Evolution Essay, Research Paper

`We act

like animals, we eat like animals, and we are animals. The many theories of

evolution such as Darwin’s theory of evolution prove to us that we choose to

believe that we are not animals when we really are. Evolution is the sequencial

process of change over periods of time, which shapes and establishes the

formation of modern man.

In referring to evolution, the word means various changes. Evolution refers to

the fabrication and development of life on earth. "Organic evolution"

is the concept that all living beings evolved from simple organisms and have

changed throughout the periods of time to create many and various types of

species. Organic evolution is better known as the "theory of

evolution." There are three main theories of evolution, which are, the

early theories proposed by Comte de Buffon, Baron Cuvier, and Lamarck, the

synthetic theory, and the Darwin theory.

In the 1700s, French naturalists, Comte de Buffon and Baron Cuvier concluded

with the studies of fossils and comparative anatomy that life on earth had

endured many changes through a long period of time. In the early 1800s, another

French naturalist named Lamark, proposed the first complete theory of

evolution. He observed through is observations, depending on the extent to which

the use of the structure, that an animal’s body structure is able to change

during its life span. He also noted that organs and muscles, which were used

often, tended to become larger and stronger. On the contrary, the organs and

muscles, which were used seldom, tended to become smaller and diminish. With

these observations, Lamarck concluded that these characteristics were

hereditary.

Proposed during two decades, the 1930s and 1940s, the synthetic theory involved

a group of scientists. The group of scientists included two American

biologists, Russian Theodosius and German Ernst Mayr, and the British

geneticist and statistician Ronald A. Fisher. Together, they proposed the

synthetic theory which combined Darwin’s theory of natural selection with the ideals

of genetics.

In 1808, French naturalist Chevalier de Lamarck contemplated a theory of

evolution, although, his theory of evolution did not gain any recognition until

1858. In 1858, British naturalist Charles R. Darwin furnished his theory of

evolution, also known as Darwin’s theory. Along with Darwin’s theory of

evolution there early theories and the synthetic theory. In 1858, Charles

Darwin furnished his theory of evolution and the majority of scientists accept

the Darwin theory today. The Darwin theory states that all species evolved from

either many or few common ancestors or descendants under circumstances of

natural selection. Three chief resources aided Darwin to develop his widespread

theory of evolution. One, his personal observations, two, the geological theory

of British scientist Sir Charles Lyell, and three, the population theory of the

British economist Thomas Robert Malthus. Aboard the H.M.S Beagle from 1831 to

1836, Charles Darwin made many of is observations in his quest to propose his theory

of evolution. On the coast of South America, Darwin came under the possession

of many specimens of plants and animals. On the Galapagos Islands, off the

coast of Ecuador Darwin discovered many differences between species on the

islands and with the species on the mainland. For example, Darwin noted that

certain fossils of extinct species were closely similar to living species in

the same geographical area. Darwin also observed that each island possessed its

own form of tortoise, mockingbird, and finch. He also discovered various forms

of these species were closely similar but differed in structure and eating

habits from island to island. In addition, Darwin discovered varieties of

differences between species on one island and another island. With each

observation, Darwin come to the question of possible links between distinct but

similar species.

British economist Thomas Robert Malthus aided Darwin in creating the theory of

natural selection. Malthus proposed how human populations remain in balance. He

debated that any increase in the availability of food for basic human survival

could not equal the geometrical rate of population growth. In addition,

limitations such as famine, disease, or war, play a major role in deciding the

population growth. With this proposal, Darwin quickly applied Malthus’s

proposal in circumstances of plants and animals. In 1838, Darwin designed a

projection of a theory of evolution through natural selection.

Natural selection is a process in which the organisms suited best for their

environment tend to reproduce the most and leave the most descendents. With the

limitation of food for each species, competition is formed in which all livings

beings must compete for the supply of food, water, space, and other resources.

Individual plants and animals whose adaptations of suited best for a certain

environment tend to have an advantage in the competition for survival. Species

with this advantage tend to leave a larger number of offspring than the less

fortunate species. As a result, the size of the species which is best adapted

to its environment increases from generation to generation. The term fitness

refers to the ability of an organism to reproduce. Scientists use this term to

create the concept "survival of the fittest." Natural selection

contains the ability to affect an individual’s ability to reproduce. These

abilities consist of appearance, body chemistry, physiology, and behavior.

