Türk Dünyası, Irak-Türkiye Tıp Dergisi: 2020/1
Turkish World, Iraq Medical Journal: 2020/1

M. A. Akşit Koleksiyonundan/Collection

3b-Human being

6

Human being, Homo sapiens, sapiens; mandatory for special, specific direct correlation*

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- ***Summary of my conference, my indications as "I am special, so, direct talk to me, not indirect and to others"***

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NB: This Article grounded on the Turkish* "İnsan, Homo sapiens, sapiens türü olarak, zorunlu olarak özel ve Özgün doğrudan iletişim kurulmasını gerekli kılar*", in English version, thus not instantaneous translation, just at significantly have a connection.

If each person is specific, and sole, be only and one, thus, not be on common general act, be on specific, unique act, behavior for them. Homo sapiens, sapiens is specialized from other creators, as Homo erectus. The principles be same, thus like the dress be same thus, needs tailoring to be fit. Approach must be on ethical and in humanity perspectives. For solution consent, and solution of the person, individual is essential. İndependence, equality thus, unique and relation with brotherhood is the reality concept to be in society.

Social structural confirmation, among other created ones, unique, so, in general, for particular attitude, informative consent is essential. Consent is obligatory be required, for independence, even in all the legal concepts.

Each community have a culturally specific traditions and social reactions. The communication be essential for equal frequency, to be in humanity perspectives.

At this Article, the human being origin from the same one, The personality differentiation and individual relations be unique for themselves. As a physician, the doctors must behavior individually for each person. Each person is unique and differs, so respect themselves, act specific, not any copy.

Outline

Human being, Homo sapiens, sapiens; mandatory for special, specific direct correlation

AIM: The evaluation of humankind, by Anatomic or other specifications, be find some similarities, thus, this doesn't means at the same species. The reality by DNA and mitochondrial DNA evaluations, the Human being originated from single person and single source, later issued

at the World. This genetic relatives of human being is established, and the person is precise and distinctive, therefore special dealings, interaction be performed.

Grounding Aspects: This Article is established, for the human relative connection, thus, by the presence of Human being, DNA evaluation and history based on Homo sapiens, sapiens, genetic analysis and geographic transformations is evaluated for considering the relatives form past to present.

Introduction: The first genetically noticed Homo sapiens, sapiens, in Africa, about 300-200thousand years before. Then, distributed all around the World. By such indication, this Article be indicated the brotherhood as in genetically be true, thus, each person is special and unique.

General Considerations: By the historical background and the diversity of geographic changes, in genetically, the evaluation specified on Homo sapiens, sapiens. Before, due to Anatomic and behavioural similarities, some considerations be made, thus not be on genetically evidence-based truth.

Proceeding: The population flowing is so changed the variety of the cultures, and even physicians cannot performed their job, so, the civilization can only be encountered 50thousand years before, not from 200thousand. First to be overcome the nature be in presence, be forming community.

Conclusion: The Human being, Homo sapiens, sapiens, is genetically be from a single origin and distributed at the Universe. So, genetically in reality, we both are in relation of brotherhood.

Key Words: The history of Homo sapiens, sapiens, the genetic presence, the distribution to the world, and phylogenetic table indications

Özet

İnsan, Homo sapiens, sapiens türü olarak, zorunlu olarak Özel ve Özgün doğrudan iletişim kurulmasını gerekli kılar r

Amaç: İnsanların farklı fiziksel Anatomik yapıları, değişik ruhsal boyutları ile sosyal, kültürel değişimleri, dilleri, inançlarına bakarak, diğer türler ile benzerlik ile gruplandırma boyutuna gidildiği gözlenmektedir. Gerçekte ise DNA ve mitokondrial DNA analizleri ile tek bir tür, tek kaynaktan olduğu Evrene dağıldıkları açık ve genetik bir gerçekliktir. Bu konu irdelenerek, iletişimin ise, yalnız ve sadece birey ila oluşması gerektiği vurgusu yapılmaktadır.

Dayanaklar/Kaynaklar: İnsanın oluşumu, DNA, tarihsel süreç, genetik analizler ve coğrafik değişim ile göçler temelinde de ele alınarak, literatür gözden geçirilerek Makale oluşturulmuştur.

Giriş: İnsan Afrika'da 300-200bin gözlenmiş ve Evrene dağılmıştır. Bunun genetik analizleri ile gerçek boyutu ortaya konulmaktadır. Amaç insanların kardeşliğini ortaya koymak, ancak birey olarak özel ve özgün olduğunun vurgusunu da yapmaktır.

Genel Yaklaşım; Tarihsel ve jeolojik değişim ile genetik yapılanma temelindeki boyut dikkate alınarak, verilere dayanarak, genetik olarak insanlığın kardeş olduğu yorumu yapılmaktadır.

Başlıca boyutlar: Daha önce yapılan yorumların Anatomik, davranış ve diğer benzerliklere dayandığı için geçerli olamayacağı ortaya konulmaktadır.

Yaklaşım: İnsanlığın tek bir türden, tek bir kaynaktan oluştuğu ve yayıldığı belirgindir.

Sonuç: Zamanımızda göçler nedeniyle, her türlü kültürel yapıda bireylerin olduğu, göçler sırasında üniversite mezunları, hatta hekimlerin bile mesleklerini icra edemedikleri dikkat edilerek, insanlığın medeniyet boyutunda eserlerine göre yorumlanmasının 50bin yıldan bu yana olması da doğaldır. . İlk iş, doğayı yenmek, ayakta kalabilmek, çoğalabilmek, var olabilmektir.

Yorum: İnsan, temelde insan türüdür ve insancıl yaklaşım, birey olarak sevgi temelinde saygı duyulmaya hakkı vardır. Hepimiz istesek veya istemesek, birbirimizin kardeşiyiz.

Anahtar Kelimeler: Tarihsel Homo sapiens, sapiens, genetik mevcudiyeti, Dünyaya dağılımı, filo-genetik tablosu

Introduction

Each person, each community have some regulation, written or unwritten as legal or traditions. In America, mostly they advise to the children as "*not to talk and be with the stranger*", even at the adults be the same. But, if you have a familiar object, as pets, close relations be constructed. Some happening is indicated as an example below.

At the Campus of Davis, California, there is an artificial pond, I mostly run at clockwise, other counterclockwise. Each time we met, I smile and say Hello. At the thirst meeting, they noticed me, responded me, and at the fifth, asking whether remembering me or not. For further conversation, the familiar with subjects must be said.

At the Agriculture Faculty garden, I said, *this years, the succulents are mor green and later mentioned, the flood sand has nearly buried them*. Nearly talking half hours, because I am a physician, familiar with the nature, and the flowers.

Here, what I mean, if there is a frequency, and some love and respect, considering a relation, even in all animals, and plants, not by force, thus, with communication it is going to be in action, even for future conclusion.

Human is also prone to differentiation, variation as like others

Social status is not regulated by genetic evidences. Each children is not same, so, specific approach has to be essential, obviously required. If you receive same act form them, you don't have familiar relation them, be like a military service relation.

If you are feeding a newborn baby, and being close to them, you can give 90mL, then 60mL. Infection Ward, a mother brought her son, nearly the third times. As not feeding, and dehydration was the required symptoms. The infant sucked well, thus not the mother was given. Nurse told me, that I can be solved this problem. After her mother was feeding, I took the bottle, and given 60mL more. She said, I forced, and I rejected, he took it. So, we told her, be gentle and be not so hurry, wait his demands of sucking. As a result, not admitted again. We thought, the first time, she was as a mother, before an oppression to do.

Informative consent is the aspect, not forced, not be on oppression, as a man gives, she must be more at the administration, in a fact. This was not my first may be not the last time as in educational status.

To be

This Universe is constructed from atoms, and energy. By natural law, constructed as molecules and by genetic codes, the living organisms be in presence. This is a reality, the Creation and the Created system that we must be in concern. To be first be created.

So, each structure has a special conditional status and structural specialties. Diamond is from carbon; thus several other factors have formed them as diamond. Thus, the meaning is special, as a ring of wife, and other social status, value and meaning varies. More reflection be noticed but, less precious as *Aura* forms.

Each organism has a function, thus, planktons forming nearly 30% oxygen, but forest be only as 10%. If no putrefaction, the corpse be as mountains. We all need others, other ones needs us, all for one, one for all. The point being in perceiving this, or rejection and making pollution.

One cell function is same as multicellular organism. We are the multiplication of mother's cell, ovum. In creation one cell is satisfactory for making a body, as genetic coding person, now a sheep, dolly. We are not a number in statistics, unique and sole, be a one person in the Universe, before and after we have been.

Even give an example of my ped, Carmen. When I said, come, she looks and for what she looks. As in repairing our window, a repair-man and his child, because of the Carmen, not be making any movement, as Labrador retriver, 52kg weight. Try to be move, and asked from us. We said, "*Carmen come and let's look at the Tv*"., not as direct command as come and go, thus, not be respond such orders. She moved and come and sit beneath us. The father said to his kid, "*we assume she is a dog, we must talk her, as a person*". Even each pet is special, you must first know their habit, then be act them. Not any order, just want, they will do, what you said, if it is benefit to them.

As Empathy, what we want from the other subject, we must do, act same as concerns to them. The feelings and the perceiving and aware of the condition, be the relation facilities, not the genetic aspects.

In this Article, we are in same structural confirmation, so same as all, in brotherhood relation be obvious.

DNA

Human beings not directly in order of DNA regulations. Even in flowers, as in viola, the flowers have some variation, not same as father and mother. Even each one be some minor discrimination. The jump-up viola is specially be a recognizable flowers, all are special distinction. The red and white fertilization is not leads purple, be red in white strips, or red in white strips, thus some be pink. Even a branch is red, another branch be white.

DNA regulation in major yes, thus at some valuation not at the exact control. Human condition as mostly known obesity can influenced. Social, nutritional status, physiological background is a notable changing at the biological reaction. T the placebo effect, the reducing of pain even at 28% can be noted. In theatrical act, give a cold, icy water to a person as holly water, you can see the effect. It is because of Dopamine, Oxytocin, Serotonin and Endorphins effect, like kissing of a mother to a child.

The DNA replications can give us some hints for evaluation.

23. DNA replication[1]

From Wikipedia, the free encyclopedia
In molecular biology, **DNA replication** is the biological process of producing two identical replicas of DNA from one original DNA molecule. DNA replication occurs in all living organisms acting as the basis for biological inheritance. The cell possesses the distinctive property of division, which makes replication of DNA essential.
DNA is made up of a double helix of two complementary strands. During replication, these strands are separated. Each strand of the original DNA molecule then serves as a template for the production of its counterpart, a process referred to as semiconservative replication. As a result of semi-conservative replication, the new helix will be composed of an original DNA strand as well as a newly synthesized strand.[1] Cellular proofreading and error-checking mechanisms ensure near perfect fidelity for DNA replication.[2][3]
In a cell, DNA replication begins at specific locations, or origins of replication, in the genome.[4] Unwinding of DNA at the origin and synthesis of new strands, accommodated by an enzyme known as helicase, results in replication forks growing bi-directionally from the origin. A number of proteins are associated with the replication fork to help in the initiation and continuation of DNA

synthesis. Most prominently, DNA polymerase synthesizes the new strands by adding nucleotides that complement each (template) strand. DNA replication occurs during the S-stage of interphase.
DNA replication (DNA amplification) can also be performed *in vitro* (artificially, outside a cell). DNA polymerases isolated from cells and artificial DNA primers can be used to start DNA synthesis at known sequences in a template DNA molecule. Polymerase chain reaction (PCR), ligase chain reaction (LCR), and transcription-mediated amplification (TMA) are examples.

Comment

In this Article, not considering DNA as a structure, in detailed. The division concept is taken in notice so, it is open for the distinction, for a new generation. Bacterium and even virusus confirm resistance, so new spread to the Universe. We are not copy of mother and father, we are new generation, distinguished form parents.
In here, the commitment, easily not divided into two and be a same as ancestors, natural outcome is new one, new consequence.

We know that, some animals and plants have double chromosome as Human beings. For cellular function, not so much chromosome is required. Thus, Human being, not directly regulated by chromosomes, genes, some factors, metallization and even obesity has contribution of the functional change. Virus mostly RNA, one chain is satisfactory for cloning their genes.

DNA replication[1]
DNA structure …
DNA polymerase …

DNA separation, replication and multiplication, thus, abnormality sure, can be [1]

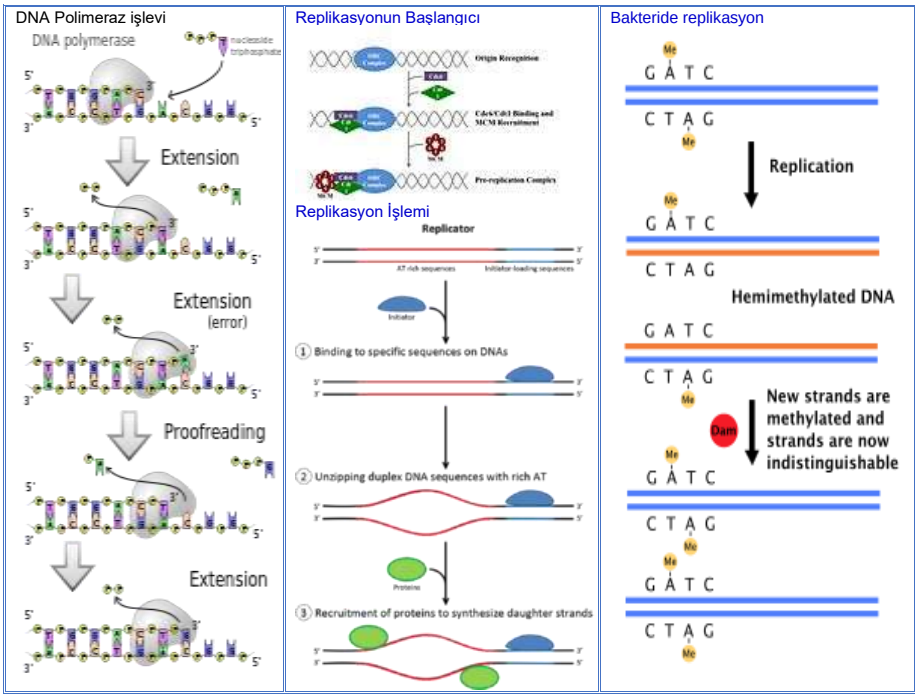


Figure 1: The DNA replication process in general

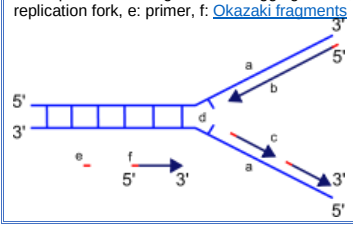
Comment

Figure 1 demonstrated the general function. Thus, the subject, has not widely discussed here. Thus, we can be constructed from one cell, thus, meaning contained all the genetic codes for becoming a person.
What makes us special is not the genetic codes transferred from, father and mother, thus, be individuality, the personality, we ourselves, makes us. In ethical considerations, physician be act, behavior to each person as unique and special one at the Universe, thus educated as this perspective.

DNA replication[1]
Replication fork

DNA Replication fork[1]

a: template, b: leading strand, c: lagging strand, d: replication fork, e: primer, f: Okazaki fragments



Many enzymes are involved in the DNA replication fork

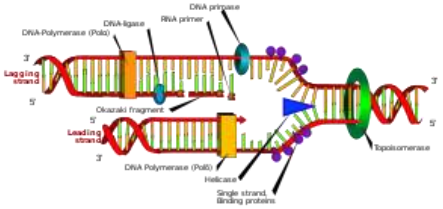


Figure 2: Replication fork is connected several enzymes, so, can be influenced

Comment

In all the creation, the old one be copying from DNA, and the same regulation be going on, thus, some differentiation be obviously be confirmed.
Same biological consideration, as same differentiation and variation, diversity and even abnormalities be encountered. This is an open process, not be controlled, thus abnormality ration is scare, low.

The Homo Sapiens at this World

Comment

The other animals mostly be related and connected to the environment, thus, Human being, be spread to the World, and thus, not by war, be on love and respect, even to the ecosystem. In addition of education, togetherness even at the fight, supporting and brotherhood, and being a team and a community is the achievement foundations. When a lion attact the bison, they try to run, escape, not get together and making a counterattack. Some rare occasions for defending their cattle only.
The Human being, at this World, is going to review for more evaluation.

Groundings

The historical and especially Anthropological scientific evidenced be evaluated for the discussion.

24. Homo sapiens[2]

From Wikipedia, the free encyclopedia

Homo sapiens is the only extant human species. The name is Latin for 'wise man' and was introduced in 1758 by Carl Linnaeus (who is himself the lectotype for the species).
Extinct species of the genus *Homo* include *Homo erectus*, extant from roughly 1.9 to 0.4 million years ago, and a number of other species (by some authors considered subspecies of either *H. sapiens* or *H. erectus*). The divergence of the lineage leading to *H. sapiens* out of ancestral *H. erectus* (or an intermediate species such as *Homo antecessor*) is estimated to have occurred in Africa roughly 500,000 years ago. The earliest fossil evidence of early *Homo sapiens* appears in Africa around 300,000 years ago, with the earliest genetic splits among modern people, according to some evidence, dating to around the same time.[2][3][note 1][6] Sustained archaic admixture is known to have taken place both in Africa and (following the recent Out-Of-Africa expansion) in Eurasia, between about 100,000 and 30,000 years ago.[7]
The term **anatomically modern humans**[8] (**AMH**) is used to distinguish *H. sapiens* having an anatomy consistent with the range of phenotypes seen in contemporary humans from varieties of extinct archaic humans. This is useful especially for times and regions where anatomically modern and archaic humans co-existed, for example, in Paleolithic Europe. Omo-Kibish I (Omo I) from southern Ethiopia is the oldest anatomically modern *Homo sapiens* skeleton currently known (196 ± 5 ka).[9]

Comment

The primates, as be two legs on, Homo erectus, be seen as 1,9-0,4 million years before, as Anthropological evidence. Thus, *Lucia*, skeleton be about 4,5 million years. But, Homo sapiens, sapiens be about not more than 300thousand years. Near one, to us, thus, cumulation is about 100thousand years in Africa.
Later Human being is distributed in the World, not be in their habitat, the environment, thus, the climate is also altering in Africa.

Homo sapiens, sapiens 'in first evidences[3]

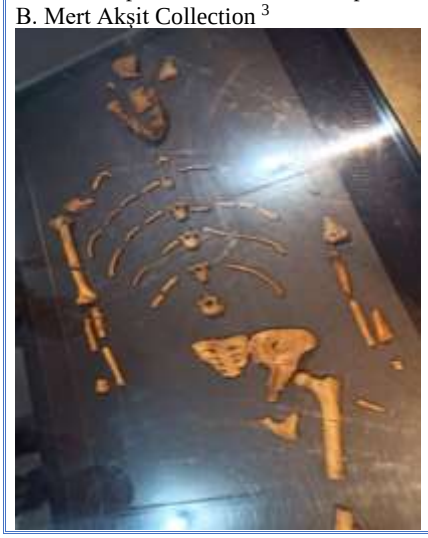
From Ethiopian museum, Homo sapiens B. Mert Akşit Collection [3]	Ethiopian Homo sapiens B. Mert Akşit Collection[3]
	

Figure 3: From Ethiopian museum, Homo sapiens skeletons

Homo sapiens[2]

Name and taxonomy
The binomial name *Homo sapiens* was coined by Linnaeus, 1758.[10] The Latin noun *homō* (genitive *hominis*) means "human being", while the participle *sapiēns* means "discerning, wise, sensible".
The species was initially thought to have emerged from a predecessor within the genus *Homo* around 300,000 to 200,000 years ago.[note 2] A problem with the morphological classification of "anatomically modern" was that it would not have included certain extant populations. For this reason, a lineage-based (cladistic) definition of *H. sapiens* has been suggested, in which *H. sapiens* would by definition refer to the modern human lineage following the split from the Neanderthal lineage. Such a cladistic definition would extend the age of *H. sapiens* to over 500,000 years.[note 3]
Extant human populations have historically been divided into subspecies, but since around the 1980s all extant groups have tended to be subsumed into a single species, *H. sapiens*, avoiding division into subspecies altogether.[note 4]
Some sources show Neanderthals (*H. neanderthalensis*) as a subspecies (*H. sapiens neanderthalensis*).[18][19] Similarly, the discovered specimens of the *H. rhodesiensis* species have been classified by some as a subspecies (*H. sapiens rhodesiensis*),

although it remains more common to treat these last two as separate species within the genus *Homo* rather than as subspecies within *H. sapiens*.[20]
The subspecies name *H. sapiens sapiens* is sometimes used informally instead of "modern humans" or "anatomically modern humans". It has no formal authority associated with it.[note 5] By the early 2000s, it had become common to use *H. s. sapiens* for the ancestral population of all contemporary humans, and as such it is equivalent to the binomial *H. sapiens* in the more restrictive sense (considering *H. neanderthalensis* a separate species).[note 6]

Comment

As Anatomic similarity, even at the Neanderthalensis, nearly 20% connection. But, genetically and especially mitochondrial DNA findings are Homo sapiens, sapiens unique and only species in the World. One in creation and distributed from the World, this one person.
When noticed the multiplication at nearly 300thousand years, be estimated 60billion people. As in History and even the fingerprints are not the same as Genetic DNA analysis. Thus, the relation is not so much, as same relation is noticed. Today, 8-0billion is lived, neary more than 10%, so, each one is different, not as physical, but, as social and individual concepts.
So, physicians must taken not as a number, so each person has special individuality and personality. ***Not treat the disease, treat the patient***. As care and serve the healthy condition, be aware of the problems and protection must be done.

