

The Story of Adam

(part 1 of 5): The First Man



Islam provides us with the astonishing details of the creation of Adam^[1]. Both Christian and Jewish traditions are remarkably similar yet importantly different to the Quran. The Book of Genesis describes Adam as being made from “the dust of the earth,” and in the Talmud, Adam is described as being kneaded from mud.

And God said to the angels:

“Verily, I am going to place mankind generations after generations on earth.’ They said: ‘Will You place therein those who will make mischief therein and shed blood, while we glorify You with praises and thanks and sanctify You.’ God said: ‘I know that which you do not know.’” (Quran 2:30)

So begins the story of Adam, the first man, the first human being. God created Adam from a handful of soil containing portions from all its varieties on Earth. Angels were sent to earth to collect the soil that was to become Adam. It was red, white, brown, and black; it was soft and malleable, hard and gritty; it came from the mountains and the valleys; from infertile deserts and lush fertile plains and all the natural varieties in between. The descendants of Adam were destined to be as diverse as the handful of soil from which their ancestor was created; all have different appearances, attributes and qualities.

Soil or Clay?

Throughout the Quran, the soil used to create Adam is referred to by many names, and from this we are able to understand some of the methodology of his creation. Each name for soil is used at a different stage of Adam’s creation. Soil,

taken from the earth, is referred to as soil; God also refers to it as clay. When it is mixed with water it becomes mud, when it is left to stand the water content reduces and it becomes sticky clay (or mud). If it is again left for some time it begins to smell, and the colour becomes darker – black, smooth clay. It was from this substance that God moulded the form of Adam. His soulless body was left to dry, and it became what is known in the Quran as sounding clay. Adam was moulded from something akin to potter's clay. When it is rapped it produces a ringing sound.[2]

The First Man is Honoured

And God said, to the Angels:

“And (remember) when your Lord said to the angels: ‘I am going to create a human (Adam) from sounding clay of altered black smooth mud. So when I have fashioned him and breathed into him (his) soul created by Me, then you fall down prostrate to him.’” (Quran 38:71-72)

God honoured the first human, Adam, in countless ways. Allah blew his soul into him, He fashioned him with His own hands and He ordered the Angels to bow down before him. And God said to the Angels:

“...Prostrate to Adam and they prostrated except *Iblees*(Satan)...” (Quran 7:11)

While worship is reserved for God Alone this prostration by the Angels to Adam was a sign of respect and honour. It is said that, as Adam's body trembled into life, he sneezed and immediately said ‘All praise and thanks is due to God;’ so God responded by bestowing His Mercy upon Adam. Although this account is not mentioned in either the Quran or the authentic narrations of the Prophet Muhammad, may the mercy and blessings of God be upon him, it is mentioned in some commentaries of the Quran. Thus, in his first seconds of life, the first man is recognized as an honoured creature, covered with the infinite Mercy of God.[3]

It was also said by the Prophet Muhammad that God created Adam in His image.[4] This does not mean that Adam was created to look similar to God, as God is unique in all His aspects, we are unable to comprehend or form an image of Him. It does mean, however, that Adam was given some qualities which also God has, although incomparable. He was given qualities of mercy, love, free will, and others.

The First Greeting

Adam was instructed to approach a group of Angels sitting near to him and greet them with the words *Assalamu alaikum* (May God's peace be upon you),

they answered ‘and also upon you be God’s peace, mercy and blessings’. From that day forward these words became the greeting of those submitted to God. From the moment of Adam’s creation, we his descendents were instructed to spread peace.

Adam, the Caretaker

God told mankind that He did not create them except that they should worship Him. Everything in this world was created for Adam and his descendants, in order to aid us in our ability to worship and know God. Due to God’s infinite Wisdom, Adam and his descendants were to be the caretakers on earth, so God taught Adam what he needed to know to perform this duty. God mentions:

“He taught Adam all the names of everything.” (Quran 2:31)

God gave Adam the ability to identify and designate names to everything; He taught him language, speech and the ability to communicate. God imbued Adam with an insatiable need for and love of knowledge. After Adam had learned the names and uses for all things God said to the Angels...

