

Yuval Noah Arari, *Homo Deus: a brief history of tomorrow*, Londres, Harvill Secker, 2016, 464 pages\*



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Yuval Noah Arari is an Israeli historian and professor at the Hebrew University of Jerusalem. Early in his career, he first specialised in Medieval History and Military History but, after his doctorate at the University of Oxford, he dedicated to World History and macro-history processes. He twice won the Polonsky Prize for Creativity and Originality, in 2009 and 2011; he won the Society for Military History’s Moncado Award, in 2011; he was elected to the Young Israeli Academy of Sciences, in 2012.

In one of his previous books, *Sapiens*, Harari intended to write what he called a brief history of humankind. Inspired by Jared Diamond’s (1997) *Guns, Germs, and Steel*, he organised the book around three major Revolutions – Cognitive, Agricultural and Scientific – in which he analysed the journey of our species, simply referred to as *Sapiens*, from the pre-history to the technological challenges of the present. The book ends with what we may call a cliff-hanger, leaving the reader with some hovering questions: What will come next? What will be the future of our species? (Arari, 2012).

Possible answers to those questions arrived in this book, *Homo Deus – a brief history of tomorrow* (2016). As the argument goes, due to the decrease of starvation, epidemics, and wars, which are no longer major problems – at least in the Western World – humankind started to look for a new agenda (the book was written before the COVID-19 pandemic). The three new global goals identified by the author are the search for immortality and eternal youth, the collective search for happiness, and the acquisition of divine powers. In relation to this last goal, Harari clarifies that he is not referring to a metaphysical quality, neither is talking about omnipotence. Instead, he is thinking in gods like those of Hellenic or Hindu cultures, with superpowers but, at the same time, with flaws and limitations. If until the present the improvement of human capabilities was achieved

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by external instruments, in the future human bodies will be biotechnologically enhanced or will benefit directly from a fusion with those instruments. Gradually, through scientific and technological innovations, *Homo Sapiens* will become *Homo Deus*.

Divided into three parts – “*Homo sapiens* conquers the world”, “*Homo sapiens* gives meaning to the world”, and “*Homo sapiens* loses control” – the book explains, in a detailed way, the author’s arguments, makes a reflection about the purpose of those goals for humankind, and analyses the possible consequences of that historical and gradual process already taking place. In other words, the author intended to write a brief history of tomorrow but, as the song goes, “tomorrow comes today”, and the reality that Harari envisions is based on a technological revolution that is already happening, instead of something to be.

This book is a pleasant read, focusing on a pertinent topic, in which history is used to help us understand the present and prepare ourselves to near future debates. Nevertheless, some considerations must be made regarding its content.

On the positive side, I must mention that, in a book that talks about the future, the author reinforces, more than once, the idea that he is making predictions instead of prophecies, and that the mission of the book is to discuss the choices that we face at the present.

Although one can find some mistakes in the figures presented or in the descriptions made, they were detected post-publication and, corrected through an erratum made available in the author’s website, an attitude that strengthens the trust in this work.

The topic of the book is analysed in a balanced way, given that passion, and intensity with which we read the first chapters about positive results obtained through science and technology, in the last centuries, are opposed to the concerns and ethical reflections made in the final chapters about the potential misuse of digital algorithms, biotechnology, nanotechnology, artificial intelligence (AI) or the Internet of Things (IoT).

