Guns, Germs, and Steel: The Fates of Human Societies Study Guide

Guns, Germs, and Steel: The Fates of Human Societies by Jared Diamond

BOOKRAGS

Contents

Plot Summary

Guns, Germs and Steel: The Fates of Human Societies attempts to explain why history progressed differently for peoples from various geographical regions. Diamond sums up his book with the following sentence, "History followed different courses for different peoples because of differences among peoples' environments, not because of biological differences among peoples themselves" (pg 25). Diamond argues that environmental factors, such as plant and animal domestication, gave some societies advantages over others, allowing them to conquer the disadvantaged societies.

In the first section of the book, Diamond takes the reader on a tour of human history. He discusses the evolution and spread of human beings, arguing that some peoples had a 'head start' over others because of the timing of human evolution. He examines how environments shaped human history through a brief examination of how societies on the Polynesian islands developed due to the differing environments and then by examining what happened as societies with more advantages encountered more disadvantaged societies in the Americas.

Diamond argues that there are several initial factors that influenced the different historical progression of societies. One of these factors was the rise of food production. The Fertile Crescent in Eurasia had a wide variety of wild plants that could be domesticated as well as a climate and environment that was suitable for agriculture. Eurasia also possessed a greater percentage of large mammals that could be domesticated. These animals were used to help provide meat, clothing, and muscle power for agriculture. In addition, the continent of Eurasia also lies on an east-west access, which Diamond argues helped the spread of crops and technologies. In other areas of the world, environments lacked enough wild plants that could be domesticated, had unsuitable climates, and did not possess big domesticated mammals. Additionally, the axes of these continents lay on a north-south line, which hindered the spread of crops and technology.

These initial causes, in turn, led to other differences in human history. Societies became sedentary when they do not have to scavenge for food. Sedentary societies typically increase in population rapidly. The combination of greater population density and domesticated animals led to the development of infectious diseases and resulting epidemics. Agriculture also led to economic specialization, allowing individuals within the society to devote time to developing more advanced technologies, including writing and weaponry. These denser populations also led to the need for centralized governments that could support and mobilize their citizens for wars.

In the final section of the book, Diamond applies his theory to different locations on the globe. He shows why, despite common ancestors, Australia and New Guinea developed differently in response to their environments. Some societies in both China and the Polynesian Islands that had skills, including the ability to grow crops and make weapons, conquered less fortunate peoples who had not developed these skills. The

history of Eurasia also illustrates why Europe was able to conquer much of the Americas and Africa.

Prologue

Prologue Summary and Analysis

History is very different for groups and societies in different parts of the world. Societies developed agriculture and metal tools at different times. As a result, wealth and power were distributed unevenly across the globe. Diamond seeks to explain why there were different rates of human development on different continents.

Diamond discusses some objections that he has to some traditional views. For example, some individuals argue that if it can be explained why one group dominates another, it could be seen as justifying the domination. It has also been argued that attempting to answer this question involves a Eurocentric focus as Western Europe was prominent in the development of weapons and conquered many other areas of the globe. Finally, examining the "rise of civilization" might convey that civilization is good and that groups such as hunters and gatherers were miserable and uncivilized or barbaric.

There are several other explanations as to why continents developed at different rates. Most people assume that biological differences existed between individuals living on different continents. Using Darwinian Theory, some argue that these differences and the ability of some groups to conquer others are simply the survival of the fittest. However, studies have failed to show differences in intelligence between societies on different continents. Another argument is that the cold climate of northern Europe helped stimulate individuals living there, while those living in hot, humid climates were inhibited in their creativity and energy by the heat. This explanation also fails to hold true, as areas with warmer climates developed advances such as agriculture, writing, and pottery.

While the introduction to the main argument of the book is important, perhaps more importantly, Diamond uses this argument against other explanations that have been given. Traditionally, arguments have centered on racial differences, particularly on intelligence. This argument has also been used countless times to justify wars and the destruction of peoples and cultures around the world. Societies have conquered others they believed to be inferior, uncivilized, and barbaric.

Diamond, then, is positioning his thesis against these other explanations. Throughout the book, he references back to these other explanations and illustrates why the logic of racial superiority in explaining these differences is faulty. His own explanation stands in contrast to racial and biological arguments on the developments of societies.

Chapter 1 "Up to the Starting Line"

Chapter 1 "Up to the Starting Line" Summary and Analysis

The history of human beings before 11,000 B.C. is important to consider in order to understand how people later developed. The history of humans began about 7 million years ago when the population of African apes broke into several different evolutionary tracks, including modern gorillas, modern chimps, and humans. For the first 5 or 6 million years after this split, humans were confined to Africa. Between 1.8 and 1 million years ago, *Homo Erectus*, the first human ancestor to spread beyond Africa, moved into Southeast Asia and possibly into Europe. About half a million years ago, *Homo Erectus* developed into *Homo Sapiens*, our modern species. The populations in Africa and Eurasia diverged from each other in skeletal details. The Great Leap Forward began about 50,000 years ago when humans in East Africa began using stone tools.

The Great Leap Forward coincided with the first major expansion of human geographic range. Humans began to occupy Australia and New Guinea, which were joined together as a single continent at that time. This is important because the occupation would have required some form of watercraft in order for individuals to reach Australia. The Great Leap Forward also coincided with the first mass extermination of large animal species by humans. Australia/New Guinea had a number of species of large mammals, including giant kangaroos and a marsupial "leopard," all of which disappeared after the arrival of humans. One explanation for this disappearance is that humans killed off or indirectly eliminated these species, perhaps in part to the animals' lack of fear of the newly arrived humans.

Sometime between 14,000 and 35,000 years ago, humans first colonized the Americas. Similarly, the arrival of humans also signified a mass extinction of large mammals on these continents. While some have offered explanations that the extinctions in Australia and the Americas were a result of a change in climate, Diamond argues that this theory does not fully explain why a single climate shift would cause the extinctions when there were many shifts before that did not result in mass extinctions. The one big change on each continent before the extinctions was the arrival of humans.

Although it would seem that an earlier colonization date would give the peoples of that continent a "head start," Diamond argues that this is not necessarily the case. Instead, he suggests that at 11,000 B.C., no one could have predicted on which continent human societies would develop quickly.

Diamond sets up several important aspects in this chapter that will be crucial to the development of his argument later. First, he discusses the mass extinctions of large mammals that occurred in both Australia/New Guinea and the Americas. The same mass extinctions do not seem to have happened to the same degree in places like

Eurasia and Africa. Diamond will later discuss the importance of large mammals, both for food and for domestication.

Secondly, Diamond argues here that the societies on each of the continents had the potential to outpace others developmentally. Although Africa had been colonized the longest, both the Americas and Eurasia had greater landmasses, for example. If none of the societies were clearly making leaps in their developments over other societies, then factors other than a "head start" or greater landmasses must have played a role in the continents developing differently.

Chapter 2 "A Natural Experiment of History"

Chapter 2 "A Natural Experiment of History" Summary and Analysis

In 1935, a group of 900 Maori on the Chatham Islands east of New Zealand were outnumbered two to one. Despite the odds, the Maori killed and enslaved the Moriori. Diamond argues that this example is illustrative of many other conflicts and conquests globally and he uses it as a small scale "experiment" to test how environments influence societies.

From 1200 B.C. to around A.D. 1000, the diverse islands of Polynesia were settled. The new inhabitants of all these islands shared the same culture, language, technology, and sets of domesticated plants and animals. This allows us to see how different environments shaped and influenced the societies that colonized the islands. The Maori and the Moriori developed very differently, despite having common ancestors. The Moriori lived on sparsely populated islands as hunter-gatherers, as the domesticated plants that they had brought would not grow on the Chathams. They reduced potential conflicts by renouncing war and preventing overpopulation. In contrast, the Maori, living on New Zealand, were able to use agricultural techniques that allowed them to increase in number, developing a locally dense population that engaged in wars with neighboring groups. Stored crop surpluses allowed for specialists and soldiers, leading to the development of various tools and weapons.

Within the greater Polynesian area, a wide range of environmental conditions and factors were present. In terms of food, societies ranged from hunter-gatherers to slash and burn farmers to intensive food production. Societies also ranged from egalitarian to very stratified societies and from independent tribal units to multi-island empires. The climates ranged from warm tropical to cold sub-Antarctic. Some had mountains high enough for snowfall and rainfall. The various islands also experienced differing levels of isolation from other islands and societies. Some islands could easily be reached by others, which promoted trade and the exchange of ideas. Others were remote and societies developed in almost total isolation.

With the environmentally influenced variations in subsistence, some societies were able to use domesticated plants and animals while others were not. As a result, different population densities occurred from society to society. Hunter-gatherers tended to have the lowest population densities while those societies with intensive agriculture tended to have higher densities. The population density interacted with a specific political unit's population size to influence technology and economic and social organization. Larger size and higher density generally meant a more complex and specialized society.

For Diamond, the Polynesian islands represent a test case of his theory that differing environments influence societies' developments. With Polynesia, he has a case where all of the islands shared common ancestors and knowledge, including domesticated plants, animals, and so on. Yet, the societies on the islands differ greatly from one another in terms of their environments. Thus, his "control variable" is the societies on the islands, which allows him to "test" whether environments make a difference on his "dependent variable" of differing societies.

This case seems to indicate that Diamond's thesis is correct - that differing environments produced differing courses for societies. He will continue to develop and extrapolate this argument in subsequent chapters, focusing on the factors that most directly led to the differences.

