HUMAN NATURE

What makes us human? How did humans triumph so drastically as a species? To answer these questions, I explored the instincts and traits that belong to all humans and only humans. Natural and sexual selection has served to optimize survival and successful reproduction. We have an innate need to pass on our genes from generation to generation. In this way, our genes are "immortal." The need for a more diverse gene pool drove early humans out of secluded groups to reproduce with other groups. The result was the mixing of genes *and* ideas. This exchange allowed for innovation, invention, and progress, helping mankind grow both physically and intellectually. *Collective intelligence* resulted, the shared or group intelligence that emerges from the collaboration, collective efforts, and competition of many individuals. Both the collective intelligence and the exchange of ideas are uniquely human traits and the reason for our species' success. This connected web of people and ideas creates the global brain. With the exchange of ideas, we can now do things beyond the capacity of any single human mind. This intricate and ever changing web of ideas and information connects us.

Our fate is uncertain. We are at the mercy of our human nature and our genes. The male and female figures show the importance of sex in mankind's success and role in the exchange of ideas. They represent the core of what makes us human. We are all connected.

Eloise

"Human nature is the distinguishing characteristics—including ways of thinking, feeling and acting—which humans tend to have naturally, independent of the influence of culture." Steven Pinker, *The Blank Slate*

Human nature has evolved to help successful sexual reproduction. We have evolved instincts in order for our genes to have better chance of being passed down to the next generation. Genes want new genes with different innovations and mutations in order to become more diverse. "Sex allows the individual to draw upon their genetic innovations of the species instead of being confined by its own lineage"(Matt Ridley). Genes becoming diverse drove humans to go further to try and create a varied gene pool. Sex allowed for the biological evolution of man, which led to the exchange of ideas and development of many complex cultures. Cultural evolution among human beings is aided by the exchange of ideas, which allows people to trade and create a culture of ideas. Exchange has helped humans create and invent more than they have ever done before. The mating of ideas sparked the human revolution and created "collective intelligence," which is shared group intelligence that emerges from the collaboration, collective efforts, and competition of many individuals and appears in consensus decision-making. This allows humans to invent and explore, pure human progress. The need to exchange ideas is uniquely a human feature, and the reason for the prosperity of our species. By connecting and coming together, we have created things that we don't even understand and have become a tight knit system of ideas and specialization. We have created a global brain, but why? Why is the human race so connected? Why did humans triumph so drastically as a species? Does our human nature connect us? Do we connect on a biological or a psychological level? What makes us human? Why have we prospered?

The study of human nature spans across the fields of anthropology, psychology, to economics – every area of study has a theory on the topic. [Plato, a Greek philosopher, thought humans where rational social animals with reason embedded in our souls. Existentialist Jean-Paul Sartre, believed that humans were radically free; that our existence precedes our essence, and therefore man is responsible for what he is and his actions. Darwin thought we were merely animals, an exceptional form of primate.] The theory that resonated with me most was a gene-centered evolution to explain our human nature. The theory itself has been added on to by people throughout the ages, but recently in the twenty-first century it really took off with the aide of advanced technologies. This theory explains how we have evolved in order to ensure that our genes are passed to the next generation, which helps traits that promote successful reproduction also known as sexual selection. "People are attracted to people of high reproductive and genetic potential– the healthy, the fit, and the powerful"(Ridley). The human nature we know today has been evolved in order to promote successful reproduction. "The body is merely an evolutionary vehicle for the gene" (Ridley). Particular traits and emotions that help contribute to successful reproduction are then passed down to the next generation. These genetically hard-wired traits are our innate human nature. Our human nature is constantly changing and evolving, to what it is now. An effect of this evolved human nature is human universals, elements, patterns, traits, and institutions that are common to all human cultures worldwide. These universals connect the human species on a deeper biological level.