“tell me the names of these if you are truthful.’ They answered ‘Glory be to You, we have no knowledge except what You have taught us. Verily it is You the All Knower, the All Wise.’” (Quran 2:31-32)

God turned to Adam and said:

“O Adam! Inform them of their names,’ and when he had informed them of their names, He said: Did I not tell you that I know the unseen in the heavens and the earth, and I know what you reveal and what you have been hiding?” (Quran 2:33)

Adam tried to speak with the Angels, but they were occupied worshipping God. The Angels were given no specific knowledge or freedom of will, their sole purpose being to worship and praise God. Adam, on the other hand, was given the ability to reason, make choices and identify objects and their purpose. This helped to prepare Adam for his coming role on earth. So Adam knew the names of everything, but he was alone in Heaven. One morning Adam awoke to find a woman gazing at him.^[5]

Footnotes:

[1] Based on the work of Al Imam ibn Katheer, *The Stories of the Prophets*.

[2] *Saheeh Al-Bukhari*

[3] Al Imam ibn Katheer. *The Stories of the Prophets*.

[4] *Saheeh Muslim*

[5] *Ibn Katheer*.

(part 2 of 5): The Creation of Eve and the Role of Satan

Adam opened his eyes and looked into the beautiful face of a woman gazing down at him. Adam was surprised and asked the woman why she had been created. She revealed that she was to ease his loneliness and bring tranquillity to him. The Angels questioned Adam. They knew that Adam possessed knowledge of things they did not know about and the knowledge mankind would need to occupy the earth. They said ‘who is this?’ and Adam replied ‘this is Eve’.

Eve is *Hawwa* in Arabic; it comes from the root word *hay*, meaning *living*. Eve is also an English variant of the old Hebrew word *Havva*, also deriving from *hay*. Adam informed the Angels that Eve was so named because she was made from a part of him and he, Adam, was a living being.

Both Jewish and Christian traditions also maintain that Eve was created from Adam’s rib, although in a literal translation of the Jewish tradition, *rib* is sometimes referred to as *side*.

“And God said: ‘O Mankind! Be dutiful to your Lord, Who created you from a single person (Adam) and from Him (Adam) He created his wife (Eve), and from them both He created many men and women.’” (Quran 4:1)

The traditions of Prophet Muhammad relate that Eve was created while Adam was sleeping from his shortest left rib and that, after sometime, she was clothed with flesh. He (Prophet Muhammad) used the story of Eve’s creation from Adam’s rib as a basis for imploring people to be gentle and kind to women. **“O Muslims! I advise you to be gentle with women, for they are created from a rib, and the most crooked portion of the rib is its upper part. If you try to straighten it, it will break, and if you leave it, it will remain crooked; so I urge you to take care of the women.” (Saheeh Al-Bukhari)**

Dwelling in Paradise

Adam and Eve dwelt in tranquillity in Paradise. This, too, is agreed upon by Islamic, Christian and Jewish traditions. Islam tells us that all of Paradise was theirs to enjoy and God said to Adam, “eat both of you freely with pleasure and delight of things therein as wherever you will...” (Quran 2:35) The Quran does not

reveal the exact location of where this Paradise was; however, commentators agree that it is not on the earth, and that the knowledge of the location is of no benefit to mankind. The benefit is in understanding the lesson from the events that took place there.

God continued his instructions to Adam and Eve by warning them **“...come not near this tree or you both will be of the wrongdoers.” (Quran 2:35)** The Quran does not reveal what type of tree it was; we have no details and seeking such knowledge also produces no benefit. What is understood is that Adam and Eve lived a tranquil existence and understood that they were forbidden to eat from the tree. However, Satan was waiting to exploit the weakness of mankind.

Who is Satan?

Satan is a creature from the world of the *Jinn*. The *Jinn* are a creation of God made from fire. They are separate and different from both the Angels and mankind; however, like mankind, they possess the power of reason and can choose between good and evil. The Jinn existed before the creation of Adam^[1] and Satan was the most righteous among them, so much so that he was elevated to a high position amongst the Angels.

