

# Biological anthropology

[Science](#), [Biology](#)



Gonzalez, Aurea March 6, 2013 Question #1 For many years biological anthropologists have been trying to identify race through genetics but race is not determined biologically. The closest aspect to a biological feature in grouping people is cline; geography making people of the same area in the world similar. Human variation, however, is classification of skin color, eye color; characteristics that are genetic and unchanging genes. Genetic traits have nothing to do with race; it influences the idea of it. Mutations cause variation. An example of this would be with how sunlight affects skin tone because of dark and light melanin.

Race cannot be naturally divided into groups because it is an arbitrary, modern idea; a social construct based on ethnicity, social reform, and culture, otherwise known as The Great Chain of Being. Constant change in the world, such as migration and reproduction, brings diversity upon us. Jim Brown, in *The Power of Illusion*, specifically says, " Race has changed as a definition in this country. " The world is always changing; people will continuously try to identify race through genetics, but it never will be proven biologically because it's merely a cultural classification.

Also, in the film, a group of students try to find out who they might be closely related to, based on mitochondrial DNA. A black girl believes she is more closely related to another black boy in the class. When they matched the MTDNA, they found out they were wrong. Some had the same number and pattern of MTDNA that others across the country had. This proved race had nothing to do with genetics. Scientists have tried to see differences in athletic ability according to race. However, there is no biological explanation

for why someone of one race might be more athletic than someone of another.

If a white person ran in the mountains with high altitude, he would have greater lung capacity than someone who ran an average racetrack. Nutrition and adaptation affect genetics, bringing about variety of human beings. If a black person grew up with great nutrition, he was likely to be taller and healthier than someone who might not have access to nutrition. Therefore, race cannot determine specific differences between one another because access to food affects variation. It's important to remember the difference between race and human variation because everyone should be treated equal.

Although there is internal variation within the human species, that doesn't define race, yet human variation. [400 words] Gonzalez, Aurea March 6, 2013 Question #2 The origin of walking on two feet goes back between 10-3 MYA. There are numerous ways to diagnose bipedalism with skeletal remains. The foramen magnum is where the spinal cord meets the skull and passes on to the brain. It is able to determine whether or not a skeleton was bipedal because if the spinal cord is located directly beneath the skull, rather than its back, such as the chimpanzee, it is proven to have walked on two legs.

Also, you can infer that the skeleton was bipedal because thoracic kyphosis, the slight backward curve of the vertebrae to which the ribs attach, do not develop until one begins to walk upright. Lumbar lordosis, the forward curve of the lower portion of the back, is more robust in females than in males for ability to balance to support a baby during pregnancy. Angle of the femur is <https://assignbuster.com/biological-anthropology-research-paper-samples/>

another way to prove bipedalism. If the angle is increasingly wide, the skeleton was bipedal because it allows more balance with the broaden hips, versus a chimp with a straighter angle of a femur, causing the wobble when walking on two feet.

Increase in leg length is another way to prove bipedalism. Apes had longer arms than legs, proving knuckle-walking, and spending more time swinging in trees walking on the ground. The fossil Lucy was the first bipedal skeleton found in Kenya which dates back to 3.6 MYA. She's considered the first bipedal skeleton because hips down, she had the body of a human, however hip up, using her brain size, she was considered ape. Salem, aka Lucy's baby, had a preserved skull, milk teeth, tiny fingers, a torso, a foot, and an extremely tiny kneecap which helped archeologists say she was about three years old when she died.

Salem differed from Lucy, having a face, while Lucy's head was barely found, and had ape-like shoulders, telling us tree climbing was still a part of its nature, supporting the theory of *A. afarensis*. Bipedalism was a positive adaptation in human evolution because of survival. Keeping cool from changing landscapes and climates was an important factor in endurance running. With the shedding of hair on our bodies from evolution, sweating was our new found air conditioner, allowing the human species to run in the day and keep cool at the same time, making it easier to hunt protein, meat, the greatest source of nutrition. 400 words] Gonzalez, Aurea March 6, 2013 Question #3 Several methods were used for the excavation of the African Burial Ground in 1991. After using large machinery and shovels to get through the first few feet of dirt, dental tools and brushes were used to

find the remains of skeletons carefully. Soil marks in the dirt from decayed wood where a coffin once was were visible to determine where to locate the heads and bodies of the skeletons. Photos were taken to preserve the history before excavating, for excavation is destructive, destroying information due to damaged remains.

Archeologists were able to infer a lot about some of the bodies found such as age, sex, and culture. Two thirds of the adults were identified male, one third being female, and forty-five percent of the excavated bodies, children under twelve years old. Sex was able to be determined through pelvis shape. The wider the angle of the pelvis, it was determined to be female, the thinner the angle, it was male. Another way to identify sex with the pelvis is the pubic arch's shape. If the arch seems like a circle, it is female, if it seems heart-shaped, it is male.

Teeth give indication of age, but aging can also be caused by environmental stress. Teeth also played a cultural aspect in these people's lives. Shape of the teeth told archeologists whether or not they were born in Africa or kept practicing their culture while they were alive. Filing of the teeth into hourglass and peg shapes showed tribal affiliations in West Africa. Thus, historical data and these observations tell us the bodies were indeed African. Dr. Blake, in *African Burial Ground, An American Discovery*, suggests a man in his thirties had the vertebrae of an eighty year old man.

Vertebral Lipping can be caused by standing all day, adding pressure to your spine, but carrying heavy loads can crush your spine at a quicker age. This showed us that this man was very hard working. Also, some bodies were buried with shroud, which indicated that they were extremely poor, while a <https://assignbuster.com/biological-anthropology-research-paper-samples/>

woman was found buried with a lace of beads that were a waist decoration indicating she wasn't as poor as the others. In October of 1992, more than four hundred skeletons were removed. The discovery of the African Burial Ground reminds us today of enslaved relatives that were almost forgotten due to the building of our city. [398 words]