

Chapter 1 : Anthropology - Wikipedia

The past, the Buddhist thought, is alternatively constructible, mainly due to imagination (kalpana). Scientific reason, as ordinarily understood, is concerned basically with the (causal) order or teleological (unitary) character of different events.

Why Do We Study the Past? To be human is to be curious, questioning, and inquisitive. We know that our ancient ancestors stared at the night sky with wonder, that they experienced fear as the sun disappeared during solar eclipses and joy at its return, that they witnessed the cycles of births and deaths, seasons and years, and that for all of these events they sought explanation and meaning. The search for and discovery of explanations and meaning contributed to the development of culture—that shared body of acquired knowledge that humans live by and pass on to each successive generation. Human curiosity and ingenuity have allowed cultures to evolve and flourish in almost every environmental niche on the earth. Though people today understand much more than our ancestors did about the earth and the heavens, some old questions remain unanswered while new discoveries have yielded new questions. As long as humans exist we will ponder the mysteries around us and seek to acquire the knowledge and understanding necessary to satisfy our needs and solve our problems. This thirst for knowledge reaches into the past, even when one is focused on solving contemporary problems. The search for solutions often requires an understanding of how problems developed or how our elders might have approached analogous problems in the past. We study both our collective pasts and our individual pasts to gain a better understanding of who we are today and where we are going in the future. Lessons learned from the past can influence—hopefully for the better—the social, political, and environmental actions we take today. By studying the past we learn how and why people lived as they did throughout the world and the changes and causes of such changes, that occurred within these cultures. We study the past to acquire a broader and richer understanding of our world today and our place in it.

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How do we Learn About the Past? We learn about the past in many ways. Space science now allows us to peer back in time to the birth of our universe 8 billion years ago, while the geologic sciences look at the origin and structure of our planet earth. Paleontology looks at the origin of life on our planet through the fossilized remains of plant and animal forms-- from the earliest invertebrate creatures through the era of dinosaurs to the development of our primate ancestors into our current species. History and archaeology are also fields that study the past. It is a common misconception that archaeologists study dinosaurs, but in fact archaeologists, like historians, study only the human past—the last one million years. Each of these fields has developed its own methods for studying the past. In this unit we will look at ways in which archaeologists learn about our human past.

Chapter 2 : Understand the Past

WAYS OF UNDERSTANDING THE HUMAN PAST Download *Ways Of Understanding The Human Past* ebook PDF or Read Online books in PDF, EPUB, and Mobi Format. Click Download or Read Online button to *WAYS OF UNDERSTANDING THE HUMAN PAST* book pdf for free now.

Various short-lived organizations of anthropologists had already been formed. Its members were primarily anti-slavery activists. They maintained international connections. Anthropology and many other current fields are the intellectual results of the comparative methods developed in the earlier 19th century. Theorists in such diverse fields as anatomy, linguistics, and Ethnology, making feature-by-feature comparisons of their subject matters, were beginning to suspect that similarities between animals, languages, and folkways were the result of processes or laws unknown to them then. Darwin himself arrived at his conclusions through comparison of species he had seen in agronomy and in the wild. Darwin and Wallace unveiled evolution in the late 1800s. There was an immediate rush to bring it into the social sciences. He wanted to localize the difference between man and the other animals, which appeared to reside in speech. The title was soon translated as "The Anthropology of Primitive Peoples". The last two volumes were published posthumously. Waitz defined anthropology as "the science of the nature of man". By nature he meant matter animated by "the Divine breath"; [13] i. He stresses that the data of comparison must be empirical, gathered by experimentation. It is to be presumed fundamentally that the species, man, is a unity, and that "the same laws of thought are applicable to all men". In the explorer Richard Francis Burton and the speech therapist James Hunt broke away from the Ethnological Society of London to form the Anthropological Society of London, which henceforward would follow the path of the new anthropology rather than just ethnology. It was the 2nd society dedicated to general anthropology in existence. In his keynote address, printed in the first volume of its new publication, *The Anthropological Review*, Hunt stressed the work of Waitz, adopting his definitions as a standard. Previously Edward had referred to himself as an ethnologist; subsequently, an anthropologist. Similar organizations in other countries followed: The majority of these were evolutionist. One notable exception was the Berlin Society for Anthropology, Ethnology, and Prehistory founded by Rudolph Virchow, known for his vituperative attacks on the evolutionists. During the last three decades of the 19th century, a proliferation of anthropological societies and associations occurred, most independent, most publishing their own journals, and all international in membership and association. The major theorists belonged to these organizations. They supported the gradual osmosis of anthropology curricula into the major institutions of higher learning. By the American Association for the Advancement of Science was able to report that 48 educational institutions in 13 countries had some curriculum in anthropology. None of the 75 faculty members were under a department named anthropology. Anthropology has diversified from a few major subdivisions to dozens more. Practical Anthropology, the use of anthropological knowledge and technique to solve specific problems, has arrived; for example, the presence of buried victims might stimulate the use of a forensic archaeologist to recreate the final scene. The organization has reached global level. For example, the World Council of Anthropological Associations WCAA, "a network of national, regional and international associations that aims to promote worldwide communication and cooperation in anthropology", currently contains members from about three dozen nations. Cultural anthropology, in particular, has emphasized cultural relativism, holism, and the use of findings to frame cultural critiques. Ethnography is one of its primary research designs as well as the text that is generated from anthropological fieldwork. In the United States, anthropology has traditionally been divided into the four field approach developed by Franz Boas in the early 20th century: These fields frequently overlap but tend to use different methodologies and techniques. European countries with overseas colonies tended to practice more ethnology a term coined and defined by Adam F. It is sometimes referred to as sociocultural anthropology in the parts of the world that were influenced by the European tradition. American anthropology Anthropology is a global discipline involving humanities, social sciences and natural sciences. Anthropology builds upon knowledge from natural sciences, including the discoveries about the origin and evolution of *Homo sapiens*, human physical traits, human behavior, the variations among different groups of

humans, how the evolutionary past of *Homo sapiens* has influenced its social organization and culture, and from social sciences, including the organization of human social and cultural relations, institutions, social conflicts, etc. According to Clifford Geertz, "anthropology is perhaps the last of the great nineteenth-century conglomerate disciplines still for the most part organizationally intact. Long after natural history, moral philosophy, philology, and political economy have dissolved into their specialized successors, it has remained a diffuse assemblage of ethnology, human biology, comparative linguistics, and prehistory, held together mainly by the vested interests, sunk costs, and administrative habits of academia, and by a romantic image of comprehensive scholarship. During the 1950s and 1960s, there was an epistemological shift away from the positivist traditions that had largely informed the discipline. In contrast, archaeology and biological anthropology remained largely positivist. Due to this difference in epistemology, the four sub-fields of anthropology have lacked cohesion over the last several decades. Cultural anthropology, Social anthropology, and Sociocultural anthropology Sociocultural anthropology draws together the principle axes of cultural anthropology and social anthropology. Cultural anthropology is the comparative study of the manifold ways in which people make sense of the world around them, while social anthropology is the study of the relationships among individuals and groups. There is no hard-and-fast distinction between them, and these categories overlap to a considerable degree. Inquiry in sociocultural anthropology is guided in part by cultural relativism, the attempt to understand other societies in terms of their own cultural symbols and values. Ethnography can refer to both a methodology and the product of ethnographic research, i. As a methodology, ethnography is based upon long-term fieldwork within a community or other research site. Participant observation is one of the foundational methods of social and cultural anthropology. The process of participant-observation can be especially helpful to understanding a culture from an emic conceptual, vs. The study of kinship and social organization is a central focus of sociocultural anthropology, as kinship is a human universal. Sociocultural anthropology also covers economic and political organization, law and conflict resolution, patterns of consumption and exchange, material culture, technology, infrastructure, gender relations, ethnicity, childrearing and socialization, religion, myth, symbols, values, etiquette, worldview, sports, music, nutrition, recreation, games, food, festivals, and language which is also the object of study in linguistic anthropology. Comparison across cultures is a key element of method in sociocultural anthropology, including the industrialized and de-industrialized West.