“The Angels prostrated themselves all of them together. Except Satan, he refused to be among the prostrators. God said: ‘O Satan! What is your reason for not being among the prostrators?’ ‘Satan said: ‘I am not the one to prostrate myself to a human being, whom You created from sounding clay of altered black smooth mud.’ God said: ‘Then get out from Here for verily you are an outcast or cursed one. Verily the curse shall be upon you till the Day of Resurrection.’” (Quran 15:30-35)

The Role of Satan

Satan was there in the Paradise of Adam and Eve and his vow was to misguide and deceive them and their descendents. Satan said: **“...surely I will sit in wait against them (human beings) on Your Straight Path. Then I will come to them from before them and behind them, from their right and from their left...” (Quran 7:16-17)** Satan is arrogant, and considered himself better than Adam, and thus mankind. He is crafty and cunning, but ultimately understands the weakness of human beings; he recognises their loves and desires.^[2]

Satan did not say to Adam and Eve “go eat from that tree” nor did he outrightly tell them to disobey God. He whispered into their hearts and planted disquieting thoughts and desires. Satan said to Adam and Eve, **“...Your Lord did not forbid you this tree save that you should become Angels or become of the**

immortals.” (Quran 7:20) Their minds became filled with thoughts of the tree, and one day they decided to eat from it. Adam and Eve behaved as all human beings do; they became preoccupied with their own thoughts and the whisperings of Satan and they forgot the warning from God.

It is at this point that the Jewish and Christian traditions differ greatly from Islam. At no point do the words of God – the Quran, or the traditions and sayings of Prophet Muhammad - indicate that Satan came to Adam and Eve in the form of a snake or serpent.

Islam in no way indicates that Eve was the weaker of the two, or that she tempted Adam to disobey God. Eating the fruit of the tree was a mistake committed by both Adam and Eve. They bear equal responsibility. It was **not** the original sin spoken about in Christian traditions. The descendents of Adam are not being punished for the sins of their original parents. It was a mistake, and God, in His infinite Wisdom and Mercy, forgave them both.

Footnotes:

[1] Al Ashqar, U. (2003). *The World of Jinn and Devils*. Islamic Creed Series. International Islamic Publishing House: Riyadh.

[2] Sheikh ibn Al Qayyim in *Ighaathat al Lahfaan*.

(part 3 of 5): The Descent

Islam rejects the Christian concept of original sin and the notion that all humans are born sinners due to the actions of Adam. God says in the Quran:

**“And no bearer of burdens shall bear another’s burden.”
(Quran 35:18)**

Every human being is responsible for his or her actions and is born pure and free from sin. Adam and Eve committed a mistake, they repented sincerely and God in His infinite wisdom forgave them.

**“Then they both ate of that tree, and so their private parts appeared to them, and they began to stick on themselves the leaves from Paradise for their covering. Thus did Adam disobey his Lord, so he went astray. Then his Lord chose him, and turned to him with forgiveness and gave him guidance.”
(Quran 20:121-122)**

Mankind has a long history of committing mistakes and forgetting. Even so, how was it possible for Adam to have committed such a mistake? The reality was that Adam did not have any experience with the whisperings and ploys of Satan. Adam had seen the arrogance of Satan when he refused to follow the commands of God; he knew that Satan was his enemy but had no familiarity with how to resist Satan's tricks and schemes. The Prophet Muhammad told us:

“Knowing something is not the same as seeing it.” (Saheeh Muslim)

God said:

“So he (Satan) misled them with deception.” (Quran 7:22)

God tested Adam so that he could learn and gain experience. In this way God prepared Adam for his role on earth as a caretaker and a Prophet of God. From this experience, Adam learned the great lesson that Satan is cunning, ungrateful and the avowed enemy of mankind. Adam, Eve and their descendants learned that Satan caused their expulsion from heaven. Obedience to God and enmity towards Satan is the only path back to Heaven.

God said to Adam:

“Get you down (upon the earth), all of you together, from Paradise, some of you are an enemy to some others. Then, if there comes to you guidance from Me, whoever follows My Guidance shall neither go astray, nor fall into distress and misery.” (Quran 20:123)

The Quran tells us that Adam subsequently received from his Lord some words; a supplication to pray, which invoked God's forgiveness. This supplication is very beautiful and can be used when asking for God's pardon of your sins.

“Our Lord! We have wronged ourselves. If you forgive us not and bestow not upon us Your Mercy, we shall certainly be of the losers.” (Quran 7:23)

Mankind continues to commit mistakes and wrong doing, and through them we only harm ourselves. Our sins and mistakes have not harmed, nor will it harm God. If God does not forgive us and have mercy on us, it is we who will surely be among the losers. We need God!

