

Y. N. HARARI, FROM SAPIENS TO DEUS

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ABSTRACT. *Y. N. Harari, From Sapiens to Deus.* This article considers the two most recent books by Y. N. Harari, *Sapiens* (2011) and *Homo Deus* (2015) and tries to critically discuss the main themes: the cognitive, agricultural, scientific (including industrial), and humanist revolutions. The author's fundamental ignorance of the central development of language and mind within the human communicational situation prevents him from capturing the real dynamism of Homo Sapiens' emergence and his/her future. This leads the author to a purely dystopic vision of the future.

Keywords: articulated language, out-of-Black-Africa, mind/language, phylogeny, psychogenesis.

REZUMAT. *Y. N. Harari, De la Sapiens la Deus.* Contribuția noastră se îndreaptă spre cele două cărți recente ale lui Y. N. Harari, *Sapiens* (2011) și *Homo Deus* (2015) spre a propune o reevaluare critică a principalelor teme: revoluțiile cognitive, agricole, științifice (inclusiv industriale) și umaniste. Ignoranța fundamentală a autorului cu privire la dezvoltarea centrală a limbajului și a minții în cadrul situației comunicării umane îl împiedică să surprindă dinamismul real al apariției lui Homo Sapiens și al viitorului său, ceea ce îl conduce pe autor spre o viziune pur distopică a viitorului.

Cuvinte cheie: limbajul articulat, 'out-of-black-africa', mintea / limbajul, filogenia, psihogeneza.

These two books were originally written in Hebrew, a root language of the Semitic family. I consider here the translations in English, a (synthetic)-analytical language of the Germanic branch of the Indo-European family. The two languages being fundamentally different in morphology, syntax, and

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lexicon, the translation might have betrayed the original. Does Hebrew have a word for “mind,” an essential concept as for the emergence of Homo Sapiens with the particular meaning it has in English, equivalent to the Buddhist concept of “citta” in Pāli, knowing French or German do not have such a word? Even the Latin word “mens” seems to have a different meaning since it refers to a mythological goddess, Mens or Bona Mens (“Good Mind”), the personification of thought, consciousness and the mind, and also of “right-thinking” (festival on June 8, temple on the Capitoline Hill vowed in 217 BCE, dedicated in 215 BCE.² The Greek “noos” or “nous” sets too much of an emphasis on the intellect.³

But I want to show how this author and his two books are following some rather popular ideas and trends that are mostly scientifically misguided. I will have to concentrate on a few elements that seem essential to me though I will neglect a lot more. In spite of its inaccuracies the book is bound to misguide people in their everyday beliefs. And that is dangerous. But the best response is to discuss these ideas and bring up arguments and facts that point in a different direction.

1. *Sapiens, A Brief History of Humankind (2011)*

The whole book is based on the assertion that around 70,000 years ago Homo Sapiens emerged fully human from an unstudied and unconsidered past. No phylogeny about it. At this date, Homo Sapiens enters history. The 230,000 previous years are rejected into oblivion. Note by this time all migrations out of Black Africa are finished or coming to an end. The book totally overlooks this sole origin of Homo Sapiens and the three vast migrations out of this Black Africa, which in 2011 goes against many authors and archaeologists. (Dennel, 2009)

The basic idea is that human history is a continuous process but punctuated by a few “revolutions.” He identifies three in his first book: the Cognitive Revolution (70,000 years ago), the Agricultural Revolution (12,000 years ago), the Scientific Revolution that includes the industrial revolution (500 years ago). He will add a fourth one in the second book: the humanist revolution identified as Humanism, a process, and ideology that started in the 18th century.

a. the cognitive revolution

The concept of a cognitive revolution is out of touch with the very long process of Homo Sapiens’ emergence, especially when saying by then Homo Sapiens had a fully developed language. This is plainly absurd because that