Chapter 3 : 3 Ways to Understand the Human Condition - wikiHow

*The Ways of Understanding the Human Past [D P Chattopadhyaya] on www.nxgvision.com *FREE* shipping on qualifying offers.*

Antiquarians studied history with particular attention to ancient artifacts and manuscripts, as well as historical sites. Antiquarianism focused on the empirical evidence that existed for the understanding of the past, encapsulated in the motto of the 18th-century antiquary, Sir Richard Colt Hoare , "We speak from facts not theory". Tentative steps towards the systematization of archaeology as a science took place during the Enlightenment era in Europe in the 17th and 18th centuries. Flavio Biondo , an Italian Renaissance humanist historian, created a systematic guide to the ruins and topography of ancient Rome in the early 15th century, for which he has been called an early founder of archaeology. Antiquarians of the 16th century, including John Leland and William Camden , conducted surveys of the English countryside, drawing, describing and interpreting the monuments that they encountered. First excavations[edit] An early photograph of Stonehenge taken July One of the first sites to undergo archaeological excavation was Stonehenge and other megalithic monuments in England. John Aubrey " was a pioneer archaeologist who recorded numerous megalithic and other field monuments in southern England. He was also ahead of his time in the analysis of his findings. He attempted to chart the chronological stylistic evolution of handwriting, medieval architecture, costume, and shield-shapes. These excavations began in in Pompeii, while in Herculaneum they began in The discovery of entire towns, complete with utensils and even human shapes, as well the unearthing of frescos , had a big impact throughout Europe. However, prior to the development of modern techniques, excavations tended to be haphazard; the importance of concepts such as stratification and context were overlooked. The father of archaeological excavation was William Cunnington " Cunnington made meticulous recordings of Neolithic and Bronze Age barrows , and the terms he used to categorize and describe them are still used by archaeologists today. The idea of overlapping strata tracing back to successive periods was borrowed from the new geological and paleontological work of scholars like William Smith , James Hutton and Charles Lyell. The application of stratigraphy to archaeology first took place with the excavations of prehistorical and Bronze Age sites. A major figure in the development of archaeology into a rigorous science was the army officer and ethnologist , Augustus Pitt Rivers , [14] who began excavations on his land in England in the s. His approach was highly methodical by the standards of the time, and he is widely regarded as the first scientific archaeologist. He arranged his artifacts by type or " typologically , and within types by date or "chronologically". This style of arrangement, designed to highlight the evolutionary trends in human artifacts, was of enormous significance for the accurate dating of the objects. His most important methodological innovation was his insistence that all artifacts, not just beautiful or unique ones, be collected and catalogued. His painstaking recording and study of artifacts, both in Egypt and later in Palestine , laid down many of the ideas behind modern archaeological recording; he remarked that "I believe the true line of research lies in the noting and comparison of the smallest details. Petrie was the first to scientifically investigate the Great Pyramid in Egypt during the s. Mortimer Wheeler pioneered systematic excavation in the early 20th century. Pictured, are his excavations at Maiden Castle, Dorset , in October These scholars individuated nine different cities that had overlapped with one another, from prehistory to the Hellenistic period. Wheeler developed the grid system of excavation , which was further improved by his student Kathleen Kenyon. Archaeology became a professional activity in the first half of the 20th century, and it became possible to study archaeology as a subject in universities and even schools. By the end of the 20th century nearly all professional archaeologists, at least in developed countries, were graduates. Further adaptation and innovation in archaeology continued in this period, when maritime archaeology and urban archaeology became more prevalent and rescue archaeology was developed as a result of increasing commercial development. The Child was an infant of the *Australopithecus africanus* species, an early form of hominin The purpose of archaeology is to learn more about past societies and the development of the human race. Without such written sources, the only way to understand prehistoric societies is through archaeology. Because archaeology is the study of past human

activity, it stretches back to about 2. Many important developments in human history occurred during prehistory, such as the evolution of humanity during the Paleolithic period, when the hominins developed from the australopithecines in Africa and eventually into modern *Homo sapiens*. Without archaeology, we would know little or nothing about the use of material culture by humanity that pre-dates writing. For many literate cultures, such as Ancient Greece and Mesopotamia, their surviving records are often incomplete and biased to some extent. In many societies, literacy was restricted to the elite classes, such as the clergy or the bureaucracy of court or temple. The literacy even of aristocrats has sometimes been restricted to deeds and contracts. The interests and world-view of elites are often quite different from the lives and interests of the populace. Writings that were produced by people more representative of the general population were unlikely to find their way into libraries and be preserved there for posterity. Thus, written records tend to reflect the biases, assumptions, cultural values and possibly deceptions of a limited range of individuals, usually a small fraction of the larger population. Hence, written records cannot be trusted as a sole source. The material record may be closer to a fair representation of society, though it is subject to its own biases, such as sampling bias and differential preservation. Across the millennia many thousands of cultures and societies and billions of people have come and gone of which there is little or no written record or existing records are misrepresentative or incomplete. Writing as it is known today did not exist in human civilization until the 4th millennium BC, in a relatively small number of technologically advanced civilizations. In contrast, *Homo sapiens* has existed for at least 200,000 years, and other species of *Homo* for millions of years see Human evolution. These civilizations are, not coincidentally, the best-known; they are open to the inquiry of historians for centuries, while the study of pre-historic cultures has arisen only recently. Even within a literate civilization many events and important human practices are not officially recorded. Any knowledge of the early years of human civilization – the development of agriculture, cult practices of folk religion, the rise of the first cities – must come from archaeology. In addition to their scientific importance, archaeological remains sometimes have political or cultural significance to descendants of the people who produced them, monetary value to collectors, or simply strong aesthetic appeal. Many people identify archaeology with the recovery of such aesthetic, religious, political, or economic treasures rather than with the reconstruction of past societies. When such unrealistic subjects are treated more seriously, accusations of pseudoscience are invariably levelled at their proponents see Pseudoarchaeology. However, these endeavours, real and fictional, are not representative of modern archaeology.

Chapter 4 : Archaeology - Wikipedia

Title: Ways of understanding the human past: mythic, epic, scientific, and historic Volume 12 of Monographs in PHISPC series Volume 12 of PHISPC monograph series on history of philosophy, science, and culture in India.

Student Answers hermy27 Student One of the greatest benefits of studying history is that it allows us a chance to learn about who we came from. The people of the past are those who came before us, and it is interesting to see how some of the thoughts, attitudes, and practices of today can differ so drastically from those throughout history. On the other side of that coin, it can be fun to learn about ideas that began years ago that are still a modern day issue. An example of this would be to look back at the suffragettes of the early 20th century who paved the way for the modern day equal rights movement. They were fighting to make sure that women could be treated as equal citizens of our country, including the right to vote, own property, or hold credit. The equal rights movement is still a current hot topic years later. Throughout history there have been both great successes and horrific failures. As the saying goes "those who are unfamiliar with their history, are bound to repeat it". Studying history allows us to build on our accomplishments and learn from our mistakes. History all puts life into perspective. It allows individuals to see where they came from which better allows them to situate themselves in their own lives. History can show you a lot about past human civilization, successes in the past, great ancestors, failures and disasters, and so much more about the past. You would be more aware about the world and much smarter if you learned about history. Wiggin42 Student Whether to study History or not is not a question at all. As a human we should know or have a curiosity to who was our ancestors? How did they live? It reveals not only our past but how we can design our future in a better way. There are valuable lessons in analyzing our past to figure out the future outcome without paying a huge price for it. Studying history allow to learn from the mistakes of our ancestors so we do not do the same things they did and work to become a better place. It allows us from repeating the same mistakes and allows us to avoid worse results than those seen in the past. History teaches us lessons learned from previous mistakes. Because we know the consequences already. This says it all, "Those who cannot learn from history are doomed to repeat it". Those questions and so many more are not going to be answered without history. History has its importance because: It increases our knowledge of our cultural heritage and our ancestral roots where we originate from. It also enhances knowledge on cross-cultural diversity on an international level. It helps us inculcate moral values as we learn of the courage and diligence of the men and women who portrayed such traits in the past. Besides, we also learn from past mistakes made by our forefathers and avoid repeating them. It helps students develop their research skills and assess sources of information. It educates us about the evolution of man. So this subject is an important aspect that students must study. Looking back at past events helps us shape the present and the future. According to history scholars, the first period is the pre-history stage. The earliest humans gradually evolved in communication through their actions, sounds and signs to formulate languages. Information was first handed down orally which became legends and then when written language prevailed, history was recorded for posterity. History is of vital importance to the human race because it primarily recounts the rise and fall of human civilizations. Historians are able to piece together life spans of generations and understand and compare progress and regress for future generations to come, possibly for the future survival of the human race as a whole. History offers data on information of how people and societies lived and behaved in the past. History helps provide identity. Historical data contains information of how families and even nations were formed and how the evolved while retaining cohesion. For one to be a good citizen, the study of history is essential as it promotes national identity and loyalty. Not only does history contribute to moral understanding, it is also important in our own lives and useful in world of work. History also helps us explain how systems were put in place in the past and how we relate to them in the present. Studying and reading past stories of individuals and their past situations enables the learner to measure his or her own moral values and sense. Students are also inspired as they learn about those who worked hard, suffered, and persevered to bring change to the society. Out of these inspirations they will work hard to achieve their goals in life. Studying history provides identity. This happens when the learners study about the beginning of

