such as those used in our modern alphabets).

The city of Teotihuacán (tay-uh-tee-wah-KAHN) developed in Mesoamerica within the Valley of **Mexico** around the same time the Mayans were booming. It was the largest city in the Americas, with a population over 100,000 inhabitants, and contained a sophisticated system of grid-patterned streets. Civilizations in the **Andes** ebbed and flowed along with the climate, as virtually all societies have since the dawn of time. However, they were especially vulnerable since they relied heavily on rivers that poured down from the Andes Mountains into the semi-arid regions that meandered along the Pacific Ocean.

Major civilizations did not develop in **North America** as they had in Mesoamerica and South America. Much of this can be attributed to geography and climate. The Arctic and subarctic regions proved to be too cold and dry for agriculture to take hold and lead to the development of large cities and states. Further south, a complex series of communities and nomadic herders occupied the Great Plains within the center of North America. However, these were primarily hunting and gathering societies, with many who survived by following the migration of buffalo across the flat grasslands.

The Americas, separated from the Afro-Eurasian supercontinent, developed without large domesticated animals or sophisticated metallurgy. The largest domesticated animals were llamas and alpacas in South America, which were not hitched to plows or used for transportation. Although metals were used to some degree, the Americans never developed ironworking natively. Additionally, with the narrow bottleneck of heavily forested land around modern-day Panama, North and South America were effectively separated from each other. Without the use of many of the technologies available in Eurasia, and due to the North-South orientation of the Americas, most of these civilizations had very little direct contact with each other, if any.

Religion and Culture

The belief in spirits and deities – or gods – is a common human element that predates recorded history. Graves signifying ritualistic burials could possibly date back to over 100,000 years into the past.³ Most early faiths and superstitions were animistic or shamanistic in nature, in which people believed in a spirit world that paralleled our own physical world. For instance, the many fragmented hunter-gatherer groups that occupied much of North America and Africa established traditions along these primary beliefs.

Some **polytheistic** religions emerged in which many deities were named, worshipped, and even offered sacrifices. Leaders of major civilizations used these formal religions as a means of control over their populations. In many cases the leaders themselves were regarded as god-kings, or at least chosen by the gods to rule, earning them supreme authority over their citizens. The Ancient Greeks, for instance, believed in gods from Mount Olympus who possessed unique characteristics and personalities. The Ancient Romans also worshipped several gods, influenced by Greek mythology.

However, these societies grew to see the world as a physical existence – apart from the supernatural. They separated science and philosophy from religion, establishing a more **secular** view of the world, separating political institutions from religious ones. Many in these civilizations increasingly relied on **rationalism**, regarding reason – based on logic and facts – as the leading source of knowledge. Nonetheless, religion played a major role in the civilizations of the past, just as they do in the present. Several major religions that make up the majority of followers in the world today had their beginnings in specific places and at specific times.

Faiths from the Middle East

A **monotheistic** religion (with one deity) grew to become a major cultural influence in the Persian heartland. **Zoroastrianism** sprang from the teachings of a Persian prophet, Zarathustra (Zoroaster in Greek). Traditional polytheism gave way to the idea of one god who was the source of all truth, light, and goodness. Zoroastrianism remained a **cultural** religion, specific to the people of the region. It was not a **universalizing** or proselytizing religion, in which the followers actively seek to convert unbelievers by spreading their faith.

A particular ethno-cultural group that had significant impact over time was the Jewish population in the Middle East. The Jews traced their ancestry to Abraham, whose descendants migrated out of Mesopotamia to Canaan, which is predominantly around modern day Israel, Jordan, Lebanon, and Syria. The Jewish religion, **Judaism**, is monotheistic, with one god, Yahweh (YAH-way). According to traditions Yahweh is just and good, and established a covenant with the Jews so they could have a personal relationship with him.

The Jewish monotheistic faith often set them at odds with their polytheistic neighbors, such as the Egyptians, Babylonians (in modern day Iraq), and Greeks. Residing

along a crossroads of civilizations, the Jews often experienced persecution and captivity. In 70 CE, the Romans besieged and conquered Jerusalem, subsequently causing a Jewish **diaspora** (or dispersion) outside of their homeland.