Physiology is how an organism functions. In order for natural selection to

function properly, two biological requirements must be encountered. One,

individuals of a population require difference in their hereditary

characteristics. An example of the requirement for difference in their

hereditary characteristics, human beings differ in almost every aspect of their

appearance with include height, weight, and eye-color. In addition, humans also

differ in brain size, thickness of bones, and the amount of fat in their blood.

Secondly, for natural selection to function properly, some of the inherited variations

must affect chances for survival and reproduction. As a result, the fittest

individual tends to pass on more duplications of their genes to their offspring

than the less fittest individuals. In the later periods of time, a species

creates genes that increase its ability to survive and reproduce in its

habitat.

Natural selection consists of three types of selections. One, directional

selection. Two, stabilizing selection. Finally, sexual selection. Direction

selection creates new features that aid a species to adapt to its environment.

Directional selection produces a never ending change in the species toward the

more complex characteristic. Under the circumstance that a species is already

greatly adapted to its environment, stabilizing selection initiates. With

stabilizing selection, individuals with average characteristics produce the

most offspring. On the contrary, individuals that differ the most from the

average tend to produce the least offspring. For example, stabilizing selection

of human beings is the survival rate of human babies according to their birth

weight. On average, when an infants weight is average, the baby tens to survive

better that those who are either heavier or lighter than the average weight. On

the opposite side of directional selection, stabilizing selection gets rid of

complex characteristics, which in turn, decreases the amount of variation in a

population. The most common form of natural selection can most likely be

stabilizing selection. Species who favor mates who display certain types of

behavior or have certain physical features tend to fall under the category of

sexual selection. Complicated sex rituals can be created through sexual

selection. For example, bright coloring can attract a mate. Another example, is

that many males of different species of birds have more variety of colors in

their feathers than females. Genetic drift represents the random change of

genes in populations. Genetic drift is enabled by the random way that egg and

sperm cells receive some chromosomes from each parent. The circumstance that

reproductive cells consist of only half a set of chromosomes as the parent

cell, leads to the conclusion that only half of a parent’s genes are present in

an egg or sperm. As a result, some of the parent genes will not be replicated

and passed on to its offspring. In addition, genetic drift does not allow

species to evolve to accommodate to their environment. The cause of this

incapability occurs because genetic drift causes random changes in the cycle of

characteristics. Over a long period of time, genetic drift is able to gradually

alter the genetic features of a population.

As time goes on, evolution can change in two distinct manners. Evolution can be

altered through the most common aspect of natural selection. On the contrary,

evolution can also be altered through mutation. Mutation outputs random

differences in the genetic features of a species or a population. A population

is an accumulation of individuals, which are of the same species and live in

the same habitat or area. Mutation is an altered gene. A gene is the basic and

main unit of hereditary. Inherited characteristics of an organism is altered

from mutations.

Chromosomes are threadlike structures, which transport hereditary

characteristics. DNA, the coded information that determines hereditary

characteristics, is carried in large numbers by chromosomes. The majority of

animals and plants contain a full set of paired chromosomes. Human body cells,

for instance, have forty-six chromosomes, or twenty-three pair. During cell

division or reproduction, each offspring receives half the set of chromosomes

from each parent. Mutations can most likely be caused by environmental factors,

with factors such as chemicals or radiation. Chemicals and radiation alter DNA

genes and even create errors during the replication of DNA during cell

division. Nearing the end of cell division, the gene has changed and duplicates

itself in the altered form. Only a mutated gene can introduce new hereditary

characteristics. Mutations are not only the building blocks of evolutionary

change, but also, are the building blocks of the development of new species.

The majority of mutations tend to create adverse traits, such as, albinism.

Albinism is a mutation that contains mutant genes, which lack the ability to

generate normal skin pigment. Animals and plants, which contain the albinism

gene, are unable to survive and reproduce as much and as well as the animals

and plants without the albinism gene. Thus stating, that organisms with a mutant

gene, will be unable to survive and reproduce as well as the organisms without

a mutant gene. On the contrary, many unfavorable genes are eliminated by

natural selection because most of the organisms containing the unfavorable

genes will die before they are able to reproduce. On the other hand, some

mutations benefit organisms in adapting better to their existing environment.

