BOOK REVIEW

***Homo Deus: A Brief History of Tomorrow*.**

By Yuval Noah Harari. New York: Penguin Random House, 2015, 513 pages.

Yuval Noah Harari has just completed a trilogy of books. The first, *Sapiens: A Brief History of Humankind* (2014), was an international hit. The second, *Homo Deus: A Brief History of Tomorrow* (2015), has not yet been as successful. The third, *21 Lessons for the 21st Century* (2018), explores the same themes as the first two, but from the perspective of the present. *Sapiens* explores the past, *Homo Deus* the future, and *21 Lessons* the present. The breadth of his ideas is utterly fascinating.

Harari was born in Haifa, Israel, in 1976, and received his PhD from the University of Oxford in 2002. He currently teaches at Hebrew University in Jerusalem, specializing in history. *Homo Deus* won the Handelsblatt's German Economic Book Award for the most thoughtful and influential economic book of the year, and in 2018 Prof. Harari gave a keynote speech on the future of humanity on the Congress Hall stage of the World Economic Forum annual meeting in Davos, Switzerland. What he does so well in his talks and books is deal with very long history, to the point where evolution is no longer viewed simply as a biological issue, but a historical one. He asks questions like: How do history and biology connect? How are humans different from other animals? Have we made progress over time, and how do we identify progress? Does history have a direction? These kinds of questions are largely unanswerable, and so any answers given depend much on presuppositions. Harari maintains that "intersubjective fictions," religion being one, are crucial to how history progresses, and even though science attempts to debunk these fictions, he does not see how humans can live without them. Fictions always sneak back into human cultures, and in the enterprise of science, the fiction that sneaks in is the idea of liberal humanism.

Homo Deus is separated into three sections: Homo Sapiens Conquers the World, Homo Sapiens Gives Meaning to the World, and Homo Sapiens Loses Control. The first section is about humanity conquering the world by reining in the famine, war, and plague that have been a significant part of human history. Indeed, until just recently they were considered part of our imperfect nature, and problems with which humans would have to contend until the end of time. Perhaps some people still think so. Harari's point is that even though these problems still exist, they are no longer considered uncontrollable forces of nature to which we simply say "God's will be done." Rather, they are manageable challenges that we can analyze, investigate, and confront. Consequently, in today's world we are more likely to die from "bingeing at McDonald's than from drought" (4).

An interesting point made in this section is what Harari calls the "paradox of knowledge." The paradox of historical knowledge is that knowledge which does not change behavior is useless, but knowledge that changes behavior quickly loses its relevance. This is why Marx's view of history was not wrong. What it did was change people's behavior so that Marxist ideology became largely irrelevant thereafter. This insight regarding knowledge is also a large part of the reason why futuristic predictions are so problematic. Things change, and therefore we need new knowledge because the old knowledge no longer applies. The implication of this is that humanity never gets to the leftist hope of an earthly utopia, nor is it possible simply to maintain the traditional status quo. By conquering the world, Harari does not mean creating heaven by a rightist, leftist, or any other definition. He means being able to manage to a much better extent than ever before long-time enemies such as war, famine, and plague.

In the second section, Homo Sapiens Gives Meaning to the World, Harari reiterates the point he made in his first book *Sapiens*; that around 70,000 years ago in what he calls the Cognitive Revolution, humans acquired the ability to talk about things that only existed in our imaginations. Animals, he asserts, live in a dual reality of objective entities such as rocks, trees, and rivers, as well as subjective experiences such as fear, joy, and desire. Humans, in contrast, live in a triple-layered reality. "In addition to trees, rivers, fears and desires, the Sapiens world also contains stories about money, gods, nations and corporations" (181). Over time, gods and money (culture) had more impact on our history than rivers, fears, and desires. It is these intersubjective fictions that enable us to co-operate with each other, and that separate humans from other animals. Intersubjective fictions are what have allowed humans to dramatically change, or to use Harari's term, conquer the world. However, these fictions change or evolve over time because nature changes as a result of both human and non-human actions. When nature changes, our hopes and fears also change, and thus our stories need updating.

Religion is, according to Harari, an intersubjective fiction. The value of religion is that it helps create order, social structure, and meaning. Meaning seems intricately connected to social structure since, if the world is inherently chaotic, anything we do will make no difference. And if actions make no difference, then they, and the world, appear meaningless. This is the modern dilemma in which science has become the dominant fiction. Science is not interested in social order or meaning; it is interested in power. Power here means the ability to create technologies that allow us to harness nature in novel and powerful ways, and perhaps even to change ourselves fundamentally by altering our genome.

Of course, both religion and science are interested in truth, but they have profoundly different visions of what it is. Traditionally, religion saw the world as existing for some inherent purpose, either through believing in a personal God as Christianity does, or via simply seeing the universe as having some cosmic order as the early Greeks did. Either way, the idea was that there is an overall truth and purpose to the world to which humans must submit. Science on the other hand, does not see a cosmic plan; it only sees matter. Its vision of truth is a material

world existing for no purpose. The difficulty for this view is maintaining social order. If the world is purposeless and random, then on what basis do humans continue to try and live in social harmony? Why try? This is the angst that Kafka, Sartre, and other existentialists expressed. Such a world was seen by them as absurd and meaningless.

