

# The human genome project

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When populations start to die there are only so many to choose from for genes. A founder effect will then be created (Welsch 73). The Human Genome Project set out to identify all the genetic material in humans (Welsch 265). Another type of variation is different from genes it is physiological. Our blood type is a protein on our red blood cells and delivers oxygen and immune responses ( Welsch 267).

We are only able to give blood to those who have our same blood type unless we have the blood type that is the universal donor. We have a friend who has suffered miscarriages, the most recent was 26 weeks along. Her body keeps rejecting the baby and they are not sure what the cause is. They are sure that it is not the RH factor.

The white blood cells also have their own set of proteins, the human leukocyte antigen system (HLA). This system protects our bodies from foreign objects or infectious agents (Welsch 268). Even within our families we are varied because we will not all have the same combination of the system. We all react to infections and diseases differently. My husband is highly allergic to artificial smells. His system seems to be in overdrive.

When he was in the military his bunk mate sprayed scented aerosol deodorant and his throat closed up. He then realized he could not handle anything artificial. My friend's cousin had a double lung transplant last year. Several months after her transplant she got an infection and her body rejected her new lungs and she passed away. I think her rejection to the new lungs was because of the differences in the HLA system of her body and the donor's.

Our bodies also adapt and look different from others in our skin tone and our body types. These traits are not as significant in our bodily functions but are varied nonetheless. We all can have different hair color, skin color, and shape and sizes. Our skin does not really have color, it has a pigment called melanin (Welsch 271). Depending on where the person lived they may have more melanin production and have darker skin. Some can also be tall and thin or short and chubby.

We measure this through the anthropometry. It helps determine the variations we see. We put these measurements in the cormic index, which is sitting height to standing height (Welsch 273). The intermembral index is the ratio of arm length to leg length (Welsch 273). Body fat is determined by the BMI or body mass index. A person can be too skinny or too fat and have a BMI that is not healthy. Another variation is race. This our society's system for classifying people based on how they look. These differences are believed to reflect the root of genetic and biological differences.

We also adapt to the environments we encounter. We can either allow our environment to change us or we can change the environment. To survive we have to figure out what needs to change and react accordingly. We have to have a certain plasticity. We all change during our lifetime and it comes somewhat from our surroundings. We can perform niche construction and make our environment suitable to our living conditions. On the farm my in laws own they do several things to insure their success.

They have to give the cows shots to make sure they are healthy enough for reproduction and the babies will be healthy enough to be sold. They take

care of the grass and the other parts of the land to ensure the cows are fed during the spring, summer and fall. They make sure that there is enough hay to feed them during the winter. As parents we have the ability to help our children adapt. To set them up for success in life as humans. We teach our children how to cook, clean, read, and write.

The ability to care for themselves passes across generations. They will teach their own children these abilities to adapt and survive in the world around them. We pass this on to them through extra-genetic inheritance. We have a new emergence of new species through speciation. Differences can be so vast that it becomes a totally different species. Such as the dog and the wolf. Both have canine but the wolf is considered a different species.

Evolution takes place as we experience different things in our culture. We have to adapt as our culture changes. The constructivist approach shows that our biology is a process of construction (Welsch 239). Our bodies work in combination with our genes to affect how genes can be expressed or epigenetic system of inheritance (Welsch 240). When our genes are altered we can pass those down to our children affecting how their bodies work and how they behave.

The way we raise our children affects how they will behave as adults. If we are nurturing, loving and kind to our children almost all of the time these will be the traits they possess unless they have something else going on biologically. If we behave negative with our children and this is all they see they will in turn possess those traits. This is the behavioral system of

inheritance. We also store symbols and communicate them with others around us, showing the world our understanding through them.

The symbols we use come from the symbolic system of inheritance. Through manipulating the world around us and changing the world around us it is important to our biocultural evolution. Change is an important part of who we are. Just as when we move into a new home, a new town, new school, and even a new job we change and construct the environment to fit our needs. We do certain things so we can fit in and feel comfortable. It allows us to thrive. We even try to change the land we live on.

Another aspect of biocultural evolution is the evolution of our behaviors. Sociobiology explains our behaviors as related to our biological component (Welsch 245). Our behavior can also be influenced by the earth and social things going on around us. This comes from the human behavioral ecology (HBE) (Welsch 246). We adapt our behavior to our society so that we can fit and continue to evolve. Our behaviors are directly connected to our biological self.

This comes from biological determinism (Welsch 247). Some of them come forward or (emergence) based on who we see and interact with in our daily lives. We adapt and change through our diet, moving to different places, and sometimes we even change our bodies through modification to make ourselves fit in. Just like runway models who extreme diet and workout to be tiny enough to be considered for the runway. This shapes our cultures around the world and how we all view each other.

Everyone in this world is so unique. No two people even family members will be completely identical. Our bodies adapt and varied through the generations to be continued successfully. We all try to fit in with our behaviors so that our true biological self can come forward. We need to be conscious in the things we teach our children because they will be the next generation and bring forth a new culture.

### **Works Cited**

- Welsch, Robert Louis, et al. Anthropology: Asking Questions about Human Origins, Diversity, and Culture. Oxford University Press, 2017.