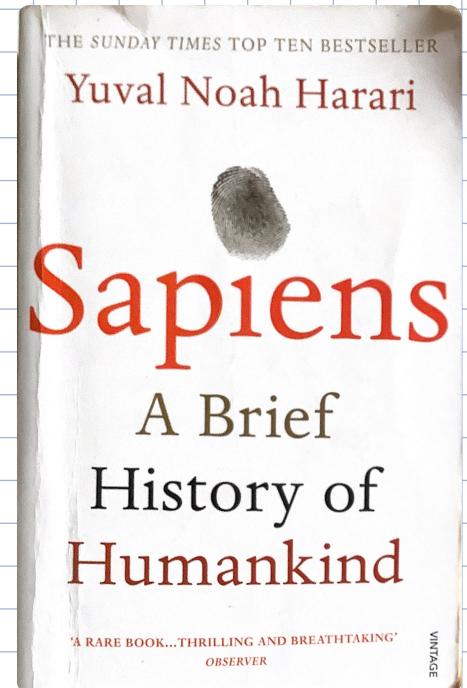


① Timeline of history.

- 2.5 mil. year - First humans, Homo species.
- 300,000 - Daily use of fire
- 200,000 - Rise of Homo Sapiens
- 70,000 - Cognitive Revolution, language, spread out of Africa.
- 30,000 - Extinction of Neanderthals.
- 12,000 - Agricultural Revolution.
- 5,000 - First kingdoms, scripts, money, religion
- 2500 - Coinage, Persian Empire, Buddhism
- 2000 - Christianity
- 1,400 - Islam.
- 500 - Scientific Revolution
- 200 - Industrial Revolution.
- Present - US.
- Future - Intelligent superhumans?



I An Animal of No Significance.

13.8 billion years ago - Big Bang

↳ matter, energy, time, space → physics

↳ 300,000 after this - molecules, atoms → chemistry

↳ 3.8 billion yrs ago - Earth was formed → organisms - biology.

↳ 20,000 yrs ago - Homo Sapiens - culture → history

There were humans long before history. 2 mil years ago.

Organisms → species → mate together and produce fertile offsprings.

↳ donkeys and horses have common ancestor but show no sexual interest. If mated, their offsprings mules are sterile.

Species that have common ancestor are clubbed in genus.

↳ lions, tigers, leopards, jaguars → Panthera genus

↳ Leo → Lions are panthera leo.

We are Homo (genus) Sapiens (species)

man

wise

Our closest ancestor is chimpanzees. About 6 mil yrs ago, a female ape had two granddaughters. One became the ancestor of chimpanzees and the other is our own grandmother.

Skeletons in the Closet

Human = an animal belonging to the genus 'Homo'.
homo erectus, homo neanderthal, homo sapiens etc.

Homo denisova discovered in 2010 from a fossilized finger bone in Siberian caves.

Cradle of humanity in Africa → Homo sapiens

Earth was home to six species at the same time. About 10,000 yrs ago → only homo sapiens remain.

The Cost of Thinking .

2.5 mil years ago - humans had 600 cc cranial capacity.

Homo sapiens - 1200-1400 cc cranial capacity.

More cranial capacity does not mean intelligent.

For 2 mil years, all we could do was built knives and sticks.
Evolution happened,

we started walking upright. more muscles in fingers and hands.
Females had to evolve to give birth. premature babies hence need to form society for protection.

For many years, we were in the middle of the food chain. it's only 10,000 years ago we jumped to the top. what fueled this?

A race of cooks

Domestication of fire - source of light, warmth, deadly weapon.

↳ cook food.

↳ changed the game of how food was eaten. → advantages of cooking.

↳ focus on eating more kinds of food, devote less time eating & chewing, smaller teeth & intestines.



Our Brother's Keepers .

About 150,000 yrs ago → no more than a million human beings, a mere blip.

Homo sapiens → East Africa → Arabian → Eurasia.

There were other human species there already. What happened to them?

2 conflicting theories -

(1) Interbreeding theory

(2) Replacement theory ← was more popular till recently (politically correct)

A study in 2010 proved that 1 to 4% of DNA in middle east and europe is that of Neanderthal.

It seems in very rare occasions, they were able to mate and produce offsprings.

These species are one of history's greatest what if's?

when Charles Darwin said that Homo sapiens were just another kind of animal, people were outraged.

What made us special? The debate continues. Many believe we conquered the world thanks to our unique language.

II

The Tree of Knowledge

Archaic Sapiens (different than us) tried to migrate outside East Africa but were beaten by Neanderthals. This went on for thousands of years. From 40k to 30k years ago, Homo sapiens evolved so much that were able to wipe out everyone.

↳ invention of boats, oil lamps, bows & arrows, needles, clothing, religion, commerce, social.

Cognitive Revolution = 70,000 to 30,000 years ago.

↳ why? How? why only Sapiens? = A pure chance.

Tree of knowledge mutations. Language, Dialect - Even insects, bees, ants communicate. Nor was our language the first vocal language.

Researchers played recording to monkeys which mean "Careful, An eagle!", "Careful, a lion!" ; they reacted accordingly.

A parrot can mimic sounds.

What is so special about our language?

Our language can capture much more information. All prefrontal cortex capabilities.