The religion that eventually had by far the greatest impact in Rome – and Europe – was **Christianity**. It began with a Jewish carpenter named Jesus, born in Nazareth, which is within modern day Israel. His followers referred to him as Christ (their Messiah, or savior). Out of the Jewish Abrahamic traditions, Christianity became its own separate religion, and diffused throughout the Roman Empire as well as the Middle East.

Determining Time

Our modern calendar, strongly influenced by later Europeans, has used the birth of Jesus as the reference date for all other dates. He was born in 1 CE (Common Era), which was traditionally referred to as 1 AD (Anno Domini, or “the Year of our Lord”). As such, Jesus’ birth differentiates the years before this time as BCE (Before Common Era), or traditionally as BC (Before Christ).

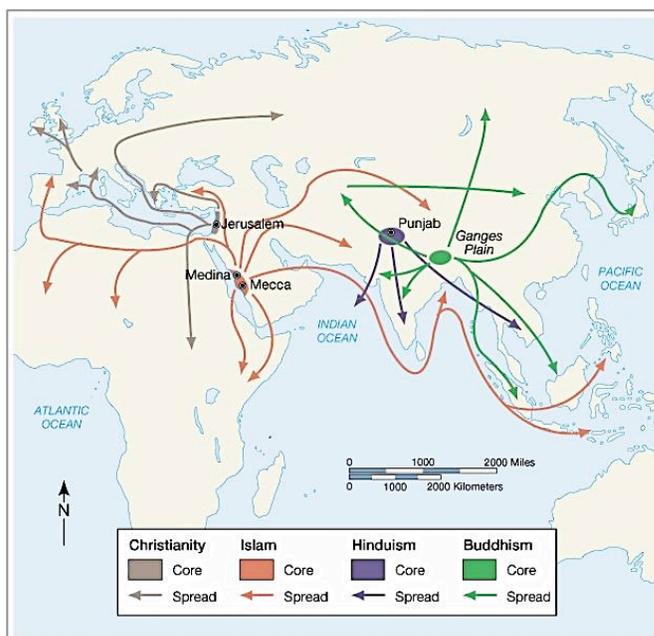
By the twelfth century CE, a formal schism (split) occurred between the Roman Catholic Church and the Greek Orthodox Church. Catholicism diffused throughout Europe, whereas Orthodoxy spread from the Byzantine Empire into Russia. From its humble beginnings, Christianity grew into one of the largest and most influential religions in the world.

Nomadic Arab herders had inhabited most of the Arabian Peninsula for centuries by the start of the Classical Era. The city of Mecca was a cultural and religious center, containing the **Kaaba**, a shrine honoring hundreds of deities. The Arabs increasingly considered Allah as their supreme god. They also regarded themselves as descendants of Abraham, and progressively interpreted Allah and the Jewish god, Yahweh, as one and the same. However, this would change with **Muhammad** Ibn Abdullah (570-632 CE), born in Mecca.



The Kaaba (the cuboidal building) is located inside the al-Masjid al-Haram mosque in Mecca, Saudi Arabia.

According to Muslim traditions (Muslim means “one who submits”), Muhammad received a series of revelations, which he wrote down in the Qur’an, their holy book. emerged as a monotheistic, Abrahamic, and universalizing religion that spread throughout the Middle East. By 630, Muhammad along with thousands of Muslims claimed Mecca and declared the Kaaba as a shrine only to Allah. Although Muhammad died soon after, the Arabs – anchored by Islam – emerged as a major cultural and political influence in the surrounding regions. Over time Islam spread into Anatolia (modern day Turkey), India, and into North, West, and East Africa. An exception resided in Abyssinia (modern-day Ethiopia), in which Christianity persisted, in no small part due to its mountainous geography. Through conquest and commerce, Islam spread into Spain, and across the Indian Ocean into Indonesia.



The hearths and diffusion routes of the four major world religions.