“On earth will be a dwelling place for you and an enjoyment, for a time.’ He said: ‘Therein you shall live and therein you shall die, and from it you shall be brought out (resurrected).’” (Quran 7:24–25)

Adam and Eve left heaven and descended upon earth. Their descent was not one of degradation; rather it was dignified. In the English language we are familiar with things being either singular or plural; this is not the case for Arabic. In the Arabic language there is singular, then an extra grammatical number category denoting two. Plural is used for three and more.

When God said: **“Get you down, all of you”** He used the word for plural indicating that he was not speaking to Adam and Eve alone but that He was referring to Adam, his wife and his descendants – mankind. We, the descendants of Adam, do not belong to this earth; we are here for a temporary time, as is indicated by the words: **“for a time.”** We belong to the hereafter and are destined to take our place in either Heaven or Hell.

The Freedom to Choose

This experience was an essential lesson and demonstrated free will. If Adam and Eve were to live on earth, they needed to be aware of the tricks and schemes of Satan, they also needed to understand the dire consequences of sin, and the infinite Mercy and Forgiveness of God. God knew that Adam and Eve would eat from the tree. He knew that Satan would strip away their innocence.

It is important to understand that, although God knows the outcome of events before they happen and allows them, he does not force things to happen. Adam had free will and bore the consequences of his deeds. Mankind has free will and thus is free to disobey God; but there are consequences. God praises those who obey his commands and promises them great reward, and He condemns those who disobey him and warns them against doing so.[\[1\]](#)

Where Adam and Eve descended

There are many reports on the subject of where on earth Adam and Eve descended, although none of them come from the Quran or Sunnah. We thus understand that the location of their descent is something that is of no importance, and there is no benefit in this knowledge were we to have it.

We do know however that Adam and Eve descended to earth on a Friday. In a tradition narrated to inform us of the importance of Fridays, the Prophet Muhammad, may the mercy and blessings of God be upon him, said:

“The best of days on which the sun has risen is Friday. One this day Adam was created, and on this day he was descended to earth.” (*Saheeh Al-Bukhari*)

Footnotes:

[1] Muhammad ibn Al Husain al Ajjurri.

(part 4 of 5): Life on Earth

Adam and Eve left Paradise and began their life on earth. God had prepared them in many ways. He gave them the experience of struggling against the whisperings and schemes of Satan. He taught Adam the names of everything and instructed him in its properties and usefulness. Adam took up his position as caretaker of the earth and Prophet of God.

Adam, the first Prophet of God was responsible for teaching his wife and offspring how to worship God and seek His forgiveness. Adam established the laws of God and set about trying to support his family and learning to subdue and care for the earth. His task was to perpetuate, cultivate, construct and populate; he was to raise children who would live according to God's instructions and care for and improve the earth.

Adam's First Four Children

Adam and Eve's first children, Cain and his sister, were twins,; Abel and his sister, another set of twins, soon followed. Adam and his family lived in peace and harmony. Cain ploughed the earth while Abel raised livestock. Time passed and the occasion came for the sons of Adam to marry. A group of the companions of Prophet Muhammad including Ibn Abbas and Ibn Masud related that inter-marriage of the male of one pregnancy with the female of another had been the practice among Adam's children. Therefore we know that God's plan to fill the earth included each of Adam's sons marrying the twin sister of the other.

It seems that beauty has played a part in the attraction of men and women since the beginning. Cain was not pleased with the partner chosen for him. Cain began to envy his brother and refused to obey the command of his father and, in doing so, he disobeyed God. God created man with both good and bad tendencies, and the struggle to overcome our baser instincts is part of His test for us.

God commanded that each son was to offer a sacrifice. His judgement would favour the son whose offer was the most acceptable. Cain offered his worst grain, but Abel offered his best livestock. God accepted Abel's sacrifice, so Cain became enraged, threatening to kill his brother.

“And (O Muhammad) recite to them (the Jews) the story of the two sons of Adam (Abel and Cain) in truth; when each offered a sacrifice to God, it was accepted from the one but

not from the other. The latter said to the former; ‘I will surely kill you.’” (Quran 5:27)

Abel advised his brother that God would accept good deeds from those that fear and serve Him, but reject the good deeds of those who are arrogant, selfish and disobedient towards God.