² <https://en.wikipedia.org/wiki/Mens>, accessed July 20, 2018

³ <https://www.britannica.com/topic/nous>, accessed July 22, 2018

fully developed language (singular) negates the fact that language went through a phylogeny that enabled the human mind to construct that fully developed language in three stages following the three successive articulations mapped on the three migrations out of Black Africa producing three vast families of languages, all being able to work fully within the human communicational situation that was and is the matrix of linguistic syntax. (Coulardeau, Eve, 2017) Many or most historians, archaeologists, and anthropologists state that humanity went through an important change around this date but most of them know that it is the result of a slow long evolution. Sally McBrearty (McBrearty, Brooks, 2000) insists on the emergence of human characteristics among Homo Sapiens in Black Africa as far back as 300,000 years ago.

The mind and language are two virtual constructs of the brain that give from the very start, from the very first human lexical items (emerging from plain animal calls) the power to conceptualize, hence to reach abstraction. We could discuss whether our Hominin ancestor, Homo Ergaster, had at least some starting elements in that direction, or if Homo Erectus who migrated to Asia a long time before had some too, or if Neanderthals and Denisovans who evolved from Homo Erectus in the Middle East and Central Asia respectively had some too. But the first step in devising conceptualizing language is the rotation of vowels and consonants that no monkeys have in their calls. This first articulation enabled Homo Sapiens (and maybe hominins before him) to produce thousands of lexical entities, to name everything, and thus start on the road towards conceptualization, a whole world beyond what the brain can do, i.e. discriminate patterns.

And we must keep in mind the mutations that made this linguistic evolution possible were not naturally selected for that purpose but all for Homo Sapiens to be the fast bipedal long-distance runner that enabled him to survive and thrive in the savanna.

Language went on developing with the second articulation of spatial-temporal categorization, and the third articulation of syntactic integration in words. These three articulations produced root languages (Semitic and Afro-Asiatic), stem languages (isolating character languages), and frond languages (agglutinative and synthetic-analytical languages). We can say that this evolution is finished by 70,000 years BCE when the last migration out of Black Africa is in the process of coming to an end. But Hebrew that is a first-articulation language is absolutely able, like all languages, to develop full communication because the mind is able to conceptualize the discursive syntax contained in the communicational matrix to produce fully developed discourse. The "langue" itself is very limited but the "conceptualized discursive syntax" compensates this limited "langue." Same thing with second-articulation languages. Only third-articulation languages integrate the whole communicational syntax in their langues.

As soon as the rotation of vowels and consonants is fully captured Homo Sapiens is able to conceptualize and thus is on the road to development with one single engine leading the way: the mind/language that is the heart of communication and cognition. (Coulardeau, May 2018)

b. the agricultural revolution

Homo Sapiens would never have survived the Ice Age (peak 19,000 BCE) if it had not been a linguistic and pragmatic experimenter-speculator-conceptualizer from the very start long before agriculture with taking care of the natural garden entrusted to him by nature itself. If you want to survive, you better take care of what feeds you.

That's the mistake of this author. He does not see how Homo Sapiens are managing their concrete, material conditions to survive and expand, hence division of labor. He quotes page 300–301 the Queen of England Eleanor (of Castile), the wife of King Edward I. She gave birth to 16 children between 1255 and 1284, thus over 29 years. That means one pregnancy every 21–22 months. Only the last child was a boy. All others were girls and out of the 16 children only 6 got to the procreational age of 12 and then to adulthood. Ten of these children either did not survive birth or died in infancy and childhood. That represents 37.5% of survival to adulthood (that does not mean all these six children procreated). Homo Sapiens' life expectancy was about 29 and it remained around 29 till the 18th or 19th centuries.