Faiths from East and South Asia

Chinese culture has been strongly influenced by the philosophy and teachings of Confucius (551-479 BCE). At its essence, **Confucianism** emphasized a system of morality that emphasized goodness and righteousness. While considered a religion today, it has always been more of a philosophy and way of life, deeply entrenched in Chinese society since around 200 BCE. Education was key to improving oneself, and with this influence a series of civil service exams were established to determine political office and prestige. An imperial – or royal – academy trained potential officials in history, art, literature, and mathematics, but always with an emphasis on the teachings of Confucius. Society, as well, was organized according to Confucian thought and was highly **patriarchal**, with men possessing the vast majority of power and influence.

Counter to Confucianism was **Taoism** (or Daoism, meaning “the way”) influenced by Laozi’s writings in the sixth century BCE. Taoism – also not a true religion but more of a philosophy - encouraged simplicity and natural living. Education was de-emphasized, and family life was elevated. Taoism inspired several influences in Chinese culture, such as **feng shui**, which was a philosophy for harmonizing people and the environment. For instance, when the Chinese developed the compass, it was not primarily used for navigational purposes on the seas; instead, it was used to orient buildings along the cardinal directions (N-S-E-W) to promote good energy. In practice, however, many Chinese people absorbed both philosophies; this was inspired by the concept of **yin and yang**, believing in the unity of opposites. For instance, many followed Confucian thought with respect to their careers, but enjoyed a Taoist mentality when it came to their personal or family life.

Hinduism, one of the oldest world religions, grew out of the fragmented Indian civilization of South Asia. It originated around 2000 BCE along the Indus River Valley, which is in modern day Pakistan. Hinduism has no single founder, no commonly agreed set of teachings, and no single scripture – although many follow the teachings in the four Vedic texts written between 1500 and 500 BCE. Hinduism is a complex tradition that incorporates numerous interrelated religious doctrines and practices that have some common characteristics but which lack any truly cohesive system of beliefs and practices.

A key assertion is that Brahman is the power that upholds and supports everything, and the individual human soul, or *atman*, is part of Brahman. The notion of *samsara*, or reincarnation is a cornerstone of the faith. Acting virtuously is part of one’s *dharma*, or duty; however, people have different obligations depending on their age, gender, or social position. How people followed their prescribed path related to their *karma* (meaning “action”) the law that every action creates an equal reaction. These concepts ultimately led to the **caste system** of discrete and ranked groups, each with their own duties for society. How you followed your *varna* (responsibility regarding class) would determine how successful you would be in your life, and if you would transcend upward or downward in your next life. In this way, society became strongly hierarchical and regimented. Due to a weak infrastructure throughout the mostly rural regions of India, most people were unable to travel much beyond their villages, so the castes were primarily a local phenomenon. Since the caste system provided a culturally acceptable means for organizing society, few statewide empires ever dominated the Indian subcontinent.

Starting in the sixth century BCE, one of the world’s greatest religions (in terms of the number of adherents) grew out of India. **Buddhism** was founded by prince Siddhartha Gautama (566-486 BCE) when he witnessed the deep poverty of people in the lower castes. His followers referred to him as the Buddha, or Enlightened One, although they did not believe in a personal god. Strongly influenced by the ideas of Hinduism, he focused on meditation and living a moral life to overcome *dukkha*,

which means suffering. Following the Buddhist path one could achieve enlightenment, or nirvana, in one lifetime. Buddhists believe that nothing is permanent, and that existence is endless because of reincarnation.

As with many religions, Hinduism and Buddhism did not remain dominant in the regions from which they sprang. Hinduism became the dominant religion throughout the subcontinent of India, whereas Buddhism diffused into East and Southeast Asia. This is certainly due, in part, to the fact that Buddhism, unlike Hinduism, is a universalizing religion, seeking converts throughout the world. Of particular note was the diffusion of Buddhism into China and Japan over hundreds of years through the efforts of monks and scholars.

A Very Brief History of the Post-Classical Era (500 CE – 1350 CE)

Not all eras in human history can be defined with the utmost clarity, just as not all regions of the world can be categorized with the utmost simplicity. The onset of farming in specific places leading to the first civilizations was a clear progression in human development. The first voyage of Christopher Columbus in 1492 CE began an age of interaction and globalization between two previously isolated hemispheres. Classifying the years in between these major events has proven to be more of an art than a science. Starting the **Post-Classical Era** around 500 CE represents a midpoint in time when many of the Classical civilizations were either declining or collapsing. Increased trade between civilizations, expanded diffusion of world religions, and greater conflict between regional powers characterized the Post-Classical Era.

