

https://www.ted.com/talks/yuval_noah_harari_what_explains_the_rise_of_humans/transcript?language=en

Seventy-thousand years ago, our ancestors were insignificant animals. The most important thing to know about prehistoric humans is that they were unimportant. Their impact on the world was not much greater than that of jellyfish or fireflies or woodpeckers. Today, in contrast, we control this planet. And the question is: How did we come from there to here? How did we turn ourselves from insignificant apes, minding their own business in a corner of Africa, into the rulers of planet Earth?

What is the difference between human cooperation and cooperation in other species?

Usually, we look for the difference between us and all the other animals on the individual level. We want to believe – I want to believe – that there is something special about me, about my body, about my brain, that makes me so superior to a dog or a pig, or a chimpanzee. But the truth is that, on the individual level, I'm embarrassingly similar to a chimpanzee. And if you take me and a chimpanzee and put us together on some lonely island, and we had to struggle for survival to see who survives better, I would definitely place my bet on the chimpanzee, not on myself. And this is not something wrong with me personally. I guess if they took almost any one of you, and placed you alone with a chimpanzee on some island, the chimpanzee would do much better.

01:50The real difference between humans and all other animals is not on the individual level; it's on the collective level. Humans control the planet because they are the only animals that can cooperate both flexibly and in very large numbers. Now, there are other animals – like the social insects, the bees, the ants – that can cooperate in large numbers, but they don't do so flexibly. Their cooperation is very rigid. There is basically just one way in which a beehive can function. And if there's a new opportunity or a new danger, the bees cannot reinvent the social system overnight. They cannot, for example, execute the queen and establish a republic of bees, or a communist dictatorship of worker bees.

Other animals, like the social mammals – the wolves, the elephants, the dolphins, the chimpanzees – they can cooperate much more flexibly, but they do so only in small numbers, because cooperation among chimpanzees is based on intimate knowledge, one of the other. I'm a chimpanzee and you're a chimpanzee, and I want to cooperate with you. I need to know you personally. What kind of chimpanzee are you? Are you a nice chimpanzee? Are you an evil chimpanzee? Are you trustworthy? If I don't know you, how can I cooperate with you?

The only animal that can combine the two abilities together and cooperate both flexibly and still do so in very large numbers is us, Homo sapiens. One versus one, or even 10 versus 10, chimpanzees might be better than us. But, if you pit 1,000 humans against 1,000 chimpanzees, the humans will win easily, for the simple reason that a thousand chimpanzees cannot cooperate at all. And if you now try to cram 100,000 chimpanzees into Oxford Street, or into Wembley Stadium, or Tienanmen Square or the Vatican, you will get

chaos, complete chaos. Just imagine Wembley Stadium with 100,000 chimpanzees. Complete madness.

In contrast, humans normally gather there in tens of thousands, and what we get is not chaos, usually. What we get is extremely sophisticated and effective networks of cooperation. All the huge achievements of humankind throughout history, whether it's building the pyramids or flying to the moon, have been based not on individual abilities, but on this ability to cooperate flexibly in large numbers.

Think even about this very talk that I'm giving now: I'm standing here in front of an audience of about 300 or 400 people, most of you are complete strangers to me. Similarly, I don't really know all the people who have organized and worked on this event. I don't know the pilot and the crew members of the plane that brought me over here, yesterday, to London. I don't know the people who invented and manufactured this microphone and these cameras, which are recording what I'm saying. I don't know the people who wrote all the books and articles that I read in preparation for this talk. And I certainly don't know all the people who might be watching this talk over the Internet, somewhere in Buenos Aires or in New Delhi.

Nevertheless, even though we don't know each other, we can work together to create this global exchange of ideas. This is something chimpanzees cannot do. They communicate, of course, but you will never catch a chimpanzee traveling to some distant chimpanzee band to give them a talk about bananas or about elephants, or anything else that might interest chimpanzees. Now cooperation is, of course, not always nice; all the horrible things humans have been doing throughout history – and we have been doing some very horrible things – all those things are also based on large-scale cooperation. Prisons are a system of cooperation; slaughterhouses are a system of cooperation; concentration camps are a system of cooperation. Chimpanzees don't have slaughterhouses and prisons and concentration camps.

Why and how can we humans cooperate in such large numbers? (6:24 min)

Now suppose I've managed to convince you perhaps that yes, we control the world because we can cooperate flexibly in large numbers. The next question that immediately arises in the mind of an inquisitive listener is: How, exactly, do we do it? What enables us alone, of all the animals, to cooperate in such a way? The answer is our imagination. We can cooperate flexibly with countless numbers of strangers, because we alone, of all the animals on the planet, can create and believe fictions, fictional stories. And as long as everybody believes in the same fiction, everybody obeys and follows the same rules, the same norms, the same values.

All other animals use their communication system only to describe reality. A chimpanzee may say, "Look! There's a lion, let's run away!" Or, "Look! There's a banana tree over there! Let's go and get bananas!" Humans, in contrast, use their language not merely to describe reality, but also to create new realities, fictional realities. A human can say, "Look, there is a god above the clouds! And if you don't do what I tell you to do, when you die, God will punish you and send you to hell." And if you all believe this story that I've invented, then you will

follow the same norms and laws and values, and you can cooperate. This is something only humans can do. You can never convince a chimpanzee to give you a banana by promising him, "... after you die, you'll go to chimpanzee heaven ..." (Laughter) "... and you'll receive lots and lots of bananas for your good deeds. So now give me this banana." No chimpanzee will ever believe such a story. Only humans believe such stories, which is why we control the world, whereas the chimpanzees are locked up in zoos and research laboratories.