families, groups, institutions and even the whole country and how they have evolved to sustain changes and cohesion. In America the most obvious importance of studying history is that it provides facts about families and how they have interacted and survived vast historical changes. These changes can happen through climate, technological advancements and many more. As they understand these changes they learn to respond to any kind of change that may arise. History also provides link with other subjects which has historical backgrounds. Subjects like economics, social studies, social arts. As they study history they they develop cross curricular skills and interest. Among the many benefits to the study history the most vital reason of to do so is to identify mistakes of the past to avoid their repetition in the present and future. Through the study of history, citizens, policy makers, and governments as a whole can identify patterns of behaviors and cycles that led to both positive and negative turns in events. An outstanding example of the practical application of the study of history in our modern times and its usage to avoid a recurring issue is the wreck of the oil tanker the Exxon Valdez. The collision of the ship with the reef tore a hole into the single walled hull of the tanker resulting in However, through the study of the historical events and policies that led to the wreck and subsequent environmental issues, new laws and policies were put into place to prevent a similar incident from reoccurring; one such policy now requires that all tankers carrying hazardous materials such as oil are required to have double reinforced hulls. The wreck of the Exxon Valdez is a small example of the ways in which the study of historical events and the actions leading up to them can be analyzed and applied to prevent similar events from ever happening again. Studying and analyzing the events of the pasts allows for us as individuals and communities to make informed decisions about the present to avoid recreating the problems of our past. It is important to study history because as people live in the present, they tend to worry about the future. Nonetheless, past events help in foretelling and shaping the future. By studying history, we get to learn and understand change and how the society we live in came to be. History offers a deep-rooted knowledge on the existence and change in our society. By learning history, we gain a better understanding of our cultures and traditions since it contributes to moral comprehension. Studying the historical array of events and individuals who lived in the past with diverse characters and behaviors helps us gain lessons on life issues and skills. In addition, history provides information that has evidence about our families, institutions and our country as a whole, how they were formed and evolved over time, and we can only understand such information by studying it. Lastly, studying history is essential for good citizenship as it helps people to be loyal to their country through patriotism. It carries along knowledge that allows future generations to understand the past and build on it the constructive way. As such, future generations learn from past mistakes, past successes and evaluate whether history should repeat itself or not. History is an essence from generations to generations. The issue that might surround an historical knowledge, is its credibility. Meanwhile, the benefits of acquiring an historical knowledge whether credible or not, outweighs the damages of disregarding it. For a knowledge to be considered historical, there has to be a at least, a slight truth about the situation that it is about. For instance, there are speculations about who really discovered America, but the reality about such a speculation is that, America has been discovered by other civilizations. As we grapple with current events of political, cultural, and ethical importance, methodically studying human history helps us to develop our knowledge leading to informed solutions to problems. The study of history is not only critical to gathering knowledge of facts such as dates, but to help develop critical thinking skills. Placing value on the study of history assists students of any age to consider reflectively the contemporary culture and world. Without informed thought, the same mistakes are made repeatedly and the same solutions continue to evolve. Unfortunately, without critical analysis of history the solutions are often only temporary. The study of history is essential in any attempt to truly understand our place in the world. It does not matter what you intend to do to make money, knowing and understanding what happened in the past can you understand what is happening now, how things will work out, and what the future may hold. As an individual, you know that others can understand your views or opinions better if they understand who you are personally. The same goes for understanding other cultures, economic systems, and political structures. However, this is only one benefit. Another benefit of know history is so you can understand why things are happening in our society today. For example, the American housing market bust of can be compared to Black Monday of First, you identify the parallels between why the crashes

occurred, the amount of people affected, and the effect on society and the economic system. After there is an understanding as to how this has happened before in history, you can look to see how America recovered from it in the past and devise ways to help America recover from the housing market. You can also better understand why certain efforts are being tried, and other recovery programs avoided if you see the failure and success of the implementation previously. Although this list is not exhaustive of all of the benefits of knowing your history, the last one that I will mention is the ability to be a Jeopardy champ! Knowing history helps you learn geography, political figures of the past, as well as have a small understanding of the advent of many things in modern society. All of which can provide a wealth of knowledge for you to pull from when playing the game. When we turn to the past, we find examples of what communities can achieve when they collaborate on solutions to propel humanity forward during times of harrowing hardship – an ongoing reality shared across generations. This is an empowering and practical competence to have in any area of study. And because no new day starts without yesterday shaping its existence, possessing historical knowledge allows us to better understand multiple timelines influencing current events, heightening our social consciousness. Therefore, when historical inquiry is taken beyond the stereotype of being a memorization game of dates, names, and places, it possesses the power to greatly influence both our present and future experiences.

Ways of Understanding the Human Past: Mythic, Epic, Scientific and Historic (PHISPC Monograph Series on History of Science, Philosophy & Culture in Indian Civilization Part 12) Reprint Edition.