“The former said: ‘Verily God accepts only from those who are pious. If you do stretch your hand against me to kill me I shall never stretch my hand against you to kill you, for I fear God; the Lord of mankind, jinn, and all that exists.’” (Quran 5:27-28)

The First Murder

“So the self (base desires) of the other (latter one) encouraged him and made fair seeming to him the murder of his brother; he murdered him and became one of the losers.” (Quran 5:30)

Prophet Muhammad informed us that Cain became angry and hit his brother over the head with a piece of iron. It was also said in another narration that Cain hit Abel over the head while he was sleeping.

“God sent a crow who scratched the ground to show him to hide the dead body of his brother. He (the murderer) said: ‘Woe to me!

Am I not even able to be as this crow and to hide the dead body of my brother?’ Then he became one of those who regretted.” (Quran 5:31)

Adam was devastated; he had lost both his first and second born sons. One had been murdered; the other was won over by mankind’s greatest enemy – Satan. Patiently, Adam prayed for his son, and continued to care for the earth. He taught his many children and grandchildren about God. He told them of his own encounter with Satan and advised them to beware of Satan’s tricks and schemes. Years and years passed, and Adam grew old and his children spread out across the earth.

Adam’s Death

All of mankind are the children of Adam. In one narration, the Prophet Muhammad informed us that God showed Adam his descendants. Adam saw a beautiful light in Prophet David’s eyes and loved him, so he turned to God and said: “Oh God. Give him forty years from my life.” God granted Adam his request, and it was written down and sealed.

Adam's life span was supposed to be 1000 years but after 960 years the Angel of death came to Adam. Adam was surprised and said "but I still have 40 years to live". The angel of death reminded him of his gift of 40 years to his beloved descendant Prophet David, but Adam denied it. Many, many years later, the last Prophet Muhammad said: **"Adam denied so the children of Adam deny, Adam forgot and his children forget; Adam made mistakes and his children make mistakes."** (*At-Tirmidhi*)

In Arabic the word for mankind is *insan* and it comes from the root word *nisyan* to forget. This is part of human nature, mankind forgets, and when we forget we deny and reject. Adam forgot (he was not lying), and God forgave him. Adam then submitted to the will of God and died. The Angels descended and washed the body of Prophet Adam an odd number of times; they dug the grave and buried the body of the father of mankind, Adam.

Adam's successor

Before his death Adam reminded his children that God would never leave them alone or without guidance. He told them God would send other Prophets with unique names, traits and miracles, but they would all call to the same thing – the worship of the One True God. Adam appointed as his successor his son Seth.

(part 5 of 5): The First Man and Modern Science

In Islam, there is no conflict between faith in God and modern scientific knowledge. Indeed, for many centuries during the Middle Ages, Muslims led the world in scientific inquiry and exploration. The Quran itself, revealed around 14 centuries ago, is filled with facts and imagery that are supported by modern scientific findings. Three of those will be mentioned here. Of them, the development of language and mitochondrial Eve (genetics) are relatively new areas of scientific research.

The Quran instructs Muslims to **"contemplate the wonders of creation"** (**Quran 3:191**)

One of the items for contemplation is the statement:

"Truly, I am going to create man from clay..." (Quran 38:71)

Indeed, many elements present in the earth are also contained in the human body. The most critical component to land-based life is the top soil; that thin layer of dark, organically rich soil in which plants spread out their roots. It is in this thin, vital layer of soil that microorganisms convert raw resources, the minerals that constitute the basic clay of this topsoil, and make them available to the myriad forms of life around and above them.

Minerals are inorganic elements that originate in the earth which the body cannot make. They play important roles in various bodily functions and are necessary to sustain life and maintain optimal health, and thus are essential nutrients.[1] These minerals cannot be man made; they cannot be produced in a laboratory nor can they be manufactured in a factory

With cells consisting of 65-90% water by weight, water, or H₂O, makes up most of the human body. Therefore most of a human body's mass is oxygen. Carbon, the basic unit for organic molecules, comes in second. 99% of the mass of the human body is made up of just six elements: oxygen, carbon, hydrogen, nitrogen, calcium, and phosphorus.[2]

The human body contains trace amounts of almost every mineral on earth; including sulphur, potassium, zinc, copper, iron, aluminium, molybdenum, chromium, platinum, boron, silicon selenium, molybdenum, fluorine, chlorine, iodine, manganese, cobalt, lithium, strontium, aluminium, lead, vanadium, arsenic, bromine and more.[3] Without these minerals, vitamins may have little or no effect. Minerals are catalysts, triggers for thousands of essential enzyme reactions in the body. Trace elements play a key role in the functioning of a healthy human being. It is known that insufficient iodine will induce a disease of the thyroid gland and a deficiency of cobalt will leave us without vitamin B₁₂, and thus unable to manufacture red blood cells.