Commerce and Connections

Trade

The essence of trade, especially across great distances, relies on the fundamental realities of supply and demand. **Supply** represents how much of a good or service is provided by a particular **market** – the people who conduct commerce in a particular area. **Demand** refers to how much of a good or service is desired by the buyers of a market. The majority of trade in the Classical and Post-Classical world – not unlike today – was motivated by environmental variation. Since no two places are exactly alike, different environments produce different raw materials and offer a diverse assortment of resources. Naturally, a resource that is plentiful in a particular region possesses less value than that same resource in a place where it is **scarce**, or even nonexistent. Silk, a luxury item in China, was even more valuable to wealthy Europeans, who could not produce it locally. As such, the logical flow of specific goods went from places where they were in great supply to places where they were particularly scarce.

The Silk Road

Across Eurasia spanned one of the most recognized trade routes in history, the **Silk Road**, which in itself is somewhat a misnomer. In reality it was a network of

primarily land-based trade routes that altogether covered approximately 4,000 miles. Goods often passed through different merchants and markets between cities, over desolate lands, and across bodies of water, until finally reaching their ultimate destinations. Silk – from China – was obviously a major luxury good and focal point of the trade. However, many other valuable goods, religions, philosophies, technologies, and diseases were diffused by means of the Silk Road.

The lower, more southern areas of Eurasia consist of predominantly warmer and wetter climates that gave rise to many of the great agriculturally based First Civilizations. By contrast, Central Asia primarily consists of harsher and drier climates, which led to the formation of societies based on nomadic pastoralism. Products were traded, ideas were shared, and diseases were spread between these different groups for centuries, which laid the foundation for the Silk Road.

Regional trade routes became more interregional as civilizations grew. Over centuries the Chinese expanded westward, the Indian and Persian empires expanded northward and outward, and the Europeans sometimes made their way eastward – often by force. Trade along the Silk Road expanded or contracted as civilizations thrived or withered. As logic would dictate, many of the great cities lied across the transport nodes of this enormous trade network.

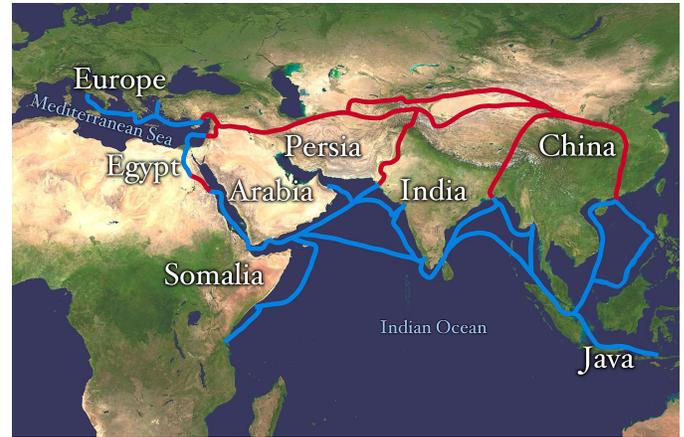
The Sea Road

Just as the Silk Road connected many Eurasian societies across land, the **Sea Road** linked many societies in the Eastern Hemisphere across the waters. Similar to the Silk Road, the Sea Road was, in fact, a series of regional trade routes spanning primarily along the Indian Ocean. Transportation across the ocean was usually cheaper than across land due to the fact that water displaces the weight of ships and their cargo, requiring far less energy to travel. Additionally, ships could accommodate far more goods than camels or other beasts of burden, so costs were reduced by comparison.

Indian Ocean trade along the Sea Road was very predictable due to the **monsoons**, which are wind currents that blow eastward during the summer months and westward during the winter months. Many civilizations and empires benefited from – and contributed to – this trade through their inventions and innovations joined by the “common highway of the Indian Ocean.”⁶ This enabled valuable goods to reliably make their way from port to port – for instance silk from China, cotton from India, pepper from Ceylon (Sri Lanka), nutmeg from the spice islands (around Indonesia), and ivory from East Africa.