Our language evolved as a way of gossiping. We started talking about other humans. Gossip focuses on wrongdoings. We also started talking about entities that do not exist at all, sapiens have never seen, touched or smelled.

Legends, myths, gods and religion started appearing. It went from "Careful, a lion!" to "Lion is the guardian spirit of our tribe". The ability to speak about fictions is the most unique feature of Sapiens language.

You cannot convince a monkey to give you a banana by promising him limitless bananas after death in monkey heaven.

Fictional stories when told collectively have a huge impact.

pooh-201

The Legend of Peugeot

Peugeot = european car maker company



4. An ivory figurine of a 'lion-man' (or 'lioness-woman') from the Stadel Cave in Germany (c.32,000 years ago). The body is human, but the head is leonine. This is one of the first indisputable examples of art, and probably of religion, and of the ability of the human mind to imagine things that do not really exist.

'The alpha male' behaviour observed in bands/troops of chimpanzees.

→ Hierarchical social structure.

→ Similar behaviour in archaic homo sapiens. magic number of 150 friends?

How did homo sapiens manage to establish cities and empires ruling hundreds of millions of people? Large numbers of strangers can cooperate successfully by believing in common myths.

→ people's collective imagination with Peugeot's example. → "Limited liability companies" OR "CORPORATIONS".

Armand Peugeot, the man, created Peugeot, the corporation. In the same way that priests and sorcerers have created gods and demons throughout history. It all revolved around telling stories and convincing people to believe them.

How does one convince millions of people to believe particular stories about gods or nations or limited liability companies?

This establishes how we have created "social constructs" or "imagined realities". Imagined reality is not a lie. Our cognitive revolution has made us believe in social constructs and we live in a dual reality.

- ↳ objective reality of trees, rivers, lions.
- ↳ imagined reality of gods, nations, corporations.

By passing the Genome

In order for a significant change to occur in a species, their genes must be altered or genetic mutations need to happen.

for ex. Homo erectus's ability to create stone tools remained the same for ~2 mill years.

- For chimpanzees to change significantly, genetic mutations need to happen. Cultural phenomena is not going to drive it.

However, homo sapiens, with cognitive revolution have been able to revise their behavior rapidly with cultural evolution and bypassing the traffic jam of genetic evolution.

This was the most advanced tool of Homo Sapiens. The catholic alpha male or the "Pope" chooses to not procreate.

The constant change and development of these "social constructs" or "imagined realities" ex. culture and these unstoppable alterations is what we call "history".

What happened in the Cognitive Revolution?

New ability

The ability to transmit larger quantities of information about the world surrounding *Homo sapiens*

The ability to transmit larger quantities of information about Sapiens social relationships

The ability to transmit information about things that do not really exist, such as tribal spirits, nations, limited liability companies and human rights

Wider consequences

Planning and carrying out complex actions, such as avoiding lions and hunting bison

Larger and more cohesive groups, numbering up to 150 individuals

- Cooperation between very large numbers of strangers
- Rapid innovation of social behaviour

Biology and History

Until the cognitive revolution, the doings of human species belonged to the realm of biology. From that point onwards, now historical narratives become the primary means of explaining Homo Sapiens development.



III A Day in the life of Adam & Eve

The need to gorge on high calorie food is a trait hard-wired in the brain/DNA. Evolutionary instinct. Our brain still thinks we are in the jungle.

We need to understand the living conditions of our ancestors. "Ancient commune" vs "monogamous relationships"
Stone Age → Wood Age

Ancient humans didn't have Artifacts to begin with. Today we own millions of them.

Ancient foragers had tribes /clans/ bands etc. 5-8 mil people 12k yrs ago.

The Original Affluent Society

The dog was the first domesticated animal by Homo Sapiens. This was before Agricultural revolution. About 15k yrs ago.

Sapiens started wandering. Foraging, hunter-gatherers.

Today, Kalahari desert in Africa is home to San people.

Varied diet → get all nutrition.

Constantly moving → less prone to epidemics.

No animal touch apart from dogs → no diseases.

↳ They were called the original affluent societies.

There were also dark sides to their way of living.

The Achie people living till 1960's killed a little girl everytime a band member died.

↳ many other bad examples, good examples as well.

Talking Ghosts

Animism was very common among ancient ancestors. The idea that every place, animal, object, plant etc. have awareness, feelings and can communicate directly with humans.

Different examples of "theism" that followed.

"Sungir site in Russia".

"Hands care" in Argentina.

Truth is very little is known about the cultural, sociopolitical beliefs of ancients.

* Peace or War? → Difficult to answer. Some archaeological evidence indicates war while some peace.

* **Curtain of silence** → There is an entire curtain of silence on 60-70k yrs of human history. We can't know the exact details.



The Flood

Settlement of Australia about 45k years ago. The entire food chain of Australia were broken and rearranged.

Marsupials - species that have offsprings in abdominal pouches.

Proof of extinction of several megafauna of many regions when Homo Sapiens arrived.

- ↳ Animals that were extinct had slower breeding cycle
- ↳ Homo Sapiens mastered the art of hunting over many years
- ↳ Climate changes + human hunting = Deadly force } Australia

Homo Sapiens went from Serbia → Alaska → America

over 4000 years -

Again many species were extinct.

Whereas Homo Sapiens went, extinction followed.