Chapter 3 "Collision at Cajamarca"

Chapter 3 "Collision at Cajamarca" Summary and Analysis

The conquest of the Americas by Europeans was one of the biggest population shifts of modern times. The first encounter between Inca emperor Atahuallpa and Spanish conquistador Francisco Pizarro in the Peruvian highlands illustrates the factors that helped determine the outcome in many similar situations across the globe. Although the Incas outnumbered the Spanish, Pizarro's forces were able to defeat, kill, and enslave the Indians. Diamond analyzes the events of this situation in an attempt to discover what factors helped Europeans win similar battles.

Diamond argues that Pizarro's military advantage lay with the steel swords, steel armor, and the horses that the Spanish used. Atahuallpa's troops used only stone, bronze, and wooden clubs, slingshots, and quilted armor. The Spanish army reaped great advantages from the use of horses in their conquests. Horses provided greater speed, maneuverability, and protection from ground attacks.

A second factor that influenced the outcome of this battle was diseases transmitted to people lacking immunity. Atahuallpa had just won decisive battles in an Inca civil war caused by the upheaval of a smallpox epidemic. Other infectious diseases, such as smallpox, measles, influenza, typhus, and so on, played decisive roles in European conquests by killing large percentages of peoples.

A third factor was the presence of writing. Spain possessed a written language, while the Incas did not. Writing allowed information to be spread more rapidly with greater detail and accuracy. By the time Pizarro's troops encountered the Incan Empire, they had the advantage of information about sailing directions, about previous encounters with natives, and so on. Atahuallpa, in contrast, had very little information about Pizarro, Spaniards, or what their intent might have been in wanting to meet with him. Literacy gave the Spaniards an advantage in the level of knowledge they had about the groups they encountered, as well as general human history and behavior.

Some groups, because of their environments, were able to develop guns, germs, and steel, as well as writing, which enabled them to gain access to greater amounts of wealth and power through the conquests of other groups. These factors help determine why some of the modern inequalities between states developed.

Although outnumbered, the advantages available to the Spaniards allowed them to conquer the Incas. As with the previous chapter, we are able to see clearly the differences between societies in this historical narrative and to understand the immediate causes of the European conquest of the Incas. This chapter also shows in greater detail the theme of violent conquest and how groups were able to accomplish that through their innovations.

Chapter 4 "Farmer Power"

Chapter 4 "Farmer Power" Summary and Analysis

Societies on different continents developed food production at different times. Diamond argues that these differences in the timing of food production were related to the advantages of guns, germs, and steel. First, the availability of more consumable calories led to more people because the society was able to feed more individuals. Similarly, the presence of domesticated animals allowed for a greater population because the livestock furnished meat, milk, fertilizer for other plants, and power by pulling plows that cultivated more plant food.

Indirectly, the sedentary life available through food production/agriculture allowed for shorter birth intervals and the storage of food surpluses. Stored food, in turn, allowed for the feeding of non-food-producing specialists, including soldiers, priests, bureaucrats, and kings.

Plant and animal domestication made direct contributions to wars of conquest. First, the domestication of horses allowed small groups of soldiers to overthrow and conquer larger societies. Germs that evolved from domesticated animals also produced epidemics in the societies of Native Americans, Australians, South Africans, and Pacific Islanders during the time of European conquest.

Diamond, in this chapter, begins his more detailed argument about differing environments and their influence on societies. He outlines the importance of plant and animal domestication in terms of helping in warfare, but also in increasing population size. Ultimately he argues that the availability of domestic plants and animals explains differing societal developments.

Chapter 5 "History's Haves and Have-Nots"

Chapter 5 "History's Haves and Have-Nots" Summary and Analysis

On large parts of the globe, food production did not arise or came much later due to various ecological reasons. But there were some areas that ecologically were very suitable for food production where this production did not occur until modern times. These areas included California and the other Pacific states in the United States, the Argentine pampas, southwestern and southeastern Australia, and the Cape region of South Africa. Tracing food production back to its earliest times, we find that food production often took place in marginal areas such as modern Iraq and Iran, Mexico, the Andes, parts of China, and Africa's Sahel zone. Diamond asks why food production sprang up independently in some areas, but not in others.

There appear to be five areas in which food production rose independently before the introduction of crops and animals from elsewhere. These areas were Southwest Asia, or the Fertile Crescent, China, Mesoamerica, or central and southern Mexico and adjacent areas, the Andes of South America, and the eastern United States. In four other areas, food production may have risen independently, but there is some uncertainty about that claim. These areas were Africa's Sahel zone, tropical West Africa, Ethiopia, and New Guinea. Of these areas, independent food production and animal domestication appears to have begun earliest in Southwest Asia or the Fertile Crescent between 8500 and 8000 B.C. Food production in China began roughly at the same time. Production started around 6000 B.C in the eastern United States. "Founder" crops, or those that founded local food production, spread to other areas, including Europe, the Indian subcontinent, and parts of Africa.

In the areas where founder crops were depended upon to start food production, did hunter-gatherers adopt the crops and agriculture from neighboring groups or did invaders bring with them the knowledge and crops? In some areas, like Egypt, the local hunter-gatherers added the founder crops as well as domesticated animals and other agricultural techniques to their diet and gradually turned into sedentary food production societies. In contrast, in some areas, food production began abruptly with the influx of non-local individuals

This chapter represents one more piece of Diamond's argument about the importance of food production to global inequality, both in earlier times and in its legacies today. As he shows, the development of food production did not necessarily arise in areas from which we might expect it and did arise in areas that were ecologically marginal.

Here, Diamond gives some background on the development of the domestication of plants and animals, including where and when this happened. This lays the groundwork

for further discussion on why this happened in some areas and not in others. We also begin to see in this chapter the importance of "development" to Diamond's theory. Without advances and developments in food production and technology, human history would have been very different.

Chapter 6 "To Farm or Not to Farm"

Chapter 6 "To Farm or Not to Farm" Summary and Analysis

As all peoples were once hunter-gatherers, what explains why they would adopt food production? Although this question seems simple, the reality is that up until very recent times, food production actually meant more physical work, more hours of labor each day, and more hardships than in hunter-gatherer societies. There are many cases of hunter-gatherer groups who came into contact with food producers and failed to adopt these practices.

Diamond argues that there are several misconceptions about this transition. First, there often was not a conscious choice between the two options. Groups often adopted some food production while still practicing hunting and gathering. Secondly, sharp distinctions cannot be drawn around the groups. Sometimes hunter-gatherer societies became sedentary but did not produce food and there are examples of mobile food producers.

Thus, in the early stages, people collected wild foods and raised/produced them. Some factors influenced groups to turn towards food production. First, some wild foods declined, including the mass extinctions of animals talked about in an earlier chapter. Second, the increased availability of 'domesticable' wild plants made food production more rewarding as the depletions occurred. As technologies around food production increased, it also became easier to harvest and store food products. There was also a link between the density of human population and food production. Archeologists have found evidence globally of rising densities associated with the appearance of food production. Finally, as groups turned toward food production and their populations grew, they were able to displace or kill neighboring groups of hunter-gatherers.

These factors help explain why a transition to food production began in the Fertile Crescent around 8500 B.C. and not at earlier time. During earlier times, hunting and gathering was still more rewarding for people as wild animals were widely available to be killed for food, wild cereals were not yet abundant, and the inventions necessary for collecting and storing cereals had not yet come to be.

In order to understand how food production developed, it's necessary to understand why people would adopt it. We also see in this chapter the reasons why food production did not develop earlier. The four factors that increased the desirability for food production needed to be present in order for people to adopt it. Without these factors present, groups might have remained primarily hunter-gatherers as that would have been the easier and a more beneficial course of action. As the factors needed for food production increased, food production became a more likely option for groups, either alone or in conjunction with some hunting and gathering. This also underscored Diamond's argument that groups did not develop food production because they were

racially more superior. Instead, we see that environmental factors influenced whether a group would choose food production and the timing of that occurrence.

Chapter 7 "How to Make an Almond"

Chapter 7 "How to Make an Almond" Summary and Analysis

"Plant domestication may be defined as growing a plant and thereby, consciously or unconsciously, causing it to change genetically from its wild ancestor in ways making it more useful to human consumers" (pg. 114). All crops began as wild plant species. How did early farmers domesticate plants and what changes occurred to the plants from this process?

Plants spread their seeds through a variety of ways, including through wind, water, or having their seeds eaten and dispersed by various animals. Animals and humans tended to select particular plants from a given species to eat, perhaps because the berries on a certain plant were bigger or sweeter than others. Other selectors may have been bitterness, fleshy or seedless fruits, oily seeds, and/or long fibers. By harvesting and choosing these types of characteristics in wild plants, ancient people unconsciously dispersed the seeds of plants carrying these characteristics. Other non-visible choices also affected wild plants. Early farmers chose plants based on characteristics like seed dispersal, germination inhibition, and the plant's reproductive biology. Farming changed the make-up and environment for those chosen plants.

There were several stages of plant domestication. The earliest crops domesticated were plants such as wheat, barley, and peas with agriculture developing sometime around 10,000 years ago in the Fertile Crescent. These plants were probably chosen because they were already edible, gave high yields in the wild, grew quickly, and could be readily stored. Around 4,000 B.C., plants such as olives, figs, dates, pomegranates, and grapes were domesticated. Then, fruit trees, which are harder to cultivate and have longer growing periods before harvest, were domesticated.

Diamond's primary question in this chapter is how ancient farmers domesticated plants. How did they choose to use certain plants and not others and why were some plants domesticated before others? This question directly follows from the questions and discussion of the previous chapter on why ancient farmers chose to produce food in the first place. In many ways, we can see through these two chapters the interrelationship between people and plants at this early stage. Through trial and error and through natural selection, farmers ended up with domesticated plants that fulfilled many needs, including being good tasting and easy to grow.