25. Human taxonomy[4]

From Wikipedia, the free encyclopedia

Taxonomic classifications, as not the origin of this be in concept

Homo erectus yapılanması

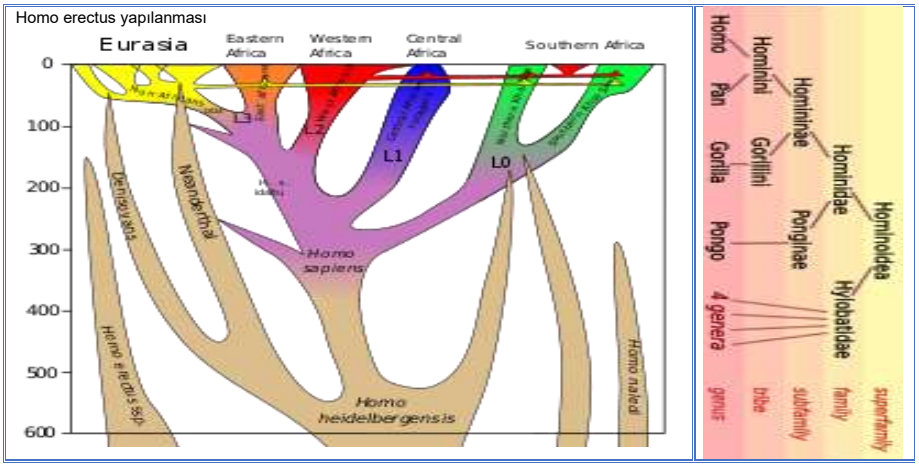


Figure 4: The taxonomy of Human mankind; John Edward Gray (1825)

Human taxonomy[4]

Overview of speciation and hybridization within the genus *Homo* over the last two million years (vertical axis). The rapid "Out of Africa" expansion of *H. sapiens* is indicated at the top of the diagram, with admixture indicated with Neanderthals, Denisovans, and unspecified archaic African hominins.
Human taxonomy is the classification of the human species (systematic name *Homo sapiens*, Latin: "wise man") within zoological taxonomy. The systematic genus, *Homo*, is designed to include both anatomically modern humans and extinct varieties of archaic humans. Current humans have been designated as subspecies *Homo sapiens sapiens*, differentiated, according to some from the direct ancestor, *Homo sapiens idaltu* (with some other research instead classifying *idaltu* and current humans as belonging to the same subspecies[1][2][3]).
Since the introduction of systematic names in the 18th century, knowledge of human evolution has increased drastically, and a number of intermediate taxa have been proposed in the 20th to early 21st century. The most widely accepted taxonomy groups takes the genus *Homo* as originating between two and three million years ago, divided into at least two species, archaic *Homo erectus* and modern *Homo sapiens*, with about a dozen further suggestions for species without universal recognition.
The genus *Homo* is placed in the tribe *Hominini* alongside *Pan* (chimpanzees). The two genera are estimated to have diverged over an extended time of hybridization spanning roughly 10 to 6 million years ago, with possible

admixture as late as 4 million years ago. A subtribe of uncertain validity, grouping archaic "pre-human" or "para-human" species younger than the *Homo-Pan* split is *Australopithecina* (proposed in 1939).
A proposal by Wood and Richmond (2000) would introduce *Hominina* as a subtribe alongside *Australopithecina*, with *Homo* the only known genus within *Hominina*. Alternatively, following Cela-Conde and Ayala (2003), the "pre-human" or "proto-human" genera of *Australopithecus*, *Ardipithecus*, *Praeanthropus*, and possibly *Sahelanthropus* may be placed on equal footing alongside the genus *Homo*. An even more radical view rejects the division of *Pan* and *Homo* as separate genera, which based on the Principle of Priority would imply the re-classification of chimpanzees as *Homo paniscus* (or similar).[4]
Prior to the current scientific classification of humans, philosophers and scientists have made various attempts to classify humans. They offered definitions of the human being and schemes for classifying types of humans. Biologists once classified races as subspecies, but today anthropologists reject the concept of race and view humanity as an interrelated genetic continuum. Taxonomy of the hominins continues to evolve.[5][6]

History … Species …

***Homo sapiens* subspecies**

1737 painting of Carl von Linné wearing a traditional Sami costume. Linnaeus is sometimes named as the lectotype of both *H. sapiens* and *H. s. sapiens*.[40]

The recognition or non-recognition of subspecies of *Homo sapiens* has a complicated history. The rank of subspecies in zoology is introduced for convenience, and not by objective criteria, based on pragmatic consideration of factors such as geographic isolation and sexual selection. The informal taxonomic rank of race is variously considered equivalent or subordinate to the rank of subspecies, and the division of anatomically modern humans (*H. sapiens*) into subspecies is closely tied to the recognition of major racial groupings based on human genetic variation.
A subspecies cannot be recognized independently: a species will either be recognized as having no subspecies at all or at least two (including any that are extinct). Therefore, the designation of an extant subspecies *Homo sapiens sapiens* only makes sense if at least one other subspecies is recognized. *H. s. sapiens* is attributed to "Linnaeus (1758)" by the taxonomic Principle of Coordination.[41] William Stearn (1959) in a "passing remark"[42] argued that Linnaeus "must stand as the type of his Homo sapiens". Since Linnaeus describes *H. s. europaeus* as having blue/green (*caerulus*) eyes but himself had brown eyes, he cannot have included himself in *H. s. europaeus*, Linnaeus would therefore have to be classified as *H. sapiens sapiens*, as not matching any of the descriptions of his five subspecies, and so would stand as the lectotype both for *H. sapiens*, and for *H. s. sapiens* within his own subspecies nomenclature.[43]
During the 19th to mid-20th century, it was common practice to classify the major divisions of extant *H. sapiens* as subspecies, following Linnaeus (1758), who had recognized *H. s. americanus*, *H. s. europaeus*, *H. s. asiaticus* and *H. s. afer* as grouping the native populations of the Americas, West Eurasia, East Asia and Sub-Saharan Africa, respectively, besides *H. s. ferus* (for the "wild" form which he identified with feral children) and two further "wild" forms for reported specimens now considered part of cryptozoology, *H. s. monstrosus* and *H. s. troglodytes*.[44]
Homo sapiens neanderthalensis was proposed by King (1864) as an alternative to *Homo neanderthalensis*.[47] There have been "taxonomic wars" over whether Neanderthals were a separate species since their discovery in the 1860s. Pääbo (2014) frames this as a debate that is unresolvable in principle, "since there is no definition of species perfectly describing the case."[48] Louis Lartet (1869) proposed *Homo sapiens fossilis* based on the Cro-Magnon fossils.
There are a number of proposals of extinct varieties of *Homo sapiens* made in the 20th century. Many of the original proposals were not using explicit trinomial nomenclature, even though they are still cited as valid synonyms of *H. sapiens* by Wilson & Reeder (2005).[49] These include: *Homo grimaldii* (Lapouge, 1906), *Homo aurignacensis hauseri* (Klaatsch & Hauser, 1910), *Notanthropus eurafricanus* (Sergi, 1911), *Homo fossilis* infrasp. *proto-aethiopicus* (Giuffrida-Ruggeri, 1915), *Telanthropus capensis* (Broom, 1917),[50] *Homo wadjakensis* (Dubois, 1921), *Homo sapiens cro-magnonensis*, *Homo sapiens grimaldiensis* (Gregory, 1921), *Homo drennani* (Kleinschmidt, 1931),[51] *Homo galilensis* (Joleaud, 1931) = *Paleanthropus palestinus* (McCown & Keith, 1932).[52] Rightmire (1983) proposed *Homo sapiens rhodesiensis*.[53]
By the 1980s, the practice of dividing extant populations of *Homo sapiens* into subspecies declined. An early authority explicitly avoiding the division of *H. sapiens* into subspecies was *Grzimeks Tierleben*, published 1967–1972.[54] A late example of an academic authority proposing that the human racial groups should be considered taxonomical subspecies is John Baker (1974).[55] The trinomial nomenclature *Homo sapiens sapiens* became popular for "modern humans" in the context of Neanderthals being considered a subspecies of *H. sapiens* in the second half of the 20th century. Derived from the convention, widespread in the 1980s, of considering two subspecies, *H. s. neanderthalensis* and *H. s. sapiens*, the explicit claim that "*H. s. sapiens* is the only extant human subspecies" appears in the early 1990s.[56]
Since the 2000s, the extinct *Homo sapiens idaltu* (White *et al.*, 2003) has gained wide recognition as a subspecies of *Homo sapiens*, but even in this case there is a dissenting view arguing that "the skulls may not be distinctive enough to warrant a new subspecies name".[57] *H. s. neanderthalensis* and *H. s. rhodesiensis* continue to be considered separate species by some authorities, but the 2010s discovery of genetic evidence of archaic human admixture with modern humans has re-opened the details of taxonomy of archaic humans.[58]

***Homo erectus* subspecies**

Homo erectus since its introduction in 1892 has been divided into numerous subspecies, many of them formerly considered individual species of *Homo*. None of these subspecies have universal consensus among paleontologists.

- *Homo erectus erectus* (Java Man) (1970s)[59]
- *Homo erectus yuanmouensis* (Yuanmou Man) (Li et al., 1977)
- *Homo erectus lantianensis* (Lantian Man) (Woo Ju-Kang, 1964)
- *Homo erectus nankinensis* (Nanjing Man) (1993)
- *Homo erectus pekinensis* (Peking Man) (1970s)[59]
- *Homo erectus palaeojavanicus* (Meganthropus) (Tyler, 2001)
- *Homo erectus soloensis* (Solo Man) (Oppenoorth, 1932)
- *Homo erectus tautavelensis* (Tautavel Man) (de Lumley and de Lumley, 1971)
- *Homo erectus georgicus* (1991)
- *Homo erectus bilzingslebenensis* (Vlček, 2002)[60]

Comment

The organism look like human being is called Homo, thus the clever and wise one is Homo sapiens, sapiens. Not as Anatomic, thus, by genetic analysis with DNA structure.
Some Anatomic and behavioral facts look like Human being, is considered as a genetic relation. The gathering cultural aspects, not be in consideration of the same.

As a person, individually different, thus, as a species, we are all in Brotherhood, in genetic evidences.

Homo sapiens[2]

From Wikipedia, the free encyclopedia
Age and speciation process …
Derivation from *H. erectus* …
Early *Homo sapiens*
The term Middle Paleolithic is intended to cover the time between the first emergence of *H. sapiens* (roughly 300,000 years ago) and the emergence of full behavioral modernity (roughly by 50,000 years ago, corresponding to the start of the Upper Paleolithic). Many of the early modern human finds, like those of Jebel Irhoud, Omo, Herto, Florisbad, Skhul, and Pestera cu Oase exhibit a mix of archaic and modern traits.[47][48][26] Skhul V, for example, has prominent brow ridges and a projecting face. However, the brain case is quite rounded and distinct from that of the Neanderthals and is similar to the brain case of modern humans. It is uncertain whether the robust traits of some of the early modern humans like Skhul V reflects mixed ancestry or retention of older traits.[49][50]
The "gracile" or lightly built skeleton of anatomically modern humans has been connected to a change in behavior, including increased cooperation and "resource transport".[51][52]
There is evidence that the characteristic human brain development, especially the prefrontal cortex, was due to "an exceptional acceleration of metabolome evolution ... paralleled by a drastic reduction in muscle strength. The observed rapid metabolic changes in brain and muscle, together with the unique human cognitive skills and low muscle performance, might reflect parallel mechanisms in human evolution."[53] The Schöningen spears and their correlation of finds are evidence that complex technological skills already existed 300,000 years ago, and are the first obvious proof of an active (big game) hunt. *H. heidelbergensis* already had intellectual and cognitive skills like anticipatory planning, thinking and acting that so far have only been attributed to modern man.[54][55]
The ongoing admixture events within anatomically modern human populations make it difficult to estimate the age of the matrilinear and patrilinear most recent common ancestors of modern populations (Mitochondrial Eve and Y-chromosomal Adam). Estimates of the age of Y-chromosomal Adam have been pushed back significantly with the discovery of an ancient Y-chromosomal lineage in 2013, to likely beyond 300,000 years ago.[note 7] There have, however, been no reports of the survival of Y-chromosomal or mitochondrial DNA clearly deriving from archaic humans (which would push back the age of the most recent patrilinear or matrilinear ancestor beyond 500,000 years).[57][58][59]
Fossil teeth found at Qesem Cave (Israel) and dated to between 400,000 and 200,000 years ago have been compared to the dental material from the younger (120,000–80,000 years ago) Skhul and Qafzeh hominins.[note 8]
Dispersal and archaic admixture
Dispersal of early *H. sapiens* begins soon after its emergence, as evidenced by the North African Jebel Irhoud finds (dated to around 315,000 years ago).[26][29] There is indirect evidence for *H. sapiens* presence in West Asia around 270,000 years ago.[61]
The Florisbad Skull from Florisbad, South Africa, dated to about 259,000 years ago, has also been classified as representing early ***H. sapiens***.[27][28][30][2]
In September 2019, scientists proposed that the earliest *H. sapiens* (and last common human ancestor to modern humans) arose between 350,000 and 260,000 years ago through a merging of populations in East and South Africa.[62][2]
Among extant populations, the Khoi-San (or "Capoid") hunters-gatherers of Southern Africa may represent the human population with the earliest possible divergence within the group *Homo sapiens sapiens*. Their separation time has been estimated in a 2017 study to be between 350-260,000 years ago, compatible with the estimated age of early *H. sapiens*. The study states that the deep split-time estimation of 350 to 260 thousand years ago is consistent with the archaeological estimate for the onset of the Middle Stone Age across sub-Saharan Africa and coincides with archaic *H. sapiens* in southern Africa represented by, for example, the Florisbad skull dating to 259 (± 35) thousand years ago.[4]
H. s. idaltu, found at Middle Awash in Ethiopia, lived about 160,000 years ago,[63] and *H. sapiens* lived at Omo Kibish in Ethiopia about 195,000 years ago.[64] Two fossils from Goumde, Kenya, dated to at least (and likely more than) 180,000 years ago[27] and (more precisely) to 300-270,000 years ago,[2] have been tentatively assigned to *H. sapiens* and similarities have been noted between them and the Omo Kibbish remains.[27] Fossil evidence for modern human presence in West Asia is ascertained for 177,000 years ago,[65] and disputed fossil evidence suggests expansion as far as East Asia by 120,000 years ago.[66][67]
In July 2019, anthropologists reported the discovery of 210,000 year old remains of a *H. sapiens* and 170,000 year old remains of a *H. neanderthalensis* in Apidima Cave, Peloponnese, Greece, more than 150,000 years older than previous *H. sapiens* finds in Europe.[68][69][70]
A significant dispersal event, within Africa and to West Asia, is associated with the African megadroughts during MIS 5, beginning 130,000 years ago.[71] A 2011 study located the origin of basal population of contemporary human populations at 130,000 years ago, with the Khoi-San representing an "ancestral population cluster" located in southwestern Africa (near the coastal border of Namibia and Angola).[72]

Comment

First genetic studies on Y chromosome, about 330thousand years there were some passages, thus at mitochondrial DNA it is not so confident. The teeth examined as the source of DNA,

about 200thousand years before, so, the migration and the way, the route is more clearly be confirmed.
As a summary, one origin, distributed to the World.

Human migration, division to the World

Although, 300thousand years before the first Homo sapiens, sapiens is noticed, not making a community, so rare, up to 50thousand years, not be in migration. About at Sahara, Africa, be as Gathering, Collecting Culture.
Because of presence and in healthy, environmental factors are prime important. Thus, not strictly be environmental structed, like animals, be free to find other places.
Education is one of the factor, thus, in monkeys, the one who discriminate the rice with the sand by water floating, be survive, so the other clan learns the same concept, and be educated. Thus, even no need, same ritual acts is seen.
Each generation and each clan regulations be making them to live different places. For hiding, deserts near oasis, underground and making cities be observed. Wheat producing groups earthenware is same, differs form corn productive communities. One required fermentation and making bread, the other like a cake for cooking.
Even in Kazakhstan area, about 60km apart, some resting places and old schools for gathering together. When travelling at this route for a month, you can take 30 lectures at night, means a course of education.
If you are a village, you must protect, to survive. In Germany, Turkish labors, can easily be try different jobs, so their village is there, stable. Relations make them to survive. At Syria, even they are educated, they must be from Industry Culture to Gathering Culture concepts to survive.
In old time sea wars, rowing person was a employee in Ottomans, work by payment, the gallery salve was in chain. So, when the ship is stuck, the employee ones take the sword for fight, not to be a slave, others be try to escape for their lives, thus be in chain. If untied then be a worker, then a slave.
In our military service, when making patrolling, the first man has rifle, without any ammo, the second only one ammo, the third will the supply man. The third shoots and hit 3 to 3. When in attack, enemy be get the first, thus, the others be fight, not any decision to retreat. Therefore, the first-person weapon look at the earth, not the people, as a sign of friendship.
In old times, for easy to escape be at mobile clan, and easily migrate from place to place, carrying their cattle's, with them.
Even today, not attack with tanks or such military vehicles, just 6-7 person with connection to a center, that send rockets and fire with guns. Destroying the target and move is the concept, not a line attack. Tank van be seen and be destroyed, with anti-tank, thus, a person cannot be visualized.

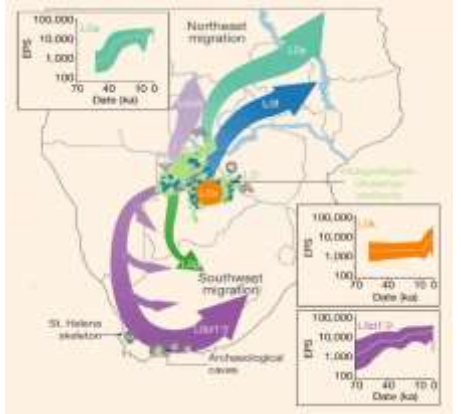
26. Origin of Anatomically Modern Humans Traced to Southern Africa[5]

Oct 29, 2019 by News Staff / Source
The earliest ancestors of anatomically modern *Homo sapiens* emerged in a region south of the Zambezi River in Botswana, Africa, according to a new analysis of modern human's mitochondrial genomes (mtDNA or mitogenome) from the L0 lineage, the oldest known mtDNA lineage on Earth.
"mtDNA acts like a time capsule of our ancestral mothers, accumulating changes slowly over generations," said Professor Vanessa Hayes, a researcher at the Garvan Institute of Medical Research, the University of Sydney, and the University of Pretoria. "Comparing mitogenome from different individuals provides information on how closely they are related."
In the study, Professor Hayes and colleagues collected blood samples to establish a comprehensive catalogue of mitogenomes from the L0 lineage.
"We merged 198 new, rare mitogenomes to the current database of modern human's earliest known population, the L0 lineage," said University of Pretoria's Professor Riana Bornman.
"This allowed us to refine the evolutionary tree of our earliest ancestral branches better than ever before," added Dr. Eva Chan, from the Garvan Institute of Medical Research.
By combining the L0 lineage timeline with the linguistic, cultural and geographic distributions of different sub-lineages, the scientists revealed that the first anatomically modern *Homo sapiens* maternal lineage emerged 200,000 years ago in a homeland

south of the Greater Zambezi River Basin, which includes the entire expanse of northern Botswana into Namibia to the west and Zimbabwe to the east.

The first migration in Africa and in Austria as Homo sapiens, sapiens 'in göçü[5]

Namibia, Botswana Zambezi river migration



The map shows the probable extent of land and water at the time of the last glacial maximum, 20,000 yrs ago and when the sea level was probably more than 110m lower than today.[6]

Figure 5: In African and Australia Region a migration, thus, 200thousand year before, thus, at this Geographic time, the sea level was up to 20thousand years ago, 110 meters below today ocean level

Origin of Anatomically Modern Humans Traced to Southern Africa[5]

Schematic map of southern Africa representing the Makgadikgadi-Okavango region sustained anatomically modern human homeland (200,000-130,000 years ago), supported by archaeological data and genetic wildlife data. The out-of-homeland migration (130,000-110,000 years ago), results in the split of haplogroup L0d with L0a'g and L0f divergence. L0d3, L0a and L0f migrate in a northeast direction, L0d1'2 and L0g migrate southwest, while L0k remains in the homeland. Insets show analyses of effective population sizes (EPS) of major L0 haplogroups over time, predicting the maintenance of the homeland L0k population (orange), population growth for the broadly dispersed southwest L0d1'2 migrants (purple), while population growth of the northeast L0a migrants coincides with the out-of-Africa migration (aqua). Image credit: Chan *et al*, doi: 10.1038/s41586-019-1714-1.

The study authors also analyzed geological, archeological and fossil evidence and found that this region once held Africa's largest ever lake system, Lake Makgadikgadi.

"Prior to modern human emergence, the lake had begun to drain due to shifts in underlying tectonic plates," said Dr. Andy Moore, a geologist at Rhodes University.

"This would have created, a vast wetland, which is known to be one of the most productive ecosystems for sustaining life."

The ancient wetland ecosystem provided a stable ecological environment for modern humans' first ancestors to thrive for 70,000 years.

"We observed significant genetic divergence in the modern humans' earliest maternal sub-lineages, that indicates our ancestors migrated out of the homeland between 130,000 and 110,000 years ago," Professor Hayes said.

"The first migrants ventured northeast, followed by a second wave of migrants who travelled southwest. A third population remained in the homeland until today."

"In contrast to the northeasterly migrants, the southwesterly explorers appear to flourish, experiencing steady population growth."

"The success of this migration was most likely a result of adaptation to marine foraging, which is further supported by extensive archaeological evidence along the southern tip of Africa," the researchers noted.

To investigate what may have driven these early human migrations, the team reconstructed Southern Africa's climate history for the past 250,000 years.

"Our simulations suggest that the slow wobble of Earth's axis changes summer solar radiation in the Southern Hemisphere, leading to periodic shifts in rainfall across southern Africa," said Professor Axel Timmermann, Director of the IBS Center for Climate Physics at Pusan National University.

"These shifts in climate would have opened green, vegetated corridors, first 130,000 years ago to the northeast, and then around 110,000 years ago to the southwest, allowing our earliest ancestors to migrate away from the homeland for the first time."

"These first migrants left behind a homeland population. Eventually adapting to the drying lands, maternal descendants of the homeland population can be found in the greater Kalahari region today," Professor Hayes said.

The research is described in a paper in the journal *Nature*.

Comment

The drying and becoming of a desert, and suitable for hunting, be forcing to move, migration. 130-110thousand years is the figuration of the environment, thus, after melting the ice, finishing the Ice Age, the migration is mor evident.

At agriculture dependent cities, as Knidos, after changing the route of the sea, to the inland, then left the city, nearly from 140thousand inhabitants, now nearly none. Such high block of rocks cannot be arranged again their positions, after great earthquakes, so, best is moving to mor beneficial places.
For gathering, taking all with you, left the pollution aspects.

27. Early human migrations[6]

From Wikipedia, the free encyclopedia
Putative migration waves out of Africa and back migrations into the continent, as well as the locations of major ancient human remains and archeological sites (López et al.2015).
Early human migrations are the earliest migrations and expansions of archaic and modern humans across continents and are believed to have begun approximately 2 million years ago with the out of Africa migration of *Homo erectus*. …
Within Africa, *Homo sapiens* dispersed around the time of its speciation, roughly 300,000 years ago.[note 1][3] The recent African origin paradigm suggests that the anatomically modern humans outside of Africa descend from a population of *Homo sapiens* migrating from East Africa roughly 70–50,000 years ago and spreading along the southern coast of Asia and to Oceania by about 50,000 years ago. Modern humans spread across Europe about 40,000 years ago.
Early Eurasian Homo sapiens fossils have been found in Israel and Greece, dated to 194,000–177,000 and 210,000 years old respectively. These fossils seem to represent failed dispersal attempts by early Homo sapiens, who were likely replaced by local Neanderthal populations.[4][5][6][7][3]
The migrating modern human populations are known to have interbred with local varieties of archaic humans, so that contemporary human populations are descended in small part (below 10% contribution) from regional varieties of archaic humans.[note 2]
After the Last Glacial Maximum, North Eurasian populations migrated to the Americas about 20,000 years ago. Northern Eurasia was peopled after 12,000 years ago, in the beginning Holocene. Arctic Canada and Greenland were reached by the Paleo-Eskimo expansion around 4,000 years ago. Finally, Polynesia was peopled within the past 2,000 years in the last wave of the Austronesian expansion.

Early humans (before *Homo sapiens)* …
***Homo erectus* …**
After *H. erectus* …
Dispersal throughout Africa, *Macro-haplogroup L (mtDNA)*
Homo sapiens are assumed to have emerged about 300,000 years ago based on thermoluminescence dating of artefacts and remains from Jebel Irhoud, Morocco, published in 2017.[note 4][26] The Florisbad Skull from Florisbad, South Africa, dated to about 259,000 years ago, has also been classified as early *Homo sapiens*.[27][28][29][30] Previously, the Omo remains, excavated between 1967 and 1974 in Omo National Park, Ethiopia, and dated to 200,000 years ago, were long held to be the oldest known fossils of anatomically modern humans.[31]
In September 2019, scientists reported the computerized determination, based on 260 CT scans, of a virtual skull shape of the last common human ancestor to modern humans/*H. sapiens*, representative of the earliest modern humans, and suggested that modern humans arose between 260,000 and 350,000 years ago through a merging of populations in East and South Africa.[32][33]
In July 2019, anthropologists reported the discovery of 210,000 year old remains of a *H. sapiens* and 170,000 year old remains of a *H. neanderthalensis* in Apidima Cave in southern Greece, more than 150,000 years older than previous *H. sapiens* finds in Europe.[5][6][7][3]
Early modern humans expanded to Western Eurasia and Central, Western and Southern Africa from the time of their emergence. While early expansions to Eurasia appear not to have persisted,[34][24] expansions to Southern and Central Africa resulted in the deepest temporal divergence in living human populations. Early modern human expansion in sub-Saharan Africa appears to have contributed to the end of late Acheulean (Fauresmith) industries at about 130,000 years ago, although very late coexistence of archaic and early modern humans, until as late as 12,000 years ago, has been argued for West Africa in particular.[35]
The ancestors of the modern Khoi-San expanded to Southern Africa before 150,000 years ago, possibly as early as before 260,000 years ago,[note 5] so that by the beginning of the MIS 5 "megadrought", 130,000 years ago, there were two ancestral population clusters in Africa, bearers of mt-DNA haplogroup L0 in southern Africa, ancestral to the Khoi-San, and bearers of haplogroup L1-6 in central/eastern Africa, ancestral to everyone else. There was a significant back-migration of bearers of L0 towards eastern Africa between 120 and 75 kya.[note 6]
Expansion to Central Africa by the ancestors of the Central African forager populations (African Pygmies) most likely took place before 130,000 years ago, and certainly before 60,000 years ago.[37][38][39][40][note 7]
The situation in West Africa is difficult to interpret due to a sparsity of fossil evidence. *Homo sapiens* seems to have reached the western Sahelian zone by 130 kya, while tropical West African sites associated with *H. sapiens* are known only from after 130 kya. Unlike elsewhere in Africa, archaic MSA sites appear to persist until very late, down to the Holocene boundary (12 kya), pointing to the possibility of late survival of archaic humans, and late hybridization with *H. sapiens* in West Africa.[35]
Early northern Africa dispersal, *Sahara pump theory*
Populations of *H. sapiens* migrated to the Levant and to Europe between 130,000 and 115,000 years ago, and possibly in earlier waves as early as 185,000 years ago.[note 8] These early migrations do not appear to have led to lasting colonisation and receded by about 80,000 years ago.[24] There is a possibility that this first wave of expansion may have reached China (or even North America[*dubious* – *discuss*][42]) as early as 125,000 years ago, but would have died out without leaving a trace in the genome of contemporary humans.[24]
There is some evidence that modern humans left Africa at least 125,000 years ago using two different routes: through the Nile Valley heading to the Middle East, at least into modern Israel (Qafzeh: 120,000–100,000 years ago); and a second route through the present-day Bab-el-Mandeb Strait on the Red Sea (at that time, with a much lower sea level and narrower extension), crossing to the Arabian Peninsula and settling in places like the present-day United Arab Emirates (125,000 years ago)[43] and Oman (106,000 years ago),[44] and possibly reaching the Indian Subcontinent (Jwalapuram: 75,000 years ago). Although no human remains have yet been found in these three places, the apparent similarities between the stone tools found at Jebel Faya, those from Jwalapuram and some from Africa suggest that their creators were all modern humans.[45] These findings might give some

support to the claim that modern humans from Africa arrived at southern China about 100,000 years ago (Zhiren Cave, Zhirendong, Chongzuo City: 100,000 years ago;[note 9] and the Liujiang hominid (Liujiang County): controversially dated at 139,000–111,000 years ago [50]). Dating results of the Lunadong (Bubing Basin, Guangxi, southern China) teeth, which include a right upper second molar and a left lower second molar, indicate that the molars may be as old as 126,000 years.[51][52] Since these previous exits from Africa did not leave traces in the results of genetic analyses based on the Y chromosome and on MtDNA (which represent only a small part of the human genetic material), it seems that those modern humans did not survive in large numbers and were assimilated by our major antecessors. An explanation for their extinction (or small genetic imprint) may be the Toba eruption (74,000 years ago), though some argue it scarcely impacted human population.[53]

An Asia center of origin and dispersal for the mtDNA haplogroup L3 has also been hypothesized based on the fossil record, the similar coalescence dates of L3 and its Eurasian-distributed M and N derivative clades (~71 kya), the distant location in Southeast Asia of the oldest subclades of M and N, and the comparable age of the paternal haplogroup DE. After an initial Out-of-Africa migration of early anatomically modern humans around 125 kya, fully modern human L3-carrying females are thus proposed to have back-migrated from the maternal haplogroup's place of origin in Eurasia around 70 kya along with males bearing the paternal haplogroup E, which is also proposed to have originated in Eurasia. These new Eurasian lineages are then suggested to have largely replaced the old autochthonous male and female African lineages.[54]

Other research suggests that earlier waves of modern human migration out of Africa predating 70kya mostly became extinct (contributing about 2% to the ancestry only of some Oceanian peoples such as Papuans) and that instead modern Eurasians descend from a single Out-of-Africa migration occurring approximately 50,000-70,000 years ago[55][56][57][58] associated with the origin and expansion of maternal haplogroup L3 from Eastern Africa.[59][60]

Coastal migration

The so-called "recent dispersal" of modern humans has taken place after beginning about 70–50,000 years ago.[61][62][58] It is this migration wave that led to the lasting spread of modern humans throughout the world.