The Sea Road took centuries to form and grow; and true to other major trade routes, it was a conduit for the diffusion of ideas and religions. Chinese goods and technology poured into the cities and states across the Indian Ocean and beyond. Indian culture spread across the region, including Hinduism, which made its way into some parts of Southeast Asia.

Islam had taken root in Arabia at its hearth in Mecca, and then dispersed by means of **expansion diffusion**, in which an idea or innovation spreads outward from a core area. Furthermore, Islam spread by means of **contagious diffusion**, affecting nearly everyone in the region while remaining strong in its core location. It diffused throughout the Middle East, North Africa, and across the Sahara into West and East Africa. Islam ultimately spread through **hierarchical diffusion** into places like Indonesia, initially through merchants and missionaries who influenced leaders and people of authority, who then endorsed Islam as their official religion.



Major routes of the Silk and Sea Roads. Credit: NASA

The Sand Road

The ecological zones across Africa’s North-South orientation vary differently, often drastically, from each other. Some regions across the North experience the favorable Mediterranean climate, whereas just south lies the barren Sahara Desert. The semi-arid Sahel occupies the territory directly below the desert with savanna grasslands further south; in both cases these zones possess few trees. Below these regions are the tropically forested areas primarily along the equator. The ecological zones progress mostly in reverse as you travel even further south below the equator. These varied environments allowed for different resources and products to be made, providing strong economic incentive for trade across the several zones.

The Nile, Niger, and Congo Rivers provided some extensive trade in their respective areas; however, most commerce remained primarily regionally exclusive. The Sahara – being the largest non-polar desert in the world – provided an environmental barrier separating North Africa from Sub-Saharan Africa. However, when more resilient breeds of camels were introduced into Africa around the fourth century CE, the mighty Sahara was finally able to be traversed with reliability and regularity. These camels could last up to ten days without water, enabling the start of the **Sand Road**, a trans-Saharan trade route that became international in nature. Caravans could consist of hundreds of people, thousands of camels, and take more than two months to cross in one direction. Despite these hardships, the Sand Road provided the steady resources

for new empires and city-states to emerge in Western and Central Africa. The Sand Road, long with the Silk and Sea Roads increasingly connected people and goods. These trade routes amplified the rate of commerce, the exchange of ideas, and the transmission of diseases.

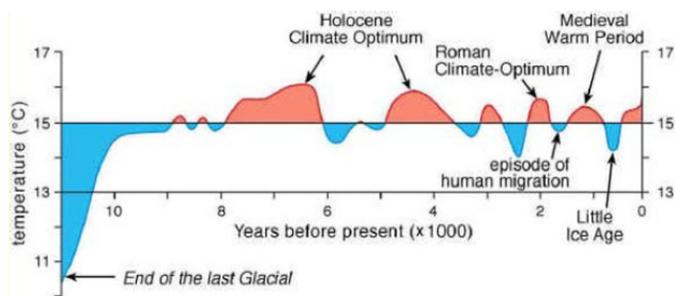


The trans-Saharan Sand Road. Credit: TL Miles

Politics and Society

Europe

The destruction of Rome by 476 CE meant the fragmentation and decentralization of Europe's political organization during the time referred to as the **Middle Ages** (that spanned from the fifth century to the fifteenth century CE). A system of **feudalism** emerged, with thousands of relatively independent fiefs – or lands – that lords presided over. The lords were the landed nobility who presided over the serfs, who were peasants bounded to the estates in which they farmed. The serfs paid taxes to the lord, who in turn, provided security and protection from outside threats. However, the most powerful entity to emerge after the collapse of Rome was the Catholic Church. While the Church provided stability, education, and welfare for millions of Europeans, many of the highest officials became extremely wealthy and sometimes corrupt.



Average temperatures in the Northern Hemisphere since the end of the last Ice Age.

The world's climate was much more temperate than normal during the Middle Ages, and many records indicate the average temperatures were warmer than today. A **Medieval Warm Period** existed from around 950 to 1250 CE, in which growing seasons increased, reducing the pressing need for new innovations for survival. Technology did improve, and times of need did exist – brought on through famine and disease, for instance. Nonetheless, the pace of change and invention slowed during these “Dark Ages,” in part due to the climate.