Ancient hunters and gatherers were drawn to certain plants because of their appearance, size, taste, etc. Diamond also illustrates through his brief discussion on the almond. The bitter tastes of some plants protected people from the plants themselves, as they were poisonous to humans. Through each step, Diamond illuminates the domestication process and how even the trial and error decisions sometimes led to better plants and/or to their domestication.

Chapter 8 "Apples or Indians"

Chapter 8 "Apples or Indians" Summary and Analysis

Diamond, in this chapter, returns to the earlier question of why plant domestication and food production did not develop in some of the ecologically better areas. There are two explanations that can be offered for this. One is that there was some problem with the local people and the other is that there was some problem with the local wild plants available. Given that there are over 200,000 species of wild flowering plants on the planet, the most obvious assumption is that the land in benign climates must have held a variety of species that could be domesticated by ancient farmers. However, the vast majority of wild plants are inedible and/or unsuitable for human consumption and the failure of individuals in modern times to domesticate even a single new plant species indicates that ancient peoples probably explored virtually all available plants for their food usage.

There are some striking examples of people failing to domesticate an available plant, including sorghum in Africa's Sahel zone, flax in Western Europe and North Africa, and the olive, grape, and fig palm, which had wide ranges in the wild. Diamond argues, however, that there is a flaw in questioning why peoples did not domesticate these plants. "Plant domestication is not a matter of hunter-gatherers' domesticating a single plant and otherwise carrying on unchanged with their nomadic lifestyle.... But nomadic hunter-gatherers would not throw over their traditional way of life, settle in villages, and start tending apple orchards unless many other domesticable wild plants and animals were available to make a sedentary food-producing existence competitive with a hunting-gathering existence" (pg. 134). Thus, several species of domesticated plants were needed in order for groups to choose food production.

Diamond then considers the Fertile Crescent and its rise of agriculture. This area had several advantages in the domestication of plants. First, it lied within the so-called Mediterranean climate, which is characterized by mild, wet winters, and long, hot, dry summers. Second, the wild ancestors of domesticated plants were abundant and productive in the area. This meant that few changes had to be made to the plants in order for them to be domesticated. Third, the area was high in "selfer" plants, or plants that pollinate themselves but were occasionally also cross-pollinated.

The Fertile Crescent also possessed some advantages over other Mediterranean zones like southwestern Australia, Western Europe, and Chile. First, it had the largest zone of this climate resulting in a higher diversity of plants and animals. Second, it experienced the greatest climatic variation from season to season, leading to more annual plants. Third, the area had a wide range of altitudes and topographies, which created staggered harvest seasons. The biological diversity of the area also meant more big mammals with the potential for domestication. Finally, it faced less competition from the hunter-gatherer lifestyle.

Agriculture began in the Fertile Crescent with eight "founder crops," emmer wheat, einkorn wheat, barley, pulses lentil, pea, chickpea, bitter vetch, and flax. Of these, only two were widely available outside the Fertile Crescent in the wild. Diamond uses several examples including Mesoamerica, the eastern United States, and New Guinea, to show that other areas did not have the same number of edible and 'domesticable' plant species available. Most places also lacked large mammals that could be domesticated. In addition, some of the founder crops did not fair as well in other areas where they were brought. Diamond's conclusion from these comparisons is that while local people were very knowledgeable about useful plants, many areas experienced a lack of such plants and, in particular, enough of these plants for peoples to give up the hunting-gathering lifestyle.

Diamond makes an important step in his theory with this chapter. Using the previous chapter's insights, he begins to show why some ancient peoples were able to domesticate plants and why others were not as likely to have done so. Although the traditional theory on this has targeted the people involved, Diamond clearly does not believe that this is the case. Instead, he argues that the differences lay in the environments in which these people lived and, in particular, the availability of several plant species that could be domesticated.

With these comparisons, it is apparent why ancient peoples in the Fertile Crescent were able to first domesticate wild plants and begin food production. The area holds many advantages over areas even with very similar climates. When compared in this way, it makes it easy to imagine the difficulties that groups in harsher climates faced in domesticating plants.

Chapter 9 "Zebras, Unhappy Marriages, and *Anna Karenina*"

Chapter 9 "Zebras, Unhappy Marriages, and Anna Karenina" Summary and Analysis

While smaller mammals, such as rodents, dogs, chickens, and so on, have been kept by many societies around the globe and used for food, clothing, and warmth, none of these smaller animals have been used in agriculture or war. Only fourteen big mammals species, sheep, goat, cow, pig, horse, Arabian camel, Bactrain camel, llama and alpaca, donkey, reindeer, yak, Bali cattle, mithan, and water buffalo, were domesticated before the 20th Century. Additionally, only five of these species were being widespread and seen as important around the world: cows, sheep, goats, pigs, and horses. Diamond defines a domesticated animal as one bred in captivity and that has somehow been modified from its wild ancestors. The wild ancestors of these species were spread unevenly across the globe, with thirteen of the fourteen native to Eurasia. Eurasia also had the most candidates for potential domesticated animals.

Diamond asks whether the peoples of Africa, Australia, and the Americas had some cultural reasons for not domesticating their big mammals and argues that the answer is no. When Eurasian animals reached these areas, people quickly adopted them in most areas. These groups also had long histories of keeping animals as pets. All of the domesticated animals were also all domesticated before 2500 B.C. in a similar situation to plant domestication. Some mammal species were more suited to domestication. Finally, there have been a number of failures in modern efforts to domesticate other large mammals, including elk, moose, zebras, and the American bison. Although some small-scale domestication has taken place, these ventures have met with only limited success.

If fourteen species were domesticated, why weren't other species? There are several characteristics that mammals needed to have in order for them to be domesticated. First, the type of diet an animal had was important. No carnivore has ever been domesticated. While some omnivores, like dogs, have been domesticated, most have been herbivores. Second, to be worth keeping for food or other uses, the animal had to grow quickly. In addition, the ability to breed in captivity limited some species that were unable or unwilling to breed under those conditions. Some animals also had bad dispositions and would have been more trouble than not, like bears and zebras. Domesticated animals needed to be of calm rather than have nervous dispositions.

Finally, social structure was very important in the ability to domesticate an animal. Almost all of the species that people domesticated shared the following traits. They lived in herds or groups, had a well-defined hierarchy, and the home ranges of their groups overlapped. With this, humans were viewed as the top part of the group, pack, or

hierarchy and the animals could exist with each other and with neighboring groups of animals.

In this chapter, Diamond builds up on the argument started in Chapter 4 about the domestication of animals. In the earlier chapter, he discussed the importance of large domesticated animals to ancient peoples and why they gave some groups an advantage over others, which we also saw in his example of Pizarro's conquest of the Incas. Here, Diamond illustrates the inequality in terms of animal species and their potential use to humans.

As Diamond shows, the vast majority of animals that have been domesticated were confined to Eurasia. The availability of these animals, as well as the number of plant species that were domesticated there, gave Eurasia huge advantages over areas where these plants and animals were not present. Diamond continues to elaborate on why the availability of these plants and animals gives societies in Eurasia an advantage.

Chapter 10 "Spacious Skies and Tilted Axes"

Chapter 10 "Spacious Skies and Tilted Axes" Summary and Analysis

When looking at the major axes of the continents, it is apparent that while Eurasia's axis runs east-west in a more horizontal line, both the Americas and Africa axis run vertically from north to south. Diamond argues that just as important as geographic differences is the spread of food production across the continents. The axis of the continent proves to influence the spread of crops, animals, and other technologies. Through several examples, the author illustrates that food production spread much more rapidly and readily out of Southwest Asia than it did in the Americas.

Places located east and west of each other share the same day length and seasonal variations as well as, to a lesser degree, similar diseases, patterns in temperature and rainfall, and habitats. These aspects, in turn, also affect germination, growth, and disease resistance. This was one of the main reasons why domesticated plants were able to spread from the Fertile Crescent into other locations. They were already well adapted to the conditions in these other areas. The north-south axis in Africa and the Americas meant that the spread of domesticated plants was done in conditions that did not match the original domestication. It required the plant to further adapt to the new conditions in order to survive.

Although some plants in North America would have done well in a similar climate in South America, the spread of these plants had to go through tropical areas more unsuitable for the plants. This slowed the spread of domesticated plants. Similarly, the differences in axis orientation seem to have affected the diffusion of other technologies and inventions as well.

Not only is plant and animal domestication important for understanding the differences between continents, but Diamond also illustrates in this chapter how the orientation of the landmasses themselves affect this process. These three factors provide the basis for Diamond's theory on why the peoples on different continents developed differently. From here, he will connect these three factors to the more immediate causes of guns, germs, and steel, among other factors.

The spread of plants, animals, and technologies is an important factor in the overall process. The independent development of food production, for example, would have much less impact were it confined to the area in which it started. As it spread, it gained power in influencing further developments and lifestyles. Thus, understanding why the spread was easier in some areas than others gives us insight into how this may have affected current differences.

Chapter 11 "Lethal Gift of Livestock"

Chapter 11 "Lethal Gift of Livestock" Summary and Analysis

The major infectious diseases of recent history, including smallpox, influenza, tuberculosis, malaria, plague, measles, and cholera, all evolved from the diseases of animals. Diseases have been the biggest killer of people and, as such, they are an important factor in history, influencing societies in various ways.