A small group from a population in East Africa, bearing mitochondrial haplogroup L3 and numbering possibly fewer than 1,000 individuals,[63][64] crossed the Red Sea strait at Bab el Mandib, to what is now Yemen, after around 75,000 years ago.[65] A recent review has also shown support for the northern route through Sinai/Israel/Syria (Levant).[24] Their descendants spread along the coastal route around Arabia and Persia to the Indian subcontinent before 55,000 years ago. Other research supports a migration out of Africa between about 65,000 and 50,000 years ago.[61][60][58] The coastal migration between roughly 70,000 and 50,000 years ago is associated with mitochondrial haplogroups M and N, both derivative of L3.

A fragment of a jawbone with eight teeth found at Misliya Cave, Israel, has been dated to around 185,000 years ago. Layers dating from between 250,000 and 140,000 years ago in the same cave contained tools of the Levallois type which could put the date of the first migration even earlier if the tools can be associated with the modern human jawbone finds.[66][67]

Along the way *H. sapiens* interbred with Neanderthals and Denisovans,[68] with Denisovan DNA making 0.2% of mainland Asian and Native American DNA.[69]

Near Oceania

…

Sequencing of one Aboriginal genome from an old hair sample in Western Australia, revealed that the individual was descended from people who migrated into East Asia between 62,000 and 75,000 years ago. This supports the theory of a single migration into Australia and New Guinea before the arrival of Modern Asians (between 25,000 and 38,000 years ago) and their later migration into North America.[80] This migration is believed to have happened around 50,000 years ago, before Australia and New Guinea were separated by rising sea levels approximately 8,000 years ago.[81][82] This is supported by a date of 50,000–60,000 years ago for the oldest evidence of settlement in Australia,[70][83] around 40,000 years ago for the oldest human remains,[70] the earliest humans artifacts which are at least 65,000 years old[84] and the extinction of the Australian megafauna by humans between 46,000 and 15,000 years ago argued by Tim Flannery,[85] which is similar to what happened in the Americas. The continued use of stone age tools in Australia has been much debated.[86]

Dispersal throughout Eurasia

The population brought to South Asia by coastal migration appears to have remained there for some time, during roughly 60,000 to 50,000 years ago, before spreading further throughout Eurasia. This dispersal of early humans, at the beginning of the Upper Paleolithic, gave rise to the major population groups of the Old World and the Americas.

Towards the West, Upper Paleolithic populations associated with mitochondrial haplogroup R and its derivatives, spread throughout Asia and Europe, with a back-migration of M1 to North Africa and the Horn of Africa several millennia ago.

…

There is evidence from mitochondrial DNA that modern humans have passed through at least one genetic bottleneck, in which genome diversity was drastically reduced. Henry Harpending has proposed that humans spread from a geographically restricted area about 100,000 years ago, the passage through the geographic bottleneck and then with a dramatic growth amongst geographically dispersed populations about 50,000 years ago, beginning first in Africa and thence spreading elsewhere.[89] Climatological and geological evidence suggests evidence for the bottleneck. The explosion of Toba, the largest volcanic eruption of the Quaternary, may have created a 1,000 year cold period, potentially reducing human populations to a few tropical refugia. It has been estimated that as few as 15,000 humans survived. In such circumstances genetic drift and founder effects may have been maximised. The greater diversity amongst African genomes may be reflect the extent of African refugia during the Toba incident.[90] However, a recent review highlights that the single-source hypothesis of non-African populations is less consistent with ancient DNA analysis than multiple sources with genetic mixing across Eurasia.[24]

Europe

The recent expansion of anatomically modern humans reached Europe around 40,000 years ago from Central Asia and the Middle East, as a result of cultural adaption to big game hunting of sub-glacial steppe fauna.[91] Neanderthals were present both in the Middle East and in Europe, and the arriving populations of anatomically modern humans (also known as "Cro-Magnon" or European early modern humans) interbred with Neanderthal populations to a limited degree. Populations of modern humans and Neanderthal overlapped in various regions such as the Iberian peninsula and the Middle East. Interbreeding may have contributed Neanderthal genes to palaeolithic and ultimately modern Eurasians and Oceanians.

An important difference between Europe and other parts of the inhabited world was the northern latitude. Archaeological evidence suggests humans, whether Neanderthal or Cro-Magnon, reached sites in Arctic Russia by 40,000 years ago.[92]

Cro-Magnon are considered the first anatomically modern humans in Europe. They entered Eurasia by the Zagros Mountains (near present-day Iran and eastern Turkey) around 50,000 years ago, with one group rapidly settling coastal areas around the Indian Ocean and another migrating north to the steppes of Central Asia.[93] Modern human remains dating to 43–

45,000 years ago have been discovered in Italy[94] and Britain,[95] as well as in the European Russian Arctic from 40,000 years ago.[92][96]
Humans colonised the environment west of the Urals, hunting reindeer especially,[97] but were faced with adaptive challenges; winter temperatures averaged from −20 to −30 °C (−4 to −22 °F) with fuel and shelter scarce. They travelled on foot and relied on hunting highly mobile herds for food. These challenges were overcome through technological innovations: tailored clothing from the pelts of fur-bearing animals; construction of shelters with hearths using bones as fuel; and digging “ice cellars” into the permafrost to store meat and bones.[97][98]
A mitochondrial DNA sequence of two Cro-Magnons from the Paglicci Cave in Italy, dated to 23,000 and 24,000 years old (Paglicci 52 and 12), identified the mtDNA as Haplogroup N, typical of the latter group.[99]
The expansion of modern human population is thought to have begun 45,000 years ago, and it may have taken 15,000–20,000 years for Europe to be colonized.[101][102]
…
East and North Asia
"Tianyuan Man", an individual who lived in China c. 40,000 years ago, showed substantial Neanderthal admixture. A 2017 study of the ancient DNA of Tianyuan Man found that the individual is related to modern Asian and Native American populations.[107] A 2013 study found Neanderthal introgression of 18 genes within the chromosome 3p21.31 region (HYAL region) of East Asians. The introgressive haplotypes were positively selected in only East Asian populations, rising steadily from 45,000 years ago until a sudden increase of growth rate around 5,000 to 3,500 years ago. They occur at very high frequencies among East Asian populations in contrast to other Eurasian populations (e.g. European and South Asian populations). The findings also suggests that this Neanderthal introgression occurred within the ancestral population shared by East Asians and Native Americans.[108]
A 2016 study presented an analysis of the population genetics of the Ainu people of northern Japan as key to the reconstruction of the early peopling of East Asia. The Ainu were found to represent a more basal branch than the modern farming populations of East Asia, suggesting an ancient (pre-Neolithic) connection with northeast Siberians.[109] A 2013 study associated several phenotypical traits associated with Mongoloids with a single mutation of the EDAR gene, dated to c. 35,000 years ago.[note 12][note 13]

Last Glacial Maximum
Eurasia
Schematic illustration of the Beringia migration based on matrilineal genetics: Arrival of Central Asian populations to the Beringian Mammoth steppe c. 25,000 years ago, followed by a "swift peoplling of the Americas"[*citation needed*] c. 15,000 years ago.
Around 20,000 years ago, approximately 5,000 years after the Neanderthal extinction, the Last Glacial Maximum forced northern hemisphere inhabitants to migrate to several shelters (refugia) until the end of this period. The resulting populations are presumed to have resided in such refuges during the LGM to ultimately reoccupy Europe, where archaic historical populations are considered their descendants. The composition of European populations was later altered by further migrations, notably the Neolithic expansion from the Middle East, and still later the Chalcolithic population movements associated with Indo-European expansion. A Paleolithic site on the Yana River, Siberia, at 71°N, lies well above the Arctic Circle and dates to 27,000 radiocarbon years before present, during glacial times. This site shows that people adapted to this harsh, high-latitude, Late Pleistocene environment much earlier than previously thought.[113]
Americas
Paleo-Indians originated from Central Asia, crossing the Beringia land bridge between eastern Siberia and present-day Alaska.[114] Humans lived throughout the Americas by the end of the last glacial period, or more specifically what is known as the late glacial maximum, no earlier than 23,000 years before present.[114][115][116][117] Details of Paleo-Indian migration to and throughout the American continent, including the dates and the routes traveled, are subject to ongoing research and discussion.[118]
The routes of migration are also debated. The traditional theory is that these early migrants moved when sea levels were significantly lowered due to the Quaternary glaciation,[115][118] following herds of now-extinct pleistocene megafauna along *ice-free corridors* that stretched between the Laurentide and Cordilleran ice sheets.[119] Another route proposed is that, either on foot or using primitive boats, they migrated down the Pacific coast to South America as far as Chile.[120] Any archaeological evidence of coastal occupation during the last Ice Age would now have been covered by the sea level rise, up to a hundred metres since then.[121] The recent finding of indigenous Australasian genetic markers in Amazonia supports the coastal route hypothesis.[122][123]
Holocene migrations
The Holocene is taken to begin 12,000 years ago, after the end of the Last Glacial Maximum. During the Holocene climatic optimum, beginning about 9,000 years ago, human populations which had been geographically confined to refugia began to migrate. By this time, most parts of the globe had been settled by *H. sapiens*; however, large areas that had been covered by glaciers were now re-populated.
This period sees the transition from the Mesolithic to the Neolithic stage throughout the temperate zone. The Neolithic subsequently gives way to the Bronze Age in Old World cultures and the gradual emergence of the historical record in the Near East and China beginning around 4,000 years ago.
Large-scale migrations of the Mesolithic to Neolithic era are thought to have given rise to the pre-modern distribution of the world's major language families such as the Niger-Congo, Nilo-Saharan, Afro-Asiatic, Uralic, Sino-Tibetan or Indo-European phyla. The speculative Nostratic theory postulates the derivation of the major language families of Eurasia (excluding Sino-Tibetan) from a single proto-languages spoken at the beginning of the Holocene period.
Eurasia
Evidence published in 2014 from genome analysis of ancient human remains suggests that the modern native populations of Europe largely descend from three distinct lineages: "Western Hunter-Gatherers", derivative of the Cro-Magnon population of Europe, Early European Farmers introduced to Europe from the Near East during the Neolithic Revolution and Ancient North Eurasians which expanded to Europe in the context of the Indo-European expansion.[125]
The Afroasiatic Urheimat has been placed in either Africa or Asia.
Sub-Saharan Africa
The Nilotic peoples are thought to be derived from an earlier undifferentiated Eastern Sudanic unity by the 3rd millennium BCE. The development of the Proto-Nilotes as a group may have been connected with their domestication of livestock. The Eastern Sudanic unity must have been considerably earlier still, perhaps around the 5th millennium BCE (while the proposed Nilo-Saharan unity would date to the Upper Paleolithic about 15kya). The original locus of the early Nilotic speakers was presumably east of the Nile in what is now South Sudan. The Proto-Nilotes of the 3rd millennium BCE were pastoralists, while their neighbors, the Proto-Central Sudanic peoples, were mostly agriculturalists.[126]

The Niger-Congo phylum is thought to have emerged around 6,000 years ago in West or Central Africa. Its expansion may have been associated with the expansion of Sahel agriculture in the African Neolithic period, following the desiccation of the Sahara in c. 3900 BCE.[127] The Bantu expansion has spread the Bantu languages to Central, Eastern and Southern Africa, partly replacing the indigenous populations of these regions. Beginning about 3,000 years ago, it reached South Africa about 1,700 years ago.[128]
Some evidence (including a 2016 study by Busby et al.) suggests admixture from ancient amd recent migrations from Eurasia into parts of Sub-Saharan Africa.[129] Another study (Ramsay et al. 2018) also shows evidence that ancient Eurasians migrated into Africa and that Eurasian admixture in modern Sub-Saharan Africans ranges from 0% to 50%, varying by region and generally higher in the Horn of Africa and parts of the Sahel zone, and found to a lesser degree in certain parts of Western Africa, and Southern Africa (excluding recent immigrants).[130]

Indo-Pacific

The first seaborne human migrations were by the Austronesian peoples originating from Taiwan known as the "Austronesian expansion".[131] Using advanced sailing technologies like catamarans, outrigger boats, and crab claw sails, they built the first sea-going ships and rapidly colonized Island Southeast Asia at around 3000 to 1500 BCE. From the Philippines and Eastern Indonesia they colonized Micronesia by 2200 to 1000 BCE.[131][132]
A branch of the Austronesians reached Island Melanesia between 1600 to 1000 BCE, establishing the Lapita culture (named after the archaeological site in Lapita, New Caledonia, where their characteristic pottery was first discovered). They are the direct ancestors of the modern Polynesians. They ventured into Remote Oceania reaching Vanuatu, New Caledonia, and Fiji by 1200 BCE, and Samoa and Tonga by around 900 to 800 BCE. This was the furthest extent of the Lapita culture expansion. During a period of around 1,500 years, they gradually lost the technology for pottery (likely due to the lack of clay deposits in the islands), replacing it with carved wooden and bamboo containers. Back-migrations from the Lapita culture also merged back Island Southeast Asia in 1500 BCE, and into Micronesia at around 200 BCE. It was not until 700 CE when they started voyaging further into the Pacific Ocean, when they colonized the Cook Islands, the Society Islands, and the Marquesas. From there, they further colonized Hawaii by 900 CE, Rapa Nui by 1000 CE, and New Zealand by 1200 CE.[132][133][134]
In the Indian Ocean, Austronesians from Borneo also colonized Madagascar and the Comoros Islands by around 500 CE. Austronesians remain the dominant ethnolinguistic group of the islands of the Indo-Pacific, and were the first to establish a maritime trade network reaching as far west as East Africa and the Arabian peninsula. They assimilated earlier Pleistocene to early Holocene human overland migrations through Sundaland like the Papuans and the Negritos in Island Southeast Asia.[131][132] The Austronesian expansion was the last and the most far-reaching Neolithic human migration event.[135]

Caribbean

The Caribbean was one of the last places in the Americas that were settled by humans. The oldest remains are known from the Greater Antilles (Cuba and Hispaniola) dating between 4000–3500 BCE, and comparisons between tool-technologies suggest that these peoples moved across the Yucatán Channel from Central America. All evidence suggests that later migrants from 2000 BCE and onwards originated from South America, via the Orinoco region. The descendants of these migrants include the ancestors of the Taíno and Kalinago (Island Carib) peoples.[136]

Arctic

The earliest inhabitants of North America's central and eastern Arctic are referred to as the Arctic small tool tradition (AST) and existed c. 2500 BCE. AST consisted of several Paleo-Eskimo cultures, including the Independence cultures and Pre-Dorset culture.[137][138]
The Inuit are the descendants of the Thule culture, which emerged from western Alaska around AD 1000 and gradually displaced the Dorset culture.[139][140]

Comment

People migration have been in several rational causes, mostly to find a better place and survive, escaping from war and destruction, even form environmental reasoning.
Our considerations not at Homo erectus, so, not discussed at this Article.
First seen in Africa, about 300thousand years before, to West Africa, 70-50thousand years before, 50thousand years before to Oceania, via Arabia, 40thousand years before to Europa via Anatolia, and even to America, 20thousand year before via Central Asia.
The findings at Israel and Greek, about 210-177thousand years before, are Neanderthal, not Homo sapiens, sapiens.
The immigration roads, 1) Nile Valley, to Middle Asia, 2) By Red Sea, via sea, to Arabia, reaching China, and Indonesia, Sumatra, as 74thousand years before.
Not so crowded, thus, the first mitochondrial, Eve genetic codes at Yemen be 75thousand years before, 70-50thousand to India.
Aborigines the first Human beings at Austria, reached at 75-62thousand years before. The increasing the sea level to 110 meters ve the costal inhabitants be drowned. Be diffusely be noticed within 15thousand years before.
To Europa, 40thousand years before, being together with Neanderthal population, thus not be mixed with that species genetically. When in written evidences, before 8-5thousand years before, same language formation at Anatolia, as German words; like essen/eating, aqua/water so on. They based the Zagros Mountains, from Iranian to Iraq borders, highest point 5098 evaluation, to Basra coast, about 1500km length, ending at the Iranian coast.

For passing the Ural mountains, special clothing is essential, so, technology and innovation is the leading for passing and be at the cold places.
The climatic changes, effects to the environment, thus for a global movement is for recovering. Some estimations the origin of Homo sapiens, sapiens be at different origin, thus, genetically, DNA confirms one as a single person.
Archeological evidences is improving, so, genetic confirmation be the reality for discussion, not Anatomical and structural or even behavioral connections.

28. Eve Explained: How Ancient Humans Spread Across the Earth[8]

By William F. Allman
The greatest journey ever undertaken left behind a trail of unanswered questions: How did our species arise and spread around the globe to become the most dominant creature on the planet? Part of the answer came two decades ago, when scientists stunned the world with the finding, based on genetic research, that all humans alive today can claim as a common ancestor a woman who lived in Africa some 150,000 years ago — dubbed, inevitably, "Eve." But while the notion of an African origin of the human family has grown to be accepted by most scientists, the details of how Eve's ancestors swept out of Africa to populate the rest of the world have remained murky.
Now a team of scientists claim that, based on research on the ancient climate, findings in archaeology and a new, clearer genetic picture of how the human family tree has branched over the eons, the ancient itinerary of the human diaspora can finally be pieced together. It is an epic story of escape from starvation, glaciers and volcanoes and braving shark-infested waters in flimsy rafts. And like any good tale, it has a surprise ending: Contrary to established thinking, it appears that our human ancestors took a more southerly route out of Africa, traveling east across the Red Sea into what is now Yemen, and then through India and all the way to the far reaches of Australia, before they swung up into Europe. "There was only one migration out of Africa," says Stephen Oppenheimer of Oxford University, who is a leading proponent of this new synthesis of our species's incredible journey. "They couldn't go north — that was blocked by a desert — so they had to go south."
A crucial cornerstone of Oppenheimer's piecing together of the human itinerary is the recent finding by Allan Wilson et al. that the world's entire population can be traced back to a family tree that has its roots in Africa and a single branch leading out of the continent and into the rest of the world. Based on analysis of thousands of DNA samples from people worldwide, Richards' research reveals a detailed map of the human family tree and its various branches.

Digging Through Genes

Wilson's research extended the work of scientists over the past two decades who have been reconstructing human origins by studying snippets of DNA from tiny cellular structures called mitochondria. Part of every cell in the human body, mitochondria produce the energy needed by all living creatures and, remarkably, possess their own DNA that is completely independent of the principal cellular DNA residing in the nucleus. Known as mitochondrial DNA — or mtDNA — this genetic material has a property that makes it a unique tool for studying human origins: During conception, half the mother's DNA and half the father's DNA merge to create a unique suite of genes that goes into creating a human being. But mtDNA does not undergo this genetic reshuffling; rather, the mitochondria — along with their mtDNA — in a sperm cell wither and die, while the mitochondria present in the egg cell live on intact from generation to generation. Thus everyone carries with them a more-or-less exact copy of the mtDNA from their mother, and their mother's mother, and her mother, and her mother, and so on back through countless generations.
The term "more or less exact" is the key to scientists solving the mystery of human origins. That's because like all DNA, mtDNA is subject to random mutations over the eons. And because these mutations are passed intact to the next generations, they in effect become "tracers" of family branches. If two strands of mtDNA from two different people reveal the same mutation, these people must share the same ancient great-great-great-grandmother from whence this mutation arose. Working from the assumption that genetic mutations occur more or less regularly over time (the assumption is 10000 years in average per mutation), scientists can compare the mtDNA of people, noting by how many mutations athey differ, and thereby estimate the time separating them from a common female ancestor. For example, if people differ by 2 or 3 mutations, they can be said to have a common most recent (female) ancestor that lived 20000 or 30000 years ago. With identical mtDNAs, the common most recent ancestor lived less than 10000 years ago. Using this technique, Wilson et al. showed that all humans can be traced back to one ancient mitochondrial "Eve" who lived in Africa perhaps 150000 years ago.
This "Eve" was by no means the source of all the genes in the world's living population. After all, each person is a reshuffled combination of 30,000 genes from many different ancestors stretching back generations. But each person's mtDNA is a copy from only one direct line of ancestors: their mother's mother's mother's mother, etc. In the same way, the mtDNA from Eve merely acts as a tracer that links all present-day humans to a single population of ancient humans, estimated at 10,000 people or so, who lived in Africa several hundred thousand years ago.

The Climate Connection

While Wilson's genetic research suggests that only one branch of ancient humans (i.e. homo sapiens) migrated out of Africa to give rise to modern man sometimes called "homo sapiens sapens", research on ancient climate changes helps pinpoint the time when this migration must have occurred. Some 80,000 years ago, the world's climate began to cool into a period of glaciation. The polar ice caps reached far down into Europe, lowering sea levels and turning much of Africa into arid desert. This climatic shift occurred roughly at the time when the genetic evidence suggests that the tree of human life sprouted a branch that crossed onto the Arabian Peninsula toward India and Southeast Asia. Indeed, human-made tools dating back nearly 75,000 years have been found as far east as Malaysia. From there, our human ancestors pushed across shark-infested waters to Australia, where they left behind stone artifacts dating back 60,000 years.
There were no doubt other human migrations out of Africa before this time. For example, ancient human remains dating from 100,000 to 120,000 years ago have been unearthed in what is now Israel. However, these populations, like others, perished without leaving their genetic imprint on present-day humans. By the time the climatic changes gave rise to the exodus some 80,000 years ago, the migration pathway out of Africa through the Near East was blocked by the Sahara desert, says Oppenheimer, and so the only way out was southward.
It was only after the climate shifted again some 50,000 years ago, creating strong monsoons that turned what was once desert into the lush growth of the so-called "Fertile Crescent" stretching from the Arabian Gulf to Turkey, that humans had the pathway

to begin the push into Europe and Asia. Those lands at that time were populated by another kind of human — Neanderthals — who had reached there hundreds of thousands of years before.
While the two species of humans shared the continent for more than 10,000 years, recent studies of DNA drawn from Neanderthal fossils reveal that there was no interbreeding between the two populations that left a trace in the modern world. Indeed, nearly all Europeans — and by extension, many Americans — can trace their ancestors to only four mtDNA lines, which appeared between 10,000 and 50,000 years ago and originated from South Asia.

The Incredible Journey

The final stage in the human odyssey was again triggered by climate change: The genetic evidence suggests that as the seas retreated during the buildup of the polar ice caps 20,000 to 25,000 years ago, humans crossed over the bridge of land — now underwater — that connects what is now Siberia and Alaska, says Cambridge University's Peter Forster. The distinctive makers in the strands of mtDNA they brought with them are still found in Siberia and Asia today. These ancient humans spread throughout all of the Americas, surviving the intense glaciation that followed, and leaving stone tools dating back 16,000 years at a site in present-day Pennsylvania. The peopling of the planet was complete.
Despite the sweeping saga of migration and branching of the human family tree over the past 7,000 generations since "Eve," perhaps the most startling result of the new picture of human evolution is how very closely related are all humans. In fact, the research reveals that there is less genetic variation among Earth's entire population of humans than there is in a typical troop of our closest relative, the chimpanzee. In the quest to find ancient family ties, one need look only to one's neighbor — or to the far end of the globe. "We are all born with an extraordinary interest in where we came from, and who our relatives are," says Oppenheimer. "This really brings home that we are just one big, very close family."