Women were fertile from 13 to 29. That means 16 years and we should consider those who died during their pregnancies, while delivering, and from various accidents or diseases. If we transfer the 21-22 months between pregnancies and births women before the Ice Age could carry about seven pregnancies. With the survival rate of Queen Eleanor, only 2.75 children would reach maturity. It is not feasible for the survival and expansion of the species: Queen Eleanor living in perfect comfort and with all medical care available does not compare. Women had to shorten the distance between two pregnancies to 18 months. Then a mother can have 10 or 11 pregnancies. If we reduce the survival rate to 33% that makes 3.5 surviving children brought to maturity. A woman has to be impregnated within the first six to nine months following her delivery. Clearly, women are either pregnant and/or carrying an un-autonomous child on her back, and taking care of at least two more who are still dependent. Women as a collective body have in their own hands the survival and expansion of the species provided they abide by a strict division of labor. Women as soon as they are 13 have to dedicate their life to bearing, carrying and caring for children collectively. This is an essential division of labor

imposed by the long dependence of children. But if we follow recent research on cave paintings in Indonesia and in Europe with many handprints essentially from women with a few very young teenagers (some male), women had another dimension: they were the artists, the priestesses, the go-between of humans and spirits, they were responsible for the spiritual life of the community.⁴

Y. N. Harari does not have one single word on the subject, and that division of labor must have gone on since the emergence of Homo Sapiens 300,000 years ago. It must also have been the case with Neanderthals and Denisovans, and maybe Homo Ergaster and Homo Erectus before them, at least in proportion to the dependence of young children.

c. The scientific revolution

Y.N. Harari shows the same ignorance of real conditions about this scientific development he pinpoints to Francis Bacon (1561-1626), a purely arbitrary choice. Why not Nicolaus Copernic (1473-1543), Galileo Galilei (1564-1642), or Johannes Kepler (1571-1630). And yet this would have been biased. Great scientists lived in Greece or Egypt many centuries before: Archimedes (287-212 BCE), Euclid (ca. 350-ca.250 BCE), Pythagoras (570-495 BCE), or Ptolemy (100-170). Not to speak of Arab scientists popular in Europe up to the 13th century. And what about Asian scientists from China, India, or Persia? What about the Maya and American Indian scientists and cosmologists?

But Francis Bacon and his contemporaries were the children of a historical event that was more important than a manifesto by Francis Bacon. From 1349 the Black Death claimed in fifty years between 50% and 75% of the European population. The 100-year war added its own catastrophe. When it came to an end around 1425-1450 Europe had lost all its elite and needed a tremendous surge in education. Universities had to multiply but manuscripts were rare, hardly available everywhere. That's when an invention was devised by Johannes Gutenberg and financed by Johann Fust. The printing press produced hundreds of copies of any book in months for each one of them, which enabled the education of an elite to take over the countries. It also brought up Luther's and Calvin's critical mind who could not be considered as plain heretics and had to be coped with? Protestantism was the first step of this newly acquired education and freedom of thought. Without this invention around 1450, there would have been little scientific development This is totally ignored by Y.N. Harari.

⁴ <https://news.nationalgeographic.com/news/2013/10/131008-women-handprints-oldest-neolithic-cave-art/>, accessed July 22, 2018

d. The humanist revolution, humanism

The long emergence of basic human rights is ignored by the author. The first document in Europe asserting the freedoms of people (noble, ecclesiastical and commercial elites) was signed in 1100 by King Henry I (1068-1135). These human rights had to wait till the US declaration of independence in 1776 for the general assertion that all men are created equal, and then the French Revolution in 1789 for the end of feudalism, and a lot more for the abolition of slavery is still plaguing our modern life here and there in various forms. To attach humanism to the 18th century Enlightenment is neglecting all that came before and erasing that it is far from being complete today. (Coulardeau, March 2017)

Speaking at the level of humanity, we should consider other continents and situations where basic human rights have been negated, or limited, or unguaranteed, even for a long time. On the other hand, Buddhism emerged six centuries BCE, and it refused the Hindu caste system, and asserted total equality for everyone as for their possibility to get onto the eightfold path to enlightenment, including women, and the infamous untouchable Dalits.