Diamond briefly discusses how infectious diseases and their microbes work. Microbes evolve like other living things, selecting those most effective in reproducing and helping them spread to suitable environments. Germs are passed in many ways. Some pass from one host eating another; some are passed through the saliva of an insect when it bites an old host and is passed to a new one. Some modify the anatomy or habits of the host to accelerate their transmission, like open sores, etc., some are passed through the air when an infected person coughs or sneezes. Finally, some burrow through the host's skin from water or soil.

Our bodies react in various ways to try to kill off infections. In some cases, the body uses fever to "bake" the germs or white blood cells attack and kill the infection. Human's slowest defense to germs is through natural selection. Some individuals prove to be more resistant to the germs than do others who are more likely to die. The surviving individuals pass this resistance on to future generations.

Infectious diseases that become epidemics tend to share several characteristics. They spread quickly and efficiently from person to person. They are acute and those who do recover develop antibodies of immunity. Finally, the diseases tend to be restricted to humans. Such diseases cannot maintain themselves in small groups such as those of hunters and gatherers or slash and burn farmers because the disease would kill virtually the entire group. Infectious, epidemic diseases do not develop in these groups; rather, the diseases that do develop are more chronic.

Sedentary and larger groups provide the necessary foundation for such diseases, but the diseases had to develop from somewhere. Diamond traces four stages in the transition of animal germs into human germs that cause these diseases. In the first stage, humans pick up germs and diseases from our pets and domestic animals, but the germs are still only passed from animal to human, not between humans. Second, the disease evolves so that it can be transmitted from person to person, but the epidemic still ends. Third, pathogens establish themselves in humans and the disease does not die out. Finally, the major epidemic disease becomes confined to humans.

The main killers in places like the Americas and Africa were Eurasian germs that had been passed from domesticated animals and to which the native populations had not yet been exposed. Because peoples in Eurasia had already developed immunity and/or

greater resistance to the diseases, they carried the germs, but did not become sick or die. In turn, with the sole exception of possibly syphilis, not a single major killer was transferred from the Americas to Europe. This may have been due to the relative lack of big domesticated mammals in the Americas or to dispersed populations. Africa and Australia did produce some diseases that were transferred to Eurasians, including malaria and cholera. They posed serious problems to European colonization of these areas.

In addition to the direct advantages that large mammals provided in terms of agriculture and in times of war, the discussion of how many of the epidemic-causing diseases developed from domesticated animals also allows us to see why Eurasia's domestication of these animals gave it a further advantage over other continents, particularly the Americas. Over time, Europeans, in particular, were able to build up immunities and resistance to these diseases, but their introduction to the Americas by the germ carrying explorers and colonists presented huge problems for peoples in the Americas. Not only were they lacking in the weaponry and knowledge that Europeans had, but they were also very susceptible to the diseases that Europeans brought with them.

As Diamond notes, epidemic diseases were also sometimes used as direct weapons of war. At one point, Europeans knowingly passed on smallpox carrying blankets to Native Americans in North America in an effort to kill them. Whether used consciously or unconsciously, these diseases represented a huge advantage for Europeans coming to the "New World."

Chapter 12 "Blueprints and Borrowed Letters"

Chapter 12 "Blueprints and Borrowed Letters" Summary and Analysis

If knowledge brings power, then writing increases that power. Diamond argues "writing marched together with weapons, microbes, and centralized political organization as a modern agent of conquest" (pg. 215-6). For example, writings about one expedition inspired others and the accounts helped explorers and soldiers to know what to expect. Writing made all of this information more easily accessible, more detailed, and more accurate than oral traditions.

There are three basic strategies for writing systems. The one employed by most people today is the alphabet, where a unique sign is given for each basic sound of language. The second strategy is logograms, in which one written sign stands for a whole word. Finally, the last strategy employs a sign for each syllable and was more commonly used in ancient times.

Writing developed independently in at least two places, in Mesopotamia by the Sumerians just before 3000 B.C. and in Mexico before 600 B.C. It may also have developed independently in Egypt and China. Sumerian writing consisted of logograms, phonetic signs, and determinatives, which were used to solve ambiguities. Mesoamerican writing, or Mayan writing, has only been partially deciphered, but some uses logograms and phonetic signs. More than likely, all other writing systems were borrowed, adapted, or inspired by these. The transmission of writing relied on "blueprint copying," or copying and/or modifying an available blueprint, or "idea diffusion," where the basic idea was transformed and reinvented.

Why did people invent writing and why did it spread to some places, but not others? Early writing seems to have been understood and used by only a small fraction of the population in a given place and appears to have been used for accountings of things like sheep and wool. Early writing served the needs of political institutions for things like taxes and record keeping. Food production also played a large role in this. Scribes or the users of writing were full-time bureaucrats who were fed from stored food surpluses grown by other people. Groups such as hunters and gatherers never developed writing in part because they lacked the institutional needs for it and because they lacked the mechanisms to produce food surpluses that could be stored. Writing emerged first in the places where food production arose and the spread as food production spread, although not all societies that produced food had writing systems.

In various places throughout the book, Diamond discusses why writing was an important development and how it influenced the differences between societies. Writing and the knowledge that it preserved and dispersed gave some peoples advantages

over others. Diamond provides several examples of this in the book, including how a prior knowledge of another group gave Europeans an advantage in their conquest of the Americas. Here, he shows us why writing developed in some places and not in others.

As it turns out, food production was also an important factor in this. Without the need for keeping track of food surpluses and domesticated animals, there was not a large need for writing. Food production and its storable surpluses also allowed for some individuals to be excused from labor to concentrate on tasks such as developing writing or ways to keeping track of things and then to continue to work at this.

Chapter 13 "Necessity's Mother"

Chapter 13 "Necessity's Mother" Summary and Analysis

In this chapter, Diamond considers why Eurasians were the ones to invent such things as firearms, oceangoing vessels, and steel equipment. Some have argued that this points to the greater innovativeness and intelligence of Europeans; others have argued that Eurasia just had more geniuses or that their societies were more receptive to new inventions. Diamond suggests that new innovations occur not because there is a perceived need, but rather because of peoples' curiosity and tinkering. After a new invention has been made, the inventor and the society must find a use or uses for it.

Once something is invented, the inventor must convince society to make use of it. There are a number of different factors that might affect this, including the item's economic use, social value, prestige, compatibility with other interests, and so on. Scholars have put forth a number of explanations about why some societies are more receptive to new innovations than others. Diamond argues that the development and societal reception of innovations varies greatly from society to society and in any given society over time. Thus, it is not true that some continents have been more receptive to innovations than others.

Inventions come from a variety of places with most new technology being borrowed from other societies. The importance of the spread of inventions rests on the ease with which societies can adopt or adapt a particular technology or invention and on the proximity of the inventing society to others. Inventions spread in one of two ways. Societies may see an invention and adopt it or, in contrast, the societies without the invention may find themselves at a disadvantage and are replaced by a society with the invention. The societies that were best able to receive inventions through a diffusion process were those who were embedded in the major continents. As one technology or invention tends to lead to others, societies with new technologies or inventions were again at an advantage.

Food production was an important factor because it allowed for a sedentary lifestyle. This allowed individuals to accumulate non-portable possessions. In contrast, nomadic peoples were limited to what they could carry. Secondly, sedentary living and food surpluses allowed for the development of non-food producing specialists who could work at developing new technologies and inventions. "Hence, all other things being equal, technology develops fastest in large productive regions with large human populations, many potential inventors, and many competing societies" (pg. 261).

Diamond continues to elaborate on why the timing of food production has been so important in the development of advantages for some societies. Although the idea of food production seems somewhat simplistic, the author, throughout the book, has connected this factor to more immediate reasons for the inequality. He, once again,

positions his argument against the explanations that use intelligence as the determining factor.

In this chapter, he further elaborates on how the timing of food production influenced the development of technology. Food production, and the sedentary lifestyle that developed from it, proved to be a crucial foundation for the growth of technology by allowing people to had possessions that stay with them and, as with writing, by providing for a specialist group of individuals who could work on producing new technologies.

Chapter 14 "From Egalitarian to Kleptocracy"

Chapter 14 "From Egalitarian to Kleptocracy" Summary and Analysis

"The combination of government and religion has thus functioned, together with germs, writing, and technology, as one of the four main sets of proximate agents leading to history's broadest pattern" (pg. 267). Although there are many ways to characterize societies, one way is to use a simple classification based on four categories, band, tribe, chiefdom, and state. Bands are the smallest societies, from five to eighty people, and tend to be nomadic, relatively egalitarian, and lack institutions. Tribes are the next stage beyond bands and are characterized by hundreds of people rather than dozens, fixed villages, egalitarian systems of government, and a lack of bureaucracies and taxes. Chiefdoms, which disappeared in the early 20th century, are characterized by larger sizes than tribes, or several thousands of people, a redistributive economy, a monopoly of force, and a society stratified by kin. States are the last category that Diamond discusses. States are most familiar to us and they arose as early as 3700 B.C. in Mesopotamia. They have greater size than the other groups, a centralized control, economic redistribution, political and territorial organization, and so on.

Kleptocracies, or governments that distribute wealth from commoners to the upper classes, arose with chiefdoms and states. In order to gain popular support for such a system, the leaders of these societies tried a number of different solutions. First, some disarmed the vast majority of people, arming only the elite. Second, leaders redistributed much of the "tribute" received in ways that made the masses happy. This is what is commonly done in the United States. Third, leaders used a monopoly of force that maintained public order and curbed violence and uprisings. Finally, some societies constructed ideologies or religions that justified kleptocracy.

In addition to helping to justify kleptocracies in some societies, institutionalized religion also provided societies with other benefits. Such religions often helped provide frameworks for unrelated individuals to live together without killing each other. In this case, religion served as a bond that united individuals. Institutionalized religion also provided a motive for sacrificing oneself for others, most notably through war and battle.