For example, a plant in a dry climate may contain a mutant gene, which enables

its roots to grow longer and deeper that its surrounding plants. As a result,

the plant has a better chance for survival and more reproduction because its

roots are able to extend deeper into the soil and collect water. The favorable

mutations create the aspects for evolutionary change.

The distinct qualities and features of the Homo sapiens have appalled

anthropologists. Examples of these special qualities and features of the Homo

sapiens, which have appalled anthropologists, are features such as language,

high technological skills, and the ability to make ethical judgements. Despite

these qualities, the most significant and most recent quality, is the Homo

sapiens connection with the African apes is practically the same.

"The cradle of mankind…," as Darwin said,"…was Africa."

Darwin also stated ," In each great region of the world, the living

mammals are closely related to the evolved species of the same region. It is,

therefore, probable that Africa was formerly inhabited by extinct apes closely

allied to the gorilla and chimpanzee: and as these two species are now man’s

nearest allies, it is somewhat more probable that our early progenitors lived

on the African continent than elsewhere."

On the contrary, many anthropologists disagreed with Darwin’s opinion because

the Dark Continent, better known as Africa, was not a fit enough place for the

origin of a so noble of a creature as the Homo sapiens. Another conclusion made

by Darwin was this:

" If it be an advantage to man to have his hands and arms free and to

stand firmly on his feet,…then I can see no reason why it should not have

been more advantageous tot he progenitors of man to have become more and more

erect or bipedal. The hands and arms could hardly have become perfect enough to

have manufactured weapons, or to have hurled stones and spears with true aim,

as long as they were habitually used for supporting the whole weight of the

body…or so long as they were especially fitted for climbing trees."

This was written by Darwin in his book called The Descent of Man. The Descent

of Man was written to distinguish the evolvement of humans, bipedalism,

technology, and an enlarged brain. In this quote, Darwin is stating that the

evolution of the Homo sapiens unusual form of locomotion was directly linked to

the production of stone weapons. Furthermore, Darwin linked these evolutionary

changes to the origin of the canine teeth in humans. In addition, the canine

teeth of a human are unusually small compared to the canines of apes.

As bipedal creatures, Homo sapiens developed a more intense and interactive

social mind-frame. With the development of a more intense and interactive

social mind-frame, Homo sapiens required more intellect or mentality. As the

intelligence of our ancestors, Homo sapiens, increased, the greater was their

sophistication and technology.

In 1961, Elwyn Simons, at Yale University, published a monumental document,

which stated that a small apelike creature named Ramapithecus, which was the

first known hominid species. Hominid is also known as a primate. Parts of an

upper jaw were the only remains of Ramapithecus. He discovered that the cheek

teeth, which consist of the premolars and molars, are similar to the human

cheek teeth. The cheek teeth of Ramapithecus were flat and not pointed as ape

teeth are. In addition, Simons discovered that the canines were shorter and

blunter than the canines of apes. Yet another discovery Simons came to was that

the reconstruction of the incomplete upper jaw of Ramapithecus showed a

humanlike shape. The upper jaw of Ramapithecus, is an arch at the roof of the

mouth. Similar to humans, Ramapithecus walked upright on two feet, hunted, and

lived in a complex social environment. With the aid of Darwin’s theory of

evolution, Ramapithecus, the very first hominid species, became viewed by many

anthropologists has a cultural animal, which states that Ramapithecus is a

primitive version of modern humans.

The first human species is believed to have evolved only about 7 illion years

ago. Data indicated that the blood proteins of humans, chimpanzees, and

gorillas are equally different from each other. In other words, a type of

evolutionary event 7million years ago caused a common ancsestor to split in

three directions at once. This type of evolutionary event not only led to the

evolution of modern humans but also of modern chimpanzees and modern gorillas.

In the 1980s, discoveries of much more complete specimens of Ramapithecus

fossils, settled the dispute of the evolutionary event.