To conclude on this book, Harari is more ideological and even political than historical or anthropological. He is entirely Nostratic-centered at best and Europe-centered with the inclusion of Israel at worst. It excludes Asia, Africa, and Native America before Christopher Columbus (actually quoted three times in the second book as historical reference). No serious study of these excluded continents and people is included, just at best some allusions to support the author's assertions. Y. N. Harari does not seem to understand that every important change in the history of humanity that started 300,000 years ago – at least – is always the result of a long process, an evolution that is accelerating. It took humanity about 230,000 years to develop language up to the third articulation, though communication was maximum all the time, and yet developing, but it only took humankind 64,000 years to develop writing, and then 5,000 years to reach printing and the printing press, then 500 years to develop computers, and 30 years to develop the Internet (first connection between two computers with a telephone line in the fall 1989 between Stanford University and Oakland's US military headquarters about seventy-five kilometers away).

2. Homo Deus, A Brief History of Tomorrow (2015)

The second book is by far a lot more frustrating than the first one, and the western bias is obvious from the very start with his announcement that famine, plague, and war have been put down.

a. Famine, Plague, and War

“In 2010 famine and malnutrition combined killed about 1 million people, whereas obesity killed 3 million.” (6) “The era when humankind stood helpless before natural epidemics is probably over. But we may come to miss it.” (16) “We have managed to bring famine, plague, and war under control thanks largely to our phenomenal economic growth, which provides us with abundant food, medicine, energy and raw materials.” (23) And it is after this disquieting diagnosis that he adds “Yet this same growth destabilizes the ecological equilibrium of the planet in myriad ways, which we have only begun to explore. Humanity has been late in acknowledging this danger, and has so far done very little about it.” (23)

He, of course, overlooks the many hundred million people who live in constant malnutrition and suffer the nasty physical, biological and mental consequences of this fate when you start being chronically hungry in the womb of your mother. He alludes to AIDS but what about Ebola, smallpox, typhus and so many other epidemics here and there, in Yemen, in Africa, or in Latin America. “Although smallpox is gone and many of the old infections are well controlled, new diseases have risen to prominence, especially heart disease, diabetes, cancer, substance abuse, and mental illness. The stories we tell about the history of epidemics in Indian country influence the policies we pursue to alleviate them today.”⁵ And David S. Jones in this abstract does not mention Post Traumatic Colonial and Genocide Stress Syndrome, a variety of PTSS hardly even alluded to in standard psychiatric circles. And he does not speak of PTSS for millions and millions of people, both in the military forces intervening here and there to impose western rule and in the population suffering from these interventions. And constrictive bronchiolitis plagues veterans from Iraq and Afghanistan.

“The military used burn pits to dispose of pretty much everything, from tires to batteries to styrofoam, all burned near where soldiers lived and where soldiers worked. The horror of car bombs produced combat dust and debris. Soldiers inhaled all that dust, all that smoke, and it may have afflicted them with higher-than-average rates of asthma, bronchitis, and other pulmonary disorders.”⁶

⁵ David S. Jones, Summary of “Epidemics in Indian Country,” December 2014, DOI: 10.1093/acrefore/9780199329175.013.27, <http://americanhistory.oxfordre.com/view/10.1093/acrefore/9780199329175.001.0001/acrefore-9780199329175-e-27>, accessed July 21, 2018

⁶ “Iraq and Afghan war vets exposed to toxic air struggle for breath — and a diagnosis,” PBS Newshour, July 20, 2018 6:35 PM EDT, <https://www.pbs.org/newshour/show/exposed-to-airborne-hazards-countless-veterans-struggle-to-breathe-and-get-care>, accessed July 21, 2018

And that is only considering one case: US military operations in the Middle East; What about all sorts of pollution, burn pits and incinerators for garbage all over the world? And I should add anti-depressant dependance like in France and the opioid epidemic in the USA, not to mention drugs, prescription or illegal drugs, of all sorts and their various addictions. We may have proved able to contain war in a few limited pockets, thus limiting the number of casualties per year, far under what it was between 1939-1945 in the world, at the very least ten million per year. But what about the dozens of millions of deported and displaced people and refugees⁷, not to speak of economic migration?