Over the last 13,000 years, in a global pattern, larger, more complex societies have replaced smaller, less complex societies. One reason for this is that when the two met, the larger societies tended to have greater advantages in terms of weapons, technology, and sheer numbers. Larger groups also had a centralized decision maker who could concentrate troops and resources. Finally, institutionalized religions and patriotism combined to create an environment where troops would sacrifice themselves for their government.

There have been many theories about how smaller societies evolved into larger ones. Aristotle argued that states were the natural condition of society and so this evolution did not even need to be explained. Rousseau, in contrast, argued that states form through a social contract between people who realize that they are better off in a state. Another theory states that in places like Mesopotamia and North China, large irrigation systems were needed and a centralized state grew to construct and maintain these systems. Diamond, however, argues that the single strongest predictor of societal complexity was the size of the group. In a similar fashion to the diffusion of technologies and so on, smaller societies could be conquered by larger, more complex societies or might give in to the threat of external force. When population densities were high, the conquered have nowhere to flee to but instead were forced into the larger society.

Food production, as discussed in previous chapters, influenced the rise of larger populations. It also contributed to specific features of complex societies. First, food production had periods of time for the farmer that are less intense and thus the government could use the farmer for other projects during those times. Stored food from surpluses allowed for the growth of economic and social stratification and specialization. It also created sedentary living, which allowed for accumulating possessions, developing technologies, and constructing public works.

The larger populations created had the need for a more complex, centralized government for several reasons. First was the problem of conflict and violence between strangers and unrelated people. Second, with larger populations it became increasingly difficult to have communal decision making processes. Third, goods and resources needed to be distributed among the members of the society. Finally, densely populated areas made it necessary for goods to be traded and redistributed in order for life's necessities to be met.

Diamond, in this chapter, gives us the final pieces of his theory, government and religion. Combined with the factors of germs, writing, and technology, centralized governments and religion collectively explain why life on different continents developed with different courses and with different timings. In addition, plant domestication, animal domestication, and the continent's axis of orientation influenced each of these factors. The result is a theory that rests on environmental difference to explain variations in history.

Diamond again situates his own theory against others that have tried to explain why smaller societies evolved into larger societies and again argues that it has to do with environments and ecology. As with the development of guns, germs, and steel, food production was an important underlying factor.

Chapter 15 "Yali's People"

Chapter 15 "Yali's People" Summary and Analysis

Although Australian societies have often been seen as "backward," as of 40,000 years ago, Native Australian societies showed a "head start" over societies in other parts of the world. They developed some of the earliest known stone tools with ground edges and had some of the earliest water vessels. With this being the case, why did not Native Australians conquer Europe or other parts of the globe instead of the other way around?

Although some individuals have proposed theories using racial differences to explain the outcome, Diamond argues that his theory explains this better. Although Asian societies founded both Australia and New Guinea, these latter societies developed in isolation from Asia. Australians and New Guineans also developed differently from each other in terms of language and genes. In addition, the landmasses of Australia and New Guinea are very different, which Diamond suggests influenced their very different cultural histories.

Agriculture arose independently in the highland valleys of New Guinea, but it yielded little protein, and because of the lack of large mammals, humans were the sole source of power. For a number of ecological reasons, the population in New Guinea in ancient times never exceeded 1 million. This population lived in fragmented societies and diverse climates such as jungles, highlands, and so on. Geographic isolation inhibited the inflow of new technologies from other societies. Around 1600 B.C., however, Austronesians, or Asians who had settled in Indonesia, settled on islands around New Guinea with domestic animals, agriculture, technology, and navigation skills. They introduced pottery, chickens, dogs, and pigs to New Guinea and opened up a trade route that connected New Guinea with the more advanced societies of China and Java.

Australia developed differently. Due to the dry conditions on much of the continent, infertile soils, and the lack of plants that could be domesticated, Australians did not develop food production in ancient times. Instead, native peoples used hunting and gathering and "firestick farming," where areas would be periodically burned to induce new growth and to drive animals out that could be killed for food. They also used various techniques to enhance their food gathering methods, which allowed for greater populations.

Australians did not develop writing, more complex technologies, or more complex societies for several reasons. First, they remained hunter-gatherers, which inhibited their ability to have non-portable goods or have the larger populations that other societies had after developing these aspects. Second, Australia was isolated and had relatively few people in its "population centers." Although Australia was close to Indonesia and New Guinea, whose people had more complex technologies, Australia differed from these regions in its climate and environment. Intermediary islands mediated the trade and interaction that did happen between Australia and these other

societies. The peoples on these islands interacted infrequently with peoples on Australia and never settled there. In addition, the farther away the islands were from the centers of the larger society, the less technology and innovations they had to pass on to Australians. Further, because Australia is so large, groups living near the ocean may not have come into frequent contact with other groups in Australia.

Why the Europeans conquered New Guinea and Australia is clearer when taking into account how the environment affected the societies living in these areas. Europeans brought with them writing systems, oceangoing ships, guns, and so on. In New Guinea, malaria and other tropical diseases did inhibit European settlements in the lowlands until the 1880s. This also helped to keep New Guineans from catching European infectious diseases in large part.

Now that Diamond has completed his discussion of his theory for explaining continental differences in society, he turns to using that theory for specific cases. In this chapter, he begins that application with Australia and New Guinea. As he shows, while very different in some ways, the societies on these islands did face some of the same problems, most notably isolation from other societies.

In his discussion we not only see his challenge to racial theories again, but also evidence on how continental differences were shaped and how that influenced subsequent conquests by Europeans. Given the conditions in Australia, for example, with its lack of not only domesticated wild plants and its lack of large mammals, it is not surprising that its early "lead" would quickly disappear.

Chapter 16 "How China Became Chinese"

Chapter 16 "How China Became Chinese" Summary and Analysis

In his second chapter on particular states, Diamond examines China. He argues that while we tend to take for granted China's political, cultural, and linguistic unity, parts of China and in particular, North and South China, are very different. Their climates and environments differ, as one example. Thus, it is likely that China was once much more diverse than it is now. Diamond questions how its "unity" came to be through looking at the linguistic patterns.

China has eight "big" languages, including Mandarin and its seven close "relatives," but it also turns out that China has over 130 "little" languages. These all fall into one of four linguistic families. One family, containing Mandarin and its relatives, is the Sino-Tibetan family, which is distributed from North to South China. The other families are found in little pockets amongst this larger family. The Miao-Yao family has about five languages, spoken in small enclaves from South China to Thailand. The Austroasiatic family, containing Vietnamese and Cambodian, is scattered from Vietnamese to the Malay Peninsula to northern India. The last family is the Tai-Kadai, including Thai and Lao, which is dispersed from South China to Peninsula Thailand to Myanmar.

Diamond argues that the pockets of the latter three languages exist because speakers of the first replaced and/or absorbed some of the speakers of the other three families across China. The Zhou Dynasty, from 1100 to 221 B.C., saw many non-Chinese speaking peoples conquered or absorbed into the Chinese speaking state. The latter three families were probably much more widely distributed in earlier times and in some areas, it appears that the native languages were completely lost when the territory was invaded. Diamond shows through the various environments and food production sites how the larger, more complex societies were able to replace the smaller ones.

While the previous chapter detailed why the peoples of one continent, Europe, were able to ultimately conquer the peoples of another continent, Australia, this chapter deals with intra-continent conquest and the replacement of smaller societies by larger ones. His theory of environmental difference, then, applies not only to large-scale landmasses but also to smaller territories and helps us understand why some groups were able to conquer others. Yet, again, in following with his theory, Diamond uses environments and ecology to explain this phenomena rather than biological differences.

In comparison with other regions, we find in China the same familiar pattern of some groups developing agriculture. This development influenced the rise of many other developments. This put the societies with the developments at an advantage to those societies around it, or across the globe, who did not have it.

Chapter 17 "Speedboat to Polynesia"

Chapter 17 "Speedboat to Polynesia" Summary and Analysis

The same movement that brought ancient peoples to Australia and New Guinea also brought peoples to other Polynesian islands. In this chapter, Diamond looks at this movement, asking why it occurred in the direction it did, rather than Polynesians and Indonesians taking over China.

Today, the population of many Polynesian islands, including Java and the Philippines, is rather homogeneous in terms of language and genetics. This is surprising given the amount of time that humans have occupied the region. Indonesians and Filipinos are also more similar to Southeast Asians and South Chinese in appearance and genetics than to Native Australians or New Guineans. This suggests that groups from Southeast Asian or South China spread through the Philippines and Indonesia and replaced the original languages with Austronesian languages.

Archeological evidence links early Taiwan culture with later Pacific island cultures. One such item is a bark beater, a stone tool or implement that an individual used to pound the fibrous bark of some trees into material that could be used for ropes, nets, and clothing. After the Ta-p'en-k'eng culture reached Taiwan, it spread farther down Taiwan, bringing with it stone tools, pottery, domestic pigs, and crops. These items then spread to the Philippines, the Indonesian Islands, the islands in the New Guinea region, and islands previously uninhabited in the Pacific Ocean. The spread also went westward across the Indian Ocean to Madagascar. The invention of "outrigger" canoes made the spread possible. Evidence also indicates that the descendents of those Austronesian invaders traded with and intermarried with peoples in New Guinea.

Like the conquests of Native Australians by Europeans and of Southeast Asia by China, denser populations, superior tools and weapons, more complex technologies, including better watercraft, and epidemic diseases made possible the spread of the Austronesian culture. Diamond, however, notes that the invasion went differently on New Guinea where native populations and cultures were not overrun or eliminated. One of the reasons for this was that food production and all of the characteristics that tend to follow from it were already present in New Guinea, but not on most other Polynesian islands. The Austronesians, then, had fewer advantages over the New Guineans.