Powerful leaders within the Church, as well as the nobility within the feudal system, often sought to maintain the status quo and resisted change that could potentially reduce their authority.

By the year 1000 CE, Islam had spread and effectively taken over approximately two-thirds of the old Christian world. Islam diffused peacefully in many cases, passing from the words of merchants, missionaries, and its growing numbers of followers. However, in many other cases, Islam spread by the sword, into North Africa, the Iberian Peninsula, and at the doorsteps of the Byzantine Empire. Whether as a reaction to the expansion of Islam, or as a rallying call for Christendom, the **Crusades** – a series of conquests (1095 to 1291 CE) – led Europeans to reclaim lands they felt were rightfully theirs. To millions these were “holy wars” waged to provide “security against mortal enemies threatening the spiritual health of all Christendom and all Christians.” Key territories sought by the Europeans were holy places in the Middle East, such as Jerusalem; however, the Iberian Peninsula was also a site the Crusaders sought to wrestle from the Muslims as well.

The lasting territorial and religious impact of the Crusades was short-lived, in that very little land changed hands in the end. However, the Europeans had reconnected with the rest of Asia through their interactions with the Islamic world. Tens of thousands of Crusaders came into contact with foreign cultures and luxury goods, increasing the demand for renewed trade with the East.

Asia

In the late sixth century, a new dynasty returned China to a more unified state, and proceeded to connect the empire by extending their canal system, contributing greatly to their prosperity. By 1000 CE, China was arguably the most urbanized, “richest, most skilled, and most populous county in the world.”* The Chinese typically saw themselves as self-sufficient, possessing all the necessary resources and industry to thrive far into the future. Every other society, outside the isolated Americas, intently sought after Chinese goods and resources.

The Chinese gladly traded with other civilizations, but did not seek out additional trading partners as they expanded. Rather, they established a **tribute** system in which foreign powers were forced to submit to Chinese authority and provide a yearly payment. In return, these foreign powers would not be attacked, and would be granted permission to trade with China and its lucrative markets. Korea, connected to China's northeastern border, paid into the tribute system, yet largely remained culturally independent. The Japanese islands, geographically isolated from China across the waters, enabled them to maintain some degree of political and cultural independence.

Further south, Vietnam was affected by Chinese customs to a much greater degree. However, this cultural assimilation took hold primarily among the elite, whereas the lower classes – comprising most of the population – remained largely Vietnamese. The Chinese benefited

greatly with the introduction of Champa rice from Vietnam around 1000 CE. This fast-growing, drought-resistant strain of rice enabled China to further populate their southern regions, and feed their ever-growing population throughout the empire.

South Asia, anchored by India, was a fragmented expanse of regional kingdoms and vast cultural diversity. Nomadic groups from central Asia, and Islamic empires from the west, repeatedly invaded Northern India. However, by the end of the Post-Classical Era, the Indians largely maintained their unique culture throughout most of the subcontinent.

In the tenth century CE, Persia was still a major power, and one of the world's preeminent areas of scientific study.⁹ Around the same time, the majority of Persia had converted to Islam. Most Muslims were **Sunni**, who believed that *caliphs* – or leaders – could be chosen by the Islamic community in which they presided over. Persia, however, had maintained a strong national identity, and resisted the Arab assimilation that took place across much of the Middle East. It was here that the second major branch of Islam emerged. **Shia** (meaning “faction”) Muslims held that *imams* – or infallible leaders – should derive from the line of Muhammad himself. In the early thirteenth century CE, Persia was invaded by the Mongols of Central Asia with devastating effect. Up to three-fourths of the Persian population was killed (between 10 and 15 million people), greatly weakening their power and influence for generations.¹⁰

Africa and the Americas

North and West African empires benefited from increased trade, primarily by means of the Sand Road. Powerful cities thrived along the Mediterranean Sea as well as the Niger and Congo Rivers. These civilizations were strongly influenced by Islamic culture, having been diffused to both regions by the end of the eighth century CE.