Comment

Some estimations be in consideration of the clans, groups, as the migration of Human being.
Genetic evidences on mitochondrial DNA, is the fact of the species, as unique and sole, from one source. From woman to woman it is passing so, not be a mixed proof. Called Eve as 150thousand years before in Africa.
Mutation in nature is obligatory, so, not a different species, thus, differentiation according to the mutation.
Due to the environmental disparity, Human being, distributed the World. 50thousand years before the strong Monsoon Rains, Sahara was a cultivated area, half-moon image is noticed, with Middle Asia. Even Neanderthals be noticed with Homo sapiens, sapiens about 10thousand years together, no transaction between the genes.
After melting the Ice Age, about 20-25 years before, migration is so much, crossed the ice-covered Bering Strait, and American Indians be first noticed Human beings, 16thousand years before.
Conclusion: Contrary of decisions, there are not so much deviations at the DNA, mitokondrial DNA, genetic coding is proved, the brotherhood of the Human being. A physician must consider, not any other aspects for diversity, thus, each person is unique and be sole, so the principle as "***No Disease, Yes to a person***".

Migration in the World

As a proof of DNA and Mitochondrial DNA. We are exactly the same species, Homo sapiens, sapiens. No other race or other distinctive one.

The political, cultural levelling, grouping is all are not actual, only be individual thoughts, and be legally not be acceptable even be as required illegal.

Not be mixed with Neanderthals according to Anatomic and other structural shapes as brain volume and behaviors, as humanistic acts.

Early human migrations[6]

From Wikipedia, the free encyclopedia
While early modern human expansion in Sub-Saharan Africa before 130 kya persisted, early expansion to North Africa and Asia appears to have mostly disappeared by the end of MIS5 (75,000 years ago), and is known only from fossil evidence and from archaic admixture. Eurasia was re-populated by early modern humans in the so-called "recent out-of-Africa migration" post-dating MIS5, beginning around 70,000-50,000 years ago.[74][75][76][77] In this expansion, bearers of mt-DNA haplogroup L3 left East Africa, likely reaching Arabia via the Bab-el-Mandeb, and in the Great Coastal Migration spread to South Asia, Maritime South Asia and Oceania between 65,000-50,000 years ago,[78][79][80][81] while Europe, East and North Asia were reached by about 45,000 years ago. Some evidence suggests that an early wave humans may have reached the Americas by about 40-25,000 years ago.

Evidence for the overwhelming contribution of this "recent" (L3-derived) expansion to all non-African populations was established based on mitochondrial DNA, combined with evidence based on physical anthropology of archaic specimens, during the 1990s and 2000s,[note 9][83] and has also been supported by Y DNA and autosomal DNA.[77] The assumption of complete replacement has been revised in the 2010s with the discovery of admixture events (introgression) of populations of *H. sapiens* with populations of archaic humans over the period of between roughly 100,000 and 30,000 years ago, both in Eurasia and in Sub-Saharan Africa. Neanderthal admixture, in the range of 1-4%, is found in all modern populations outside of Africa, including in Europeans, Asians, Papua New Guineans, Australian Aboriginals, Native Americans, and other non-Africans.[84][37] This suggests that interbreeding between Neanderthals and anatomically modern humans took place after the recent "out of Africa" migration, likely between 60,000 and 40,000 years ago.[85][86][87] Recent admixture analyses have added to the complexity, finding that Eastern Neanderthals derive up to 2% of their ancestry from anatomically modern humans who left Africa some 100 kya.[88] The extent of Neanderthal admixture (and introgression of genes acquired by admixture) varies significantly between contemporary racial groups, being absent in Africans, intermediate in Europeans and highest in East Asians. Certain genes related to UV-light adaptation introgressed from Neanderthals have been found to have been selected for in East Asians specifically from 45,000 years ago until around 5,000 years ago.[89] The extent of archaic admixture is of the order of about 1% to 4% in Europeans and East Asians, and highest among Melanesians (the last also having Denisova hominin admixture at 4% to 6% in addition to neanderthal admixture).[37][49] Cumulatively, about 20% of the Neanderthal genome is estimated to remain present spread in contemporary populations.[90]

In September 2019, scientists reported the computerized determination, based on 260 CT scans, of a virtual skull shape of the last common human ancestor to modern humans/*H. sapiens*, representative of the earliest modern humans, and suggested that modern humans arose between 350,000 and 260,000 years ago through a merging of populations in East and South Africa while North-African fossils may represent a population which introgressed into Neandertals during the LMP.[62][2]

In October 2019, a study based on mtdna proposed that land around Lake Makgadikgadi in Botswana was the area of Africa where modern humans first evolved around 200,000 years ago.[31] However, this hypothesis has been widely criticized by scholars, including Chris Stringer, head of human origins at the Natural History Museum in London, Sarah Tishkoff, geneticist at the University of Pennsylvania, geneticist and anthropologist Ryan Raum, anthropologist Eleanor Scerri, and paleoanthropologist Katerina Harvati among others,[32][33][34] with the evidence overall (genetic, fossil, and archaeological) indicating an origin of *Homo sapiens* earlier and in a wider area of Africa than the study proposes.[34]

Anatomic similar one distribution and Homo, sapiens [6] (ka=thousand year)

Homo sapiens / Wikipedia[1]

b)Kıyılar ile oluşan göçler

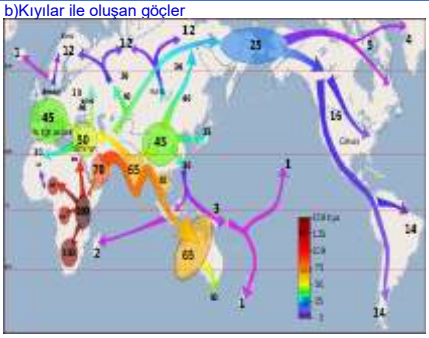
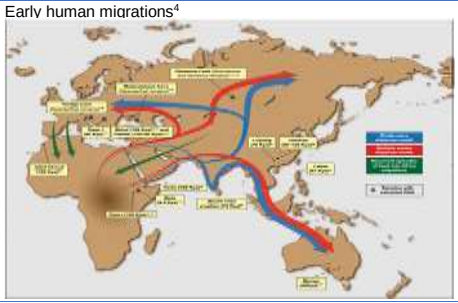


Figure 5a: In general Anatomic similarity encountered person distribution

Modern Anatomic people in the World[2]

Early human migrations[4]



Homo sapiens developed a new ecological niche that separated it from other hominins[3]

Figure 5b: General voyage, migration of Modern Anatomic person

Early migration Homo sapiens, sapiens by mitokondrial DNA (Female)

a)By mitochondria, DNA distribution (Female)[6]

b) Eve Explained: How Ancient Humans Spread Across the Earth[8]

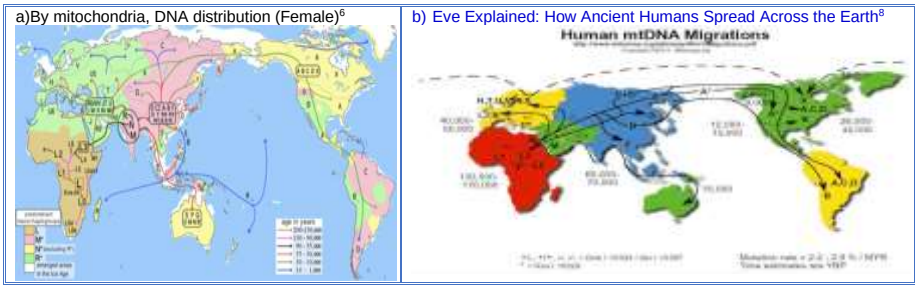


Figure 5c: In general Human m-DNA proved Human distribution

Human migration to Europa [6]

a)**37,500 years before** b) **years before** c) **32,500 years before** d) **30,000 years before**

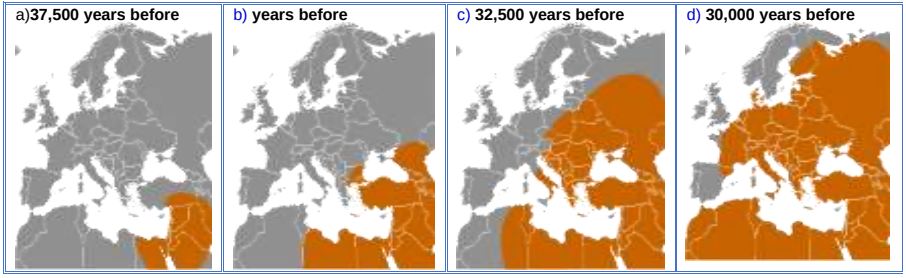


Figure 5d: The voyage of Human being to the Europa

Comment

Some genetic parallels is noted at Neanderthal, as 20%, thus, even the structure is some similarities at all living organisms. Thus the researcher in his Article; William F. Allman: Eve Explained: How Ancient Humans Spread Across the Earth[8]. DNA studies can be some aspects, thus, mitochondrial DNA evidences have not indicates any resemblances. So, genetic evidence is the truth as now progress of the science.

Early human migrations[6]

Anatomy

Known archaeological remains of Anatomically Modern Humans in Europe and Africa, directly dated, calibrated carbon dates as of 2013.[73]

Generally, modern humans are more lightly built (or more "gracile") than the more "robust" archaic humans. Nevertheless, contemporary humans exhibit high variability in many physiological traits, and may exhibit remarkable "robustness". There are still a number of physiological details which can be taken as reliably differentiating the physiology of Neanderthals vs. anatomically modern humans.

Anatomical modernity *Behavioral modernity*

The term "anatomically modern humans" (AMH) is used with varying scope depending on context, to distinguish "anatomically modern" *Homo sapiens* from archaic humans such as Neanderthals and Middle and Lower Paleolithic hominins with transitional features intermediate between *H. erectus*, Neanderthals and early AMH called *archaic Homo sapiens*.[91] In a convention popular in the 1990s, Neanderthals were classified as a subspecies of *H. sapiens*, as *H. s. neanderthalensis*, while AMH (or European early modern humans, EEMH) was taken to refer to "Cro-Magnon" or *H. s. sapiens*. Under this nomenclature (Neanderthals considered *H. sapiens*), the term "anatomically modern *Homo sapiens*" (AMHS) has also been used to refer to EEMH ("Cro-Magnons").[92] It has since become more common to designate Neanderthals as a separate species, *H. neanderthalensis*, so that AMH in the European context refers to *H. sapiens*, but the question is by no means resolved.[note 10]

In this more narrow definition of *H. sapiens*, the subspecies *Homo sapiens idaltu*, discovered in 2003, also falls under the umbrella of "anatomically modern".[94] The recognition of *H. sapiens idaltu* as a valid subspecies of the anatomically modern human lineage would justify the description of contemporary humans with the subspecies name *Homo sapiens sapiens*.[95] However, biological anthropologist Chris Stringer does not consider *idaltu* distinct enough within *H. sapiens* to warrant its own subspecies designation.[96][27]

Omo-Kibish I (Omo I) from southern Ethiopia is the oldest anatomically modern Homo sapiens skeleton currently known (196 ± 5 ka).[9][97]

A further division of AMH into "early" or "robust" vs. "post-glacial" or "gracile" subtypes has since been used for convenience. The emergence of "gracile AMH" is taken to reflect a process towards a smaller and more fine-boned skeleton beginning around 50,000–30,000 years ago.[98]

Braincase anatomy

Features compared are the braincase shape, forehead, browridge, nasal bone, projection, cheek bone angulation, chin and occipital contour

The cranium lacks a pronounced occipital bun in the neck, a bulge that anchored considerable neck muscles in Neanderthals. Modern humans, even the earlier ones, generally have a larger fore-brain than the archaic people, so that the brain sits above rather than behind the eyes. This will usually (though not always) give a higher forehead, and reduced brow ridge. Early modern people and some living people do however have quite pronounced brow ridges, but they differ from those of archaic forms by having both a supraorbital foramen or notch, forming a groove through the ridge above each eye.[99] This splits the ridge into a central part and two distal parts. In current humans, often only the central section of the ridge is preserved (if it is preserved at all). This contrasts with archaic humans, where the brow ridge is pronounced and unbroken.[100]

Modern humans commonly have a steep, even vertical forehead whereas their predecessors had foreheads that sloped strongly backwards.[101] According to Desmond Morris, the vertical forehead in humans plays an important role in human communication through eyebrow movements and forehead skin wrinkling.[102]

Brain size in both Neanderthals and AMH is significantly larger on average (but overlapping in range) than brain size in *H. erectus*. Neanderthal and AMH brain sizes are in the same range, but there are differences in the relative sizes of individual brain areas, with significantly larger visual systems in Neanderthals than in AMH.[103][note 11]

Jaw anatomy

Compared to archaic people, anatomically modern humans have smaller, differently shaped teeth.[106][107] This results in a smaller, more receded dentary, making the rest of the jaw-line stand out, giving an often quite prominent chin. The central part of the mandible forming the chin carries a triangularly shaped area forming the apex of the chin called the mental trigon, not found in archaic humans.[108] Particularly in living populations, the use of fire and tools requires fewer jaw muscles, giving slender, more gracile jaws. Compared to archaic people, modern humans have smaller, lower faces.

Body skeleton structure

The body skeletons of even the earliest and most robustly built modern humans were less robust than those of Neanderthals (and from what little we know from Denisovans), having essentially modern proportions. Particularly regarding the long bones of the limbs, the distal bones (the radius/ulna and tibia/fibula) are nearly the same size or slightly shorter than the proximal bones (the humerus and femur). In ancient people, particularly Neanderthals, the distal bones were shorter, usually thought to be an adaptation to cold climate.[109] The same adaptation can be found in some modern people living in the polar regions.[110]

Height ranges overlap between Neanderthals and AMH, with Neanderthal averages cited as 164 to 168 cm (65 to 66 in) and 152 to 156 cm (60 to 61 in) for males and females, respectively.[note 12] By comparison, contemporary national averages range between 158 to 184 cm (62 to 72 in) in males and 147 to 172 cm (58 to 68 in) in females. Neanderthal ranges approximate the height distribution measured among Malay people, for one.[note 13]

Recent evolution *Human genetic variability*,

Following the peopling of Africa some 130,000 years ago, and the recent Out-of-Africa expansion some 70,000 to 50,000 years ago, some sub-populations of *H. sapiens* have been essentially isolated for tens of thousands of years prior to the early modern Age of Discovery. Combined with archaic admixture this has resulted in significant genetic variation, which in some instances has been shown to be the result of directional selection taking place over the past 15,000 years, i.e. significantly later than possible archaic admixture events.[113]

Some climatic adaptations, such as high-altitude adaptation in humans, are thought to have been acquired by archaic admixture. Introgression of genetic variants acquired by Neanderthal admixture have different distributions in European and East Asians, reflecting differences in recent selective pressures. A 2014 study reported that Neanderthal-derived variants found in East Asian populations showed clustering in functional groups related to immune and haematopoietic pathways, while European populations showed clustering in functional groups related to the lipid catabolic process.[note 14] A 2017 study found correlation of Neanderthal admixture in phenotypic traits in modern European populations.[115]

Physiological or phenotypical changes have been traced to Upper Paleolithic mutations, such as the East Asian variant of the EDAR gene, dated to c. 35,000 years ago.[note 15]

Recent divergence of Eurasian lineages was sped up significantly during the Last Glacial Maximum, the Mesolithic and the Neolithic, due to increased selection pressures and due to founder effects associated with migration.[118] Alleles predictive of light skin have been found in Neanderthals,[119] but the alleles for light skin in Europeans and East Asians, associated with KITLG and ASIP, are (as of 2012) thought to have not been acquired by archaic admixture but recent mutations since the LGM.[118]

Phenotypes associated with the "white" or "Caucasian" populations of Western Eurasian stock emerge during the LGM, from about 19,000 years ago. Average cranial capacity in modern human populations varies in the range of 1,200 to 1,450 cm^3 (adult male averages). Larger cranial volume is associated with climatic region, the largest averages being found in populations of Siberia and the Arctic.[note 16][121] Both Neanderthal and EEMH had somewhat larger cranial volumes on average than modern Europeans, suggesting the relaxation of selection pressures for larger brain volume after the end of the LGM.[120]

Examples for still later adaptations related to agriculture and animal domestication including East Asian types of ADH1B associated with rice domestication,[122] or lactase persistence,[123][124] are due to recent selection pressures.

An even more recent adaptation has been proposed for the Austronesian Sama-Bajau, developed under selection pressures associated with subsisting on freediving over the past thousand years or so.[125][126]

Behavioral modernity

Behavioral modernity, involving the development of language, figurative art and early forms of religion (etc.) is taken to have arisen before 40,000 years ago, marking the beginning of the Upper Paleolithic (in African contexts also known as the Later Stone Age).[127]

There is considerable debate regarding whether the earliest anatomically modern humans behaved similarly to recent or existing humans. Behavioral modernity is taken to include fully developed language (requiring the capacity for abstract thought), artistic expression, early forms of religious behavior,[128] increased cooperation and the formation of early settlements, and the production of articulated tools from lithic cores, bone or antler. The term Upper Paleolithic is intended to cover the period since the rapid expansion of modern humans throughout Eurasia, which coincides with the first appearance of Paleolithic art such as cave paintings and the development of technological innovation such as the spear-thrower. The Upper Paleolithic begins around 50,000 to 40,000 years ago, and also coincides with the disappearance of archaic humans such as the Neanderthals.

The term "behavioral modernity" is somewhat disputed. It is most often used for the set of characteristics marking the Upper Paleolithic, but some scholars use "behavioral modernity" for the emergence of *H. sapiens* around 200,000 years ago,[129] while others use the term for the rapid developments occurring around 50,000 years ago.[130][131][132] It has been proposed that the emergence of behavioral modernity was a gradual process.[133][134][135][136][137]
In January 2018, it was announced that modern human finds at Misliya cave, Israel, in 2002, had been dated to around 185,000 years ago, the earliest evidence of their out of Africa migration.[138][139][140][141]
The earliest *H. sapiens* (AMH) found in Europe are the "Cro-Magnon" (named after the site of first discovery in France), beginning about 40,000 to 35,000 years ago. These are also known as "European early modern humans" in contrast to the preceding Neanderthals.[142][143]

Comment

For considering the Homo sapiens, sapiens, not by behaviour connections or Anatomic data, direct genetic considerations, by DNA analysis be required for scientific proof.
Human being is more adaptable of the climatic changes, even desert be a safe, of course, if you know the oasis, and palm trees where to find water and food. The physical body can survive a very narrow condition, but save and protection be as learned and progress by time perspective.
Hunting is basically requires technique and mind for overcome the big and strong animals.
Get together, being a community, for communication and for relation, language formation is established. Mainly added to their cultural formation. Only some for praying like “Göbekli Tepe” be an example.

Early human migrations[6]

The equivalent of the Eurasian Upper Paleolithic in African archaeology is known as the Later Stone Age, also beginning roughly 40,000 years ago. While most clear evidence for behavioral modernity uncovered from the later 19th century was from Europe, such as the Venus figurines and other artefacts from the Aurignacian, more recent archaeological research has shown that all essential elements of the kind of material culture typical of contemporary San hunter-gatherers in Southern Africa was also present by least 40,000 years ago, including digging sticks of similar materials used today, ostrich egg shell beads, bone arrow heads with individual maker's marks etched and embedded with red ochre, and poison applicators.[145] There is also a suggestion that "pressure flaking best explains the morphology of lithic artifacts recovered from the c. 75-ka Middle Stone Age levels at Blombos Cave, South Africa. The technique was used during the final shaping of Still Bay bifacial points made on heat-treated silcrete."[146] Both pressure flaking and heat treatment of materials were previously thought to have occurred much later in prehistory, and both indicate a behaviourally modern sophistication in the use of natural materials. Further reports of research on cave sites along the southern African coast indicate that "the debate as to when cultural and cognitive characteristics typical of modern humans first appeared" may be coming to an end, as "advanced technologies with elaborate chains of production" which "often demand high-fidelity transmission and thus language" have been found at the South African Pinnacle Point Site 5–6. These have been dated to approximately 71,000 years ago. The researchers suggest that their research "shows that microlithic technology originated early in South Africa by 71 kya, evolved over a vast time span (c. 11,000 years), and was typically coupled to complex heat treatment that persisted for nearly 100,000 years. Advanced technologies in Africa were early and enduring; a small sample of excavated sites in Africa is the best explanation for any perceived 'flickering' pattern."[147] These results suggest that Late Stone Age foragers in Sub-Saharan Africa had developed modern cognition and behaviour by at least 50,000 years ago.[148] The change in behavior has been speculated to have been a consequence of an earlier climatic change to much drier and colder conditions between 135,000 and 75,000 years ago.[149] This might have led to human groups who were seeking refuge from the inland droughts, expanded along the coastal marshes rich in shellfish and other resources. Since sea levels were low due to so much water tied up in glaciers, such marshlands would have occurred all along the southern coasts of Eurasia. The use of rafts and boats may well have facilitated exploration of offshore islands and travel along the coast, and eventually permitted expansion to New Guinea and then to Australia.[150]
In addition, a variety of other evidence of abstract imagery, widened subsistence strategies, and other "modern" behaviors has been discovered in Africa, especially South, North, and East Africa, predating 50,000 years ago. The Blombos Cave site in South Africa, for example, is famous for rectangular slabs of ochre engraved with geometric designs. Using multiple dating techniques, the site was confirmed to be around 77,000 and 100-75,000 years old.[151][152] Ostrich egg shell containers engraved with geometric designs dating to 60,000 years ago were found at Diepkloof, South Africa.[153] Beads and other personal ornamentation have been found from Morocco which might be as much as 130,000 years old; as well, the Cave of Hearths in South Africa has yielded a number of beads dating from significantly prior to 50,000 years ago,[154] and shell beads dating to about 75,000 years ago have been found at Blombos Cave, South Africa.[155][156][157] Specialized projectile weapons as well have been found at various sites in Middle Stone Age Africa, including bone and stone arrowheads at South African sites such as Sibudu Cave (along with an early bone needle also found at Sibudu) dating approximately 60,000-70,000 years ago,[158][159][160][161][162] and bone harpoons at the Central African site of Katanda dating ca. 90,000 years ago.[163] Evidence also exists for the systematic heat treating of silcrete stone to increased its flake-ability for the purpose of toolmaking, beginning approximately 164,000 years ago at the South African site of Pinnacle Point and becoming common there for the creation of microlithic tools at about 72,000 years ago.[164][147]
In 2008, an ochre processing workshop likely for the production of paints was uncovered dating to ca. 100,000 years ago at Blombos Cave, South Africa. Analysis shows that a liquefied pigment-rich mixture was produced and stored in the two abalone shells, and that ochre, bone, charcoal, grindstones and hammer-stones also formed a composite part of the toolkits. Evidence for the complexity of the task includes procuring and combining raw materials from various sources (implying they had a mental template of the process they would follow), possibly using pyrotechnology to facilitate fat extraction from bone, using a probable recipe to produce the compound, and the use of shell containers for mixing and storage for later use.[165][166][167] Modern behaviors, such as the making of shell beads, bone tools and arrows, and the use of ochre pigment, are evident at a Kenyan site by 78,000-67,000 years ago.[168] Evidence of early stone-tipped projectile weapons (a characteristic tool of *Homo sapiens*), the stone tips of javelins or throwing spears, were discovered in 2013 at the Ethiopian site of Gademotta, and date to around 279,000 years ago.[169]

Expanding subsistence strategies beyond big-game hunting and the consequential diversity in tool types has been noted as signs of behavioral modernity. A number of South African sites have shown an early reliance on aquatic resources from fish to shellfish. Pinnacle Point, in particular, shows exploitation of marine resources as early as 120,000 years ago, perhaps in response to more arid conditions inland.[170] Establishing a reliance on predictable shellfish deposits, for example, could reduce mobility and facilitate complex social systems and symbolic behavior. Blombos Cave and Site 440 in Sudan both show evidence of fishing as well. Taphonomic change in fish skeletons from Blombos Cave have been interpreted as capture of live fish, clearly an intentional human behavior.[154]
Humans in North Africa (Nazlet Sabaha, Egypt) are known to have dabbled in chert mining, as early as ≈100,000 years ago, for the construction of stone tools.[171][172]
Evidence was found in 2018, dating to about 320,000 years ago at the site of Olorgesailie in Kenya, of the early emergence of modern behaviors including: the trade and long-distance transportation of resources (such as obsidian), the use of pigments, and the possible making of projectile points. The authors of three 2018 studies on the site observe that the evidence of these behaviors is roughly contemporary with the earliest known *Homo sapiens* fossil remains from Africa (such as at Jebel Irhoud and Florisbad), and they suggest that complex and modern behaviors began in Africa around the time of the emergence of *Homo sapiens*.[173][174][175]
In 2019, further evidence of Middle Stone Age complex projectile weapons in Africa was found at Aduma, Ethiopia, dated 100,000-80,000 years ago, in the form of points considered likely to belong to darts delivered by spear throwers.[176]

Comment

When as genetically same, the cultural concepts, be for the evaluation of the people. Today, eve escaping from war, cultural structure even be seen as Gathering Culture. Not according the time, history, it is according to the economic, situational factors, as for danger at life conditions. The most evaluations be based on, our culture is the best, so let's consider them, as a primitive people, required for evolution. Thus not as true, and in human perspective.