Now you may find it acceptable that yes, in the religious field, humans cooperate by believing in the same fictions. Millions of people come together to build a cathedral or a mosque or fight in a crusade or a jihad, because they all believe in the same stories about God and heaven and hell. But what I want to emphasize is that exactly the same mechanism underlies all other forms of mass-scale human cooperation, not only in the religious field.

Take, for example, the legal field. Most legal systems today in the world are based on a belief in human rights. But what are human rights? Human rights, just like God and heaven, are just a story that we've invented. They are not an objective reality; they are not some biological effect about homo sapiens. Take a human being, cut him open, look inside, you will find the heart, the kidneys, neurons, hormones, DNA, but you won't find any rights. The only place you find rights are in the stories that we have invented and spread around over the last few centuries. They may be very positive stories, very good stories, but they're still just fictional stories that we've invented.

The same is true of the political field. The most important factors in modern politics are states and nations. But what are states and nations? They are not an objective reality. A mountain is an objective reality. You can see it, you can touch it, you can even smell it. But a nation or a state, like Israel or Iran or France or Germany, this is just a story that we've invented and became extremely attached to.

The same is true of the economic field. The most important actors today in the global economy are companies and corporations. Many of you today, perhaps, work for a corporation, like Google or Toyota or McDonald's. What exactly are these things? They are what lawyers call legal fictions. They are stories invented and maintained by the powerful wizards we call lawyers. (Laughter) And what do corporations do all day? Mostly, they try to make money. Yet, what is money? Again, money is not an objective reality; it has no objective value. Take this green piece of paper, the dollar bill. Look at it – it has no value. You cannot eat it, you cannot drink it, you cannot wear it. But then came along these master storytellers – the big bankers, the finance ministers, the prime ministers – and they tell us a very convincing story: "Look, you see this green piece of paper? It is actually worth 10 bananas." And if I believe it, and you believe it, and everybody believes it, it actually works. I can take this worthless piece of paper, go to the supermarket, give it to a complete stranger whom I've never met before, and get, in exchange, real bananas which I can actually eat. This is something amazing. You could never do it with chimpanzees. Chimpanzees trade, of course: "Yes, you give me a coconut, I'll give you a banana." That can work. But, you give me a worthless piece of paper and you expect me to give you a banana? No way! What do you think I am, a human? (Laughter)

Money, in fact, is the most successful story ever invented and told by humans, because it is the only story everybody believes. Not everybody believes in God, not everybody believes in human rights, not everybody believes in nationalism, but everybody believes in money, and in the dollar bill. Take, even, Osama Bin Laden. He hated American politics and American religion and American culture, but he had no objection to American dollars. He was quite fond of them, actually. (Laughter)

To conclude, then: We humans control the world because we live in a dual reality. All other animals live in an objective reality. Their reality consists of objective entities, like rivers and trees and lions and elephants. We humans, we also live in an objective reality. In our world, too, there are rivers and trees and lions and elephants. But over the centuries, we have constructed on top of this objective reality a second layer of fictional reality, a reality made of fictional entities, like nations, like gods, like money, like corporations. And what is amazing is that as history unfolded, this fictional reality became more and more powerful so that today, the most powerful forces in the world are these fictional entities. Today, the very survival of rivers and trees and lions and elephants depends on the decisions and wishes of fictional entities, like the United States, like Google, like the World Bank – entities that exist only in our own imagination.

Thank you. (Applause)

Bruno Giussani: Yuval, you have a new book out. After Sapiens, you wrote another one, and it's out in Hebrew, but not yet translated into ...

Yuval Noah Harari: I'm working on the translation as we speak.

BG: In the book, if I understand it correctly, you argue that the amazing breakthroughs that we are experiencing right now not only will potentially make our lives better, but they will create – and I quote you – "... new classes and new class struggles, just as the industrial revolution did." Can you elaborate for us?

YNH: Yes. In the industrial revolution, we saw the creation of a new class of the urban proletariat. And much of the political and social history of the last 200 years involved what to do with this class, and the new problems and opportunities. Now, we see the creation of a new massive class of useless people. (Laughter) As computers become better and better in more and more fields, there is a distinct possibility that computers will out-perform us in most tasks and will make humans redundant. And then the big political and economic question of the 21st century will be, "What do we need humans for?", or at least, "What do we need so many humans for?"

BG: Do you have an answer in the book?

YNH: At present, the best guess we have is to keep them happy with drugs and computer games ... (Laughter) but this doesn't sound like a very appealing future.

BG: Ok, so you're basically saying in the book and now, that for all the discussion about the growing evidence of significant economic inequality, we are just kind of at the beginning of the process?

YNH: Again, it's not a prophecy; it's seeing all kinds of possibilities before us. One possibility is this creation of a new massive class of useless people. Another possibility is the division of humankind into different biological castes, with the rich being upgraded into virtual gods, and the poor being degraded to this level of useless people.

BG: I feel there is another TED talk coming up in a year or two. Thank you, Yuval, for making the trip.

YNH: Thanks! (Applause)