b. WEIRD

What is this point of view? He finally identifies it as “WEIRD” defined as meaning “Western, educated, industrialized, rich, and democratic” (412). Every single element excludes the majority of humanity if we listen to the commonplace news item in the west. If “educated” may be wider than the other parameters it is mainly due to China, far ahead of the west. Even “industrialized” is not that clear as for including any country outside Europe and Northern America, even China being debatable in western media. But “democratic” excludes half of Europe (Russia, Belarus, etc.), all of Asia, even India and Sri Lanka whose democratic systems are under stress, and listen to the news all about the rise of the Strong Man, and even Trump is included in that move, the president of the USA who was elected with a minority of the popular vote. And democracy is being hacked in western countries, or so they say.

The essential project of this book is not to expound on a vision of the future but to develop a fully dystopic prediction with no in-bred or in-grown protection: “Dataism thereby threatens to do to Homo Sapiens what Homo Sapiens has done to all other animals.” (460) How can he come to such a weird conclusion? And what is “dataism”?

He goes back to his revolutions: the cognitive, agricultural (including writing and money), and scientific (attached to Christopher Columbus crossing the Atlantic in 1492 – WEIRD indeed: the beginning of the colonization of the world by Christian Europe) revolutions. He adds the fourth humanist revolution in the 18th-19th centuries. But he adds a fifth one, the digital revolution that negates humanity with “dataism.”

“A bolder techno-religion seeks to sever the humanist umbilical cord altogether. It foresees a world that does not revolve around the desires and

⁷ “Over the past two decades, the global population of forcibly displaced people has grown substantially from 33.9 million in 1997 to **65.6 million in 2016**,” <http://www.unhcr.org/globaltrends2016/>, accessed July 22, 2018

experiences of any humanlike beings. What might replace desires and experiences as the source of all meaning and authority? As of 2016, there is one candidate sitting in history's reception room waiting for the job interview. The most interesting emerging religion is Dataism, which venerates neither gods nor man – it worships data." (427)

c. Dataistic Purblindness

Y. N. Harari is on the same trail as Ray Kurzweil (Kurzweil, 2005): humanity can only survive as partial or total trans-human. "Human can no longer cope with the immense flows of data. Dataism is most firmly entrenched in its two mother disciplines: computer science and biology." (429) Mankind has confronted itself with three variants of humanism: liberal, socialist, and evolutionist humanism. The first one was based on capitalism and the free market, the free circulation of goods at a price determined by the free market. Nothing to do with liberalism that advocates egalitarian social measures but it failed to produce the equality it preached: inequality has never been more important than in our western world. Socialist humanism, meaning communism, preached by Karl Marx, Lenin, Stalin and Mao Zedong, ended in dictatorship and the elimination of millions of people opposed to the system based on class differences and struggle. He identifies the third type as national-socialism, a race-based socialism trying to change the racial composition of society. It led to dictatorship, the Second World War, and the final solution for non-Aryan people (Jews, Gypsies, and all opponents: trade-unionists, communists, socialists, even Christians). He thus discards everything to describe his dataist religion in a sequence of ternary sets.

Three practical developments:

- 1- Humans lose their economic and military usefulness;
- 2- Value in humans collective but not individual;
- 3- Value only in a very limited unique upgraded superhuman elite of individuals. (356)

This produces a useless class, all those made useless by Artificial Intelligence machines defined by **three principles**:

- 1- Organisms = algorithms;
- 2- Algorithmic calculations indifferent whether the calculator is organic (eventually human) or non-organic;
- 3- Non-organic machines can do all that organic beings can do. (372)

The liberal belief in individualism is founded on the **three assumptions**:

- 1- An in-dividual cannot be divided;
- 2- My authentic self is completely free;
- 3- I know myself better than anybody. I am how I feel and what I want.