Along the east coast of Africa, a **Swahili**-speaking civilization took hold as trade increased across the Indian Ocean. The many city-states that ran from modern-day Somalia down to Mozambique were independent, and often compete against each other. Nonetheless, they were largely connected through trade with each other, but also foreign lands who sought after their gold, ivory, skins, and even slaves. The Swahili states were clearly connected through language, but also a common religion, Islam. Their culture, however, remained largely isolated along the coast, remaining vastly different from the fragmented and non-Islamic interior of Africa.

In Mesoamerica, the city of Teotihuacán suffered from lengthy droughts and collapsed around the middle of the seventh century CE. The **Maya** civilization - like so many before and after - collapsed spectacularly. A long-term drought beginning in the ninth century CE massively reduced the productivity of the land. They over-consumed their available resources, leading to widespread soil erosion and deforestation. The Maya culture continued, but

their great cities were all but deserted by the early tenth century CE.



Mayan ruins in Lamani, Belize.

A new empire, the **Aztecs**, developed within Mesoamerica beginning in the twelfth century CE. Their true origin is unknown, however, they established their capital – Tenochtitlan – around 1325 CE. Modern day Mexico City was built upon the ruins of this once great capital. The Aztec empire grew to preeminence through a coalition with other city-states, becoming the undisputed power in Mesoamerica; that is, until the arrival of the Europeans in the early sixteenth century CE.

Civilizations continued to rise and fall in South America, particularly along the Andes Mountains. The most powerful empire to emerge in the region was the **Inca** civilization, which arose from the highlands of modern-day Peru sometime in the early 13th century CE. Never developing a complex written language, the Inca began as a small city-state, and expanded through conquest and the assimilation of other people. The Inca, as with the Aztecs, maintained regional control of their area until the arrival and conquest of the Europeans.

The Mongols

Among the arid **steppes** (grassland plains without trees) of Central Asia, a nomadic society took form and took Eurasia by storm. Initially starting as a group of scattered tribes and clans aligned through kinship, the **Mongols** grew into the largest land-based empire in human history. Beginning under Genghis Khan (meaning “universal ruler”), many separate Mongolian tribes united into an unequalled and powerful force. Starting in the early thirteenth century CE, the Mongols began a half century of expansion, warfare, and empire building the likes of which had never been seen before – or since for that matter.

At its height the Mongol Empire stretched from the eastern borders of Europe along the Mediterranean Sea to East Asia and the Pacific Coast. Their armies were highly disciplined, and were bolstered by forcing many people within the vanquished lands to join the military. Other

conquered people built roads and bridges, crafted valuable goods, and ultimately added to the Mongol wealth. Great empires in China, Persia, and Russia resisted, but ultimately fell. Through the efforts of these marauding Mongols, most of Asia was united into a single interconnected network. While they had a penchant for destruction, the Mongols promoted international trade, extracting immense wealth through taxes and customs duties.

The Mongols brought the Silk Road to its greatest era of interaction through the increased exchange of goods and technology. However, as the Taoist belief of yin and yang proposes, any good must also have the bad. Increased contact eventually led to the enhanced transmission of disease, and one of the worst outbreaks in history followed the caravans of the Silk Road. Likely originating in China in 1331 CE, the bubonic plague, known as the **Black Death**, was carried by rodents and transmitted to humans through fleas across trading routes and cities. It became one of the worst **pandemics** in history, a disease that diffused to multiple regions. The Italian states, such as Sicily, Venice and Genoa, had for centuries benefitted from their advantageous location. These city-states benefitted from the transport and urban structures left by the ancient Romans. Residing on a peninsula in the middle of the Mediterranean Sea provided them with riches through trade because of excellent **centrality** – or pull toward them. However, their infrastructure and location became their curse, as the plague first broke out in Europe within the Italian states, spreading with disastrous effect.



The Mongol Empire at its greatest extent in 1279 CE. Credit: Postmann

From the Italian peninsula the Black Death diffused northward, affecting virtually all of Europe, often killing its victims within only a few days of showing symptoms. Some people responded with great violence, blaming minority groups, such as Jews, for the pestilence. Others responded by living more piously, believing the plague was a punishment for their sins. As much as half the European population succumbed to the disease by 1350 CE, and perhaps a third of the Middle East had perished by the mid 1400s CE. It would take around a century and a half for Europe's population to recover.