Being social is one of the more prominent human universals playing a huge part of life in most cultures. Homo erectus, Neanderthals, and Homo sapiens, early primates, lived in self-sufficient social groups, that didn't trade or socialize with other groups. We know this because for a period of time there was a phenomenon where there were no innovations in early man's

tools or life style. In this time period, archeologists found tools that were made with the materials in the area where they were found. These early humans had tools, but there was no growth in the design of the tools, which remained the same for over 3,000 generations. No exchange and trade with other groups meant there was no change due to a lack of diversity. After this time of no change, there was a sudden cultural burst of innovation and progress. Archeologists found evidence of trade among Homo sapiens. "Trade was the most momentous innovation of the human species; it led to the invention of invention"(*Ray Bartkus)*. Trade pushed for the innovation of the human race. This revolutionary act helped man succeed as a species helping them grow culturally which allowed them to grow intellectually. Trade caused a population growth and soon led to development of cities. Each city developing more ideas than any individual could imagine. The people in these cities soon developed very distinguishable cultures. The habit of exchanging one thing for another caused cultural evolution in the species. Homo sapiens were trading goods and consequently exchanging ideas, which allowed for culture evolution in the Homo sapiens' groups to grow.

We have always had culture, but it was once culture without exchange. "You can have, as it were, asexual culture"(Ridley). No influence from other groups or new ideas. Other animals can have culture such as killer whales, chimpanzees, and gorillas. The difference between humans and other animals is the exchange of ideas. The exchange of ideas and goods is uniquely a human feature, and can be found in no other species. "The mating of ideas"(Ridley) gave way to innovation and progress. The cultural breakthrough allowed for the growth of mankind and their overall success. The newfound cultural evolution allowed for population growth and, with it, came prosperity "because only human beings indulge in regular exchange of different items among unrelated, unmated individuals and even among strangers"(Ridley). Homo erectus and Neanderthal did not make progress as a species because they did not trade or exchange ideas. Even though Neanderthals had a larger brain than the modern day human, they could not succeed because they did not expand and trade. The ability to trade and share ideas was the key to human success. Why did the Homo sapiens decide to leave their groups and trade? Homo sapiens were not struggling as a species, so why did they expand?

Homo sapiens didn't necessarily want to expand, but their genes did. Genes need new innovations and mutations in order to grow. The need for a more diverse gene pool may have been the reason why Homo sapiens went beyond their groups. Genes had no diversity living in secluded groups, and was probably close to asexual reproduction. This need for more diverse genes allowed the early humans to come together as a species and "to draw upon their species' biological innovations"(Ridley). By reproducing with other groups, trade and the exchange of ideas was encourged. Biological evolution and cultural evolution worked hand in hand to help the progress of man. By bringing the species together not only were they able to mate and pass on genetic information, but to also mate ideas. The ideas that were exchanged helped create a collective intelligence, bringing the species together physically and intellectually. "Collective intelligence is the notion that what determines the inventiveness and rate of cultural change of a population is the amount of interaction between individuals"(Malone). Collective intelligence allows a group of people to be looked upon as an individual, emphasizing the wholeness of the group. The ideas bring people together, so they are a working and growing system of ever-changing ideas.

Working together in a group allows collective intelligence, to be greater than any single individual within the group. Once human progress started, it was no longer limited by the size of human brains. Intelligence became collective and cumulative. Also called the collective

(global) brain, we have created an intricate system that webs everything we do together. We are merely the neurons passing on information and ideas on the global brain. The meeting and mating of ideas allow for progress in technology and innovation. This entire system that we thrive and depend upon today all began with the need for a more diverse gene pool. In this collective brain we all rely on each other. People now work for other people, rather than just for themselves. Sexual division of labor kick started the transfer of labor over 10000 years ago, when women started to focus on foraging and men hunted. The women knew that they only had to forage for plants in order to receive meat from the men. The men knew that to get plants all they had to do was to kill an animal big enough to share with others. This is the idea the same as what David Ricardo said in 1817 that "to benefit from specialization and free trade, Portugal should specialize and trade the good in which it is 'most best' at producing, while England should specialize and trade the good in which it is 'least worse' at producing." This started specialization so that one person could perfect a certain skill so that he/she could then trade his or her goods for other goods, which were made by someone who was also specialized in that skill specifically. When people first began to trade, it brought on the momentum of more specialization. From evidence we have found on homo Neanderthals, both men and women hunted side by side, which called for no specialization. [Bees' also work for one another, the queen works for the worker bees by reproducing in the colony, and the worker bees provide food for the queen. The difference between humans and bees is that bees only work inside of the one colony.] When people work they are essentially working for the human species.