The way the scientific world-view has dealt with this problem is by developing a new religion, a sort of anti-religion, called humanism. Whereas traditional religion views the world as part of some grand cosmic plan, humanist religion denies that there is such a plan to which humans are limited. Hence we can do as we please. But then in order to escape the chaotic social consequences of such a view, meaning, says Harari, is snuck back in by allowing humans to create their own purpose. "The great political, artistic and religious project of modernity has been to find a meaning to life that is not rooted in some great cosmic plan. We are not actors in a divine drama, and nobody cares about us and our deeds, so nobody sets limits to our power – but we are still convinced our lives have meaning (258)."

The third section, Homo Sapiens Loses Control, is then about how our grab for power and attempt to create meaning has created our current technological state, and how we are about to enter a phase where technology changes us so fundamentally that we will no longer be Sapiens. Harari's reason for believing that this will happen is because the modern religion of liberal humanism, like all religions, believes it is based on factual statements. Stated conversely, liberal humanists are reluctant to believe that humans will lose their pre-eminent place in a future world because they believe liberal humanism is based on factual statements. However, this belief does not stand up to rigorous scientific scrutiny. For example, modern technology and science has moved beyond the point where our humanist beliefs in individual liberty can continue to claim that we have free will. According to cognitive science, it is ever more difficult to believe in a single indivisible self, and once this belief becomes suspect, a new ideology, post-humanism and all it entails, is well on its way to being born.

Harari identifies two types of religions that may arise: techno-humanism and data religion. Techno-humanism is the more conservative of the two, as it continues to see humans as the apex of creation. Under this form of ideology, technology is used to upgrade our mental and physical abilities. The interesting idea raised here is that he believes "intelligence is decoupling from consciousness" (361). Robotic artificial intelligence is showing us that machines are capable of performing all kinds of tasks that at one time were only possible by conscious intelligence, and the fact that these artificial intelligences can now perform these tasks much better than we can means we will need to upgrade in order to stay relevant and agentic. Human consciousness may well be overrated. Techno-humanism is a variant of the older evolutionary-humanist idea which Hitler tried to use to create super-humans. Techno-humanism will try to evolve humans by genetic engineering, nanotechnology, and developments of that ilk. Nevertheless, it faces a dilemma. Humanism believes humans are the most important entity in the universe, and therefore tries to push humankind into developing

more and more technologies that will allow us to control not only more of the universe, but also ourselves. But once we have control of ourselves, then what? What is the purpose of redesigning your will? There is a paradox here: as long as humans are believed to be the most important source of authority and meaning, it is and will continue to be very difficult to deal with technologies which contest that belief.

So the bolder prediction is that we end up creating a world where human desires and experiences are no longer pre-eminent. This world Harari calls Dataism, because it will venerate data instead of gods or humans. The reason he chooses data as the new paradigm is because the life sciences view organisms and humans as biochemical algorithms (one may not agree that giraffes, tomatoes, and humans are simply different methods of processing data, but it is current scientific dogma), and computer scientists have learned to engineer increasingly sophisticated electronic algorithms. If the same mathematical laws apply to both biochemical/organic and electronic algorithms, then the differences between animals/humans and machines is collapsed. Dataism then expects electronic algorithms to outperform biochemical ones. It also offers the consilience that E. O. Wilson predicted in his book, *Consilience*: a single over-arching theory that unifies all the disciplines, humanities as well as sciences. It inverts the traditional pyramid of knowledge where data is transformed into information, then into knowledge, and finally into wisdom. Here data is seen as much too vast for the human brain to process, and thus knowledge and wisdom become suspect. So why not put our trust in big data and computer algorithms?

Anytime someone attempts to predict the future, readers should be cautious. Indeed, a world run by machines, data, and algorithms seems far-fetched. Nevertheless, the present cultural climate of postmodernism is one where big data does seem to overwhelm wisdom, and Harari recognizes that.

The strength of the book is how Harari deals with the intersection of religion, science, and humanism. Both Richard Dawkins in *The God Delusion* (2008) and Daniel Dennet in *Breaking the Spell: Religion as a Natural Phenomenon* (2007) treat religion simply as a belief in the supernatural. As such they find it primitive, fairytale-ish, and unnecessary. Dennet is more willing to grant religion a role in human culture, but of course he is not willing to legitimize the idea of a supernatural being. Neither does Harari believe in the existence of God. But what Harari does so well is show how we all believe in fictions, whether they are fictions pertaining to a superhuman order or a humanly created order. His point is that even a humanly created order is viewed by its creators as given, not constructed, because for an order to have authority it must be seen as having an independent reality; it cannot be seen as a social construction. He knows of no society that does not tell its members they must obey some moral law seen as lying outside and beyond the individual. So by showing how we all, religious people as well as atheist-humanists, invent fictions that we believe are rooted in non-fiction, he lessens the gap between the two.

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