The End of an Era

The Black Death not only caused great devastation, it also radically disrupted European society. Due to the massive loss of life, property values plummeted, which in turn, reduced demand for land. This had the effect of upending feudalism, due to the weakening power and diminishing wealth of the lords and nobles. Survivors inherited wealth from their deceased relatives, and felt even richer for having escaped the grasp of death. Peasants, and other workers demanded higher wages and better conditions. As with other population bottlenecks, the labor shortage fostered a greater demand for technological innovation and invention. A renewed interest in **humanism** rose, with an emphasis on human freedom and critical thinking. Careful study of classic literature (Greek and Roman), increased social mobility, and a return of stability and trade enabled Europe to transcend into a new era of progress – the **Renaissance** (meaning “rebirth”).

By the end of the Post-Classical Era, several major civilizations had expanded their power. China was arguably the richest and most influential empire at that time, and the Islamic empires were arguably the fastest growing. However, these civilizations remained regional in their influence. Africa contained some regional empires as well, but most of the population remained fragmented and relatively isolated. The Americas also contained some prevailing empires, however, their North-South orientation prevented major trade between civilizations. Additionally, they were completely isolated from Eurasia, further hindering their progress.

Europe, however, was on the cusp of a major turn of events. Through interregional trade, intraregional innovations, and environmental advantage, the Europeans had grown from a backward continent to a center of wealth and technological development. Graduating from the Post-Classical Era, the world would enter into the Early Modern Era, with the Europeans “most likely to succeed.”

Geohistorical Concepts

Ancient History

bottleneck
 pattern
 Pangaea
 continental drift
 plate tectonics
 Holocene epoch
 hunting and gathering
 division of labor
 carrying capacity
 climate
 culture
 The Big Freeze
 agriculture
 root crops
 cultural ecology
 plant domestication
 vegetative planting
 selective breeding

Neolithic Revolution

agricultural hearths (Fertile Crescent, Ethiopia, China, West Africa, Mesoamerica, Andes, New Guinea)
 seed crops
 First Agricultural Revolution
 independent invention
 ecumene
 animal domestication
 animal husbandry
 environmental determinism
 space
 place
 possibilism
 subsistence farming
 shifting cultivation
 slash-and-burn agriculture
 extensive subsistence agriculture

First Urban Revolution

urban hearths (Mesopotamia, Nile, Peru, Indus Valley, Huang He Valley, Mesoamerica)
 arable land
 intensive subsistence agriculture
 egalitarian
 morbidity rates
 epidemics
 mortality rates
 agglomeration
 Tobler's first law of geography
 civilization
 social stratification
 leadership class
 urban

nucleated
 core area
 rural
 dispersed
 state
 capital
 seat of government
 city-state
 site
 resource node
 absolute location
 territorial morphology
 relative location
 transport node
 situation
 orientation (East-West (Eurasia); North-South (Americas, Africa))
 "preindustrial revolution"
 irrigation
 metallurgy

Classical Era

[Major civilizations: Persia, Greece, Rome, China, India, Egypt, Nubia, Maya]
 [Major faiths: Zoroastrianism, Judaism, Christianity, Islam (Post-Classical), Hinduism, Buddhism, Confucianism, Taoism]
 multinational state
 democracy
 multistate nation
 Four Traditions of Geography
 distance decay
 animistic
 shamanistic
 terracing
 polytheistic
 secular
 rationalism
 cultural religion
 universalizing religion
 diaspora
 patriarchal
 feng shui

Post-Classical Era

[Major civilizations: China, India, Persia, Swahili city-states, Aztecs, Inca, Mongols]
 supply
 market
 demand
 scarce
 Silk Road
 Sea Road
 monsoon

contagious diffusion
 hierarchical diffusion
 Sand Road
 feudalism
 Medieval Warm Period
 Crusades
 tribute system
 Islam – Sunni, Shia
 steppes
 Black Death
 pandemic
 centrality
 humanism
 Renaissance

Notes

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