The concept of people working for other people has rooted itself in our modern day society. Everyone today specializes in a certain trait or subject. Their knowledge adds to the collective intelligence of the species and allows us to make and create things we don't even understand. The essay "I, Pencil", by Leonard E. Read, explores this subject through the making of a pencil. "Each part of the pencil is the result of the collaboration and cooperation of millions of people all over the world.(Read)" No individual person on the face of the earth could make a pencil without the help of many others. The making of a pencil seems simple and banal to most of us since we have used pencils since we can even remember. The process of gathering all the materials to make the pencil is actually intricate and almost ungraspable. You have to think and consider everything and everyone that goes into harvesting the wood: the loggers, the tools, and the people who feed the loggers, the trees themselves. There is an endless and complicated web of inputs that goes into what is needed to make a pencil. The actual process of making the pencil is constantly changing and adapting to the changing world. The people who help make the pencil each specialize in a different task, which help the whole creation of the pencil. People don't do this because they are forced to; they do this because they exchange their labor and knowledge for wages that allow them to get what they want and need. Specialization is a result of efficiency and productivity. The complex process of making a single pencil is an example of or world market today. "A spontaneous configuration of human energies, that organizes voluntarily in order to fit human necessity and desire"(Read). This is the collective brain; the coming together of skills, creativity, and ideas that have allowed us to create things that no one human can even grasp their mind around. With the exchange of ideas we can now do things beyond the capacity of the human mind.

Today we are surrounded by the overflow of ideas and the abundance of trade. The Internet has especially given us the ability to access more knowledge and new ideas than any person could have learned back in the 1400s. The human species is connected as a whole more than any other species on the planet. Today we have gone even further and go past the

boundaries of the mind and create things we can't comprehend, like how to make a pencil. The information and intricate connections of specialization connects us all together by an invisible web. We are all important parts of the collective brain. Everyone is connected to each other in the web of the global brain.

Our DNA holds the instructions for our human nature; it's who we are; the genes that drove us further for the need of a more diverse genetic pool. Part of that need is the need to be social. Socializing is part of human universals, but is more prominent than others. There have been recent studies that the need to be social is as necessary as food or water. This deep need to be social strengthens the connections within the human species. We need to connect, it is written in our genetic code. We try to find those connections all the time in our daily lives and in the world around us. What most people don't know is how really connected they are to the world around them. Genetically we are born with the need to socialize to find people to love, a group of friends, and to work together. Our genes drive us to connect and to find these special, unique connections. These connections allow us to share and exchange ideas creating a new wave of innovation and progress. Our global brain today is there because 30,000 years ago Homo sapiens started to trade ideas with other groups, therefore creating the collective intelligence of ideas that lead to the global brain. It's our ability to have language, our need to socialize, and our advantage to exchange ideas that has made us who we are today.

"It is human nature to want to exchange ideas, and I believe that, at bottom, every artist wants no more than to tell the world what he has to say. I have sometimes heard painters say that they paint 'for themselves': but I think they would soon have painted their fill if they lived on a desert island. The primary purpose of all art forms, whether it's music, literature, or the visual arts, is to say something to the outside world; in other words, to make a personal thought, a striking idea, an inner emotion perceptible to other people's senses in such a way that there is no uncertainty about the maker's intentions."

— *M. C. Escher, Dutch graphic artist. He is known for his often mathematically inspired woodcuts, lithographs, and mezzotints (1898-1972), On Being a Graphic Artist*

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