29. Homo sapiens developed a new ecological niche that separated it from other hominins[9]

by Max Planck Society
Map of the potential distribution of archaic hominins, including *H. erectus*, *H. floresiensis*, *H. neanderthalenesis*, Denisovans and archaic African hominins, in the Old World at the time of the evolution and dispersal of *H. sapiens* between approximately 300 and 60 thousand years ago. Credit: Roberts and Stewart. 2018. Defining the 'generalist specialist' niche for Pleistocene Homo sapiens. *Nature Human Behaviour*. 10.1038/s41562-018-0394-4
Critical review of growing archaeological and palaeoenvironmental datasets relating to the Middle and Late Pleistocene (300-12 thousand years ago) hominin dispersals within and beyond Africa, published today in *Nature Human Behaviour*, demonstrates unique environmental settings and adaptations for *Homo sapiens* relative to previous and coexisting hominins such as *Homo neanderthalensis* and *Homo erectus*. Our species' ability to occupy diverse and 'extreme' settings around the world stands in stark contrast to the ecological adaptations of other hominin taxa, and may explain how our species became the last surviving hominin on the planet.
The paper, by scientists from the Max Planck Institute for the Science of Human History and the University of Michigan suggests investigations into what it means to be human should shift from attempts to uncover the earliest material traces of 'art', 'language', or technological 'complexity' towards understanding what makes our species ecologically unique. In contrast to our ancestors and contemporary relatives, our species not only colonized a diversity of challenging environments, including deserts, tropical rainforests, high altitude settings, and the palaeoarctic, but also specialized in its adaptation to some of these extremes.
Ancestral ecologies—the ecology of Early and Middle Pleistocene *Homo*
Although all hominins that make up the genus *Homo* are often termed 'human' in academic and public circles, this evolutionary group, which emerged in Africa around 3 million years ago, is highly diverse. Some members of the genus *Homo* (namely *Homo erectus*) had made it to Spain, Georgia, China, and Indonesia by 1 million years ago. Yet, existing information from fossil animals, ancient plants, and chemical methods all suggest that these groups followed and exploited environmental mosaics of forest and grassland. It has been argued that *Homo erectus* and the 'Hobbit', or *Homo floresiensis*, used humid, resource-scarce tropical rainforest habitats in Southeast Asia from 1 million years ago to 100,000 and 50,000 years ago, respectively. However, the authors found no reliable evidence for this.
It has also been argued that our closest hominin relatives, *Homo Neanderthalensis* - or the Neanderthals—were specialized to the occupation of high latitude Eurasia between 250,000 and 40,000 years ago. The base for this includes a face shape potentially adapted to cold temperatures and a hunting focus on large animals such as woolly mammoths. Nevertheless, a review of the evidence led the authors to again conclude that Neanderthals primarily exploited a diversity of forest and grassland habitats, and hunted a diversity of animas, from temperature northern Eurasia to the Mediterranean.
Homo sapiens and early human migration
Homo sapiens evolved from their early hominid predecessors between 200,000 and 300,000 years ago and developed a capacity for language about 50,000 years ago.

Comment

Homo sapiens, sapiens must be differentiated form other species, so, be clearly examined the distribution and the configuration of the Earth.
By genetic evidences, the Anatomical similarity and the brain volume estimations are not any meaning today.

Türk Dünyası, Irak-Türkiye Tıp Dergisi: 2020/1
Turkish World, Iraq Medical Journal: 2020/1

Environmental Effect for Migration

At the gathering and clan culture, the best place to live is where you can be in safe. More effort or hard to get the essentials, especially nutritional status be important one. Cattle's in Africa, follow the green areas, thus, lions are back of them. Human being used their mind, thus, not to be stay at one condition, can move and find other situations.

Traditions are be for care and serve, due to the social life, social statue. Each person has a duty, be equal at these social groups.

More be aware of fact, the son, want to be the leader, so be a king, quarrel with his father, not waiting the ending of life, so, a part of the clan be go away, migration is definitely be performed. Be free and safe is the common rule, considering for their life. Even marriage, buying a house and finding a job, at different places, somehow, analogous to this ritual.

The climatic changes are compelled conditional state for moving, in great volume population and a long distance moving. It is discussed below.

30. Buzul Çağı[10]

Vikipedi, özgür ansiklopedi
Buzul çağı ya da **buz çağı**, **buzul çağları** veya **pleistosen**, yeryüzü ve atmosfer sıcaklığının uzun süren bir dönem boyunca azalarak kıtasal, kutup ve alp buzullarının genişlemesi ve varlığını sürdürmesidir. Dördüncü Zaman'ın Yeryüzündeki toprakların %30'undan fazlasının buzlarla kaplandığı bir dönemidir ve Pliyosen Çağ ile Holosen Çağ arasında yer almaktadır. Yunanca "eski" anlamına gelen pleistos ve "yeni" anlamındaki kainos kelimelerinin birleştirilmesinden oluşmuştur. Uzun süren buzul çağı dönemi boyunca soğuk iklimin kendi başına eğilimi buzullaşma periyotları (veya kısaca *buzullar* veya konuşma dilinde *buz çağı*) olarak adlandırılmış ve aralıklı olarak ortaya çıkan ılıman iklim dönemleri için buzullaşmalararası terimi kullanılmıştır. Günümüzden yaklaşık 2.5 milyon yıl önce başlayan pleistosen döneminde başlayan buzul çağları bundan yaklaşık 10.000 veya 14.000 yıl önce sona ermiş ve içinde bulunduğumuz Holosen çağı başlamıştır.
Buzuloji, *buz çağı* terimi ile kuzey ve güney yarıkürede ortaya çıkan yoğun buz katmanları (da) ifade edilmektedir.[1] Bu tanımlamaya istinaden, halen Grönland, Arktik ve Antarktika buzulları var olduklarından dolayı; 2.6 milyon yıl önce pleistosen adı verilen dönemde başlayan buzul devrini yaşamakta olduğumuzu söyleyebiliriz.[2] Ancak içinde bulunduğumuz dönemde buzullar erimeye devam ettiğinden bir buzul sonrası dönem yaşamaktayız.
Günümüzden yaklaşık olarak 18 bin yıl önce en üst noktasına erişen "son buzul çağı" olan vürm bundan yaklaşık olarak 10.000 yıl önce sona erdi ve yerküre ısınmaya başladı.[3] Bu ısınma süreci halen devam etmektedir. Doğal döngünün devam etmesi halinde Yeryüzünün yeniden soğumaya başlamış olması gerekirken insanın kullandığı fosil yakıtlar, karbondioksit, metan vb. sera gazlarının salınımı nedeniyle atmosfer ısısının artışına bağlı küresel ısınma devam ettiğinden en azından yakın bir gelecekte bir buzul devri öngörülmemektedir.
Pleistosen olarak da adlandırılan buzul çağları dördüncü zaman olan kuaternerin ilk ve en uzun evresidir. Buzul çağında kuzey yarıkürenin büyük bir kısmının buzullarla kaplı olduğu, dünyanın diğer kısımlarındaysa soğuk (buzullaşma/glacial) ve ılıman (buzullaşmalararası/interglacials) iklimlerin birbirini izlemekte olduğu düşünülmektedir. Buzul çağlarında buzullar kuzeyden güneye doğru yayıldıkça memeliler de güneye (veya daha düşük enlemlere) doğru ilerlemiştir.[4]
NB: The highest level of the Ice Age is about 18thousand years before, thus, after 8thousand it is going to be warmer.

Comment

The fourth Ice Age started about 18thousand years before and ended 10thousand years ago. Today is the climate is going to warmer.
The climatic effects the migration of Human being, is be considered one of the prime factor.

Buzul Çağı[10]

Buz çağı teorisinin ortaya çıkışı …
Buz çağlarının kanıtları
Jeolojik, kimyasal ve paleontolojik olmak üzere buzul çağlarının üç temel kanıtı bulunmaktadır.
Jeolojik kanıt, kopmuş kaya parçalarında su hareketinin aşındırarak yol açtığı düzleşmeler ve tahrişler, buzultaşları (morenler), buzul birikintilerinden meydana gelmiş dar ve uzun yığın tepecikleri (drumlinler), vadi kesileri ve buzulların taşıyıp yığdığı çakıl veya kum ile karışık balçık veya çökelti kayaları (tillites) ve buzul akıntısıyla sürüklenen taş ve kayalar olmak üzere çeşitli biçimlerde bulunmaktadır. Diğerini izleyen buzullaşmalar, yorumlanmalarını güçleştirecek biçimde jeolojik kanıtı çarpıtabilmekte ve silebilmektedir. Üstelik, bu kanıtın tam olarak zaman belirlemesini yapmak güçtür. Erken dönemli teoriler buzul dönemlerinin buzullararası dönemle kıyaslandığında daha kısa olduğu yönündeydi. Çökelti ve buz merkezlerinin açığa çıkarılmasıyla gerçek durum; buzul dönemlerinin uzun, buzullararası dönemlerin buzul dönemlerine göre kısa sürdüğünü ortaya çıkardı. Eldeki uyumlu teorinin ortaya çıkarılabilmesi için epey bir zaman geçmesi gerekti. Buzullar erimeye başladığında gövdelerinde çatlaklar oluşur ve tepelerinden göller birikmeye başlar. Buzul biriken gölün bir kenarından ayrılarak çöktüğünde göl suyu tazyikle ve tufan biçiminde hızla akmaya başladığında bu güçlü akıntı önüne çıkan dev kayaları bile sürükleyebilir. Hızı azaldığında

içindeki birikintileri bıraktığı yerlerde drumlin adı verilen dalgalı kum tepecikleri oluşturur. Buzulun bıraktığı oval biçimli, balina görünümlü birikintilerin üzerinde sürükleme sonrası bırakılan kayalar bulunabilir.

Kimyasal kanıt, başlıca olarak günümüz çökeltileri ve çökelti kayaları ve okyanus içi çökelti içlerinde bulunabilen fosillerin izotoplarında çeşitli oranlarda bulunabilmektedir. En son buzul periyotları, buzul özlerinin içerdikleri buzdan iklim göstergeleri ve buz içindeki hava kabarcıklarından elde edilen atmosfer örnekleri sağlamaktadır. Çünkü su içeren daha ağır izotoplar daha ağır bir buharlaşma ısısına (heat of evaporation) sahiptir ve orantı miktarı daha soğuk iklim koşullarında azalmaktadır.[32] Bu durum, örneğin oraya sıkıştığı tarihe ait bir ısı kaydının elde edilebilmesini sağlamaktadır. Bununla birlikte, izotop oranları dışındaki diğer etkenlerce bu kanıt yanlışlanabilmekte veya karmaşık hale gelebilmektedir. B-10 izotopu güneş etkinliğinin kayıtlarını tutmaktadır.[33]

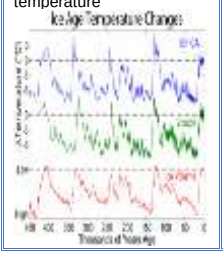
Paleontolojik kanıt, fosillerin jeolojik dağılımına göre değişiklikler içermektedir. Bir buzul dönemi boyunca soğuk-uyumlu organizmalar daha düşük enlemlere doğru yayılır ve daha ılıman koşullara uyumlu olan organizmalar tükenir veya daha düşük enlemler içinde yığılmaya başlar. Bu kanıt türünün yorumlanması güçtür çünkü;

1. Çökelti sekmeleri uzun bir zaman dilimini ve geniş bir enlem bölgesini kaplamaktadır,
2. Antik çağ organizmaları birkaç milyon yıldır hiç değişmeksizin öylece kalmıştır ve bunların sıcaklık tercih formlarını tespit etmek gereklidir.
3. Konuyla ilgili olan fosilleri bulmak gerekmektedir.

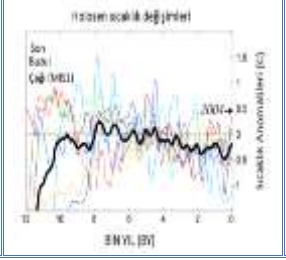
Güçlüklere rağmen, buzul çekirdeği ve okyanus çökelti özünün analizi[34] son birkaç milyon içindeki buzul ve buzullararası periyotları göstermektedir. Bu göstergeler 'buz çağları' ile buzultaşı, drumlin ve buzul yığıntıları gibi kıtasal kabuk fenomeni arasındaki bağlantıyı doğrulamaktadır. Bu nedenle, kıtasal kabuk fenomeni, buzul çekirdeğinin oluşmasından daha erken bir zaman aralığında oluşmuş tabakalarda bulundukları durumda daha erken buz çağlarının iyi bir kanıtı olarak kabul edilir.

The perspective of Ice Age in the World[10]

a) 4 Ice ages and temperature



b) Holosen time atmosphere



c) Holosen Time sea leves increase

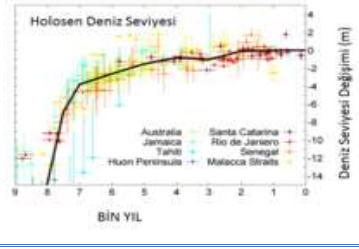


Figure 6: The Ice Ages of the World; a) Homo sapiens is at the 4th, even effective today, b) 12thousand years duration, c) 8thousand years before, the increase of the sea level is obvious. Before because of ice mass, as 3-4kms, lowered the sea level as 120 meters.

Buzul Çağı[10]

Başlıca buz çağları

Yeryüzü geçmişinde en azından beş başlıca buz çağı bulunmaktadır. Bunlar: Huronian, Cryogenian, Andean-Saharan, Karoo Buz Çağı ve Kuaterner buzullaşmasıdır. Bunların dışında kalan bir dönemde, Yeryüzünün yüksek enlemlerinde (kutuplara yakın yerlerinde) dahi buzulların olmadığı zaman olmuştur.[35][36]

- Bir buz çağının iyice oluşmuş olduğu Huronian adı verilen çağ, bundan yaklaşık 2.4 ile 2.1 milyar yıl önce erken Proterozoik Devir'de çok uzun sürede biçimlenmiştir. …
- Bundan sonraki iyi derecede belgelenmiş buz çağı belki de büyük olasılıkla en şiddetli (soğuk) geçmiş olanı 850 ile 630 milyon yıl önce yaşanan cryogenian adı verilen periyottur …
- Andean-Saharan dönemi 460 ile 420 milyon yıl öncesi aralığında,…
- Kuaterner buzullaşması veya Pliyosen-Kuvaterner buzullaşması bundan yaklaşık 2.58 milyon yıl önce …
- Ondan itibaren, dünya buzul periyotu adı verilen; 40.000 ve 100.000 yıllık zaman aralıklarında ilerleyen ve geri çekilen buzullaşma döngüleri yaşamaya başlamıştır. Yeryüzü günümüz itibarıyla bir buzullararası periyot yaşamaktadır ve son buzul periyotu bundan yaklaşık 10.000 yıl önce sona ermiştir. Buzul örtülerinden kalanların tümü; Grönland ve Antarktik Buzulu ve bunlardan daha küçükleri Baffin Adasında bulunan gibidir.

Buz çağları yer ve zaman itibarıyla daha ileri biçimlendirmeler yoluyla bölümlendirilebilmektedir. Örneğin, *Riss* (günümüzden 180.000-130.000 yıl önce) ve Würm (70.000-10.000 yıl önce). Buzulun en geniş biçimi bütün bir aralık boyunca sürmemektedir. Her bir buzulun oluşturduğu yıpratma etkisi ondan önceki buz katmanlarında bulunan kanıtları neredeyse tümüyle silmektedir. Bu durumun istisnası ise sonraki dönemde oluşan bir buzulun bir öncekinin üzerini tümüyle kaplamamış olduğu ender bölgeler olmaktadır.

Buzul Çağı[10]

Buzullaşma ve buzullaşmalararası çağ

Buz çağları (ya da en azından devam eden biri) boyunca, daha sıcak ve daha şiddetli periyotlar meydana geldi. Daha soğuk periyotlara *buzul periyotları*, Eemian gibi daha ılımlı periyotlara *buzullararası* (interglacial) adı verilmektedir.

Buzul periyotları, Yeryüzünün büyük çoğunluğunu, geniş toprakları kaplayan ve kutuplardan düşük enlemlere doğru genişleyen deniz buzulu kütlelerinin oluştuğu daha soğuk ve daha kuru iklimlerle karakterizedir. Dağ buzulları, diğer durumda buzullaşmamış alanlar daha düşük karlanma hattı yüzünden daha düşük yüksekliklere doğru genişler. Geniş miktarda suyun su seviyesi üzerindeki buzul tepeciklerini oluşturması nedeniyle su seviyeleri azalma gösterir. Okyanus suyu dolaşımının buzul kütleleri nedeniyle kesintiye uğradığına dair kanıtlar bulunmaktadır. Yeryüzü arktik ve antarktik buzullarına sahip olduğundan, halen

minimum düzeyde bir buzul çağı yaşıyoruz. İki buzul döneminin arasında kalan iklim dönemine buzullaşmalararası denilmektedir. Buzullaşma ve buzullaşmalararası periyotlar Yeryüzü yörüngesinde Milankovitch Döngüsü adı verilen değişimlerle eş zamanlıdır. Yeryüzü, 11.000 yıldan daha fazla bir süreden bu yana Holosen adlı buzullararası bir periyotu yaşamaktadır. Günümüzde yaygın kabul gören biçime göre buzullararası dönem yaklaşık 12.000 yılda sona erecek olup bu durum halen devam eden bir soru işareti olarak beklemektedir. Örneğin, ***Doğa*** adlı bir makalede[39] içinde bulunduğumuz döneme benzer bir buzullararası periyotun 28.000 yıl sürdüğü savunulmaktadır. Yörüngesel baskı (orbital forcing)'de tahmini değişmeler; insan etkisiyle oluşan küresel ısınma devam etmese bile gelecek buzul çağının bundan en az 50.000 yıl sonra başlayacağını öne sürmektedir.[40] (bknz: Milankoviç Döngüsü). Üstelik, sera gazlarının artışından ortaya çıkan insan kaynaklı antropojenik zorlama fosil yakıtların yoğun kullanımı devam ettiği sürece yörüngesel baskılamadan ağır gelebilecektir.[41]

NB: The Ice Age is encountered at the Earth. New, fifth one be about 50thousand years late be occurred. Because of the environmental pollution, be closer.

Comment

The fourth Ice Age duration is nearly ended. The normal duration it will be 50thousand years later, but from environmental disaster, be after 12thousand years. Even after 1500years be so close to us. Greenhouse climatic changes and gases be making it nearer.

Buzul Çağı[10]

Buzul periyotlarının olumlu ve olumsuz geri bildirimleri

Her bir buzul periyotu onu daha sert (daha soğuk) yapan olumlu geri beslemeye maruz/tabi bulunmakta ve (ne kadar geç olsa da her durumda) en sonunda her periyotun sonlandığı olumsuz geri besleme konusunu oluşturmaktadır. Her bir buzul periyotu ona daha sert ve olumsuz geri beslemeyi getiren ve (bugüne kadar olduğu gibi her durumda) en sonunda onu sonlandıran olumlu geri beslemeye tabidir.

Olumlu geri besleme süreçleri

Buz ve kar Yeryüzünün beyazlık miktarını yükseltir, y.n. bundan sonrası; güneş enerjisinin daha fazla yansıması ve daha az emilimidir. Bu nedenle hava sıcaklığı düştüğünde, buz ve kar yağışı büyür ve ortaya çıkan bu olumsuz geri besleme mekanizması ile rekabet edecek kuvvet sistemi dengeye ulaştırıncaya kadar artı etkiyle sıcaklık düşmeye devam eder. Ek olarak, buzulların yayıldığı kuzey (boreal) ormanlarındaki azalış beyazlanmayı arttırır.

Bir başka teori 1956'da Maurice Ewing ve William L. Donn tarafından öne sürüldü.[42] Bu hipoteze göre, buzların bulunmadığı bir arktik okyanusunda kar yağışı miktarı daha fazla olmalıdır. Bir kere düşük sıcaklıktaki buzlar okyanusu kapladığında o alanda deniz suyundan daha az miktarda buharlaşma veya yükselme (sublimation/fizik) olur ve kutup bölgeleri; orta enlemdeki çöllerle mukayese edilebilir biçimde yağış miktarı azlığı nedeniyle kurumaya başlar. Bu ortaya çıkan düşük yağış miktarı durumu kutup enlemleri kar yağışını yaz mevsimi boyunca eritir. Buzla kaplı olmayan bir arktik okyanusu uzun süren yaz günleri boyunca güneş radyasyonunu emer ve buzla kaplı bir denize göre Arktik atmosferine daha fazla miktarda buharlaşma getirir.

Daha yüksek bir yağış miktarıyla düşen karın bazı kısımlarda yaz boyunca erimemesi mümkündür ve böylece daha alt rakımlarda ve daha güney enlemlerde, Yeryüzü beyazlaşması nedenli olarak karasal alan üzerindeki sıcaklığın düşmesi yukarıda belirtildiği gibidir. Bundan başka, bu hipotez altında okyanus suyu içindeki tampon buzul kütlelerinin eksikliği, Arktik ve Kuzey Atlantik Okyanusu arasında daha çok miktarda su sirkülasyonu oluşturur; soğuk arktik suları ılınırken, ona göre daha ılımlı olan Kuzey Atlantik suları soğuklaşır. (Küresel ısınmanın yol açtığı mevcut sonuçlar Arktik Okyanusun 5-20 yıl arasında geniş ölçüde buzulsuzlaşacağını içermektedir.) Ilıman çevrim sürecinde Kuzey Atlantik deniz suyuna eklenen yeni eriyen su küresel okyanus suyu sirkülasyonu miktarını azaltabilecektir. (ayrıca bakınız: *Thermohaline sirkülasyonunun kesilmesi*) Böyle bir azalma (Körfez akıntısının azalmasının etkisi) Kuzey Avrupa'da serinletici bir etki oluşturabilir ki bu etki de alt enlemlerdeki karın yaz boyunca alıkonmasına neden olabilir. Yaygınlaşmış bir buzul dönemi boyunca buzulların Saint Lawrence Körfezine doğru hareket edebilecekleri ve böylece Körfez akıntısını tıkama olasılığından yeterince uzak olabilecekleri de öne sürülmüştür.

Olumsuz geri besleme süreçleri

Buzul örtüleri, buzul dönemleri boyunca üzerinde bulundukları karayı aşındıran formlardır. Bir zaman sonra, bu durum deniz seviyesi üzerindeki karayı azaltacak ve böylece buzul örtülerinin üzerinde oluşacağı boşluk miktarı da azalacaktır. Bu durum, beyazlanma geri beslemesini azaltır, buz örtüleri bir yandan oluşurken diğer yandan deniz seviyesi aşağıya düşer.

Buzulun büyümesiyle birlikte kuraklığı artıran diğer bir etken, mevcut yağış miktarının azalmasıyla buzullaşmanın devamlılığıdır. Buzullaşmanın geri çekilmesi böylece teşvik olur veya diğer bir süreç buzulun ilerlemesi yönünde benzer ters olumlu beslemeyle güçlendirilebilir.

*Nature Geoscience*da yayımlanan araştırmaya göre, insanın karbondioksit yayımı bir sonraki buz çağını geciktirecektir. Araştırmacılar, bugünkü ılıman buzullararası dönemin en benzerinin oluştuğu yörünge bilgisini kullanarak gelecek buzul çağının 1.500 yıl sonra başlayabileceği tahmininde bulundular.[43] Ancak yine de mevcut CO_2 yayılımının bunu geciktirecek düzeyde bulunduğunu söylemeye devam ediyorlar.[44]

NB: The climatic diversity has positive and negative effects,, not be one side consideration. Ice is a reflection material, so, sun energy be mirrored. The ice as a mass,

Comment

Each climatic can be considered as positive and negative aspects. As the South Pole is worming, North Pole, and Atlantic seas be going cooler, as a result, 5-20 year later, Artic be without ice. For human being, all the geological conditions be simultaneously be examined. The oxygen be

31. https://www.nationalgeographic.org/activity/save-the-plankton-breathe-freely/[11]

Ask: *Where does the oxygen we breathe come from?* Explain to students that rainforests are responsible for roughly one-third (28%) of the Earth's oxygen but most (70%) of the oxygen in the atmosphere is produced by marine plants. The remaining 2

percent of Earth's oxygen comes from other sources. The ocean produces oxygen through the plants (phytoplankton, kelp, and algal plankton) that live in it. These plants produce oxygen as a byproduct of photosynthesis, a process which converts carbon dioxide and sunlight into sugars the organism can use for energy. One type of phytoplankton, *Prochlorococcus*, releases countless tons of oxygen into the atmosphere. It is so small that millions can fit in a drop of water. *Prochlorococcus* has achieved fame as perhaps the most abundant photosynthetic organism on the planet. Dr. Sylvia A. Earle, a National Geographic Explorer, has estimated that *Prochlorococcus* provides the oxygen for one in every five breaths we take.