May 12, Many factors contribute to political divisiveness and rancor. Some of them are natural and nearly inevitable aspects of fundamental human nature, but others are not. Of those that are not, possibly the most influential is ignorance. Many of the angry exchanges between talking heads on cable TV are strawmen fighting strawmen. We have the knowledge and the means to solve this problem, but it remains to be seen whether we have the will. This essay summarizes the issue through a few specific examples and then offers some practical recommendations for addressing it. People with shared interests trust each other, and this trust allows them to achieve more as a group than they could as individuals. Many species form into groups for the mutual benefit of the individual members, from relatively small groups like wolf packs to those numbering in the tens of thousands like massive termite colonies. For example, the bees in a hive are all siblings. Humans are unique in that we form into groups of individuals who are unrelated to one another. We genuinely are The Social Animal. It is through our groupishness that great civilizations, technical achievements, and even our survival as a species, are possible. The flip side of our in-group trust is mistrust toward groups other than our own. The tendency to compete is so deeply ingrained in our psyche that we invented sports to satisfy it. We get to exercise some ancient, ancient drives. Other factors that contribute to partisan divisiveness are within our capability to control if we choose to. To illustrate, I made up the following paragraph. I doubt many people believe all of it, but I do not doubt that many people believe parts of it. The mind is a blank slate at birth. Everything we believe about right and wrong is learned, either from formal education or first-hand experience. Humans are driven mostly by conscious reason. Our ability to reason evolved to help us make better decisions and to find truth. Reason is the path to moral truth. Reason tells us that morality starts and ends with care and fairness. Religions are fundamentally different from secular ideologies. There are no innate differences between groups of people that might explain disparities between them. Disparities are caused by social constructs. Prejudices and disparities can be eliminated if we put in place the right social constructs and teach the right things. In this way the Good Society and the New Man are possible. Paraphrasing Luke Skywalker in Star Wars: Everything I just said in that paragraph is wrong. The Modern Denial of Human Nature Steven Pinker explains that evolution shaped our brains just as it shaped our bodies. We are born with psyches pre-wired with evolutionary adaptations that aid in our survival and flourishing in the social world. Smith, and John R. Alford show that the pre-wiring with which we are born predisposes us to favor some types of behaviors and disfavor others. It is not true that everything we believe about right and wrong is learned. Instinct and intuition happen automatically and instantaneously. Conscious reason, on the other hand “the other ten percent of human social thought” requires language and the construction of a logical argument. Conscious reason can, and sometimes does, influence the way we perceive, understand, and react to the world, but not in the way many of us assume. There are two predominant ways in which humans use reason to make sense of the social world. These two ways of thinking have persisted through the millennia, and are evident even today, lurking behind the curtain of partisan battles like the Wizard of Oz, controlling how each side perceives and reacts to the other. Herman summarizes the Platonic style of thinking on the first page his book: Plato used it to represent his most fundamental idea: Ideological Origins of Political Struggles. Herman contrasts this cognitive style with the alternate way of thinking embodied by Aristotle: There is no cave; only a world made of things and facts. Herman compares and contrasts they two styles of reasoning, and hints at the impact each of them has had on human history, which he discusses in detail later in his book: They both stressed the importance of reason as our guide for understanding and shaping the world. Both believed that our physical world is shaped by certain eternal forms that are more real than matter. Plato, by contrast, is the spokesman for the theologian, the mystic, the poet, and the artist. One gave us a view of reality as multiform and constantly evolving; the other, as eternal and One. One told us we have to learn to deal with things as they are, including each other. The other said we need to think about how things ought to be,

including ourselves and our society. Constitution, the Manhattan Project, and shopping malls. The other gave us Chartres Cathedral, but also the gulag and the Holocaust. It continues with the fact that few people know about this. And that we can fix. Social science research reveals that we consistently fail at simple logic. They argue that the evolutionary purpose of reason is to help us win arguments. A short summary of their findings is available on Edge. It turns out that David Hume was right almost three hundred years ago when he said: They believe that reasoning is the royal road to moral truth, and they believe that people who reason well are more likely to act morally. We all need to take a cold hard look at the evidence and see reasoning for what it is. For example, National Geographic reports that some Andean, Tibetan, and Ethiopian peoples have adapted to living in the thin air of high altitudes. A recent study in the journal *Cell* suggests that sea-dwelling people in Southeast Asia have evolved adaptations that help them dive deep into the ocean. The notion that genes play no role in differences among individuals or groups is headed for a reckoning with the new genetics. It is not true that all differences among groups are due only to social constructs. Since the decoding of the genome, it has been securely established that race is not a social construct, evolution continued long after humans left Africa along different paths in different parts of the world, and recent evolution involves cognitive as well as physiological functioning. What happens when a linchpin of political correctness becomes scientifically untenable? It should be interesting to watch. I confess to a problem with *schadenfreude*. Social Engineering Can Create The Good Society and the New Man Virtually every attempt to create the Good Society and the New Man via top-down social engineering has failed, often spectacularly, by devolving into oppression and even genocide. The notion that the Good Society and the New Man are possible reflects a profound misunderstanding of human nature. Haidt describes this starting at the 1: Evolutionary psych has some problems which I think are being fixed, but the idea that our behavior is not influenced by evolutionary history is bizarre. In *Sum* The understanding of the social animal by the social animal is quite poor. Our ignorance of who and what we humans are and how we operate is one of the greatest single factors contributing to partisan divisiveness. Recommendations The good news is that we already have the knowledge and the infrastructure with which we can ameliorate the problem. The knowledge is summarized in sources like those mentioned above and itemized in more detail in this draft lesson plan. The infrastructure is the K public education system. There are several practical, relatively easy and inexpensive steps I think schools could, and should, take. This is the specific public policy prescription I alluded to above. The question of whether we have to will to do this stems from the fact that many of the beliefs discussed above are sacred values of some people. It is my opinion that the reward will be worth the risk, because the shattering of our ideology-based wishes by the truth can, ironically, in the long run, help to make them come true. Pilot programs constructed from recommendations like the following could be instituted at a small number of interested and motivated private schools which could serve as incubators for them. If successful, the programs could be adopted by additional schools. I hope that these suggestions are the tip of the iceberg of possible techniques and that others who generally agree with the message of this essay but who are more familiar with the profession of education than I, can come up with even more, even better ones. This must be corrected by reestablishing the primacy of sound logic and valid evidence. In later elementary school years the books assigned for reading and book reports through the course of a school year should cover the same breadth. Groups of social scientists and academics like Heterodox Academy that are concerned with rectifying the problems of coddled thinking could assemble reading lists from which schools could choose. I understand from psychologists that students are ready for abstract thought around the age of puberty. So middle school seems like a good place to introduce the moral foundations explicitly. Once or twice a year a lecture or two could be spent on overviewing them, and kids could be required to analyze a story or a historical event to identify which foundations seemed to be in play, and the results. In high school students could be required to analyze an event in history class, a fiscal policy in economics class, a novel in English class, or form of government or a social policy in civics class in terms of the moral foundations. What our kids need, in effect, are language lessons. The differing meanings could be taught, and students could be required to specify which meaning they have in mind when they speak or write or debate about related topics. In this way, we could help our kids understand and speak the language of the other side. I suggest that the best method for teaching this is to assign reading and require reports on the work

of those who have spent much of their professional careers on an intellectual quest to understand human nature and its relationship with cultures, ideas, and values. Haidt is a professor of psychology at NYU who studies the psychological origins of morality.

Chapter 6 : Archaeology for Educators – From the Society for American Archaeology

The Ways of Understanding the Human Past (Part 12) by D. P. Chattopadhyaya. It is widely acknowledged that if an idea expressed in one language is translated into another its meaning and its associated understanding undergo a change.

At its simplest level, diabetes mellitus type 2 can be envisaged as the response of the individual to a nutritional environment that gives them a metabolic load beyond their capacity to cope. While there are developmental and genetic factors that influence the adaptive metabolic capacity of an individual, ultimately, it is the exposure to high glycemic foods and a very different mix of macronutrient intakes, which is thought to be the basis of the diabetes epidemic. Even in populations such as the Pima Indian, for which it has been argued that genetic factors are critical for the high incidence of diabetes mellitus type 2, maintenance of higher energy expenditure and more fundamental nutrition in those villages that maintain a traditional subsistence lifestyle is associated with a lower incidence of diabetes Schulz et al. Scurvy can be considered as another example of mismatch. Only some primates, including humans, have lost the capacity to synthesize vitamin C Chatterjee et al. It is assumed that the enzyme responsible for its synthesis, L-gulonolactone oxidase, underwent neutral mutations in a frugivorous ancestor and that it was only with exposure to environments without access to fresh fruits—such as extreme famine and sailing ships—that our inability to make vitamin C is exposed. Myopia, or short-sightedness, is caused by the inappropriate growth of the eyeball in its sagittal dimension, leading to the light being focused in front of the retina. Eyeball growth occurs in childhood and is regulated by growth factors that are induced by light exposure, so that the growth can be affected by the dominant focal length of vision. While there may be a genetic predisposition to myopia in some populations, exposure of children in those populations to the outdoors leads to a lower incidence of this condition Dirani et al. Thus, myopia can be seen as a mismatch between the environment in which we evolved—outdoors in natural light—and the modern day largely indoor life. Robin Dunbar proposed, from the association between neocortical size and group size across different species of primate, that humans evolved to live in social groups of ~ Dunbar There is indeed much evidence in support of that proposition. But humans now live in much larger groups than in the Paleolithic—groups that rely predominantly on verbal or even electronic communication, with less emphasis on the bonding effect of body language. If we add to that the complexity of modern society and its structures compared to those of the Paleolithic or even the modern hunter-gatherer social organizations, it is reasonable to speculate that some forms of mental illness simply reflect individuals living in a social environment beyond their evolved capacity to cope. With the development of animal husbandry and agriculture and the associated shift to a more concentrated way of living following the invention of agriculture, humans became much more exposed to parasitic loads from each other and proximity to animals. Pandemic influenza outbreaks generally arise from this association. Other infectious patterns reflect the changing environments: Similarly, increased irrigation following the development of canals in Africa led to a considerable increase in schistosomiasis Steinmann et al. The implications of the development of antibiotics are discussed later. Life history factors This category combines several related evolutionary concepts that account for how the evolved human life course strategy and changed way of living have led to increased susceptibility to disease. There is necessarily some overlap with the other pathways discussed in this paper, and it includes multiple possible mechanisms such as life history trade-offs and antagonistic pleiotropy; however, we find it a useful heuristic for considering a number of evolutionary explanations. In life history, there are two basic kinds of trade-off that may arise as a result of adaptive developmental responses to environmental influences. The first occurs when such responses are made to confer immediate advantage, such as the early metamorphosis of the tadpole of the spadefoot toad in response to pond desiccation, which promotes immediate survival but results in smaller adult size that is more susceptible to predation. The second type of trade-off arises from responses that result in an advantage that is manifest later, such as the presence of predators inducing the young of the water flea to develop defensive armor in adulthood, the trade-off being a decrease in resources for reproduction. In humans, where intrauterine growth restriction may be viewed as an