Diamond states that the societies of Asia and the Pacific are important because these societies provide so many examples of how environment influences and shapes history. The environments in this area of the Pacific vary widely from mountains and highlands to jungles and the dry, arid conditions in parts of Australia. As Diamond shows again with this chapter, the societies who lived in environments that had the necessary components for food production, most notably wild plants that could be domesticated, had advantages over the peoples who lived in areas without them.

This chapter is interesting because it aptly shows two things. One is that societies from a common set of ancestors, in this case the Austronesians, developed differently in different environments. They adapted to the environment that they lived in and made use of the best possible parts of that environment. Second, the chapter shows how these different adaptations either hindered or enabled groups in fending off invaders. Most Polynesian island societies had far fewer advantages than the Austronesians and thus, were swept into that culture or eliminated. Peoples in New Guinea, in contrast, had developed food production, which allowed them to develop similar technologies as the Austronesians. The invading Austronesians had very little, if any, advantages over New Guineans and the groups co-existed in many ways, trading and intermarrying.

Chapter 18 "Hemispheres Colliding"

Chapter 18 "Hemispheres Colliding" Summary and Analysis

The biggest difference between the histories of Old World Europe and the New World Americas was the domestication of large mammal species, as discussed in previous chapters. By 1492, agriculture was widespread in Europe and while it was also widespread in the Americas, the New World had a larger percentage of hunter-gatherer societies. Agriculture in the New World also had a number of disadvantages in comparison to Eurasia. First, in the Americas, individuals depended on protein-poor corn, hand-planted seeds, and tilled the land by hand. Without large domesticated mammals, the Americans also lacked animal power to help in food production and access to manure for fertilizer. As such, food production formed one of the major ultimate causes in the differences and inequalities between Europeans and Native Americans.

One of the proximate causes of the Eurasian's conquest over Native Americans was the result of infectious diseases. These diseases had already swept through European cities and as such, many Europeans had already developed immunity for diseases like smallpox, measles, and influenza. This was due, in part, to the earlier domestication of large animals and Europeans settling in areas with higher population densities thousands of years before Native Americans did.

Eurasians also possessed more complex technology, including metal tools, weaponry, wheels, and oceangoing vessels. These advantages stemmed from many of the same causes. Europe had a much longer history in densely populated areas that were economically specialized. It also had more interaction and competition among neighboring groups who were all involved in food production, leading to the spread of ideas and innovations. Eurasians, in addition, had writing systems, which gave them an advantage in information about the groups they encountered and human experience in general, as well as centralized governments that used official religion to sanction war and legitimize leadership.

The developments that occurred in Europe occurred much later in the Americas for several reasons. First, humans had lived in Eurasia far longer than in the Americas, giving Eurasians more time to populate areas and to become familiar with plant and animal species. The paucity of plants and animals suitable and accessible for domestication delayed the domestication of animals and plants in the New World. With an east-west access, Eurasians were also able to more easily spread and diffuse new technologies, crop species, and ideas. In the Americas, a north-south axis meant a much later start at this diffusion as well as geographical barriers to the spread of crops and technologies. The head starts and advantages that Eurasians brought with them to the New World meant that they were able to conquer and, in many cases, eliminate Native American populations.

Once again, Diamond illustrates his theory with concrete examples from two regions/continents. Here, he discusses the Eurasian or, in this case, European, invasion of the Americas and uses his theory to explain why Europeans were able to conquer much of the Americas. The differences between the groups, in terms of his theoretical factors, is glaring. The environments that Eurasians had to work with, particularly in terms of wild plants, domesticated animals, and the east-west axis of the continent, provided them with huge advantages over Native Americans who had a relative lack of such things.

Although Diamond does not discuss it explicitly in this chapter, the theme of environment vs. race/biology underlies his discussion. Europeans have often used racial superiority as a justification for conquering and killing millions of individuals in the Americas, Africa, and Australia. The advances that they had made in writing, technology, and weaponry were often seen as due to their higher levels of intelligence. Here, Diamond argues that that view is just not the case. Europeans had an advantage, yes, but it was due not to racial superiority, but to the environments that Europeans, and Eurasians, lived in. Given the same environments, Diamond would argue that Native Americans or Africans would have developed in much the same way.

Chapter 19 "How Africa Became Black"

Chapter 19 "How Africa Became Black" Summary and Analysis

Although Westerners often view Africa as monolithic and black, Africa is actually very diverse. Diamond argues that this diversity resulted from the diverse geography of Africa itself. Africa is home to five major human groups, blacks, whites, African Pygmies, Khoisan, and Asians. Each of these groups is, in turn, very diverse. Both Pygmies and Khoisans have hunter-gatherers societies yet today, although they are fast disappearing.

As with Diamond's examination of China, he also turns to languages in this chapter to explain the transitions and developments in Africa. He finds six language families in Africa, Afro-Asiatic, Niger-Congo, Bantu, Nilo-Saharan, Khoisan, and Austronesian. As with China, many of the original languages have disappeared as groups were conquered or absorbed into other groups. The Pygmies, for example, do not have their own language family. With some of the other language families, we can also see the diffusion and displacement of peoples. The fragmentation of the Nilo-Saharan language suggests that the speakers of that language family were "engulfed" by speakers of Afroasiatic or Niger-Congo, also called Bantu and non-Bantu, languages. The Khoisan language shows a similar pattern. The language group that appears to have done the "engulfing" in much of Africa is the Bantu.

The Bantu had a number of advantages over other African groups. The Niger-Congo language family originally came from north of the equator, where all of Africa's indigenous crops were originally found. Neither the Khoisan nor the Pygmies developed agriculture because of the unsuitable wild plants found south of the equator. Africa also did not have a large mammal species suitable for domestication. As the Bantu spread into southern Africa, they began occupying much of the area that the Khoisan did. Trading and marriage relationships probably sprung up in some areas. But it is unclear what really happened to many of the disappeared Khoisan population. From other areas of the globe, we know that when hunter-gatherer societies encountered societies that had already developed food production, the hunter-gatherers were eliminated through outright violence, enslavement, marriage, or infectious diseases.

When examining why Europe was able to conquer and invade Africa, the reasons for their success are very similar. Europeans already had the advantage of guns, technology, writing, literacy, and political organizations that could sustain exploration and conquest. Domestic animals did not reach Africa until thousands of years after Europeans had them. There is also a disparity between Africa and Europe in plants that could be domesticated, although this was not as extreme as in other areas of the world. Finally, Africa also had a north-south axis in contrast to Eurasia's east-west orientation.

Diamond again in this chapter tackles implicitly the argument of racial superiority. He briefly mentions at the end of the chapter, "In short, Europe's colonization of Africa had nothing to do with differences between European and African peoples themselves, as white racists assume. Rather, it was due to accidents of geography and biogeography...." (pg. 400-1). Here, the author refers to the long used justification for European colonization of Africa, and the Americas and Australia, and argues that it just was not the case.

The author also makes a similar examination of Africa as he did with China and the Polynesian islands. He again uses linguistics to show how some groups were replaced with others. Although it may not always be clear how groups were displaced, whether they were killed, made slaves, absorbed into the invading society, etc, the linguistic patterns do illustrate the displacement. Diamond can then examine the areas for advantages/disadvantages that the groups may have had.

Epilogue "The Future of Human History as a Science"

Epilogue "The Future of Human History as a Science" Summary and Analysis

Diamond starts the epilogue by answering Yali's original question, "I would say to Yali: the striking differences between the long-term histories of peoples of the different continents have been due not to innate differences in the peoples themselves but to differences in their environments" (pg. 405). Diamond then presents a brief outline of his theory and the ultimate and proximate causes of these differences between societies. The causes include the continental differences in wild plant and animal species that could be domesticated, the orientation of axis for a continent, the relative isolation of peoples, and the continental differences in the size of landmass and population.

Diamond sees his work as the starting point for other investigations and studies in this area. He identifies certain areas where subsequent research might take place including, the role of intercontinental differences, how these factors also apply on smaller geographical scales and shorter time periods, how cultural factors influenced the development of technologies, and so on. Diamond admits that cultural influences and individuals have played large roles in the developments of societies. For example, what if Hitler had died in the summer of 1930 in a car accident of which he was a part? "Like cultural idiosyncrasies, individual idiosyncrasies throw wild cards into the course of history" (pg. 420).

Diamond further argues for the development of the science of human history, which would take its place alongside disciplines like astronomy, evolutionary biology, and paleontology. He suggests that historical sciences are different from non-historical sciences in several ways. They differ in methodology, with historical sciences more concerned with proximate and ultimate causes. Historical sciences are also more complicated in regards to prediction, as there are many "wild cards" that get thrown into history. Historians face great difficulties in trying to establish cause and effect for events and outcomes.

While it may seem like Diamond's epilogue brings up more questions about his theory than it answers, his epilogue is not an unfamiliar ending for a theoretical work. Essentially what he does here is to sum up his theory a final time and then suggest that there are a whole host of questions out there that either his theory has not answered or that his theory could be applied to. Thus, he gives several examples of places where researchers might start applying his theory. In doing so, he also points to perhaps one of the largest problems of the book, where do cultures and individual people fit? His examples suggest that these aspects do make a difference, but how much of a difference is unknown.