32. https://en.wikipedia.org/wiki/Atmospheric_methane[12]

Atmospheric methane
From Wikipedia, the free encyclopedia
Atmospheric methane is the methane present in Earth's atmosphere.[3] Atmospheric methane concentrations are of interest because it is one of the most potent greenhouse gases in Earth's atmosphere. Atmospheric methane is rising.[4]
The 20-year global warming potential of methane is 84.[5][6] That is, over a 20-year period, it traps 84 times more heat per mass unit than carbon dioxide (CO_2) and 32 times the effect when accounting for aerosol interactions.[7] Global methane concentrations rose from 722 parts per billion (ppb) in pre-industrial times to 1866 ppb by 2019,[8] an increase by a factor of 2.5 and the highest value in at least 800,000 years.[9] Its concentration is higher in the Northern Hemisphere since most sources (both natural and human) are located on land and the Northern Hemisphere has more land mass.[10] The concentrations vary seasonally, with, for example, a minimum in the northern tropics during April–May mainly due to removal by the hydroxyl radical.[11] It remains in the atmosphere for 12 years[12] until it is broken down into CO_2[13].
Early in the Earth's history carbon dioxide and methane likely produced a greenhouse effect. The carbon dioxide would have been produced by volcanoes and the methane by early microbes. During this time, Earth's earliest life appeared.[14] These first, ancient bacteria added to the methane concentration by converting hydrogen and carbon dioxide into methane and water. Oxygen did not become a major part of the atmosphere until photosynthetic organisms evolved later in Earth's history. With no oxygen, methane stayed in the atmosphere longer and at higher concentrations than it does today.[15]
The known sources of methane are predominantly located near the Earth's surface.[16] In combination with vertical atmospheric motions and methane's relatively long lifetime, methane is considered to be a well-mixed gas.[17] In other words, the concentration of methane is taken to be constant with respect to height within the troposphere. The dominant sink of methane in the troposphere is reaction with hydroxyl radicals that are formed by reaction of singlet oxygen atoms with water vapor.[18] Methane is also present in the stratosphere, where methane's concentration decreases with height.[18]

Comment

The oxygen be formed from marine plants as 70%, Rainforest be only 28%. As methane production be from green-house effect. So, soil and the fertilizers whether organic or inorganic, also a causative to increase the methane gas.
As a result, the inhabitants of the Earth, be positive or negative effects fo the climate. We must be care and serve the environment, not even for pollution, thus, for recovering more healthies place to live.

Buzul Çağı[10]

Buz çağlarının nedenleri
Uzun süreli buz çağları periyotları ve ondan daha kısa süreli buzullararası periyotların nedenleri henüz tam olarak anlaşılamamıştır. Üzerinde görüş birliği bulunan bazı etkenler şunlardır: Yeryüzü atmosferinin bileşimi, örneğin karbondioksit ve metan gazı konsantrasyonları gibi.(Daha önceden bahsedilmiş olan bu konuda önem taşıyan seviyeler, Antarktika EPICA Dome C buzul çekirdeğinde yapılan incelemelerde son 800 bin yıl için görülebilmektedir.[45]); Milankovic Döngüsü olarak bilinen Yeryüzünün güneş etrafındaki yörüngesindeki ve kendi ekseninin eğimindeki değişmeler; Tektonik levha hareketleri göreceli konumlanma ve kıtasal yekün ile Yeryüzünü kaplayan okyanus örtüsündeki değişiklikler rüzgârların, okyanus akıntılarının, atmosfer akımlarının değişikliğine yol açmaktadır. Güneş enerjisi çıktısındaki farklılıklar; dünya-ay sistemindeki yörüngesel dinamikler ve nispeten geniş meteorlar ve süper yanardağ püskürmelerini içeren volkanik hareketler.
Bu etkenlerden bir kısmı bir diğerini de etkileyebilmektedir. Örneğin, Yeryüzü atmosferi konsantrasyonundaki değişimler (özelikle sera gazlarındaki konsantrasyonlar) iklimi değiştirebilir veya iklimin kendisi atmosfer konsantrasyonunu değiştirebilir. (örneğin hava aşındırma oranındaki değişimler CO2 oranını etkileyebilir.)
Maureen Raymo, William Ruddiman ve diğerleri Tibet Platosu ve Kolarado Platosunun muazzam CO2 temizleyicilikleri kapasitesi ile senozoik iklimin hatırı sayılır bir nedensel etkeni olduğunu öne sürdüler. Daha ötesinde, son 10 milyon yıl içinde miktarının yaklaşık olarak yarısı kadar yükseldiğini (CO2 temizleme kapasitesiyle birlikte) iddia ettiler.[46][47]
NB: There are four Ice Age, and this 10million years, the increase of carbon dioxide as half more. So, the greenhouse effect be going to change the climatic outcome. Thus, we must be care and serve the environment.

Comment

Due to the climatic changes, influences the settlement of the people. The sea shore is most suitable place for making cities. Even today, great population be at and near the seaside. The main problems be; 1) carbon dioxide and methane gas problem, 2) the discrepancy around the sun, the variation of the axis, 3) the ocean flows are influenced by the storms, 4) the blast of sat the sun, 5) Earth and moon axis deviations, 6) Volcanic eruptions, 7) the concentration of gasses in the atmosphere, be considered.

The World has a deviation at the axis, this effective at technological problems, earthquakes be a problem as usual.
We are spending the new generation heir, not be care and serve our heir, that left from ancestors.

Buzul Çağı[10]

Yeryüzü atmosferindeki değişimler

Son 100-1000 yıllık en son periyotta, insan aktivitelerinin hızla yükselmesi özellikle fosil yakıtların tüketilmesinin paralel hızla ve artışla atmosfer sera gazlarının Güneş'ten gelen ısıyı arttırıcı etki yaptığının kanıtları bulunmaktadır. Sera etkisinin küresel ısınmayı arttıran ve buzul adaları ile kutup buzullarının erimesini arttıran temel neden olduğu üzerinde görüş birliği bulunmaktadır. Dinozorların sindirim esnasında oluşturdukları metan gazının da küresel ısınmaya neden olmuş olabileceği iddialar arasında yer aldı.[48] Dinozorların yaydığı metan gazı miktarının insanın bugün fosil yakıt kullanımı vb. etkinliklerle oluşturduğu miktarla aynı seviyede olduğu da buna eklendi.[49] Dinozorların yok oluşu (y.n. iklim değişikliklerini oluşturabileceği belirtilen) büyük bir Gök taşı çarpmasına bağlanmaktadır.[50]
Buz çağlarının başında sera gazlarının azaldığına ve buz katmanlarının yeniden oluştuğunda çoğaldığına dair kanıtlar bulunmaktadır. Ancak hangisinin neden veya sonuç olabileceğini tespit etmek güçtür. Kartopu dünya hipotezi geç Proterozoik boyunca dünyayı kaplayan donmaların olduğunu ve bunun atmosferdeki CO_2 artışı ile sonlandığını, Kartopu dünyanın ortaya çıkışı ile kaybolması arasında CO_2 miktarı arasında bağ bulunduğunu savundu.
NB: The Ice Age concept is in reality. Now the time for warming, thus, the pollution be more evident, as carbon dioxide level is increase, assuming a correlation between them.

Comment

The climatic conditions are variable from Geological Ages. In Dinosaurs, the oxygen level was about 40%, thus because of great fire, accused the meteor crush, and smoke, the oxygen level reduced to 21%.
Today the environmental pollution, increased the carbon dioxide, turnover is in danger.
Today, Homo sapiens, sapiens is damaging his World.

Buzul Çağı[10]

Kıtaların konumları

Ekvator bölgesinden sıcak suların kutuplara yönelmesini engelleyen veya azaltan üç adet kıta konfigürasyonu bulunmaktadır:

- Bir kutbun tepe noktasında bir kıta bulunması, bugünkü Antarktika gibi.
- Karayla çevrili bir kutup denizinin var olması, bugünkü Arktik Okyanusu gibi.
- Ekvator çevresini kapatan bir üstkıtanın (supercontinent) bulunması, Neoproterozoik devirin Cryogenian dönemi boyunca Rodinyanın olduğu gibi.

Günümüzde Güney Kutbu üzerinde bir kıta ve Kuzey Kutbu'nda karayla etrafı neredeyse tümüyle kapanmış bir okyanus bulunması nedeniyle jeologlar yakın gelecekte Yeryüzünün buzul periyotlarını görmeye devam edeceğini düşünmektedirler.
Bazı bilimciler Himalayaların buz çağında temel bir neden olduğunu, çünkü bu dağların Yeryüzündeki toplam yağış miktarını ve buna bağlı atmosfere salınan CO_2 miktarını yükselttiğini öne sürmektedirler.[47] Himalayalar yaklaşık 70 milyon yıl önce, Hint Avustralya plakası, Avrasya plakasıyla çarpıştığında biçimlenmeye başladı. Avustralya plakası yıllık olarak 67 mm aynı yöne doğru ilerlemekte olduğundan Himalayalar yıllık olarak 5 mm yükselmektedir. 40 milyon yıldır Himalayalar Yeryüzünün ortalama sıcaklığının düşmesinde etkili olmaktadır.
NB: The positions of continent are differs, as one to now several continent. The barricade of flowing hot water to cold places as; 1) Antarctica as a continent, restricted the ice, 2) Covered with another continent as in Arctic ocean, 3) Equator place is covered with continent. The Himalayan Mountains nearly 5mm increase in attitude.

Comment

Continents are swimming on magma, so moving each year so slowly. This influences be noticeable by earthquakes. Even at 150year period, be seen, now nearly at 50 years more recordable in findings.
More degenerative factor, environmental pollution and so on, from Human being, thus, may be dangerous creature for the World.

Buzul Çağı[10]

Okyanus su seviyelerindeki değişmeler

Antik iklim rejimlerine bir diğer önemli katkı; kıtasal konum, deniz seviyeleri ve tuzluluk oranlarıyla birlikte diğer etkenlerle birlikte okyanus akıntılarındaki çeşitlenmelerdir. Bu etkenler soğutma (y.n. Antarktika buzulunun oluşmasına yardımcı) ve ılıtma (y.n. Kuzey (boreal) iklimlerine karşın Britanya adalarını ısıtması gibi) etkileri bulunmaktadır. Bundan yaklaşık 3 milyon yıl önce Panama Kıstağının kapanması Atlantik ve Pasifik okyanusları arasındaki değişik sıcaklıklardaki su değişimini sonlandırarak Kuzey Amerika'daki bugünkü güçlü buzullaşma periyotunu başlatmış olabilir.[51]
İncelemeler mevcut okyanus kararsızlıklarının son buzullaşma salınımlarında hesaba katılmasını önermektedir. Son buzullaşma periyotu boyunca deniz seviyesi 20–30 m. kadar su özellikle kuzey yarıküre buzul tabakaları tarafından çekildi. Buz toplandığında ve deniz seviyesi aniden alçaldığında Bering Boğazından su akışı (Sibirya ve Alaska arasındaki boğaz bugün ~50 m derinliğe daralmıştır.) azaldı ve Kuzey Atlantik'ten su akışı artış gösterdi. Bu durumda Atlantik'teki thermohaline sirkülasyon yeniden bir biçim alarak Arktik'e ısı transferi arttı, kutup buzul birikimini eritti ve diğer kıtasal buzul örtülerini azalttı. Deniz seviyelerindeki suyun yeniden yükselmesi kuzey yarı küre buzulundan gelen bir etkiyle Pasifikten daha soğuk olan suyun girişini yeniden getirdi.[52]

Tibet platosunun yükselişi ve dağlık alanların üzerinin karla kaplanışı
Matthias Kuhle'nin Buzul Çağı gelişim teorisi Buzul Çağları boyunca Son Buzul Maksimumunda Tibet Platosunun buzlarla kaplı oluşunu öne sürdü. Kuhle'ye göre, Tibet plaka tektoniğinin yükselmesi karlanma hattını çıplak alanlarda %70 daha fazlaya ulaşan bir beyazlaşmaya neden olarak c. 2.400.000 km² daha geniş bir alana ilerletti. Güneş'ten alınan enerjinin yeniden uzaya yansıtılması küresel bir soğumayla sonuçlandı ve pleistosen buzul çağını tetikledi. Bu alan tropikal altı enlemde bulunduğundan yüksek enlemlere göre 4-5 kat daha fazla güneşlenme almaktaydı ki Yeryüzünün en sıcak yüzeyi soğuyan bir yüzeye dönüştü.
Kuhle, buzullaşmalararası periyotları yeryüzü yörüngesindeki çeşitlenmelerin yıl açtığı 100,000 yıllık ışınım döngüleriyle açıklamaktadır. Kıyaslamalı olarak önemsiz görünen ılınma, İskandinav ve Tibet topraklarındaki buzul alanlarının azalmasıyla birleştiğinde (daha az bir yüzölçümüne) yüksek miktarda binen buzul yükü karaların üzerindeki buzulun çözülmesiyle sonuçlandı.[53][54][55][56]
Yeryüzü yörüngesindeki çeşitlenmeler (Milankovitch döngüleri)
Milankoviç Döngüleri, Yeryüzünün Güneş etrafındaki yörüngesinde bir dizi döngüsel değişimleridir. Her döngü farklı bir genişlikte olduğundan bazı zamanlarda bir diğerini takviye edici ve diğer zamanlarda bir diğerini (kısmen) iptal edici etki yapar. Milankoviç Döngüleri:

1. Yörünge elipsinin dış merkezliliği (Eccentricity): 90 ve 100 bin yıl arasında Yeryüzü; Jüpiter ve Satürn'e yaklaştıkça eliptik yörüngede meydana gelen değişmeler Güneş ışığının yeryüzüne ulaşırken kat ettiği mesafeyi etkilemektedir.
2. Eğrilik devinimi (Obliquity precession): Yeryüzü tam bir yuvarlak olmadığından 41,000 yıl içinde 22,1° ile 24,5° arasında değişmekte.[57] Yeryüzü halen yaklaşık olarak 23.4° eksen eğimine sahiptir.[58] Bu değer, devinim (precession) döngüleri boyunca yörüngesel düzlemin statikliği ile bağlantılı yaklaşık olarak sabit kalmaktadır.[59]
3. Eksen sapması/yalpa: 19 ile 23 bin yıl (veya 25,000 yıl) arasında dünyanın kusursuz bir küre olmayışından meydana gelen yalpalar.

Milankoviç Döngülerinin buzul ve buzullararası periyotların oluşumuna etkisi hakkında güçlü kanıtlar bulunmaktadır. Özellikle son 400.000 yıl, bu dönemde atmosfer bileşenleri ve sıcaklık belirtici ipuçlarını veren buzul özleri oluştuğundan son buzul çağı üzerinde en çok çalışılan ve en iyi anlaşılandır. Bu dönem boyunca tekrar eden buzullaşma/buzullaşmalararası tekrarlanmalar Milankoviç yörüngesel baskı döngüleriyle yakın miktarda örtüştüğünden genellikle doğru olarak kabul edilmektedir. Güneş'in Dünya ile mesafesindeki değişmeler, Yeryüzü eksenindeki devinimler ve dünya ekseni eğiminin değişimi gibi durumlar Güneş ışığının Yeryüzüne yeni bir dağılım biçimi oluşturması gibi bir dizi etkilerle açıklanmaktadır. Yeryüzü eksen eğimindeki değişimler mevsimlerin yoğunluğundaki değişimlerin temel nedeni olmaktadır. Örneğin Temmuz ayında 65. Kuzey enleminde toplam Güneş enerjisi alım miktarı en fazla %22 oranında (450 W/m² ile 550 W/m² arasında) değişiklik gösterir. Yazları bir önceki kışın biriktirdiği kar yağışını eritmeyecek kadar sıcaklık düşmesi olduğunda buz tabakalarının ilerlediği yaygın biçimde kabul edilmektedir. Bazı araştırmacılar yörüngesel baskının buzullaşmaları tetiklemeye yetmeyecek kadar düşük olduğunu düşünmekte olup CO2 gibi bir geri besleme mekanizmasının bu örtüşme açığını açıklayabileceğini düşünmektedir.
Milankoviç, Yeryüzü yörüngesel elementlerindeki döngüsel değişimlerin buzullaşma rekorunu açıkladığı tahmininde bulunmuş olsa da buzul ve buzullararası devrelerin zamanlamasında hangi döngü veya döngülerin en yüksek önemi taşıdıklarının açıklanmasına gerek vardır. Özellikle, son 800,000 yıl boyunca buzullaşma-buzullaşmalararası baskın salınım devresi 100.000 yıldır ki bu da Yeryüzü'nün yörüngesel dış merkezliliği ve yörüngesel sapmasındaki tedirginliğe denk gelmektedir. 3.0–0.8 milyon yıl öncesi aralığındaki dönem boyunca buzullaşma devresi baskın periyotu; 41,000 yıl içinde Yeryüzü eğiminin değişmesine karşılık gelmektedir. Bir tekrarlama biçiminin diğerine karşı baskın gelmesinin nedenleri zayıf bir miktarda anlaşılabilmiştir ve güncel araştırmaların devam eden aktif bir alanıdır.
Geleneksel Milankoviç açıklaması 100,000 yıllık döngü baskınlığını son 8 döngü üzerinden açıklamaya çalışmaktadır. Richard A. Muller, Gordon J. F. MacDonald[60][61][62] ve diğerleri bu hesaplamaların Yeryüzü yörüngesinin iki ölçüsüne göre yapıldığına ancak üç ölçekli yörüngeye göre 100,000 yıllık bir yörüngesel sapma döngüsüne sahip olduğuna işaret etmekte ve Yeryüzü toz kuşakları içinde ve dışında hareket ettiğinden yörüngesel sapmadaki bu çeşitlenmelerin güneşlenme miktarındaki değişmelere yol açtığını öne sürmektedirler. Geleneksel bakışlardan farklı bir mekanizma olsa da 400.000 yılın üzerinde tahmin edilen periyotlar yaklaşık olarak birbirinin aynısıdır.[63]
Güneş enerjisi çıktısındaki çeşitlenmeler
Güneşin ışıma gücü her 1 milyar yılda yaklaşık olarak %10 artış göstermiştir. Bu durum Güneş'in bir kırmızı dev olup Yeryüzünü de içine almasına kadar sürecektir. Güneş lekelerinin azalıp artmasına göre Güneş'in ışıma gücü de azalıp artmaktadır.
Güneş enerjisi çıktısında en azından iki tip çeşitlenme bulunmaktadır:

- Çok uzun bir dönem içinde, astrofizikçiler Güneş enerjisi çıktısının her bir milyar (10^9) yıl içinde %7 civarında arttığını düşünmektedir.
- Daha kısa dönemli çeşitlenmeler, Güneş lekeleri döngüleri ve Maunder minimum adı verilen; küçük buz çağında 1645-1745 yılları arasındaki gibi Güneş lekelerinin daha az görüldüğü dönemler. 1645-1715 yılları arasında, Küçük Buz Çağının ortalarında Güneş aktivitelerinin daha düşük olduğu bir dönem ve Spörer Minimum adı verilen, 1460 ve 1550 yıları arasında belirgin bir soğuma dönemi olmuştur.[64]

Volkanların yükselişi
Volkanik püskürmeler buzul çağı periyotlarının başlaması ve/veya bitmesinde etkili olmuş olabilir. Paleoiklim boyunca, CO2 düzeyleri bugünkünden iki veya üç kez daha fazla idi. Volkanlar ve kıtasal tabakalardaki hareketler atmosfere yüksek miktarda CO2 salınmasına yol açmıştır. Volkanların çıkardığı karbondioksit muhtemelen periyotlara etkide bulunmuştur.[65] Paleosen Eosen Isı Maksimumuna getirilen bir açıklama denizaltındaki volkan patlamalarının klatratlardan metan ortaya çıkarması ve bunun da hızlı ve yüksek miktarda sera etkisine yol açmasıdır. Bahsedilen zamanlarda volkan püskürmelerinin olduğuna kanıt bulunmaması bunun gerçekleşmediğini de kanıtlamamaktadır.
Son buzullar ve buzullar arası çağ evreleri

Kuzey Amerika'da buzul evreleri …
Acocagua ve Tupungato dolaylarındaki yarı kurak Andlardaki son buzul periyotu …
Buzullaşmanın etkileri
Son buzul periyotu 8,000 yıldan daha uzun süre önce sona ermiş olsa etkileri günümüzde hissedilebilmektedir. Örneğin, Kanada Arktik Takımadası küresel ısınmanın etkilerini ortaya koymaktadır. Grönland, kuzey Avrasya ve Antarktika'da buzullar bulunmaktadır. Kararsız kayalar, buzul yığıştırmaları, yığın tepecikleri, eskerler, buzultaşları, fiyordlar, çökelti kayaları, sivri yükseltili dağ tepeleri, dağ göletleri, buz yalakları, hörgüç kayalar, asılı vadiler buzulların oluşturduğu yer şekilleridir.[74][75]

Buzul örtülerinin ağırlıkları Yeryüzü kabuğu ve mantosunu deforme edebilecek kadar yüksektir. Buzul örtüleri eridiğinde önceden buzulla kaplı toprak parçası geri kazanım sürecine girer. Yeryüzü kabuğu yarı sıvı halde bulunduğundan süreç oldukça yavaş işler. Buzullaşma süreci boyunca okyanuslardan sular yüksek enlemlere doğru taşınır. Bu durum deniz seviyesinin yaklaşık 110 m. alçalmasına, kaya tabakalarının ortaya çıkmasına ve toprak parçaları arasında karadan köprüler ortaya çıkarak canlılar için yeni göç yolları ortaya çıkmasına yol açar.
Buzulların erimeye başladığı buzullararası periyotta sular okyanuslara geri döner ve deniz seviyesinin yükselmesine yol açar. Bu durum kıyı şeritlerinde ani değişimlere, göllerin tuzlanmasına yol açar. Karanın, buzulun, tuzlu suyun ve tatlı suyun hızla böylesi bir kaotik biçimde değişmesine en yakın örnek olarak Baltık ve İskandinavya bölgeleri ve son buzul maksimumu sonlarında ortaya çıkan Kuzey Amerika'nın durumu örnek gösterilmektedir. İskandinavya'nın yükselmesi şimdi Kuzey Denizinin altında kalan, Britanya Adaları ve Kıta Avrupasını birbirine bağlayan geniş bir düzlüğün suyun altına batmasına yol açmıştır.[76]
Yüzey kitlelerinin yeniden dağılımının yerkabuğu üzerinde oluşturduğu ağırlık eğrilmelere ve Yeryüzü üzerindeki stres artışı ile sonuçlanır. Buzulların varlığı genellikle aşağıdaki fayların hareketliliğini bastırır.[77][78][79] Buzullaşmanın eridiği dönem boyunca faylar hızlandırılmış bir deprem tetikleme kayması yaşar. Depremler buzul sınırının yakınlarında tetiklenir ve bu da buzul parçalanmalarını hızlandırır ve bu durum da Hartmut Heinrich tarafından belirtilen son buzul çökmeleriyle birlikte kayaların okyanus tabanına çökmesi anlamına gelen Heinrich olayının nedeni olabilir.[80] Buzul sınırının yakınlarından daha fazla buzul söküldüğü için daha fazla plaka içi deprem meydana gelir ve bu olumlu geri besleme buzul tabakalarının hızla çöküşünü açıklayabilir.
Avrupa'da buzul erozyonu ve buzul ağırlığının çökmesi sonucu Baltık Denizi oluşmuştur. Buzul çağı öncesinde Baltık Denizinin bugün bulunduğu alan baştan başa antik Eridanos Irmağınca kanalize olmuş durumdaydı.
NB: The major climatic Ice Age periods be at 4th time; thus we are in the fourth session, still recovering phase. Not briefly discussed, just as a noticeable factor for Human migration.

Comment

There are four Ice Age, so, the last one is going to a warmer years. The geographical effects be noticed apparently, for the last Age Period, the migration and the coastal settlement, the cities,, the places be burred at the sea.
If there will be a danger, the living conditions be at in threat, for life, be a immigrant. After the Second World War, the immigration is for finding new jobs, thus, today from Syria, escaping form death.
In history the immigrants had not a good historical event; in the First World War, more than 50thousand people taken as prison, from Ottomans, nearly 100's return, at the Second World War, American Troops taken 2,5million German soldiers, only 125thousand be alive, due to the winter conditions.
High Technology Culture concept is; be the friendly voting group, not the original people, be faced negative at the election.
Thought the United Nations principle, by force, not accepted the differentiation of people.