Another verse to contemplate is:

“He taught Adam all the names of everything.” (Quran 2:31)

Adam was taught the names of everything; the powers of reasoning and free will were given to him. He learned how to categorise things and understand their usefulness. Thus, God taught Adam language skills. He taught Adam how to think – to apply knowledge to solve problems, make plans and decisions and to achieve goals. We, the children of Adam, have inherited these skills in order that we can exist in the world and worship God in the best manner.

Linguists estimate that more than 3000 separate languages exist in the world today, all distinct, so that speakers of one cannot understand those of another, yet these languages are all so fundamentally similar that it is possible to speak of a “human language” in the singular.[4]

Language is a special form of communication that involves learning complex rules to make and combine symbols (words or gestures) into an endless number of meaningful sentences. Language exists because of two simple principles, - words and grammar.

A word is an arbitrary pairing between a sound or symbol and a meaning. For example, in English the word *cat* does not look or sound or feel like a cat, but it refers to a certain animal because all of us memorised this pairing as

children. Grammar refers to a set of rules for combining words into phrases and sentences. It may seem surprising, but speakers of all 3000 separate languages learned the same four rules of language.^[5]

The first language rule is phonology – how we make meaningful sounds. Phonemes are basic sounds. We combine phonemes to form words by learning the second rule: morphology. Morphology is the system we use to group phonemes into meaningful combinations of sounds and words. A morpheme is the smallest, meaningful combination of sounds in a language. After learning to combine morphemes to produce words, we learn to combine words into meaningful sentences. The third language rule governs syntax or grammar. This set of rules specifies how we combine words to form meaningful phrases and sentences. The fourth language rule governs semantics – the specific meaning of words or phrases as they appear in various sentences or contexts.

All children, regardless of where in the world they are, go through the same four language stages because of innate language factors. These factors facilitate how we make speech sounds and acquire language skills. The renowned linguist Noam Chomsky says that all languages share a common universal grammar, and that children inherit a mental programme to learn this universal grammar.^[6]

A third verse to ponder is about progeniture:

“O Mankind! Be dutiful to your Lord, Who created you from a single person (Adam) and from Him (Adam) He created his wife (Eve), and from them both He created many men and women.” (Quran 4:1)

The realisation that all mtDNA lineages (Africa, Asia, Europe and the Americas) can be traced back to a single origin is popularly called the “mitochondrial Eve” theory. According to top scientists^[7] and cutting-edge research, everyone on the planet today can trace a specific part of his or her genetic heritage back to one woman through a unique part of our genetic makeup, the mitochondrial DNA (mtDNA). The mtDNA of “mitochondrial Eve” has been passed down through the centuries from mother to daughter (men are carriers, but don’t pass it on) and exists within all people living today.^[8] It is popularly known as the Eve theory because, as can be deduced from the above, it is passed down through the X chromosome. Scientists are also studying DNA from the Y chromosome (perhaps to be dubbed the “Adam theory”), which is passed only from father to son and is not recombined with the mother’s genes.

These are but three of the many wonders of creation God suggests we contemplate through his verses in the Quran. The entire universe, which was created by God, follows and obeys His laws. Therefore Muslims are encouraged

to seek knowledge, explore the universe, and find the “Signs of God” in His creation.

Footnotes:

[1] (<http://www.faqs.org/nutrition/Met-Obe/Minerals.html>)

[2] Anne Marie Helmenstine, Ph.D., *Your Guide to Chemistry*.

[3] *Minerals and Human Health The Rationale for Optimal and Balanced Trace Element Levels* by Alexander G. Schauss, Ph.D.

[4] Pinker, S., & Bloom, P. (1992) *Natural Language and natural selection*. In Gray. P. (2002). *Psychology*. 4th ed. Worth Publishers: New York

[5] Plotnick, R. (2005) *Introduction to Psychology*. 7th Ed .Wadsworth:USA

[6] Gray. P. (2002). *Psychology*. 4th ed. Worth Publishers: New York

[7] Douglas C Wallace Professor of Biological Sciences and Molecular Medicine. At the University of California.

[8] Discovery channel documentary – *The Real Eve*.