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Anthropology 130 Online Lecture 6

Here, at the end of this six week course, we can take a look back at everything we have learned and how it all fits together. We covered a wide range of topics all attempt to answer the big questions of physical anthropology: why is our biology the way it is? In particular, how is our biology related to our cultural lives as well? We started the first week with the study of life in general as developed by the practice of science in Europe. The buildup of observations led to the explanation of natural selection as a theory of how populations of living things can change. Further work on heredity and genetics uncovered the details of how DNA instructions are translated to traits and how they pass down generations.



{ Caption: Our lives are a constant interaction between biology and culture. }

From that foundation, we then applied it to the biology of modern *Homo sapiens* from the perspective of biological evolution. Using natural selection, we saw how our growth and development from the prenatal stage through senescence enhances our ability to learn and share culture. Through natural selection across thousands of years, people have also inherited biological ways to adapt to extreme environments. The survey of people around the world and their unique adaptations allows us to question the concept of race that dominates current discussions on human diversity. While the public and institutions both use a limited number of categories to label people, we found through investigating human biology that human diversity is far more nuanced than what a few categories could cover. Instead of having a biological origin, the racial differences we see have



{ Caption: People enjoy pondering their past. }

historical and environmental causes. While biology and history are set, environments can be changed, giving us hope for a future without the divisions we see today.

The study of modern human bioculture showed us a lot about our species today, but to understand our origins, we had to expand our view. Week 3 took us to the other primates living today. In comparison, we saw that humans shared some traits with the modern primates, but we had a lot of modified adaptations as well. With this observation, we looked to the past to see what primates were like up to 65 million years ago. By examining fossil evidence and estimating how long they have laid in the ground, we could reconstruct the scraps of a photo album of our shared past with other primates. Rather than seeing exact versions of modern prosimians, monkeys, and apes, we learned that those lineages have also acquired new traits in their own lineages separate from our own.



{ Caption: In modern primates, we see similar physical and behavioral traits. }



{ Caption: Australopithecines such as Lucy resemble both modern apes and humans. }

As we moved between the fourth and fifth weeks, we traced our own ancestry through the hominin primate lineage that resulted in our modern species. Despite what seemed obvious to us, the fossils showed that bipedalism was the first major upgrade that our lineage got. Through millions of years, the australopithecines improved their adaptation to bipedalism as the cost of decreased ability in the trees. In the *Homo* genus that came out of the australopithecines, bipedalism became even more refined and intelligence grew exponentially to our species. In the last few thousand years, cultural adaptations became more important for us as we thought our way out of problems instead of relying on the biology we were born with. In this way, we are the first organisms to live no dependent on the rules of natural selection as we live in a world of our own making with

technological and cultural solutions. Our biologically-inherited intelligence allowed our species the ability to hypothesize and study our own past, taking us back to the foundation of the first week.

There you have it, the current state of knowledge about human bioculture! I hope that the broad view of humankind from this course enhances your perspective of human life, and that the little details give you some fun facts to drop at parties. You are now in a great place to see what comes next in physical anthropology. Discoveries are made regularly that fill in the gaps of our knowledge.



{ Caption: As all other life today, we the result of successful lineages who have survived in their environment. }



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