The epilogue also contains Diamond's argument for a science of human history. To some degree, this may seem like a strange idea, as the discipline of history already exists. Perhaps what Diamond is pointing to here with greater emphasis is the relative lack of methodology in many parts of history, making it very difficult to establish cause and effect relationships between events or general theories that cover more than specific events. His interdisciplinary use of research and materials may be a step toward a more "scientific" approach to history.

2003 Afterward "Guns, Germs and Steel Today"

2003 Afterward "Guns, Germs and Steel Today" Summary and Analysis

Diamond briefly identifies and discusses information that has come to light from other studies since the first publication of *Guns, Germs, and Steel* in 1997. The new information suggests that crops from Mexico spread into eastern North America via an indirect route through the southwest and that modern Japanese people resulted from an agricultural expansion from Korea. Diamond also briefly discusses several examples of groups conquering others whom when the possessed advanced weaponry and technology.

Another area of discussion that has arisen since the publication of the book is the question of why Europe expanded and conquered much of the globe and why China did not, given that both had many of the same advantages in Eurasia. Scholars have offered a number of different explanations for this, including that Europe's engine science gave them an edge over China. Other scholars have offered explanations similar to Diamond's, arguing that ecology and geography influenced the fate of these two regions.

Finally, Diamond states that there has been some discussion of how his theory might also apply to the corporate world, explaining why some companies succeed and others do not, as well as how best to organize human groups and businesses. For example, is centralized leadership better than a more diffuse leadership? Others have questioned whether Diamond's work might have an application in explaining why some countries enjoy greater riches and economic resources.

The afterward essentially discusses briefly some new information that supports Diamond's theory of continental differences and some possible areas where Diamond feels that his theory might have further application. Theoretically, the afterward adds nothing that is new and the information provided to us simply illustrates Diamond's theory. Although the information was new since 1996, it does not provide us with anything that differentially shapes Diamond's theory. Rather, the examples and discussion are similar to examples contained within the book and the further applications might be seen as additional research areas to the ones that Diamond identifies in the epilogue.

Objects/Places

Africa

This continent lies south of Eurasia. Humans have lived in Africa for longer than anywhere else in the world. Development was inhibited by its north-south axis, the lack of big animals that could be domesticated, and the relative lack of domesticated wild plants.

Alphabet

The writing strategy employed by most peoples today. It ideally provides a unique symbol or letter for each basic sound within a language.

The Americas

Diamond uses this term to refer to the combined continent of North and South America. He suggests that this continent had disadvantages relative to Eurasia because of the relative lack of plants and animals that could be domesticated, as well as a north-south axis of orientation, which inhibited the spread of technology and innovations.

Atahuallpa

An Inca emperor in the 1500's, he was the monarch of the largest and most advanced state in the Americas at this time. Atahuallpa's troops, although greater in number, faced the disadvantages of a lack of horses, more advanced weaponry, and less knowledge about the Spanish and their intentions. Atahuallpa was captured by Pizarro and held for eight months. He was finally killed after the Spanish received a ransom of gold.

Australia

This continent is located in the Pacific Ocean. Until modern times, all native peoples were nomadic or semi-nomadic and used primitive tools and weapons.

Austronesians

These ancient peoples, ultimately of South Chinese origin, settled the islands in the Pacific, replacing many of the native peoples between 3500 B.C and 500 B.C. They brought with them domesticated chicken, dogs and pigs, along with red-slipped pottery.

Bands

Bands were the tiniest societies, consisting of five to eighty people, were often nomadic, based on kin relationships, had egalitarian decision-making, and often lacked most institutions and economic specialization.

Chiefdoms

The societies were larger in size than tribes. Chiefdoms generally ranged from several thousand to several tens of thousands. Chiefdoms consisted of one or more fixed villages, a centralized leadership, and a monopoly of force. The society was stratified and had a redistributive economy.

Domesticated Animals

These are animals bred in captivity and modified from their wild ancestors and relatives for use by humans. Domesticated animals include cows, pigs, sheep, horses, goats, camels, llamas, alpacas, donkeys, reindeer, yaks, cattle, mithans, and water buffalo. There are also smaller domesticated animals such as dogs and cats, but these animals generally do not perform work related duties for humans. Large domesticated animals helped the growth of food production and influenced the creation and spread of some infectious diseases. Domesticated animals are different from tamed animals as tamed animals are born in the wild and are not modified from their ancestors to fulfill certain tasks. An example of a tamed animal used by humans is an elephant.

Eurasia

Diamond uses this term to refer to the large continent of Europe and Asia. Peoples on this continent were able, due to its environment, to develop early food production and animal domestication. These developments ultimately led to the advantages of "guns, germs, and steel" which allowed the peoples of this continent to conquer or absorb the peoples of other continents.

Fertile Crescent

Named for the crescent-like shape of its uplands, this area is located in Southwest Asia, or in today's Middle East in parts of Iraq, Iran, Turkey, Syria, and Jordan. The area appears to have been the earliest site of developments ranging from food production to cities, writing, and "civilization."

Infectious Disease Epidemics

Epidemics are acute illnesses that spread quickly and are generally confined to humans, although most originally developed from animal diseases. Epidemics have included all of the following infectious diseases: smallpox, influenza, measles, plague, malaria, cholera, and tuberculosis. Over time, groups develop resistance and/or immunities to these diseases. Diamond argues that Eurasians spread many infectious diseases to peoples in the Americas and Australia, killing many of the native peoples. This gave Eurasians an advantage over those peoples.

Kleptocracy

Kleptocracies are societies in which the net wealth is transferred from the masses to the upper classes. Kleptocracies are found in chiefdoms and states, where societies can do good by providing services for its citizens or by transferring the wealth and redistributing too few resources to the people. Kleptocracies can be reinforced through violence, by redistributing the tribute received in popular ways, or by constructing an ideology or religion that justifies the system.

Logograms

This writing strategy uses one written sign to stand for a whole word. This system was more commonly used before the spread of alphabets and includes Egyptian hieroglyphs, Sumerian cuneiform, many signs in the Chinese language, and the predominant Japanese writing system.

New Guinea

New Guinea is the second largest island in the world after Greenland, and lies north of Australia near the equator. Humans have been living in New Guinea for 40,000 years. The island has a great diversity in environments and habitats. Possible independent food production arose here around 7000 B.C.

The Phaistos Disk

A circular disk of hard clay found on the island of Crete in 1908. The disk is covered with writing that appears to be a form of syllabary, which has still not been deciphered. The disk contains 241 signs or letters on a curved line in five coils. The signs were punched into the clay using some sort of stamp. It is estimated to date from 1700 B.C., which would make it the earliest printed document.

Francisco Pizarro

He was a Spanish conquistador who conquered the Inca Emperor Atahuallpa and his troops in the Peruvian highlands. Diamond discusses in Chapter 3 the advantages that Pizarro had over the Incas, including horses, a greater knowledge of the opposition due to previous writings, and better weaponry. The Spanish also carried with them the germs for many infectious diseases that would further kill many Native Americans.

Polynesian Islands

They are islands in the Pacific Ocean, including Easter Island, Tonga, Hawaii, and so on. These islands varied greatly in their ecology and climate. Diamond argues that this, in turn, led to differences in the island societies' social complexity, technological developments, and the timing of food production.

Sedentary Living

This refers to societies and people who reside in permanent dwellings year around. As groups developed food production, they often left their previous nomadic lifestyle for a sedentary lifestyle. This also allowed individuals to possess more goods and possessions, as they no longer needed to be able to carry everything they owned.

States

The system of political, economic, and social institutions that is most familiar to us today as they rule most of the world. States have literate elites and masses in some cases, centralized control and decision-making, economic specialization, and social stratification.

Syllabaries

This is a writing system that uses a sign for each syllable. This system was common in ancient times and included the Linear B writing of Mycenaean Greece.

Tribes

Tribes are a slightly larger societal group than bands, consisting of several hundred people. Tribes often live in fixed, sedentary villages, dominated by kin-based clans. Decision-making is often egalitarian or "big-man" and the economy is based on reciprocal exchanges.

Yali's Question

Diamond's friend Yali, a local New Guinean politician, asked Diamond one day, "Why is it that you white people developed so much cargo and brought it to New Guinea, but we black people had little cargo of our own?" (pg. 14). This question formed the foundation for Diamond's thoughts on this subject and the formation of his theory.

Themes

Race vs. Environment

One of the main themes and arguments in the book is the juxtaposition of theories of race and biology with those of geography and biogeography. Perhaps the most used explanation in trying to explain the different timing of developments on different continents or the conquests of certain groups over others has been a racial or biological one that assumes a racially superior or more intelligent society. Thus, under these theories, the most intelligent, racially superior groups first make inventions, develop new innovations, and conquer other groups. It is "survival of the fittest, or best." This explanation has been used to justify wars, colonization, and slavery.

The very thesis of Diamond's book challenges this and instead, argues environmental and geographical factors caused developmental differences and differences in the timing of these developments. Some of the geographical causes he mentions are plant and animal domestication, suitable climates, and a continent's axis of orientation. These differences then led to more proximate differences in the timing and development of writing systems, technological innovations, and centralized governments.

Throughout the book, Diamond refers to this debate between biology and geography. But, the argument often remains implicit in Diamond's discussion. As he situated the topic of the book and his theory in this debate, his argument should be viewed as a response to the racial/biological theories that posit that differences between societies are due to the societies themselves. Whether explicitly mentioned then or not, this "theme" or argument represents the core foundation of the book. The argument may be clearest as Diamond introduces his topic in the beginning of the book and then in the last two chapters on the conquests of the Americas and Africa. Again, while Diamond does not give great detail to the racial theories in these last two chapters, he does explicitly explain why Europeans had advantages over Native Americans and Africans and how these advantages were the result of environmental and geographical differences rather than racial or biological ones between the groups.

