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Nurture vs. Nature

 Throughout this term we have studied the interaction of nature and nurture and the roles they play in human nature. Evolutionary biology, primatology, language and culture are topics that give crucial insight on human nature and behavior. These topics help us define what it means to be human. Nature and nurture both play a role in all four topics. The role of nature is dominant in evolutionary biology, primatology and language; the role of nurture is dominant in culture. The balance of the nature and nurture interaction applies differently to each individual topic and the balance of those roles regarding each topic hold importance in the understanding of human nature.

Evolution is known as the explanation of how humans came to be. Darwin’s theory of evolution has helped society better understand our nature and the meanings behind certain physical attributes. Evolutionary biology takes a closer look at the genetic factors that have influenced humans and their nature. In the article “What Makes Us Human?” Katherine Pollard describes the distinctive DNA that makes humans so advanced and explains how it sets us apart from every other species. HAR1, FOXP2, and HAR2 are some of the evolutionary parts that make humans appear so drastically different and ‘superior’ to all other species. The discovery of these genes reflects the processes of evolutionary biology because it illustrates the changes and progression of humans from chimpanzees. HAR1 is a region in human DNA that has changed the most in relation to chimps. Pollard states, “HAR1 was frozen in time through hundreds of millions of years… it then underwent abrupt revision in humans… this function was significantly modified in our lineage.” Clearly this statement reflects the uniqueness of what humans acquired through evolution. The behavior of humans has been directly impacted by genetic changes; nature has made humans what they are today. The reason humans act civil and can live together in society with little or no conflict during daily life is explained by both evolutionary biology and primatology. Our slight genetic differences from chimpanzees account for so much of what makes us human. FOXP2 is another accelerated sequence specific to humans that allows quick and precise mouth movements that enables speech and therefore language. HAR2 is a sequence that gave humans wrist and hand dexterity which significantly broadened what humans were able to build and create. Humans were given genes through evolution, through nature. Nurture has allowed humans to embrace their advanced abilities; however, nurture cannot change genetics. My understanding of the nature nurture interaction regarding evolutionary biology is that nature gave us every genetic thing we have, nature is the dominant factor. Nature is what gave us self-awareness, the extraordinary ability to critically think and many physical attributes and abilities that have set us apart from all other species. The role that nurture plays reflects directly off of nature in that humans matured and grew and chose to use the brain given to them, and through nurture humans have utilized their minds to progress and to grow as a civilization.

The understanding of human nature has improved greatly because of primatology. In the zoo, nonhuman primates live in cages; it would be logical to assume that humans used to behave in that way and our current human behavior is simply a result of nurture. However, in John Gray’s introduction of the article “Are We Born Moral?” he explains, “…only humans possess the intellectual powers that are needed to repress natural impulses… morality in humans results at least in some part from evolutionary processes…rather than suppressing their instincts, they are behaving naturally.” This statement reveals that nature and evolution have a significant influence on human nature. Humans behave in particular ways because they have the ability to think before acting and act upon emotions, gut feelings and their conscience. The reason humans have such advanced thought process and chimpanzees do not is because of the natural physical development of the brain. In the article “Origins of The Mind” Marc Hauser states, “Where we differ from them [other species] is in the relative size of the particular regions of the cortex and how these regions connect, differences that give rise to thoughts having no analogue elsewhere in the animal kingdom.” This fact contributes to the view that nature is the dominate factor in the human nature and what it means to be human. The impact of nurture on human behavior in relation to primatology is not as significant as nature. The main reason human behavior is unlike chimpanzee behavior is the genetic differences in the brain. In no way could nurture instruct a chimpanzee to act or think as a ‘person’. The brain is what has allowed humans to think and nurture cannot change biological factors. What nurture can explain are the ways that humans behave to conform to today’s social norms. In the article “Demonic Males” Richard Wrangham gave a perfect example of the influence nurture has on human behavior, “A cultural crime begun at some point in preclassical times and since the perpetrated by white males.” This statement illustrates the impact that preconceived cultural notions have on human behavior. Humans will act in a way that society has taught them to act. Nonhuman primates act solely on instinct and do not have to ability to choose to follow any norms. Nature is the main factor in understanding primatology and human behavior, nurture only influences the already present nature. There are many differences between man and chimpanzee but there are also similarities. In Kimberly Mukobi’s presentation she explains how humans and chimps split six million year ago on the evolutionary track but still developed similar qualities that are apparent today. Genetically humans and chimps are 98% alike. Chimpanzees have a short-term memory that is slightly more advanced than a human’s short term memory, showing that humans are not more advanced then chimps in every instance. Mukobi explained that humans and chimpanzees can both learn language, just in a different way. Chimpanzees do not have a voice box like humans and therefore are not able to use speech but they do have the ability to learn sign language. Mukobi showed a clip that demonstrates chimpanzees understanding human language, performing tasks accordingly and even relaying how they felt through signs.