The voter knows best, the customer is always right and beauty is in the eye of the beholder. (382-3)

He rejects **all three assumptions**:

- 1- Organisms = algorithms; humans = 'dividuals';
- 2- Algorithms for humans are not free;
- 3- An external algorithm can know me better than I can. (383)

He flippantly rejects techno-humanism as an illusion. Techno-humanists are trying to upgrade the mind (319) that has lost **three things**:

- 1- Smelling;
- 2- Paying attention;
- 3- Ability to dream. (421)

Then he defines dataism, his fifth stage of human history, the dataist revolution: the full merging of humanity in ONE data processing system, the Internet-of-all-things. Then the conclusion is absolute:

"Once this mission is accomplished, Homo Sapiens will vanish." (443)

Humanity has moved from a deocentric vision to a homocentric conception and finally to a datacentric logic.

The freedom of information is not for individuals to have some free choice of information, but it is the freedom for information to circulate. In this data-centered world those who control data control the information circulating on data processing networks, the worst dictatorship possible programmed in this Internet-of-All-Things in which humans are nothing but things, algorithms transcribed into a big mass of 1 and 0, bit and bytes, in a language that no human mind will ever understand, even the controlling elite. Data-centered does not mean the world is centered on data but that data controls the whole world from who knows where? This data is the Architect of *The Matrix*. (The Wachowski, 1999, 2003)

"The Architect is a highly specialized, humorless program of the Machine world as well as the creator of the Matrix. As the chief administrator of the system, he is possibly a collective manifestation, or at the very least a virtual representation of the entire Machine mainframe."⁸

The Wachowskis have described this Internet-of-All-Things world better than anyone, and yet in this cinematographic saga, the Architect is defeated, at least for a while since he is not destroyed, and humanity can have some survival time thanks to the deal they negotiated with the machine world to stop the war manipulated by the Architect. As a film saga it is entertaining,

⁸ http://matrix.wikia.com/wiki/The_Architect, accessed July 21, 2018

as a predictive self-defined historical research book it is frightening. Not the content but the way the author is trying to manipulate us into accepting that dystopic future because it is inescapable.

d. Y. N. Harari's conclusion

On his last page, his last words are **three interlinked processes** and **three key questions**. He reaches Solomon's famous wisdom in the shape of two equilateral triangles crossed into David's Star.

First, **the three processes**:

- 1- Science is converging on an all-encompassing dogma;
- 2- Intelligence is decoupling from consciousness;
- 3- Non-conscious highly intelligent algorithms will know us better than we know ourselves.

And then **the three key questions**:

- 1- Are organisms just algorithms?
- 2- What's more valuable—intelligence or consciousness?
- 3- what will happen to society, politics and daily life when non-conscious highly intelligent algorithms know us better than we know ourselves?

The last question sends us back to the three processes like the last sentence of the last volume of Stephen King's *The Dark Tower* is the very same first sentence of the first volume. There is no freedom, just adventure in a programmed world where we have absolutely no say as for the end target of this adventure.

Conclusion

This kind of ideological campaign is only possible as a dogma of propaganda because it negates the heart of man's cognition and evolution, the couple MIND/LANGUAGE that both develop from man's physiological mutations naturally selected to make Homo Sapiens a fast bipedal long-distance runner, the only chance he had to survive? In this survival battle, Homo Sapiens had to develop the communication he inherited from his ancestors, Homo Ergaster, and progressively integrate the communicational situation of his as the syntax of his communication. The phylogeny of his articulated languages dictates the three phases leading to the full integration of the communicational syntax in the languages of his languages.

Along the way, the migrations out of Black Africa produced three vast families of languages with minimal, then reduced and finally full integration of the communicational syntax into language with a conceptualized discursive syntax inversely proportional to the syntax integrated in language.

Man is thus not an algorithm because his mind/language can develop constantly and new machines (he has invented) will produce changes in his mind and his language (individual and collective) that will enable him to keep control of these machines.

Y. N. Harari seems to forget that man is an autonomous self-learning organism that is a lot more powerful as for that than any machine he has so far and he will invent. There surely is a challenge in this stake but so far humanity has always been able to solve even its worst possible challenges.

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