But other aspects were not so well achieved. For example, in the narrative used by the author, in which he asserts that the human improvement could only be possible after the solution of previous major problems such as wars, famine and diseases, Harari seems to ignore that attempts to improve humankind go back, at least, to the Enlightenment. Some centuries before, Renaissance authors like Thomas Morus (1478-1535), Tommaso Campanella (1568-1639) and Francis Bacon (1561-1626), in their utopian books, developed different ideas on how to achieve a better

society, including a reflection on how to get the best offspring. Later, Pierre-Louis Moreau de Maupertuis (1698-1759), Pierre Jean George Cabanis (1757-1808) or John Gregory (1724-1773), aware of the improvements in the breeding of plants and animals to obtain better varieties, asked why not to do the same with the humankind, to obtain healthier individuals. In the same period, the French-led medical movement called *meliorism* was developed. This movement asserted that the regulation of marriages should belong to medical sciences instead of social conventions, following the public-health program known as *conjugal hygiene*, which aimed to obtain an increasing number of healthy children, which would eventually lead to healthier generations. These ideas developed into different directions until Charles-Augustin Vandermonde (1727-1762) proposed his practical program of mixing *races* for the improvement of not only the health but also the beauty of the human species (Pinto-Correia and Monteiro, 2014).

One misconception I found in the book was the direct link between humanism and religion, or even between science and religion. This could only be accomplished because the author used his own definition of religion:

religion is created by humans rather than by gods, and it is defined by its social function rather than by the existence of deities. Religion is anything that confers superhuman legitimacy on human social structures. It legitimises human norms and values by arguing that they reflect superhuman laws.

He also criticises the confusion between religion and other concepts such as superstition, spirituality, belief in supernatural forces or faith in gods but, in fact, we can find these in almost all religions. The trick I find here consists of removing the undesired characteristics for the argument, redefining a previous established concept, and use the new definition to sustain his case.

In the last section of the book, one would expect that his reflection could have gone a little bit further, regarding the risks responsible for *Sapiens*' loss of control. Although the possible risks related to AI, IoT or digital algorithms are sufficiently explained, the fear of innovation, for instance, is not adequately explored. The author gives an example related to the music composition: a group of people shared the common prejudice that it would be easy to find a music written by a human, but, after

being listening to a concert, the public had a violent reaction when they were not able to distinguish a music created by a machine from a music created by a human or even from the original. This episode could be easily associated to other cases, when people cannot distinguish aquaculture produced fish or even Genetically Modified Organisms (GMOs), from the *natural* ones, by its flavour or phenotypic characteristics. Behind all these cases rest the same unjustified prejudice and fear from new production technologies.

Harari asserts that humans are nothing more than organic algorithms, implying that, thanks to AI and other technical innovations, relatively soon those will be surpassed and replaced by digital algorithms leading to new non-human being species. Here, he could have debated social conflicts like Human vs. Machines, and how would humans react to this new super-powered species: Are they really a different species? Are they still humans, or instead trans-humans, or even post-humans? If so, what would it take to consider a new organism? Is there so much difference between a person with glasses and an internally modified person? Would we react in the same way in front of a machine or a partially-machine relative? Would they be treated as equals, or as migrants/refugees?

In my opinion, the most probable scenario is that not only one species, but several of them will appear, that they will not replace each other, but coexist with different functions, with the same technology adapted to different realities, like David Edgerton (2007) discusses in his paper about what he calls “Creole Technologies”. In other words, I was willing to find, in this book, a discussion about technological determinism vs. social constructivism, like those referred to by Philip Scranton (1996) or Paul E. Ceruzzi (2005).

In conclusion, *Homo Deus*, although it is not flawless in its arguments, it is, nevertheless, a very interesting read in the fields of World History and macro-history processes, covering from distant ages to the present and promising to foresee future socio-technological perspectives. This book may be read by undergraduate students, academics, and start-up entrepreneurs. Although Harari states that this book is not intended to be a manifesto, I sincerely believe, after reading it, that it will lead to much different social and political manifestos. Because the book focus on themes like IoT, AI or digital algorithms, that soon will be openly, and more frequently, discussed by societies, this is a book that should also be read by politicians, if they do not want their countries to stay behind on innovation.

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JOÃO LOURENÇO MONTEIRO  
CIUHCT – Interuniversity Centre for the  
History of Science and Technology  
[jflmonteiro@gmail.com](mailto:jflmonteiro@gmail.com)