33. The Sahara Is Millions of Years Older Than Thought

https://www.smithsonianmag.com/science/sahara-millions-years-older-thought-180952735/[13]

By **Sarah Zielinski** SEPTEMBER 17, 2014
The great desert was born some 7 million years ago, as remnants of a vast sea called Tethys closed up. The Sahara, the world's largest non-polar desert, may be at least 7 million years old. (Paul Williams - FunkyStock/imageBROKER/Corbis)
The movement of tectonic plates that created the Mediterranean Sea and the Alps also sparked the drying of the Sahara some 7 million years ago, according to the latest computer simulations of Earth's ancient climate.
Though North Africa is currently covered by the world's largest non-polar desert, climate conditions in the region have not been constant there for the last several million years. Subtle changes in Earth's tilt toward the sun periodically increase the amount of solar energy received by the Northern Hemisphere in summer, altering atmospheric currents and driving monsoon rains. North Africa also sees more precipitation when less of the planet's water is locked up in ice. Such increases in moisture limit how far the Sahara can spread and can even spark times of a "green Sahara", when the sparse desert is replaced by abundant lakes, plants and animals.
Before the great desert was born, North Africa had a moister, semiarid climate. A few lines of evidence, including ancient dune deposits found in Chad, had hinted that the arid Sahara may have existed at least 7 million years ago. But without a mechanism to explain how it emerged, few scientists thought that the desert we see today could really be that old. Instead, most scientists argue that the Sahara took shape just 2 to 3 million years ago. Terrestrial and marine evidence suggest that North Africa underwent a period of drying at that time, when the Northern Hemisphere started its most recent cycle of glaciation.
Now Zhongshi Zhang of the Bjerknes Centre for Climate Research in Bergen, Norway, and colleagues have run simulations of climate change in North Africa over the last 30 million years. Their simulations take into account changes in Earth's orbital position, atmospheric chemistry and the ratio of land to ocean as driven by tectonic forces. The models shows that precipitation in North Africa declined by more than half about 7 million years ago, causing the region to dry out. But this effect could not be explained by changes in vegetation, Earth's tilt or greenhouse gas concentrations—leaving tectonic action.
About 250 million years ago, a huge body of water called the Tethys Sea separated the supercontinents of Laurasia to the north and Gondwana to the south. As those supercontinents broke apart and shuffled around, the African plate collided with the Eurasian

plate, birthing the Alps and the Himalayas but closing off the bulk of the Tethys Sea. As the plates kept moving, the sea continued to shrink, eventually diminishing into the Mediterranean.
What set off the aridification in Africa was the replacement of the western arm of the Tethys Sea with the Arabian Peninsula around 7 to 11 million years ago. Replacing water with land, which reflects less sunlight, altered the region's precipitation patterns. This created the desert and heightened its sensitivity to changes in Earth's tilt, the researchers conclude in a study published today in *Nature*.
The emergence of the Sahara 7 million years ago would have affected the plants and animals in the region—and possibly the early ancestors of human beings. For instance, *Sahelanthropus tchadensis*, which may be the earliest member in the human family tree, lived just to the south of the Sahara (in what is now northern Chad) around the time of the transition. Overall, the team writes, the study adds to evidence that changes in precipitation "were fundamental to the evolution and dispersal of hominins in north Africa."

Comment

The formation of Sahara about 7million years, thus becoming as a desert from 60thousand years. A desert, if you know where to hide, is a good place to cover. Nile is the extra ordinary river for cultivation and be a place to live at. If you use your mind, be live such places, be protective from wild world, even from animals, and be cultivation and be a community of Human being.

34. Ancient humans left Africa to escape drying climate

https://www.sciencedaily.com/releases/2016/11/161130141053.htm[14]

October 4, 2017.University of Arizona. Jessica E. Tierney, Peter B. deMenocal, Paul D. Zander. **A climatic context for the out-of-Africa migration**. *Geology*, 2017; DOI: 10.1130/G39457.1

Summary:

Humans migrated out of Africa as the climate shifted from wet to dry about 60,000 years ago, according to new paleoclimate research. What the northeast Africa climate was like when people migrated from Africa into Eurasia between 70,000 and 55,000 years ago is still uncertain. The new research shows around 70,000 years ago, the Horn of Africa climate shifted from a wet phase called 'Green Sahara' to even drier than the region is now.

Comment

The area of Africa, becoming a desert, as Sahara, from 60thousand years, thus, forced the Homo sapiens, sapiens moved, immigration to the Middle Asia and later to other parts of the Universe. The fact of becoming as desert, is continuously going on, warming is a geography aspect. As a question, are we also going, escaping where we lived as our ancestors be? Thus where?

Ancient humans left Africa to escape drying climate[14]

Genetic research indicates people migrated from Africa into Eurasia between 70,000 and 55,000 years ago. Previous researchers suggested the climate must have been wetter than it is now for people to migrate to Eurasia by crossing the Horn of Africa and the Middle East.
"There's always been a question about whether climate change had any influence on when our species left Africa," said Jessica Tierney, UA associate professor of geosciences. "Our data suggest that when most of our species left Africa, it was dry and not wet in northeast Africa."
Tierney and her colleagues found that around 70,000 years ago, climate in the Horn of Africa shifted from a wet phase called "Green Sahara" to even drier than the region is now. The region also became colder.
The researchers traced the Horn of Africa's climate 200,000 years into the past by analyzing a core of ocean sediment taken in the western end of the Gulf of Aden. Tierney said before this research there was no record of the climate of northeast Africa back to the time of human migration out of Africa.
"Our data say the migration comes after a big environmental change. Perhaps people left because the environment was deteriorating," she said. "There was a big shift to dry and that could have been a motivating force for migration."
"It's interesting to think about how our ancestors interacted with climate," she said.
The team's paper, "A climatic context for the out-of-Africa migration," is published online in *Geology* this week. Tierney's co-authors are Peter deMenocal of the Lamont-Doherty Earth Observatory in Palisades, New York, and Paul Zander of the UA.
The National Science Foundation and the David and Lucile Packard Foundation funded the research.
Tierney and her colleagues had successfully revealed the Horn of Africa's climate back to 40,000 years ago by studying cores of marine sediment. The team hoped to use the same means to reconstruct the region's climate back to the time 55,000 to 70,000 years ago when our ancestors left Africa.
The first challenge was finding a core from that region with sediments that old. The researchers enlisted the help of the curators of the Lamont-Doherty Core Repository, which has sediment cores from every major ocean and sea. The curators found a core collected off the Horn of Africa in 1965 from the *R/V Robert D. Conrad* that might be suitable.
Co-author deMenocal studied and dated the layers of the 1965 core and found it had sediments going back as far as 200,000 years.
At the UA, Tierney and Paul Zander teased out temperature and rainfall records from the organic matter preserved in the sediment layers. The scientists took samples from the core about every four inches (10 cm), a distance that represented about every 1,600 years.
To construct a long-term temperature record for the Horn of Africa, the researchers analyzed the sediment layers for chemicals called alkenones made by a particular kind of marine algae. The algae change the composition of the alkenones depending on

the water temperature. The ratio of the different alkenones indicates the sea surface temperature when the algae were alive and also reflects regional temperatures, Tierney said.
To figure out the region's ancient rainfall patterns from the sediment core, the researchers analyzed the ancient leaf wax that had blown into the ocean from terrestrial plants. Because plants alter the chemical composition of the wax on their leaves depending on how dry or wet the climate is, the leaf wax from the sediment core's layers provides a record of past fluctuations in rainfall.
The analyses showed that the time people migrated out of Africa coincided with a big shift to a much drier and colder climate, Tierney said.
The team's findings are corroborated by research from other investigators who reconstructed past regional climate by using data gathered from a cave formation in Israel and a sediment core from the eastern Mediterranean. Those findings suggest that it was dry everywhere in northeast Africa, she said.
"Our main point is kind of simple," Tierney said. "We think it was dry when people left Africa and went on to other parts of the world, and that the transition from a Green Sahara to dry was a motivating force for people to leave."

Comment

Evaporation is increase and so much water vapor be formed, and when a cold climate, directly turned to water, not as rain, so much in a second be falling down. Result is clearing the soil, eruption is obvious. Today, below the Sahara is water, some oasis can be seen at low places. Thus the petrolatum is dear and so much money, today people concern gas and oil, not water. Even because of the sandstorms, hard to protect the surface of watering.
People can carry the animals, thus, the crop needs for planting, the field, so, must be immigrant to another place, for safe place to live.

35. 6,000 years ago the Sahara Desert was tropical, so what happened?[15]

November 30, 2016. Texas A&M University. William R. Boos, Robert L. Korty. **Regional energy budget control of the intertropical convergence zone and application to mid-Holocene rainfall**. *Nature Geoscience*, 2016; 9 (12): 892 DOI: 10.1038/ngeo2833

Summary:
As little as 6,000 years ago, the vast Sahara Desert was covered in grassland that received plenty of rainfall, but shifts in the world's weather patterns abruptly transformed the vegetated region into some of the driest land on Earth. Now a researcher is trying to uncover the clues responsible for this enormous climate transformation -- and the findings could lead to better rainfall predictions worldwide.

Comment

About 6thousand years ago, Sahara is fertile and in green and later returned to desert..

36. Black Sea deluge hypothesis[16]

From Wikipedia, the free encyclopedia

Opening of the Gates, Black Sea is connection to sea, from lake[15]

a) **The widening of Black sea; 5600 years before**

b) **Sea levels after the 4th Ice Age**

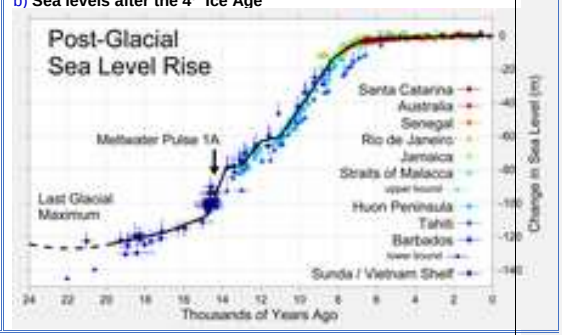


Figure 7: 25thousand years before, the Ice Age turned to warm, 14thousand years before it is obvious, at 8thousand years before same as today.

Black Sea deluge hypothesis[16]
The **Black Sea deluge** is the most well known of three hypothetical flood scenarios proposed for the Late Quaternary history of the Black Sea. It is one of the two of these flood scenarios which propose a rapid, even catastrophic, rise in sea level of the Black Sea occurred during the Late Quaternary.[1][2]

Black Sea deluge hypothesis

In 1997, William Ryan, Walter Pitman and their colleagues first published the Black Sea deluge hypothesis. They proposed that a catastrophic inflow of Mediterranean seawater into the Black Sea freshwater lake occurred at 7,150 ^{14}C years BP (7550 calendar years BP).[3] Before that date, glacial meltwater had turned the Black and Caspian Seas into vast freshwater lakes draining into the Aegean Sea. As glaciers retreated, some of the rivers emptying into the Black Sea declined in volume and changed course to drain into the North Sea. The levels of the lakes dropped through evaporation, while changes in worldwide hydrology caused overall sea level to rise. The rising Mediterranean finally spilled over a rocky sill at the Bosporus. The event flooded 100,000 km^2 (39,000 sq mi) of land and significantly expanded the Black Sea shoreline to the north and west. According to these researchers, 50 km^3 (10 cu mi) of water poured through each day, two hundred times the flow of Niagara Falls. The Bosporus valley roared and surged at full spate for at least three hundred days. They argued that the catastrophic inflow of seawater resulted from an abrupt sea-level jump that accompanied the Laurentide Ice Sheet collapse and the ensuing breach of a bedrock barrier in the Bosporus strait. As proposed, the Early Holocene Black Sea flood scenario describes events that would have profoundly affected prehistoric settlement in eastern Europe and adjacent parts of Asia and possibly was the basis of oral history concerning *Noah's Flood*.[3] Some archaeologists support this theory as an explanation for the lack of Neolithic period sites in northern Turkey.[4][5][6] In 2003, Ryan and coauthors revised the dating of the Early Holocene *Noah's Flood* to 8,400 ^{14}C years BP (8800 calendar years BP).[7]

Popular discussion of the Early Holocene Black Sea flood scenario proposed by William Ryan, Walter Pitman and their colleagues was headlined in *The New York Times* in December 1996[8] and later published as a book.[9]

Late Pleistocene Great Flood hypothesis[edit]

In 2003 and 2007, a different catastrophic flood scenario was proposed by Andrei L. Chepalyga for the Late Quaternary sea level rise of the Black Sea.[1][2][10] The hypothesis for a **Late Pleistocene Great Flood** argues that brackish Neoeuxinian Lake, which occupied the Black Sea basin, was rapidly inundated by glacial meltwater overflow from the Caspian Sea via the Manych-Kerch Spillway shortly after the Late Glacial Maximum, about 17,000–14,000 BP. These extensive meltwater flooding events linked several lacustrine and marine water bodies, starting with the southern edge of the Scandinavian and southward, through spillways to the Manych-Kerch and Bosphorus, ultimately forming what has been referred to as the Cascade of Eurasian Basins.[11] This event is argued to have caused a rapid, if not catastrophic rise in the level of the Black Sea. Theoretically, it would have imposed substantial stresses upon contemporary human populations and remained in cultural memory as the *Great Flood*. The authors also suggested that the event might have stimulated the beginning of shipping and horse domestication.[1][11]

Gradual inundation of Black Sea hypothesis[edit]

In addition to the Early Holocene *Noah's Flood* scenario proposed by William Ryan, Walter Pitman and their colleagues[3][7] and the Caspian Sea overflow scenario of Chepalyga,[10][11] the non-catastrophic **progressive flood model** (or **gradual inflow model**) has been proposed to explain the Late Quaternary sea level history of the Black Sea.[2][12] For the progressive flood model, it is argued that as early as 11,000 or 10,000 BP, the level of the Black Sea rose above the shallowest sill depth of about 30 m (98 ft) in the Bosporus Strait and spilled into the Marmara Sea. At least for the first 1,000 years, this connection was a one-way outflow of the Black Sea into a very shallow Marmara Sea. At about 8,000 BP, the level of the Marmara Sea rose high enough such that a two-way flow started. The evidence used to support this scenario includes the disparate ages of sapropel deposition in the eastern Mediterranean Sea and Black Sea; buried backstepping barrier islands observed on the Black Sea shelf; and a sub-aqueous delta composed of Black Sea sediments in the Marmara Sea near the Bosporus Strait.[13][14][15]

Controversy

The brief sensation caused by Ryan and Pitman has turned into an ongoing controversy. Critiques of the deluge hypothesis focus on the magnitude or the pace of the water level rise or both. With enough blurring of these features the hypothesis is voided. However, a few key points should be noted:

- Since the ending of the last glacial period the global sea level has risen some 120 m (390 ft). The process took approximately 10,000 years and abated about 7,600 years ago.
- The flood hypothesis hinges on the geomorphology of the Bosphorus since the end of the glacial age.[16] The Black Sea area has been sealed off and reconnected numerous times during the last 500,000 years.[17]
- Various methods have been used to study and date (e.g., sea floor drillings, radiocarbon dating, biological markers) the recent evolution of the Black Sea. The heterogeneous data do not fit into a neat frame, which precludes the confirmation for a sharply defined event.
- The Black Sea flood hypothesis concerns an event supposed to have occurred during the last 10,000–12,000 years[*clarification needed*] with the water level rising rapidly enough to cause easily noticeable effects.[*citation needed*]

Black Sea deluge hypothesis[15]

Opponents of the deluge hypothesis point to clues that water has been flowing out of the Black Sea basin as late as 15,000 years ago.[18] The local level must have been higher than the current-then-global level which had already risen from the last glacial minimum. In order to produce a Black Sea flooding such as the one described by Ryan and Pitman a solid obstruction of the Turkish Straits should have occurred. It must have had a significant height to allow for a rise on the south side, while to the north the water level should have been dropping. A notable point here is that the low lands in the Black Sea's basin would have already been flooded.[*citation needed*]

In this alternative scenario, much depends on the evolution of the Bosphorus. According to a study from 2001 the modern sill is 32–34 m (105–112 ft) below sea level, and consists of Quaternary sand over-lying Paleozoic bedrock in which three sills are found at 80–85 m (260–280 ft) below sea level. Sedimentation on these sills started before 10,000 years ago and continued until 5,300 years ago.[19]

A large part of the academic geological community also continues to reject the idea that there could have been enough sustained long-term pressure by water from the Aegean to dig through a supposed isthmus at the present Bosphorus or enough of a difference in water levels (if at all) between the two water basins.[20]

In 2007, a research anthology on the topic was published which makes much of the earlier Russian research available in English for the first time and combines it with more recent scientific findings.[21]

According to a 2009 study by Liviu Giosan, Florin Filip [ro], and Stefan Constatinescu,[22] the level in the Black Sea before the marine reconnection was 30 m (100 ft) below present sea level, rather than the 80 m (260 ft), or lower, of the catastrophe theories. If the flood occurred at all, the sea level increase and the flooded area during the reconnection were significantly smaller than previously proposed. It also occurred earlier than initially surmised, c. 7400 BCE, rather than the originally proposed 5600 BCE. Since the depth of the Bosphorus, in its middle furrow, at present varies from 36 to 124 m (118 to 407 ft), with an average depth

of 65 m (213 ft), a calculated stone age shoreline in the Black Sea lying 30 m (100 ft) lower than in the present day would imply that the contact with the Mediterranean might never have been broken during the Holocene, and hence there could have been no sudden waterfall-style transgression.[22] An August 2009 article, based on this same study, reported that the flooding could have been "not so big".[23]
A 2012 study based on process length variation of the dinoflagellate cyst *Lingulodinium machaerophorum* shows no evidence for catastrophic flooding.[24]
A 2015 study reviewed the evidence accumulated and acknowledged a "fast transgression" lasting between 10 and 200 years.[25].

Comment

For the opening of Black Sea, there are some evaluations, As seen on İstanbul and Gelibolu Bosporus, there are some elevations, as three of them is noticeable, mostly be indication of the coast be changed. As decision, 1) from 500thousand years, some passages be there, 2) 15thousand years before, due to the melting of ices, 3) 12-10thousand years before, the great flood be noticed. The importance one be as 8400 or 5600 years before.
At 2009-year findings, there are some ruins, below 100 meters at the Black Sea.
We can estimated the immigration is before these years.

37. Zanclean flood[17]

Wikipedia
Artistic interpretation of the flooding of the Mediterranean through the Gibraltar Strait (A) and the Strait of Sicily (F) about 5.3 million years ago
The **Zanclean flood** or **Zanclean deluge** is a flood theorized to have refilled the Mediterranean Sea 5.33 million years ago.[1] This flooding ended the Messinian salinity crisis and reconnected the Mediterranean Sea to the Atlantic Ocean, although it is possible that even before the flood there were partial connections to the Atlantic Ocean. The reconnection marks the beginning of the Zanclean age. …

Opening of the Mediterrenian[17]

a) **5 million years before Mediterranean is opening**

b)Sicily dived the Mediterenian into to two parts.

Figure 8: 3.3million years before the Gibraltar position and first flow of the current to Mediterranean.

Zanclean flood[17]

Background …
Event
The Zanclean flood occurred when the Strait of Gibraltar opened.[14] Tectonic subsidence of the Gibraltar region may have lowered the sill until it breached.[7] The exact triggering event is not known with certainty; faulting or sea level rise are debatable. The most widely accepted hypothesis is that a stream flowing into the Mediterranean eroded through the Strait of Gibraltar until it captured the Atlantic Ocean[10] and that the Strait did not exist before this erosion event.[15] …
The flood affected only the Western Mediterranean at first, because the Sicily Sill (located at the present Straits of Sicily) formed a barrier separating its basin from the Eastern Mediterranean basin;[27] in addition a sill may have existed in the eastern Alboran Sea at this time.[28] While it was at first assumed that the filling of the eastern Mediterranean would have taken thousands of years, later estimates of the size of the Strait of Gibraltar channel implied that it would have taken much less, potentially less than a year …
Timing …
Consequences
The Zanclean flood caused a major change in the environment of the Mediterranean basin; the continental "Lago Mare" facies was replaced by Zanclean deep sea deposits.[7] The flood may have affected global climate, considering that the much smaller flood triggered when Lake Agassiz drained did result in a cold period.[44]

Rising sea levels made the deeply incised Nile river become a ria as far inland as Aswan, some 900 km (560 mi) upstream from the modern coast.[45] The Zanclean flood resulted in the final isolation of numerous Mediterranean islands such as Crete,[46] resulting in speciation of animals found there.[47] On the other hand, the formation of the Gibraltar Strait prevented animals from crossing over between Africa and Europe.[48] Further the reconnection allowed sea animals such as cetaceans and their ancestors and pinnipeds to colonize the Mediterranean from the Atlantic.[49]
Evidence of the flooding has been obtained on Zanclean-age sediments, both in boreholes and in sediments that were subsequently uplifted and raised above sea level.[50] A sharp erosional surface separates the pre-Zanclean flood surface from the younger deposits, which are always marine in origin.[51]
The waters flooding into the Western Mediterranean probably overspilled into the Ionian Sea through Sicily and the Noto submarine canyon[52] offshore Avola;[53] the spillover flood had a magnitude comparable to the flood in the Strait of Gibraltar.[54] The rates at which the Mediterranean filled during the flood were more than enough to trigger substantial induced seismicity.[55] Resulting large landslides would have sufficed at creating large tsunamis with wave heights reaching 100 m (330 ft), evidence of which has been found in the Algeciras Basin.[56]
Similar megafloods
Similar floods have occurred elsewhere on Earth during history; examples include the Bonneville flood in North America,[9] during which Lake Bonneville overflowed through Red Rock Pass into the Snake River Basin, and the Black Sea deluge hypothesis that postulates a flood from the Mediterranean into the Black Sea through the Bosporus.[57]

Comment

The opening of Mediterranean by Gibraltar, about 5,5 million years before, so the increase of the Mediterranean Sea about 160meters, at 8thousand years before, immigration factors be directly influenced about the geological changes.
Mediterranean first divided into two, from Sicily, thus, immigration be from this side. Black Sea is also more than 100 meters upwards at the level, so the people at the seaside, at the coast be drowned. The Noah Catastrophe be 8400 year before, is as be noted, so the sinking of Atlantis by sea is also a noted conditional state. This effects, so the immigration be only from the Middle Asia.

Conclusion

The Human being species is Homo sapiens, sapiens, thus, this must be confirm from genetic analysis as by DNA evidences. Anatomic and other similarities is not a proof evidence, just be an estimation.
As a result, not bey decision, genetic analysis indicates as unique one, by DANA analysis and mitochondrial DNA analysis also.
Commonly be confused by ***Homo erectus*** ve ***neanderthalensis***, thus not by genetically.

38. İnsan[18]

Vikipedi, özgür ansiklopedi
İnsan, taksonomik adıyla ***Homo sapiens***[2][3] (Latince "akıllı insan" veya "bilen insan"), primatlar takımının büyük insansı maymunlar familyasının *Homo* cinsinde bulunan tek canlı türü. Anatomik olarak 200.000 yıl önce Afrika'da ortaya çıkmış ve modern davranışlarına 50.000 yıl önce kavuşmuştur.[4]
Dik duruşa, görece gelişmiş bir beyne, soyut düşünme yeteneğine, konuşma (dil kullanma) kabiliyetine sahiptir. Bu yetenekleri dünyadaki diğer türlerden farklı olarak kullanış amacı geniş araç-gereç yapımına imkân sağlamıştır. Kendisinin farkında olması, rasyonelliği ve zekâsı[5][6][7] gibi yüksek seviyede düşünmesini sağlayan özellikler insanı "insan" yapan nitelikler olarak sayılmaktadır.[8][9]

İnsanın organik evrimi
İlk insansı varlık
İnsanoğlunun kökeni ile ilgili çalışmalar daha çok *Homo* cinsi etrafında yoğunlaşsa da sıklıkla Australopithecus gibi diğer hominid ve homininleri de kapsar. Fosil kayıtlarına göre anatomik olarak çağdaş insan tanımına uyan en eski fosiller 195.000 yıl öncesine aittir[10] ve Afrika'da bulunmuşlardır. Çağdaş tipte *Homo sapiens* altürünün ilk ırkı olan Cro-Magnon insanı ise zamanımızdan 50 bin yıl önce ortaya çıkmıştır. İnsanoğlunun evrimine dair kabul gören başlıca iki hipotez vardır. Bunlardan birincisi çağdaş insanın Afrika'da ortaya çıkıp dünyaya yayıldığını öne süren "tek orijin" hipotezi, diğeri farklı bölgelerde evrim geçirerek çağdaş insana dönüştüğünü öne süren "çoklu bölge" hipotezidir.
Çağdaş insanın ve diğer insansı maymunların ilk ortak atası kabul edilen iki ayak üzerinde doğrulabilen ve gözleri ileri bakan canlının bundan yaklaşık 6.5 milyon yıl önce Afrika'da ortaya çıktığı tahmin edilmektedir. Bu canlının ağaçlardan inip ayakta durmaya başlamasının nedeninin iklim değişikliğine bağlı kuraklık, yiyecek kıtlığı ve göç zorunluluğu olabileceği düşünülmektedir. İnsanı oluşturmaya başlayan organik evrim bilimsel adı olan Antopogenesis zamanımızdan yaklaşık 3,5 milyon yıl önce başlamıştır. İnsan adını hak eden başlangıç noktası ise *Homo* cinsinin ortaya çıkması ile olmuştur.
Çağdaş insanın soyu tükenmemiş en yakın akrabaları sıradan şempanzeler (*Pan troglodytes*) ve bonobolardır (cüce şempanze, *Pan paniscus*). Bu iki şempanze türü ve insanoğlu yaklaşık 6.5 milyon yıldır farklı bir evrim çizgisi izlemelerine rağmen tamamlanmış gen haritalarına göre aralarındaki yakınlık fare ile sıçan arasındaki yakınlıktan on kat daha fazla, akraba olmayan iki insan arasındaki yakınlıktan sadece 10 kat daha azdır. Bu iki şempanze türü ve insanın DNA'sının %98.4'ü tamamen aynıdır.[11][12][13][14]

Homo erectus
Bundan yaklaşık 1.8 milyon yıl önce dik duran *Homo erectus* türü ortaya çıkmıştır. Bir bataklığa yüzüstü düşmüş halde bulunan Turkana boy ismi verilen *Homo erectus* iskeleti, günümüze kadar neredeyse tam olarak ulaştığı için *Homo erectus*lara dair birçok bilgiye ulaşılmasını sağlamıştır. Bulgular *Homo erectus*'un oldukça iri olduğunu, avcılıkla veya leş yiyicilikle geçindiğini göstermektedir.
Homo neanderthalensis
Homo sapiens ile bundan yaklaşık 250-300 bin yıl önce ortaya çıkan Neandertalin uzunca bir süre dünya üzerinde birlikte bulunduğu ve bu iki türün birbirleriyle karşılaştığına dair arkeolojik kanıtlar mevcuttur. Kimi görüşler de, bu iki türün birbirinin farklı olduğunu fark etmeden birlikte üremiş olabileceğini, dolayısıyla da günümüz insanının kökeninde Neandertaller'in de olduğunu iddia etmektedir. Nitekim Asya'da bulunan bir fosilin Neandertal ve *Homo sapiens* türlerinin çiftleşmesinden meydana geldiği anlaşılmıştır. Neandertalın kemik-iskelet yapısı günümüz insanından oldukça farklıdır. Neandertal insanının çene kemiğindeki mandibular kemik kanalının tipik yapısı ayırt edici bir temel özelliktir. Neandertalın soyunun nasıl tükendiği kesin olarak bilinmemektedir. Bazı teorilere göre daha zeki ve daha yetenekli olan *Homo sapiens* tarafından yok edilmişlerdir.
Günümüze ulaşmış birçok Neandertal fosili bulunmuştur. Bu nedenle hakkında en fazla bilgiye ulaşılmış hominid türüdür. Neandertallerin soyu yaklaşık 30.000 yıl önce tükenmiştir. Ancak küçük bir kısmının çok daha uzun süre yeryüzünde kalmış olabileceği düşünülmektedir. Belki de dünyanın her yerinde binlerce yıldır karşılaşılan koca ayak vb. folklorik öykülerin kökeninde bu hantal ve tüylü hominid vardır.
Neandertaller fosillerinde yapılan çalışmalar parmaklarının kalın ve hantal olduğunu göstermektedir. Bu çağdaş insan kadar ince el işleri yapamadığının kanıtıdır. Neandertaller toplu halde yaşamış sosyal yaratıklardır. Sakat kalanlara bakmış, ölülerini gömmüşlerdir. Çok fazla fosil bulunmasının nedeni ölülerini gömmüş olmalarıdır.
NB: The Anatomic and other functional similarities doesn't Meaning the origin is same, genetic, evidences are indicated that, Homo sapiens, sapiens is unique species in this World.