Language is something that sets humans apart from all other species. Although all animals have means of communication it is nothing in comparison to human language. The human ability to learn, comprehend, and speak language comes primarily from nature but nurture also plays a role. In the article “Grandmama’s Teeth”, Jean Aitchison describes the evolutionary factors, or nature, which has contributed to human’s ability to speak language. She states, “Structural changes are the most direct indications of innate programming.” Our lungs, mouths, teeth, and some other structures have changed over time to accommodate spoken language. The lungs of a human are able to generate unusual breathing patterns that allow long intervals of speech without tire. Aitchison explains that human teeth are unusually flat and the mouth, lips and tongue are all very dexterous enabling humans to enunciate certain sounds and words. These features are solely a result of nature. Where nature and nurture begin to interplay in regard to language is with the brain. Four properties that are cardinal to language are presented in the article “Origins of the Mind” by Marc Hauser. Hauser states, “…small genetic shifts that occurred in human lineage since it split from the chimp line produced massive differences in computational power… genetic elements created a brain with four special properties.” These properties are generative computation, promiscuous combination of ideas, mental symbols, and abstract thought. At a young age the brain is malleable and able to make the necessary connections to utilize the four properties, but the brain requires stimulation from nurture to make the connections initially. As a child is being spoken to by their parents they are unknowingly making vital connection in the brain that are required to learn, comprehend and use language. Mental symbols are used early on; children translate sensory experiences into images that put a picture of what they are experiencing into their mind. As a child progresses she will begin to utilize connections the brain has already made as a result of nurture. With age and continual nurture that child will unintentionally exercise generative computation and be able to comprehend and create, in Hauser’s words, “a virtually limitless variety of expressions.” Promiscuous combination of ideas is the ability to connect different aspects of the world and put it all together in a sensible way; abstract thought comes last in the development of language when the child is able to contemplate things that are outside the realm of the five senses. Consequently, the role of nurture is very important to language, but nature is the foundation and without nature the humans would not have been able to begin to form words or create languages at all. Without language humans could not have all that they have today. Language is an essential part of the human world and it affects every aspect of our lives, society and culture.

It is hard to determine the exact definition or meaning of the word culture. When contemplating culture I think of the traditions, attitudes, people, ideas and commonly held beliefs in any particular society. Society is the fact; it is the buildings, location, amount of people, and technology. Culture is a sub-part of society; it is the heart and emotions of society. In the book, “The Nature of Culture”, Marvin Harris defines culture, “Culture refers to the learned, socially acquired traditions of thought and behavior found in human societies.” Culture gives humans something to belong to, traditions are what allow us to reflect on our cultures and pass them on to future generations. Throughout the world people dress, behave and believe in certain ways based on the traditions of the place they were born. Every culture has its own social norms and customs and most cultures strive to uphold their traditions. Nature is innate and wild, but culture is thought of as the conformed and ‘domesticated’ version of our selves. Culture is primarily influenced by nurture, but requires nature to exist. Nurture plays the dominant role because once ‘nature’ has done its part and provided our physical being then nurture takes hold and creates culture. Matt Ridley’s book, “Nature via Nurture” supports the idea of nature’s contribution to culture, “A child who comes into the world today inherits a set of genes… but she acquires something else too: the words, the thoughts, and the tools that were invented by other people.” The natural phenomenon of self-awareness and the innate intelligence of the human mind is only what originally sparked culture. Today, nurture completely influences our behavior and beliefs; culture it is handed to us at birth. Traditions may change slightly over time but the base of culture has already been formed and nurture is what upholds it. Culture directs the paths of our lives. Everything humans have in today’s society, whether it be clothes, ideas, religions, traditions, behavior and many more, are directly a result of culture.

The understanding of human nature can be explained by the nature nurture interaction when applied to evolutionary biology, primatology, language and culture. What makes us human is our conscience, language, physical abilities, mental abilities, our understanding of how we came to be and culture. Without all these things I would not be typing this paper, I would not be contemplating any articles and I would not be sitting in a store-bought chair staring at the screen of my laptop. Nature and nurture are the two factors that have impacted all that is known to be human. Nature gave us the extraordinary abilities we have today, and nurture is what has driven the human race to uphold our existence and thrive as a society.