The original Ramapithecus fossils are undisputedly human like in various ways,

but the species of Ramapithecus was not human like. The jaw of Ramapithecus was

a V-shape, not a U-shape. In addition, Ramapithecus had lived a lifestyle in

trees, similar to its ancestors, the orangutans. Also Ramapithecus was not a

bipedal ape, which proved that it was less of a primitive hunter-gatherer.

The beginning of the apes and forward onto the human proceeds through fourteen

different types of primitive Homo sapiens. The first primitive ape,

Phiolethecus is similar to a modern-day spider monkey except for its skull,

face and teeth. Its skull, face and teeth are similar to the skull, face, and

teeth of a gibbon. A gibbon is described as an animal with a slender body with

long dangling arms. Scientists believe that Phiolethecus probably have used its

arms in order to swing from tree to tree throughout the jungle. The Proconsul

is an early ape, which was once considered to be a distinct genus. A genus is

defined as a class or group of species. The Proconsul is defined as a subgenus

of Dryopithecus. Dryopithecus is an ape that evolved in Africa in various

forms. It is believed that they are distant ancestors of the chimpanzee. In

addition, it is a larger form and predecessor of the gorilla. First of the

fossil great apes to be discovered, Dryopithecus was spread out and distributed

throughout Europe, India, China and Africa. On the contrary, the skeleton of

Dryopithecus is still frustratingly incomplete. The skeleton has been

reconstructed by used the jaw and tooth bone fragments. Standing at bout four feet

tall and weighing about eighty pounds, Oreopitecus is a possible branch of the

human’s family tree. With the evidence of its teeth and pelvis, Oreopithecus is

regarded as an ancestor to the ape or an ancestor to monkeys. As I have

described earlier, Ramapithecus is the earliest primate to be considered a

direct ancestor of modern day human beings. The creature, which is three to

four feet tall, is the Ramapithecus species. They were hominid in shape because

it only consists of few teeth, and the fragments of the upper and lower jaws

are similar to a hominid. Australopithecus Africanus is the first definite

human ancestor, which is four million years younger than Ramapithecus. During

the time of Ramapithecus and Australopithecus Africanus, these pre-humans made

great technological advances. Such advances of becoming bipedal. With the aid

of bipedalism, this species lived on the ground for the majority of its life.

In addition, the advances of the use of stone, bone and wood were used as tools

and weapons. Similarly to Australopithecus Africanus, Australopithecus Robustus

lived in South Africa. The Australopithecus Robustus is a definite descendant

of Australopithecus Africanus. Australopithecus Boisei is the greatest in size

of all the australopithecines, which lived in East Africa. It is the largest of

the australopithecines because it has developed more massive teeth and

jawbones. Unfortunately, Australopithecus Boisei became extinct. The Advanced

Australopithecus is signified from the other australopithecines because of

advanced features such as greater intelligence. Many scientists feel that this

australopithecine should be regarded as a true man. They also call Advanced

Australopithecus "Homo habilis." On the contrary, Homo Erectus, in

1950, was classified as the first true man. Homo Erectus contained more

primitive of a brain, which had a cranial capacity to half of the Homo sapiens.

In addition, Homo Erectus led a social life and came under the use of fire and

could believably talk. The Neanderthal Man was a survivor. It had a cranial

capacity, which was similar in size to modern humans. The Neanderthal Man had

basic advances in life style. The Neanderthal Man made basic clothes and

constructed tools of advanced design. The Cro-Magnon Man is regarded has the

first fine artist on earth. Proof of this fine artistry is that of rich records

of accomplishments in cave paintings, which Cro-Magnon made. He made these

records From stone engravings and carved figures. Cro-Magnon amazingly spread

to all habitable parts of the world. Modern Man, us, has learned from the

teaching and evolvement of the Cro-Magnon. We have learned to grow our own food

and domesticate our animals. In addition we possessed the control over the

environment and created cites and established civilizations.

We act like animals, we eat like animals, and we are animals. The many theories

of evolution such as Darwin’s theory of evolution prove to us that we choose to

believe that we are not animals when we really are. With the amazing changes

and evolvement our species has undergone and as the twenty first century

approaches us, who knows what forms of evolutionary change will come of us.