immediate adaptive response of the fetus for surviving maternal ill-health or placental dysfunction, the fetus may also make anticipatory responses to more subtle nutritional or hormonal cues to adapt its developmental trajectory to the type of environment in which, according to its prediction, it will live postnatally. These ideas, and the adaptive nature of developmental plasticity, have been expounded extensively Gluckman et al. Anticipation is common across taxa, but becomes more obvious in a long-lived species such as the human. Whereas the strategy of bet-hedging is used by species with very high reproductive outputs Beaumont et al. Situations when different strategies between mother and offspring will emerge have been modeled Marshall and Uller Humans are at one extreme, and the situations in which maternal fitness will dominate as in some other species do not occur in humans. Even in famine, fecundity is maintained to a degree. Prediction need not be accurate to be selected Lachmann and Jablonka , and biases may exist in prediction. Because the consequences of predicting a high-nutrition environment and ending up in a low-nutrition environment are worse than the converse, there is a bias towards predicting a lower nutrition environment and, consequently, towards human susceptibility to disease in modern obesogenic environments. This argument is supported by the observation that under conditions of severe undernutrition, children of lower birth weight are more likely to develop the more benign syndrome of marasmus than those of higher birth weight, who develop kwashiorkor Jahoor et al. We argue that the marasmic children are better adapted to low nutrition by virtue of their lower birth weight and thus tolerate undernutrition better. This hypothesis is supported by the finding that the marasmic children as adults have a bias in their appetite towards carbohydrate and possibly fat consumption T. Forrester, unpublished data , analogous to the preference observed in rats that have been prenatally undernourished. In considering life course factors, it is important to recognize that a cue acting in early life may have different effects from cues acting later. For example, in rats, prenatal undernutrition shortens life while postnatal undernutrition prolongs life Jennings et al. Similar biphasic effects are seen for the influence of nutrition and possibly stress on the age of puberty Sloboda et al. There is increasing evidence for the role of developmental plasticity in influencing the susceptibility to developing disease in a particular environment. Offspring born in the hungry season had the same infant and juvenile mortalities as the children born in times of plenty, but after the age of 20 they started to show an increase in mortality such that their average life expectancy was 15 years shorter. David Barker Hales and Barker and many others showed that size at birth, which can be taken as a proxy measure of intrauterine conditions, was associated with altered risks of metabolic and cardiovascular disease, mood disorders, and osteoporosis in later life. We view this phenomenon as a classic example of developmental plasticity operating to ensure survival to reproduce but resulting in antagonistic pleiotropic disadvantages in later life. It is argued that constraint of fetal growth, lower maternal nutrition Gale et al. The developmentally plastic fetus may make responses incurring either immediate or delayed trade-offs and adjust its physiological development accordingly. A threatening world implies less nutritional security, and thus, an appropriate phenotype is based on a nutritional adaptive capacity to a plane that is lower than that of fetuses who anticipate a more benign world. Thus, the fetus exposed to a low-nutrition environment may or may not be smaller depending on the severity of the limitation , but either way as an adult it may reach the threshold of metabolic load to which it can respond healthily, leading to diabetes and other metabolic conditions at a lower nutritional level than an individual who, early in life, shifted to a developmental trajectory more appropriate for a higher nutrition environment Gluckman et al. Evidence to support this hypothesis includes epidemiological studies on humans prenatally exposed to famine, who have a higher risk of coronary heart disease and obesity in adulthood Painter et al. Experimental studies have also shown that rats that experienced fetal undernutrition have higher body fat and are more sedentary compared to their counterparts that received adequate fetal nutrition Vickers et al. They subsequently develop a constellation of symptoms similar to the human metabolic syndrome, such as obesity and hypertension, in adulthood, and these effects are exacerbated by a high-fat postnatal diet. However, if leptin, a satiety hormone made by fat, is administered to these rats neonatally thus artificially shifting their perception of their environment from low to high nutrition, neonatal weight gain, caloric intake, locomotor activity, and fat mass in these infant animals are normalized for the rest of their lives despite exposure to a high-fat diet Vickers et al. Pleiotropy describes how a single gene can influence several different physiological and phenotypic

characteristics. Antagonistic pleiotropy refers to genes that confer an advantage in early life, but that result in ill effects later in life. We find utility in employing this term to encompass phenotypic traits that involve life course-associated trade-offs; for example, because human fitness depends primarily on survival to reproductive age Jones , a potential adaptive advantage in early life may become disadvantageous later on and manifest as obesity, diabetes, and cardiovascular disease in middle age. High levels of insulin growth factor-1 IGF-1 promote infant and childhood growth and presumably were selected for their consequent fitness advantage, but in later life are associated with higher rates of prostate and breast cancer. Importantly, these mechanisms operate in all pregnancies and are a reflection of the role of developmental plasticity in ensuring adaptability to a changing environment on a timescale of change between that of selection many generations and homeostasis minutesâ€”days. There is a growing body of experimental and clinical data showing that epigenetic processes are involved. Cues that induce plastic responses must be distinguished from those that disrupt the developmental program: For this reason, we would suggest that terms such as metabolic teratogenesis Freinkel are not particularly helpful. The human pregnancy is a co-adaptive compromise. The human fetus is born in a more altricial state than other closely related primates, because the human upright posture determines that the fetus must pass the pelvic canal that is narrower than in other primates Rosenberg and Trevathan Brain growth must continue for a long period after birth to reach the disproportionately larger brain size of the hominin clade. Fetal growth in mammals is not solely genetically controlled, otherwise the outcome would be fetal obstruction in every case where pregnancy followed a female mating with a larger male. Indeed, human fetal growth can be shown to be largely determined by the maternal environment Gluckman and Hanson In pregnancies where the egg has been donated, birth size is more closely related to the recipient than to the donor size Brooks et al. The constraining mechanism on fetal growth is likely primarily a consequence of the utero-placental anatomy of mother and her ability to deliver nutrients to the placental bed. Further, the placenta, at least in sheep, is able to clear excessive concentrations of growth factors such as IGF-1 from the fetal circulation. Other studies, primarily in mice, raise the possibility of a role for parentally imprinted genes in regulating fetal growth. From studies of the IGF-2 system in mice, David Haig has developed the concept of maternal-fetal conflict to explain the evolution of imprinting Haig However, imprinting appears in marsupials and possibly monotremes, and Eric Keverne and colleagues have made a good case for considering imprinting in terms of maternal-fetal co-adaptation rather than conflict Curley et al. Given the long life course of our species, this emergent field of developmental plasticity will become a major part of clinical medicine. As our understanding of epigenetic mechanisms including DNA methylation, histone modifications, and small noncoding RNAs grows, this area is likely to play a major role in clarifying disease causation and treatment. A major challenge for studies in contemporary evolution is the role of epigenetic inheritance. While epigenetic marks have long been established to transfer across mitosis, there is increasing evidence that some epigenetic marks transfer across meiosis. The most well-demonstrated mechanisms are via small RNAs in sperm that can transfer between generations inducing phenotypic effects on pigmentation and heart development in mammals reviewed in Nadeau Transgenerational genetic effects on body weight and food intake have also been shown to be passed through the mouse paternal germline for at least two generations Yazbek et al. There is inferential evidence of environmentally induced epigenetic inheritance in experimental animals. Similarly, there is some inferential evidence in humans of male line-mediated environmental influences Hitchins et al. In addition to direct epigenetic inheritance, epigenetic marks may be induced in the F1 generation as a result of maternal effects as discussed in the DOHaD example earlier, or via grand-parental effects where the F1 generation is female. This is because the oocyte that will contribute genetic material to the F2 offspring is formed by the F1 female fetus while in the uterus of the F0 generation and is therefore exposed indirectly to the F0 environment. Similarly, male-line germ cells that will form spermatogonia are sequestered in the testis when the male is itself a fetus. Indeed, in the grandchildren of women who became pregnant in the severe Dutch famine of 1944-45, where the exposed fetus was female, their children are more likely to be obese Painter et al. A further form of indirect epigenetic inheritance may be seen in those cases where the environmental niche inducing the epigenetic change leading to the phenotype is recreated in each generation. The best demonstration is in rodents, where altered maternal care has been