39. Lucy (Australopithecus)[19]

From Wikipedia, the free Encyclopaedia
Lucy is the common name of AL 288-1, several hundred pieces of fossilized bone representing 40 percent of the skeleton of a female of the hominin species Australopithecus afarensis. In Ethiopia, the assembly is also known as Dinkinesh, which means "you are marvelous" in the Amharic language. Lucy was discovered in 1974 in Africa, at Hadar, a site in the Awash Valley of the Afar Triangle in Ethiopia, by paleoanthropologist Donald Johanson of the Cleveland Museum of Natural History.[1][2][3]
The Lucy specimen is an early australopithecine and is dated to about 3.2 million years ago. The skeleton presents a small skull akin to that of non-hominin apes, plus evidence of a walking-gait that was bipedal and upright, akin to that of humans (and other hominins); this combination supports the view of human evolution that bipedalism preceded increase in brain size.[4][5] A 2016 study proposes that Australopithecus afarensis was also to a large extent tree-dwelling, though the extent of this is debated.[6][7]
"Lucy" acquired her name from the song "Lucy in the Sky with Diamonds" by the Beatles, which was played loudly and repeatedly in the expedition camp all evening after the excavation team's first day of work on the recovery site. After public announcement of the discovery, Lucy captured much public interest, becoming a household name at the time.
Lucy became famous worldwide, and the story of her discovery and reconstruction was published in a book by Johanson. Beginning in 2007, the fossil assembly and associated artifacts were exhibited publicly in an extended six-year tour of the United States; the exhibition was called Lucy's Legacy: The Hidden Treasures of Ethiopia. There was discussion of the risks of damage to the unique fossils, and other museums preferred to display casts of the fossil assembly.[8] The original fossils were returned to Ethiopia in 2013, and subsequent exhibitions have used casts.

Comment

The concept of Homo sapiens is in consideration. 3,2million years old skeleton Lucy is found. And even Homo erectus 1,8million years old, ***Homo neanderthalensis*** 250-300thousand years old is noted. Anatomically, they are about have some similarity. The genetic DNA evidences has some familiar findings, thus, mitochondrial DNA exactly a different species not mixed anyone, unique genetic code.
As decided be a civil one, at 50thousand years before, a) from one origin, b) from multi original source of Human being is decided. Thus, later the genetic evidences as DNA, only on single origin is noted. First in Africa, then distributed form there.
Homo sapiens, sapiens is greatly be unique, as in name as sapiens/wise, clever, be taken the administrator as in nature, the environment. Mitochondrial gene, Eve DNA is from woman, female is obvious. The name of the first one is not consider us; we have to look ourselves.

İnsan[18]

İnsan davranışları
Cinsellik
Erkek cinselliği ve kadın cinselliği iki alt alan olmak üzere cinsel davranışı konu alan cinsel yönelim, cinsel kimlik, cinsel sapkınlıklar, cinsel suçlar, cinsel organları, cinsel ilişkiyi, ruhsal-cinsel gelişim (psikoseksüel gelişim) evrelerini, cinsel yolla bulaşan hastalıkları içeren bir şemsiye kavramdır.
Pornografi
Pornografi cinsel anlamda tahrik etme amacıyla insan vücudunu veya cinselliğin mahremini yansıtmaktır. Pornografik görüntülere düşkünlük, erkeklerde, kadınlardan daha yaygındır. Yapılan araştırmalar, erkeklerin "çıplak" insan resimlerine bakmak için ufak bir miktar para ödemeye razı olduğunu, kadınların ise ancak para karşılığında resimlere bakmaya razı olduklarını ortaya çıkarmıştır.[15]

Maymun ve insansı maymunların da pornografiye insana benzer tepkiler verdiği ortaya çıkmıştır. Erkek maymunlar, kendilerine gösterilen resimler arasında en çok karşı cinsin poposuna ve gruptaki baskın erkeğin yüzüne ilgi göstermişlerdir.[15]

Suç

Genel olarak "yasaklanan" veya "cezalandırılan" davranışlara denir.

Kültür

Bir grubun, bir topluluğun ve bir toplumun oluşturduğu ayırt edici değerleri, normları ve maddi mallarıdır. Kültür, insanın toplumsal birliğinin en ayırıcı özelliklerinden birisidir. Kültür birikimli ilerlemekle birlikte, çok yavaş bir değişim geçirir. Gelenek, örf ve adetler her an görebileceğimiz yapılardır. İnsanın davranış kodlarını veya davranış örüntülerini oluşturur. İnsanlar, dünyayı anlamak ve denetlemek için bilim ve teknolojiyi geliştirdiler. İnançlar, efsaneler, gelenekler, değerler ve toplumsal kurallar insanın hayatında önemli bir etken olan kültürü oluştururlar.

İnsan vücudu

İnsan, alet kullanabilmesini sağlayan, kolların serbest olduğu dik bir vücuda sahiptir. Beyni soyut düşünme, anlam verme, konuşma ve kendini gözleyebilme yeteneklerine sahiptir.

Alet kullanabilmesi ve zihninin özellikleriyle insan diğer canlılardan ayrılır. Doğayı anlayabilir, denetimi altına alabilir ve kendi amaçları doğrultusunda doğanın güçlerini kullanabilir.

İnsan psikolojisi

İnsan zihninin temel özelliği bilinçtir. Bilinç ile birlikte, kendini gözleyebilme, zamanı algılayabilme ve özgür irade insanda bulunan özel niteliklerdir. Psikoloji bilimsel bakış açısı ile insan zihnini incelerken, dinler değer yargıları ile insanı inceler. Yapılan davranışın iyi veya kötü olması ile ilgilenir.

Akıl

İnsan aklının temeli bilinçtir. Bu bilinç insanın kendisi ve çevresi ile ilişkisini düzenlemesini sağlar. İnsanı diğer canlılardan ayıran temel özellik olarak bilinci kabul edebiliriz. İnsan ayrıca özgür iradeye ve zaman bilincine de sahiptir.

İnsanın gelişmiş özellikleri

Dil

Dil veya lisan, insanların düşündüklerini ve hissettiklerini bildirmek için kelimelerle veya işaretlerle yaptıkları anlaşmadır. Konuşma ve yazma biçimleri olarak da adlandırılabilir.

Din

Arapça kökenli bir sözcük olan *din* sözcüğü, köken itibarıyla "yol, hüküm, ödül" gibi anlamlara sahip olup genellikle doğaüstü, kutsal ve ahlaki ögeler taşıyan, çeşitli ayin, uygulama, değer ve kurumlara sahip inançlar bütününe verilen isimdir. Zaman zaman inanç sözcüğünün yerine kullanıldığı gibi, bazen de inanç sözcüğü din sözcüğünün yerinde kullanılır. Dinler tarihine bakıldığında, birçok farklı kültür, topluluk ve bireyde din kavramının farklı biçimlere sahip olduğu görülür.

İnsanoğlu çok eski çağlardan beri doğaüstü olana ilgi göstermiş, kendini tüm insan ırkı içerisinde yalnız hissetmiş ve bir tanrıya veya tanrılara sığınma ihtiyacı duymuştur.

İnsan bir varlık arayışı içerisindedir. Bu arayış geçmişten günümüze değin gelmektedir. Bu arayış neticesinde varlıklarını anlamlandıracak çeşitli somut ve soyut olgulardan yararlanarak birçok inanç sistemi geliştirmişler veya kabul etmişlerdir. Bunlar arasında metaya, canlıya, doğaya veya 5 duyu ile tespit edilemeyip akıl ve hissiyat ile buldukları bir tanrının veya pek çok tanrının varlığına inanmaları en temel olanıdır.

İnsanların pek çoğu ölümden korkmaktadır. Birçok dinin temasında varlığın bir şekilde biçim veya boyut değiştirerek devam edeceği inancı vardır. Hiçbir dine inanmayan veya bir tanrının varlığını kabul etmeyen bireylerin bir kısmı bile insana ait tözün bir şekilde enerji olarak devam edeceği düşüncesine sahiptir. Bu düşünce, öldükten sonra hiçliğe karışılacağı düşüncesinin insanlara verdiği psikolojik rahatsızlıktan ötürü bulunur. Bu da insanın varlık arayışının bir başka yönüdür ve dine yönelten bir özelliğidir.

Yaratılış miti

Birçok dinde insanın yüce bir varlık tarafından bugünkü halinde yaratıldığı inancı mevcuttur. İbrahimî dinlerde insan ırkının, ilk insan olduğuna inanılan Âdem ve onun eşi Havva'dan türediğine inanılır. Bu inanç herhangi bir antropolojik temele dayanmadığından, bilim çevrelerince dikkate alınmaz.

Toplum

İnsanlar, gelişmiş sosyal yapılar kurmuşlardır. Bu yapılar duruma göre aynı amaca yönelik birlik veya rakip olabilirler. Aile en temel sosyal yapı sayılabilir. Güvenlik ve adalet için devletler kurmuşlardır. Aynı dili konuşanlar milletleri oluşturmuşlardır.

NB: The humanistic factors; gender, pornography, crime, culture, body, human psychology, mind, language, religion and the mite of creation and community, have not such genetic relation to Human being.

Comment

The above mentioned as human behaviour, is not an indication of genetic relation with Human being. As if have a pet in home, there humanistic behaviour not any evidence as relation to us.

40. Nuclear DNA[20]

Wikipedia

Nuclear DNA (nDNA), or **nuclear deoxyribonucleic acid**, is the DNA contained within each cell nucleus of a eukaryotic organism.[1] Nuclear DNA encodes for the majority of the genome in eukaryotes, with mitochondrial DNA and plastid DNA coding for the rest. Nuclear DNA adheres to Mendelian inheritance, with information coming from two parents, one male and one female, rather than matrilineally (through the mother) as in mitochondrial DNA.[2]

…

Forensics

Nuclear DNA is known as the molecule of life and contains the genetic instructions for the development of all living organisms. It is found in almost every cell in the human body, with exceptions such as red blood cells. Everyone has a unique genetic blueprint, even identical twins.[7] Forensic departments such as the Bureau of Criminal Apprehension (BCA) and Federal Bureau of Investigation (FBI) are able to use techniques involving nuclear DNA to compare samples in a case. Techniques used include polymerase chain reaction (PCR), which allows one to utilize very small amounts of DNA by making copies of targeted regions on the molecule, also known as short tandem repeats (STRs).[8][9]

Comment

The genetic codes be in each cell and thus, in the skeleton, more easily be find and tested, so the relative aspect be noticed, and be proved. PCR (Polymerase Chain Reaction), can be diagnosed by small amounts.

By this method, not as Anatomical similarities, more accurate and more real evidences as now. Thus, mitochondrial DNA studies, as woman genetic codes, are more specific and be also analyzed for evidence-based proof.

41. Mitochondrial DNA[21]

Wikipedia

Mitochondrial DNA is the small circular chromosome found inside mitochondria. These organelles found in cells have often been called the powerhouse of the cell.[1] The mitochondria, and thus mitochondrial DNA, are passed almost exclusively from mother to offspring through the egg cell.

Mitochondrial DNA (**mtDNA** or **mDNA**)[3] is the DNA located in mitochondria, cellular organelles within eukaryotic cells that convert chemical energy from food into a form that cells can use, adenosine triphosphate (ATP). Mitochondrial DNA is only a small portion of the DNA in a eukaryotic cell; most of the DNA can be found in the cell nucleus and, in plants and algae, also in plastids such as chloroplasts.

Human mitochondrial DNA was the first significant part of the human genome to be sequenced.[4] This sequencing revealed that the human mtDNA includes 16,569 base pairs and encodes 13 proteins.

Since animal mtDNA evolves faster than nuclear genetic markers,[5][6][7] it represents a mainstay of phylogenetics and evolutionary biology. It also permits an examination of the relatedness of populations, and so has become important in anthropology and biogeography.

Origin

Nuclear and mitochondrial DNA are thought to be of separate evolutionary origin, with the mtDNA being derived from the circular genomes of the bacteria that were engulfed by the early ancestors of today's eukaryotic cells. This theory is called the endosymbiotic theory. In the cells of extant organisms, the vast majority of the proteins present in the mitochondria (numbering approximately 1500 different types in mammals) are coded for by nuclear DNA, but the genes for some, if not most, of them are thought to have originally been of bacterial origin, having since been transferred to the eukaryotic nucleus during evolution.[8]

The reasons why mitochondria have retained some genes are debated. The existence in some species of mitochondrion-derived organelles lacking a genome[9] suggests that complete gene loss is possible, and transferring mitochondrial genes to the nucleus has several advantages.[10] The difficulty of targeting remotely-produced hydrophobic protein products to the mitochondrion is one hypothesis for why some genes are retained in mtDNA;[11] colocalisation for redox regulation is another, citing the desirability of localised control over mitochondrial machinery.[12] Recent analysis of a wide range of mtDNA genomes suggests that both these features may dictate mitochondrial gene retention.[8]

Genome structure and diversity

There are six main genome types found in mitochondrial genomes, classified by their structure (e.g. circular versus linear), size, presence of introns or plasmid like structures, and whether the genetic material is a singular molecule or collection of homogeneous or heterogeneous molecules.[13]

In many unicellular organisms (e.g., the ciliate *Tetrahymena* and the green alga *Chlamydomonas reinhardtii*), and in rare cases also in multicellular organisms (e.g. in some species of Cnidaria), the mtDNA is found as linearly organized DNA. Most of these linear mtDNAs possess telomerase-independent telomeres (i.e., the ends of the linear DNA) with different modes of replication, which have made them interesting objects of research because many of these unicellular organisms with linear mtDNA are known pathogens.[14]

Female inheritance[

In sexual reproduction, mitochondria are normally inherited exclusively from the mother; the mitochondria in mammalian sperm are usually destroyed by the egg cell after fertilization. Also, mitochondria are only in the sperm tail, which is used for propelling the sperm cells and sometimes the tail is lost during fertilization. In 1999 it was reported that paternal sperm mitochondria (containing mtDNA) are marked with ubiquitin to select them for later destruction inside the embryo.[34] Some *in vitro* fertilization techniques, particularly injecting a sperm into an oocyte, may interfere with this.

The fact that mitochondrial DNA is maternally inherited enables genealogical researchers to trace maternal lineage far back in time. (Y-chromosomal DNA, paternally inherited, is used in an analogous way to determine the patrilineal history.) This is usually accomplished on human mitochondrial DNA by sequencing the hypervariable control regions (HVR1 or HVR2), and sometimes the complete molecule of the mitochondrial DNA, as a genealogical DNA test.[35] HVR1, for example, consists of about 440 base pairs. These 440 base pairs are compared to the same regions of other individuals (either specific people or subjects in a database) to determine maternal lineage. Most often, the comparison is made with the revised Cambridge Reference Sequence. Vilà *et al.* have published studies tracing the matrilineal descent of domestic dogs from wolves.[36] The concept of the Mitochondrial Eve is based on the same type of analysis, attempting to discover the origin of humanity by tracking the lineage back in time.

Comment

From the egg cell, ovum, of the mother, directly transported to mother, with a generation of generation. Sperm has no mitochondria, just a package of genes, so, the cellular organelles are transported from the mother.

Eve mitochondria DNA structure is more specific and be a good evaluation for the species formation, as the Human being movements, as a community. In contrary of indications, not so much clan and group of differentiation at genes.

42. İnsan evrimi zaman çizelgesi[22]

Vikipedia, özgür ansiklopedi

İnsan evrimi zaman çizelgesi, insan türlerinin evrimindeki belli başlı önemli olayları ve insan atalarının evrimsel tarihlerini özetlemektedir. Bunun yanında *Homo sapiens* türünün atası olabilecek canlıların, tür ve cinslerin kısa bir açıklamasını içerir. Temel olarak Abiyogenez'in konusu olan yaşamın kökeni bu zaman çizelgesinde konu edinmemiş olup insanın oluşumuna götüren ön ataların olası bir soy çizgisi ele alınmıştır. Bu zaman çizelgesi, paleontoloji, gelişim biyolojisi ve morfoloji alanında elde edilen verilerin yanında anatomik ve genetik veri çalışmalarına da dayanır. İnsan evriminin tüm yönleriyle araştırılması antropolojinin önemli bir bileşenidir.

Homo sapiens sınıflandırması

Comment

The scientific place of the Human being (Linnaeus, 1758):

Taksonomi	İsim	Yaygın isim	
Üst âlem	Ökaryot	Çekirdeğe sahip hücreler	2,100,000,000 yıl önce
Âlem Kingdom	Animalia	Hayvanlar	590,000,000 yıl önce
Şube Phylum:	Chordata	Omurgalılar ile yakın akrabaları olan omurgasızlar	530,000,000 yıl önce
Altşube	Vertebrata	Omurgalılar	505,000,000 yıl önce
Üstsınıf	Tetrapoda	Dört üyeliler	395,000,000 yıl önce
Sınıf Class:	Mammalia	Memeliler	220,000,000 yıl önce
Altsınıf	Theria	Canlı doğum yapan ve yumurta bırakmayan memeliler	
İnfra sınıf	Eteneliler	Eteneli memeliler (keseli olmayanlar)	125,000,000 yıl önce
Magnus takım	Boreoeutheria	Birim üstü supra primatlar, yarasalar, balinalar, toynaklı memililerle otçul memellilerin çoğu	
Üst takım	Euarchontoglires	Supraprimatlar (primatlar, kemirgenler, tavşanlar, ağaç sivrifaresi ve uçar makigiller)	100,000,000 yıl önce
Asil takım	Euarchonta	Primatlar, uçar makigiller ve sivri sincapçıkgiller	79,600,000 yıl önce
Mir takım	Primatomorpha	Primatlar ve uçar makigiller	
Takım Order	Primatlar	Primatlar	75,000,000 yıl önce
Alt takım Suborder	Haplorrhini	Kuru burunlu" maymunlar (İnsansılar, maymunlar ve cadı makigiller	40,000,000 yıl önce
İnfra takım Infraorder	Simiiformes	Yüksek" primatlar (veya Simiyanlar) (insansılar, eski Dünya ile yeni Dünya maymunları	
Küçük takım	Catarrhini	Dar burunlu" primatlar (insansılar ve eski Dünya maymunları	30,000,000 yıl önce
Üst familya	Hominoidea	İnsansılar	28,000,000 yıl önce
Familya Family	Hominidae	Büyük insansı maymunlar (insanlar, şempanzeler, bonobolar, goriller ve orangutanlar)	15,000,000 yıl önce
Alt familya Subfamily	Homininae	İnsanlar, şempanzeler, bonobolar ve goriller	8,000,000 yıl önce
Oymak Tribe	Hominini	İnsanlar, şempanzeler ve bonobolar	5,800,000 yıl önce
Alt oymak		İki ayak üzerinde yürüyen bipedal insansılar (Australopithecus ve onun soyundan gelenler)	3,000,000 yıl önce
Cins Genus	*Homo*	İnsanlar, neandertaller, homo erectus ile onların doğrudan ataları	2,500,000 yıl önce
Tür Species	Homo sapiens	İnsanlar	500,000 yıl önce
Alt tür	*Homo sapiens sapiens*	Anatomik olarak modern insan	200,000 yıl önce

Zaman çizelgesi

43. Şablon: İnsanın evrimi[23]

Vikipedi, özgür ansiklopedi

İnsan evrimi zaman çizelgesi	
Hominini	Sahelanthropus tchadensis · Orrorin tugenensis · Ardipithecus · Kenyanthropus platyops
Australopitesinler	**Australopithecus:** Australopithecus anamensis · Australopithecus afarensis · Australopithecus bahrelghazali · Australopithecus africanus · Australopithecus garhi · Australopithecus sediba **Paranthropus:** Paranthropus aethiopicus · Paranthropus boisei · Paranthropus robustus
İnsanlar ve ilk insanlar	**Homo:** Homo gautengensis · Homo habilis · Homo rudolfensis · Homo georgicus · Homo ergaster · Homo erectus (Java Adamı · Lantiyan Adamı · Meganthropus · Pekin Adamı · Nankin insanı · Wuşan Adamı · Yuanmou Adamı · Solo Adamı) · Homo naledi · Homo cepranensis · Homo antecessor · Homo heidelbergensis · Denisova insanı · Neandertal insanı · Homo rhodesiensis · Homo floresiensis · Arkaik Homo sapiens · Anatomik modern insan (Homo sapiens idaltu · Homo sapiens sapiens)

Comment

All are in estimation from the Archaeological evidences, thus, genetically unique and differs as Homo sapiens, sapiens, not a mixture. One origin and distributed to the World.

The similarity and Anatomical comparison mainly as the instruction aspect, not genetic evidence, genetic connection from DNA and mitochondrial DNA findings.

Conclusion

In books, the Measles clinical stages be noted and Koplik stain is mostly be noted. Thus, it is not mostly seen, and even the eruption cannot be noticed, even at my case, death and culture evidence as Measles. So, statistics on median is nearly one standard deviation, thus, at 3 standard deviation, there is also some people, who that physician be care with. Not each seed be grow, this is the natural law, creational concept.

People is themselves are the one, who is going the learn, the creation, by their presence, by their life. Learning educating by their own, be informed, thus, responsibility only in themselves. Physician must be consider as individual, not as number or name. Be specific and unique as a person, not in the book mentioned case.

Each one, each has their own creation, so, be behave at their conception. If not in harm, individual behaviors and attitudes, confirm themselves, like their names. Each cell use glucose as an energy source, thus, not be mentioned as harm and benefit, the balancing according the individual case, like a tailoring, is physicians role at medicine. Each one, each creation has specialty, that we must be consider on.

Human being is not alone and not everything for them. Even for energy, the simple requirement to be alive, must be taken from outside, from plants, animals etc.

We are a member of a family, species, Homo sapiens, sapiens, thus, be individually has a personality, unique and sole. Even get the infection from same source, thus, the confrontation of that disease, is quite different, according our immune system etc. Not a miracle or not a standard statistical evidence, just be a natural, facultative conditional state, thus, unique for each one, each person. Great specialism is in spirit, emotions, thoughts and even societal admiration. Therefore informative consent is essential; thus, we are a Human being, not a robot.

Last Words

Human being, as genetic analysis, be formed as single one, and distributed this World, from this locus, as be in Africa. This in evidence-based fact, we are all in brotherhood, genetically.
The evolution in meaning a progress, thus in fact, not as progression, even negative perspectives, abnormalities be recorded. Even Trisomy 21 be fertile, it can be noticed as a new species derived from Human being.
Not any difference among us, we are Human beings, thus, each of us, is distinct. We are in liberty, free in mind, free in thoughts, free in act, responsibility is ours, be n equality in rights, earned what we are doing, a part of natural rights, we are not a number in statistics, have a specialty, personality and be unique and sole. For us, we must be on Human Rights, be at Humanity, on Ethical principles.

Thus, physicians be as a member of Human being, educated medical ethics and be serve and care the people, individually, as socially as c common and be in profession of defending, consultative act, as informative consent making one. Also an advocator of a person, at humanity, in peace, in love.

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