Development

Another theme that runs through *Guns, Germs, and Steel* is the idea of development or progress. This theme has some contradictory aspects within the book as Diamond both tries to explain societies' developments while at the same time trying to avoid an explanation which views development as a sign of higher intelligence, happiness, and civilization.

In a sense, Diamond's theory attempts to account for development including why certain innovations were developed, how these developments spread, and ultimately, what impact certain developments had in human history. For example, Diamond spends

several chapters discussing the rise and spread of food production. He attempts to explain how food production started in nomadic societies, what impact this had on those societies, how this development may have spread from group to group, and finally, how this development influenced the events of human history. He also talks about the developments of animal domestication, writing, weapons, centralized governments, and oceangoing vessels. Each of these developments, along with others, allowed some groups to have advantages over others.

Yet, Diamond also walks a fine line with this theme. It has often been assumed and argued that development and progress are inevitable, good and show superior intelligence and creativity on the parts of societies who progressed in certain ways. Throughout history, groups have been viewed as "primitive" and "uncivilized" when they did not conform to what other societies looked like. Thus, the remaining hunter-gatherer groups, for example, are often talked about in some societies as if they were unintelligent and barbaric and that this is why they have not "developed." Such arguments have laid the foundations for wars, slavery, and oppression around the world. Diamond attempts to counter this at several points by arguing that some "more primitive" societies may be more intelligent and less violent than "developed" societies. He also clearly argues against racial theories to explain these differences. But, Diamond also falls back onto categorizing societies as moving from one type, such as a band, to another, such as a tribe, and so on, in a sort of "natural" process depending on population size. There is also the sense that history has progressed the way that it has in an inevitable procession. Europe was destined to conquer others because of its superior wild plants and animals and Eurasia's east-west axis.

Conquest

Though his discussion and examples, Diamond often focuses on conquest and how and why some groups have been able to dominate others. Although he does not go into great detail about the violence and oppression that happened when societies collided, conquest plays an important role in the overall theme of the book. In trying to explain why some groups held advantages over others, he is attempting to explain how it is that some groups were able to conquer others.

The theme of conquest encapsulates several kinds of conquest. First, it includes that of which we would generally think, wars, violent invasions, and so on. This is illustrated by the discussion in Chapter 3 about the Spanish conquest of the Incas. But Diamond also shows other forms of conquest. One that he mentions throughout the book is a more subtle conquest where groups were absorbed into other groups. While the "conquest" was not a violent one, in the end, one society often lost its traditional ways of life, social structures, and culture. For example, Diamond discusses how Austronesians replaced many of the peoples on Polynesian islands, causing their native languages and cultures to disappear. While we do not know if the initial encounters were violent, it appears that a more "peaceful" conquest happened in some places like Polynesia and in parts of China and Africa.

While Diamond does not specifically discuss many examples from modern times, the theory he presents could be extended and expanded to include some of what he leaves unsaid. For example, by showing the advantages that Europeans had at certain times, it is more easily understood how they were able to enslave large numbers of Native Americans and Africans and how they were able to kill off enormous numbers of native peoples in the areas that they explored and conquered. While Diamond does not discuss this more insidious part of the "evolution" of human history, the reality of these encounters flows beneath the surface of his argument.

Style

Points of View

Jared Diamond's *Guns, Germs and Steel: The Fates of Human Societies* uses first person narration from the author's experiences and viewpoints. In various chapters, the author recounts personal information about himself and the people he has met and uses the words "we" and "us" throughout the book to draw the reader in.

While the overall narration is first person, because of the nonfiction, historical nature of the work, large sections of the book are written in more of a third person narrative. Obviously, Diamond was not present for all of the events that he discusses in the work and it is at these points in which the narration turns. There are also several sections in which Diamonds quotes from historical sources that are first person accounts of events. Mostly notably, Diamond uses accounts from Spanish soldiers about their conquest of Atahuallpa and the Incas.

The narration that Diamond adopts, a first/third person mixture, is a familiar academic writing style, particularly when addressing a popular audience as Diamond does here. Diamond provides the reader with his own interpretations and arguments, attempting to persuade the reader that his assessments are correct.

Setting

Guns, Germs, and Steel covers the globe in Diamond's examination of how and why societies developed differently. He breaks up the world map into four continent groups, Eurasia including Europe and Asia, the Americas including North and South America, Australia, and Africa.

In various chapters, Diamond focuses on events and histories in Polynesia, China, Australia, North America, and Mesoamerica. In these settings, he moves from ancient times to more modern events and discusses a variety of regions and environments within the continents. His general argument, however, identifies a global pattern and as such, Diamond, in most chapters, discusses general events that illustrate the pattern in more specific areas.

In the last five chapters, Diamond takes a "tour around the world," with each chapter as a regional test case for his theory. In this section, he has chapters on Australia, China, Polynesia, North America, and Africa, explaining how the environments affected the societies within them.

Language and Meaning

Diamond, for the most part, writes in an accessible manner, particularly given the complex topic of his work. Although the book does contain some technical information, Diamond uses definitions, examples, and simple language to explain very complex topics, such as how microbes evolve over time. He appears to be targeting a popular audience in addition to an academic audience, and uses these techniques to make the topic accessible and fast paced. Overall, the book contains little technical jargon and does not use strong, violent or vulgar language.

The book is also highly organized. Diamond has separated the book into four parts. The sections detail an introduction to Diamond's theory of environments shaping societies, the rise and spread of food production, how food production influenced the rise of technologies, writing, and so on, and finally an application of this theory to five examples. Within each of the sections and its chapters, Diamond clearly labels competing theories and also clearly organizes the evidence and reasoning that he has for aspects of his theory.

Structure

Guns, Germs, and Steel is made up of nineteen chapters, a prologue, an epilogue, and an afterword. There are four sections entitled "From Eden to Cajamarca," "The Rise and Spread of Food Production," "From Food to Guns, Germs, and Steel," and "Around the World in Five Chapters."

Each chapter of the book covers a different topic and each chapter builds on the previous ones to explain Diamond's theory. The book is non-linear, with the discussion moving back and forth in time. The author also mixes personal observations with historical evidence and theoretical explanations. During the third chapter, the author also uses primary source material in the form of personal narratives. The ending epilogue is a 2003 add-on to the book and discusses some of the historical evidence and discussion that has come to light since Diamond wrote the book in 1996.

Quotes

"Authors are regularly asked by journalists to summarize a long book in one sentence. For this book, here is such a sentence: 'History followed different courses for different peoples because of differences among peoples' environments, not because of biological differences among peoples themselves." Prologue, pg. 25

"Hence the availability of domestic plants and animals ultimately explains why empires, literacy, and steel weapons developed earlier in Eurasia and later, or not at all, on other continents." Chapter 4, pg. 92

"Plant domestication may be defined as growing a plant and thereby, consciously or unconsciously, causing it to change genetically from its wild ancestor in ways making it more useful to human consumers." Chapter 7, pg. 114

"Eurasian peoples happened to inherit many more species of domesticable large wild mammalian herbivores than did peoples of the other continents." Chapter 9, pg. 174

"The importance of lethal microbes in human history is well illustrated by Europeans' conquest and depopulation of the New World. Far more Native Americans died in bed from Eurasian germs than on the battlefield from European guns and swords." Chapter 11, pg. 210

"Knowledge brings power. Hence writing brings power to modern societies, by making it possible to transmit knowledge with far greater accuracy and in far greater quantity and detail, from more distant lands and more remote times." Chapter 12, pg. 215

"Technology, in the form of weapons and transport, provides the direct means by which certain peoples have expanded their realms and conquered other peoples. That makes it the leading cause of history's broadest pattern." Chapter 12, pg. 241

"Thus, the development and reception of inventions vary enormously from society to society on the same continent. They also vary over time within the same society." Chapter 13, pg. 253

"Hence, all other things being equal, technology develops fastest in large productive regions with large human populations, many potential inventors, and many competing societies." Chapter13, pg. 261

"Eurasia's considerable initial advantage thereby was translated into a huge lead as of A.D. 1492 - for reasons of Eurasia's distinctive geography rather than of distinctive human intellect." Chapter 13, pg. 264

"Over the past 13,000 years the predominant trend in human society had been the replacement of smaller, less complex units by larger, more complex ones." Chapter 14, pg. 281

"The largest population replacement of the last 13,000 years has been the one resulting from the recent collision between Old World and New World societies." Chapter 18, pg. 354

"My main conclusion was that societies developed differently on different continents because of differences in continental environments, not in human biology." Afterward, pg. 426

Topics for Discussion

Do you agree or disagree with Diamond's theory that environments have shaped human histories? Why or why not? Are there other theories that can be used to explain the phenomenon that Diamond discusses?

Using the discussion of Pizarro's conquest of the Incas in Chapter 3 and Diamond's theory, explain why the Spanish were able to conquer the Incas. Why did the Incas not conquer the Spanish or invade Europe?

Compare and contrast the situations that developed when Austronesians invaded the Polynesian islands and New Guinea. Why was New Guinea in a better position to resist being conquered or absorbed?

How did food production develop in societies? What factors helped make food production possible?

Why was food production important for the development of "Guns, Germs, and Steel?"

How did animal domestication factor into the development of societies?

Using examples, discuss how the axis of a continent inhibits or encourages the diffusion and spread of new technologies and innovations.

Discuss how the author uses linguistics in the last five chapters to provide evidence for his theory on environmental difference.

One of the criticisms that could be made of the book is that Diamond still presents history following a more or less inevitable path. Support or refute this criticism. What role do culture and individuals play in the path of history?