shown to induce epigenetic changes in the brain, resulting in behavioral changes and, in the next generation, the same pattern of maternal care Weaver et al. Cross-fostering and pharmacological agents both reverse the epigenetic change and associated phenotype. The potential implications of direct and epigenetic inheritance, as well as maternal and grand-parental effects, are likely to be particularly important in human medicine, where we must focus on a single generation. This has theoretical implications for the use of traditional genotype–phenotype interactive models. Contemporary evolutionary studies need to develop models that focus on phenotype–environment interaction. In these models, the phenotype at any point in time should be seen as a consequence of the cumulative effects of early environmental influences inducing epigenetic change, extending back to conception where the phenotype is determined by inherited genetic and epigenetic information. Demographic change, acting through these developmental processes, may also play a role in the changing patterns of disease. First-born children are smaller because of the processes of maternal constraint Gluckman and Hanson , and they have higher risk of obesity Reynolds et al. Their smaller size reflects greater maternal constraint and has also been interpreted in life history terms Metcalfe and Monaghan There are other dimensions to life course pathways to disease. The progressive loss of oocytes from the ovary is an inherent property and explains the decline in fertility in women from the beginning of the fourth decade of life. However, cultural changes mean that women can and do delay their pregnancies, and then, because of lower fertility in their later reproductive years, have a much greater requirement for medical intervention to treat infertility. Here is another example of how cultural developments have impacted on human biology; this phenomenon has arisen because of the interaction between prolongation of life course resulting from technological developments in medicine and public health, and shifting of reproductive timing caused by the social changes associated with the development of contraceptive technologies. Adolescence is an illustrative example of the changing nature of the human life course and the interaction with a changing social context. The age at menarche, the best documented sign of reproductive maturation, in Paleolithic times was probably around the ages of seven to 13 Gluckman and Hanson ; full reproductive competence would have been achieved in concert with the psychosocial maturation required for function as an adult within society.

Chapter 7 : How evolutionary principles improve the understanding of human health and disease

The Ways of Understanding the Human Past: History of Science, Philosophy and Culture in Indian Civilization (History of Science, Philosophy & Culture in Indian Civilization) D. P. Chattopadhyaya Hardcover.

Chapter Summary Archaeology is the only field dedicated to studying the full diversity of human culture and society, in every part of the world, through time. Archaeologists have successfully informed the world about human prehistory, as well as protohistoric and historic times. Archaeology is often considered a sub-field within the discipline of anthropology, the study of humans, which also includes cultural or social anthropology, biological anthropology, and linguistic anthropology. Archaeology is interdisciplinary, combining social and natural sciences, while also being essentially a humanity. In addition, archaeologists study non-material aspects, such as belief, myth, and ritual. Archaeology has helped redress the balance by rediscovering the rich prehistories of non-literate peoples, discrediting older, biased ideas about the superiority of any particular culture over another. World prehistory also provides a long-term perspective on human adaptation to changing circumstances, many of which are still key to our existence: Archaeologists now try to be sensitive and show respect for host communities, working with their consent and cooperation. Archaeology arose first in the Renaissance. Stone tools were found together with extinct species such as mammoth and woolly rhinoceros, indicating great age and a dramatically different climate. Another breakthrough came with the discovery of Neanderthal fossils, hinting at earlier human forms. Many continue to believe that the world and its species were created in their current forms by divine action, but these deeply held views are incompatible with the fossil record of evolution. Other radiometric methods based on the rate of radioactive decay, such as potassium-argon dating, date much older volcanic material. Archaeologists now find, map, and record sites using lasers, aerial photography, and side-scanning radar, and incorporate geomagnetic or resistivity surveys to identify below-ground features. In laboratories, they analyze phytoliths, pollen, and seeds, use-wear on stone and metal artifacts, organic residues on pottery vessels, and the fossil DNA of humans, animals and plants. The study of human origins has focused on fossil remains from Africa, where the very earliest hominins a group which includes humans emerged. Descendants of these earliest species later expanded out of Africa. Evolutionary anthropologists use a variety of techniques to attempt to work out how these fossil species were related to each other. Molecular genetics now help to provide a more detailed picture of the more recent stages of human evolution. Archaeologists also want to be able to put developments into a secure time frame, and have borrowed three basic principles from geology: Understanding short- and long-term change lies at the heart of the archaeological endeavor. Alongside such theoretical frameworks, archaeologists also study specific mechanisms and patterns of change: The direction of diffusion is easy to misunderstand or confuse, so this explanation must be used with care. New states develop near existing states, adopting ideas from them, yet maintaining an indigenous form. Processual and Postprocessual Archaeology Before, many explanations relied on theories of diffusion and migration, but ethnographic and historical examples showed that, internal processes were often more common and more significant than external forces in driving change. History also showed that societies are not simply passive recipients of change introduced from outside. Thus, new kinds of archaeological thinking were required. Processual archaeology or the New Archaeology focuses on cultural process: Postprocessualists reject the idea that we can ever attain objective knowledge of the past, and question the reliance on specific rigid methodologies. Other themes to have emerged within postprocessual archaeology include gender archaeology, the archaeology of ethnicity and identity, and the concept of multivocality. This unique perspective allows us to compare the long- and short-term, to gain insights into environmental change, demographic growth, and human cognitive and symbolic development. From at least, years ago, world climate has experienced dramatic fluctuations between warm and cold conditions. The capacity to adapt to rapidly changing conditions with new tools, control of fire, and other innovations, has permitted human survival and success everywhere but Antarctica. Paleolithic population size is uncertain, but was relatively small due to climate conditions: Population would have risen as technology improved, but the pace would have remained slow. This changed as the Holocene climate became

established. Communities developed new ways of living. The result was rapid population increase, which continues today. The most important adaptation was food production farming. Another feature is the tendency of people to cluster together in large settlements, leading to the growth of cities. These trends developed independently in different parts of the world, suggesting that certain social and environmental circumstances produce similar human responses. Humans have a greater capacity than any other species for symbolic behavior. Intelligence and capability have evolved biologically and culturally over millions of years, but only during the past , years has symbolic behavior developed, visible in the form of burials, personal ornaments, and art. Key Concepts archaeology as part of anthropology prehistory, protohistory, and history.

Chapter 8 : Importance Of History

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Are you as interested as I am in knowing how, when, and where human life arose, what the first human societies and languages were like, why cultures have evolved along diverse but often remarkably convergent pathways, why distinctions of rank came into being, and how small bands and villages gave way to chiefdoms and chiefdoms to mighty states and empires? But what is anthropology? Study of Humankind The word anthropology itself tells the basic story. Nothing human is alien to anthropology. Indeed, of the many disciplines that study our species, *Homo sapiens*, only anthropology seeks to understand the whole panorama—in geographic space and evolutionary time—of human existence. Though easy to define, anthropology is difficult to describe. Its subject matter is both exotic and e. And its focus is both sweeping the evolution of language and microscopic the use-wear of obsidian tools. Anthropologists may study ancient Mayan hieroglyphics, the music of African Pygmies, and the corporate culture of a U. But always, the common goal links these vastly different projects: We are curious about ourselves and about other people, the living as well as the dead, here and around the globe. We ask anthropological questions: Do all societies have marriage customs? As a species, are human beings innately violent or peaceful? Did the earliest humans have light or dark skins? When did people first begin speaking a language? How related are humans, monkeys and chimpanzees? Such questions are part of a folk anthropology practiced in school yards, office buildings, and neighborhood cafes. But if we are all amateur anthropologists, what do the professionals study? As a discipline, anthropology begins with a simple yet powerful idea: Any detail of our behavior can be understood better when it is seen against the backdrop of the full range of human behavior. This, the comparative method, attempts to explain similarities and differences among people holistically, in the context of humanity as a whole. Anthropology seeks to uncover principles of behavior that apply to all human communities. To an anthropologist, diversity itself—seen in body shapes and sizes, customs, clothing, speech, religion, and worldview—provides a frame of reference for understanding any single aspect of life in any given community. To illustrate, imagine having our entire lives in a world of red. Our food, our clothing, our car—even the street we live on—everything around us a different shade of red. We [anthropologists] have been the first to insist on a number of things: Most important, we were the first to insist that we see the lives of others through lenses of our own grinding and that they look back on ours through ones of their own. Culture represents the entire database of knowledge, values, and traditional ways of viewing the world, which have been transmitted from one generation ahead to the next—nongenetically, apart from DNA—through words, concepts, and symbols. Cultural anthropologists study humans through a descriptive lens called the ethnographic method, based on participant observation in tandem with face-to-face interviews, normally conducted in the native tongue. Ethnographers compare what they see and hear themselves with the observations and findings of studies conducted in other societies. Originally, anthropologists pieced together a complete way of life for a culture, viewed as a whole. Today, the more likely focus is on a narrower aspect of cultural life, such as economics, politics, religion, or art. Cultural anthropologists seek to understand the internal logic of another society. It helps outsiders make sense of behaviors that, like face painting or scarification, may seem bizarre or senseless. We can turn the principle around and see our everyday surroundings in a new light, with the same sense of wonder and discovery anthropologists experience when studying life in a Brazilian rain-forest tribe. Though many picture cultural anthropologists thousands of miles from home residing in thatched huts amid wicker fences, growing numbers now study U. Linguistic Anthropology One aspect of culture holds a special fascination for most anthropologists: The organization of systems of sound into language has enabled *Homo sapiens* to transcend the limits of individual memory. Speech is the most efficient medium of communication since DNA for transmitting information across generations. They are fully and firmly formed; they have movement. But they cannot talk. That is the proper

thing they lack. So I want you to give them speech. He gave them also the wisdom and the power to reproduce and multiply. They study prehistoric links between different societies, and explore the use and meaning of verbal concepts with which humans communicate and reason. Linguistic anthropologists seek to explain the very nature of language itself, including hidden connections among language, brain, and behavior. Language is the hallmark of our species. It is upon language that human culture itself depends. Linguistic anthropologists, of course, are not the only ones who study historical dimensions of culture. They also need information about what came before. But how can they trace the long-ago prehistory, reaching far back into the millennia, of societies that left no written record? Archaeology Fortunately, the human record is written not only in alphabets and books, but is preserved in other kinds of material remains—in cave paintings, pictographs, discarded stone tools, earthenware vessels, religious figurines, abandoned baskets—which is to say, in tattered shreds and patches of ancient societies. Archaeologists interpret this often fragmentary but fascinating record to reassemble long-ago cultures and forgotten ways of life. Archaeologists, long interested in the classical societies of Greece, Rome, and Egypt, have extended their studies in two directions—backward some 3 million years to the bones and stone tools of our protohuman ancestors, and forward to the reconstruction of lifeways and communities of 19th-century America. Biological Anthropology But human history begins in a different place further back in time. It starts about 8 million years ago, when a population of apelike creatures from eastern Africa turned onto a unique evolutionary road. To fully understand humankind we must learn more about its place in the natural habitat of living things. Biological or physical anthropology looks at *Homo sapiens* as a genus and species, tracing their biological origins, evolutionary development, and genetic diversity. Biological anthropologists study the biocultural prehistory of *Homo* to understand human nature and, ultimately, the evolution of the brain and nervous system itself. These, then, are the four main branches that make anthropology whole: Anthropology asks a most difficult and most important question: What does it mean to be human? Each of the four fields of American anthropology has its own skills, theories, and databases of special knowledge. Most anthropologists, therefore, pursue careers in only one of the four subdisciplines. Anthropologists may specialize in two or more geographic areas of the world, such as Oceania, Latin America, and Africa, for reasons of comparison. More than U. Because the subject matter of anthropology is so broad, an undergraduate major or concentration can be part of a broad liberal arts background for men and women interested in medicine, government, business, and law. There are more nonacademic career opportunities available to PhD anthropologists, currently, than there are jobs in the academy itself. Increasingly, PhD students begin their training with academic as well as nonacademic careers in mind, and seek admission to programs that include applied-anthropology courses. Academic Work Setting Academic settings include departments of anthropology, nonanthropology departments e. Nonacademic Work Setting In recent years, many anthropologists have chosen to utilize their specialized training in a variety of nonacademic careers. Cultural and linguistic anthropologists work in federal, state, and local government, international agencies, healthcare centers, nonprofit associations, research institutes, and marketing firms as research directors, science analysts, and program officers. Biological anthropologists work in biomedical research, human engineering, private genetics laboratories, and pharmaceutical firms. Archaeologists work off campus in environmental projects, human-impact assessment, and resource management. At present there is no discernible limit for PhD anthropologists targeting the nonacademic realm for employment. Today, half of new doctorates find professional jobs off campus. Additional information on careers in anthropology is available from AAA. This article was written by David Givens, and appears courtesy of the American Anthropological Association. Its purposes are to encourage research, promote the public understanding of anthropology, and foster the use of anthropological information in addressing human problems. Anyone with a professional or scholarly interest in anthropology is invited to join. For further details, please contact AAA at www.aaa.org.

Chapter 9 : Understanding our past: DNA (article) | Khan Academy

discuss how increased understanding of the complexity of indigenous people in the past and present led to the discarding of "social Darwinism," and its replacement by new ways of characterizing human ways of life.

C ONFLICT An important consequence of global environmental change is conflict, because global change affects what humans value, and different people value different things. They may express a desire—or even claim a right—to influence the choices of people or governments continents away. And the people or countries subjected to those claims may resist, especially when they feel that changing their behavior will mean suffering. The further global change proceeds, the more likely it seems that it will be a source of conflict, including international conflict, over who has a right to influence the activities implicated as causes, who will pay the costs of responding, and how disputes will be settled. To Mitigate or Not to Mitigate? One of the most heated policy debates about responses to a global change is between advocates of immediate efforts to mitigate global warming and those who would postpone such action. This debate arose within the committee, even though we were not charged with recommending strategies for response to global change. We offer the following brief, sharply stated version of the debate to highlight some important characteristics of controversies about global change: In one view, the wise course of action on global warming is to conduct research on the phenomenon but not to take action to slow or mitigate it until the phenomenon is better understood. Proponents of this view make the following arguments: Page Share Cite Suggested Citation: Understanding the Human Dimensions. The National Academies Press. The nature and extent of global warming in the future is highly uncertain because of incomplete knowledge of the relevant properties of the atmosphere, oceans, biosphere, and other relevant systems. It is wasteful for society to expend resources to prevent changes that will not occur anyway. Moreover, the mitigation efforts may themselves set in motion undesired changes. Adjustment will make mitigation unnecessary. Human systems can adjust to global climate changes much faster than they are likely to occur. The projected doubling of atmospheric carbon dioxide levels will take place about 80 years from now. By contrast, financial markets adjust in minutes, administered-market prices in weeks, labor markets in years, and the economic long run is usually reckoned at no more than two decades. The implication for action is that what individuals and organizations do on their own in anticipating climate change may be sufficiently successful that organized, governmental responses will be superfluous. The impact of climate change will reach people through slow price increases for the factors of production; in reasonably well-functioning markets, economic actors adapt readily to such changes. They invent industrial processes that economize on scarce inputs, find substitutes, purchase energy-efficient equipment when energy prices are rising, and so forth. In the past, such adjustments have contributed to human progress, and there is every reason to expect that pattern to continue. It makes no sense to act like the generals who built the Maginot Line for the wrong war or to construct dikes for cities whose populations will have moved or dams to water crops that will be grown elsewhere. Technological and social changes often eliminate problems without any specific mitigation efforts by changing the offending technology or making it obsolete. For example, boilers no longer explode on trains because they no longer use steam engines; horses are no longer the main polluters of urban streets. Concern about the greenhouse effects of fossil fuel burning will prove premature if development of fusion or solar energy technology can replace most fossil fuel use over the next 50 years. Better policy options may lie on the horizon. Further research may identify more effective and less costly interventions than those now available. For example, it has recently been suggested that adding iron to the oceans to fertilize phytoplankton that would absorb carbon dioxide from the atmosphere may be a way to address the greenhouse effect Martin et al. Improved understanding of social systems has reasonable potential to discover other classes of effective response. It may be more costly to act now. Actions that can be postponed will be less burdensome because of continuing economic progress. It probably makes no more sense for the current generation to sacrifice to benefit a future, even wealthier generation. This is the argument for a positive social discount rate. It assumes that expenditures made now could otherwise be invested at compound interest in improvements in human well-being. If the growth rate for such investment exceeds the

average rate at which environmental problems develop, people will be better off in the future if they do not spend on mitigation now. Proponents of immediate mitigative action make the following arguments: Action now is more feasible and effective than action later. It is in the nature of exponential growth processes that the earlier the growth rate decreases, the greater the final effect. Bringing down the birth rate in India to two children per couple in rather than in can make a difference of million people by the time the Indian population stabilizes Meadows, To achieve the same effect by starting later would impose greater restrictions on the people living at that time. It is therefore easier to mitigate the effects of exponential growth the sooner the effort is made. It is easier to adjust to slower change. Mitigation is prudent because of the long time lags in the global environmental system. By the time it becomes clear that a response is needed, it may be too late to prevent catastrophe if the change is proceeding rapidly. Even if catastrophe is unlikely, mitigation that slows the rate of change makes it more likely that adjustments can be made in time. This is clearly the case for nonhuman organisms, such as tree species that can adjust to climatic change by migrating, as seedlings move to more favorable locations. It is wise to insure against disaster. Mitigation in the face of possibly catastrophic outcomes is like taking out insurance against flood and fire. The insurance expenses are bearable, but the expenses of catastrophe may not be. It is wise to mitigate against potentially irretrievable losses. The clearest example is species extinction. If species are valued for themselves, their loss is irretrievable; even if they are valued only for what benefits they may have for humanity, species loss may be irretrievable. Other environmental values, such as loss of the life-supporting capacity of wetlands or large bodies of water, may also be irretrievable; often we do not know until the values are lost. Avoid high-risk environmental experiments. Humans are now conducting large-scale uncontrolled experiments on the global environment by changing the face of the earth and the flows of critical materials at unprecedented rates. It is prudent to limit the pace and extent of such experiments because of the likelihood of unanticipated consequences. Like natural mutations, most of these experiments are probably destined to fail, and there is only one global environment to experiment on. As the extent of human intervention in the global environment continues to increase, so does the strength of this argument. The argument supports mitigation efforts that slow ongoing human interventions in the environment, but generally not those that would stop greenhouse warming by new interventions in the global environment. Economic arguments do not encompass some environmental goods. The discount-rate argument is specious in the general case because the costs and benefits of postponing action are not always commensurable. Some important and meaningful tradeoffs can be made on economic grounds, for instance, between investing in renewable energy development and in directly limiting the burning of fossil fuels. But sometimes the economic logic makes no sense. If current economic activity destroys the life-support systems on which human life depends, what investment at compound interest could ever recoup this cost? Economic arguments also cannot deal with some things—“including the balance of nature”—on which people place intrinsic or spiritual value. To the extent people want to preserve such values, mitigation is the only acceptable approach. Moreover, economic accountings systematically undervalue things—“such as genetic resources”—for Page Share Cite Suggested Citation: Some mitigative action is fully justified on other grounds. A good example is investments in energy efficiency that provide an excellent return on investment even with narrow economic calculations. Such actions can achieve the benefits of mitigation at no extra cost, while providing other benefits. Implications of Conflict About Human Response Many controversies are beginning to develop out of concerns with global change. One pits Third World countries against the developed countries that are now becoming concerned with limiting use of fossil fuels and restricting the felling of tropical forests. The Third World position, of course, is that other countries used fossil fuels and undeveloped frontiers for their economic development, and fairness dictates that the poorer nations now have their turn. Many analysts believe that if large-scale climate change results from human activities, the poorer countries are likely to suffer most because they lack resources they could use to adapt. Such an outcome would produce yet other conflicts. The controversies about global change are only partly fact-based. True, some of the disagreements might fade with better knowledge about the global environment and the likely effects of different feasible responses. As it became clear that expected global warming over the next 50 years could not cause the breakup of the West Antarctic icecap, the flood-prevention rationale for slowing greenhouse gas

emissions became considerably weaker. A response such as dike building seems much more appropriate when the sea threatens only a few areas. And if it became clear what each policy option would accomplish if enacted, some of them could easily be rejected. But knowledge often fails to resolve controversy. It frequently raises new disputes or calls old beliefs into question. And even when new knowledge reduces uncertainty, controversies persist because not only facts, but also important interests and values, are at stake. Informed people disagree because the remaining uncertainty leaves room for judgment, because they may assume different scenarios about the future of society, and because an outcome that harms what one person values may enhance what another values. Those impressed with the potential benefits of economic growth tend to line up against those who fear of the Page Share Cite Suggested Citation: When faced with choices, some prefer international solutions to global problems, others see national action as more feasible; some favor market adaptations, others, community-based action outside the market and the state; some are attracted to large-scale technological solutions, others see them as cures that may be worse than the disease. In short, the debates are not only about the workings of human and environmental systems, but also about political and economic interests, conflicting values and faiths, differing assumptions about the future, and different judgments about resiliency in the face of the unexpected. Research on Conflict Studies of environmental and technological conflict are a significant part of social research on conflict e. Issues of global environmental change have all the features characteristic of the most difficult technological controversies: Social science can help illuminate the nature of environmental controversies and evaluate ways of managing them. Social scientists interested in environmental policy have studied the conditions shaping and favoring the resolution of environmental controversies and the role of scientific, governmental, and mass media communication in the decision process e. Some have begun to consider the various ways environmental change might lead to conflicts with the potential for violence e. Social scientists specializing in conflict have developed generalizations that might be more thoroughly applied to environmental conflict. For example, conflicts may be based mainly on ideology, interest, or understanding Aubert, ; Glenn et al. The nature of the relationship between the parties to a conflict can determine whether the conflict focuses on ideological positions e. And the behavior of the parties to a conflict depends on the pattern and relative strength of incentives to compete and to cooperate e.