

Life 3.0: Being Human in the Age of Artificial Intelligence (ISBN-9781101970317)

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"When looms weave by themselves, man's slavery will end."—Aristotle, 4th century BC

The notion that Artificial Intelligence (AI) will augment instead of replacing humans has become a prevalent idea and an influential one in the study of AI today. It is a reassuring argument, albeit a deeply misguided one. Max Tegmark, author of Life 3.0, writes about what life will be like for humans as and when AI starts to dictate the terms of our daily lives. His book discusses various nuanced societal implications with respect to measures that can be undertaken by humans in their capacity to maximize the chances of a potential that future holds for humanity, technology and an amalgamation thereof.

An interesting online activity that one comes to notice is that at times we don't need to solve CAPTCHA's (Completely Automated Public Turing test to tell Computers and Humans Apart) every now and then. This is precisely because now AI, forming a fairly niche arena of human lives, has exploded in the last decade. Substantially more rapidly than many had foreseen, Machine Learning (ML; a subset of AI) frameworks have overtaken the best human Go players, are guiding self-driving vehicles, translating texts, naming your photographs, understanding your

discourses, etc. This has prompted gigantic interest in AI by organizations and governments, with each showcasing that progress will proceed. This book is about what occurs if and when it does.

The book begins by taking the reader through a hypothetical situation wherein AI has exceeded human intelligence and becomes all powerful in the society. However, before delving deep into AI, we need to understand its meaning. It is understood as the intelligence that is possessed by machines. This also includes a machine's ability to learn as it solves problems with each stage of learning to make itself capable of replicating and improving upon the previously acquired knowledge. Acting like the Human brain, Tegmark also uses the term AGI (Artificial General Intelligence) to denote the ability of machines to learn an intellectual task as good as a human.

An astonishing thought that emerges from this discussion is when Peter Diamindis points out that AI holds a bigger potential than fire or electricity in impacting human conditions. In this way AI is out there to transform society, culture and discourses relating to our

bodies and human identity. Most of our conceptions of technology and AI are shaped by what is showcased in popular culture and Hollywood films and the narrative resembles more or less to the machines taking over human jobs, the robots as a clan are out to overtake humans and rule them. However, Tegmark takes a nuanced and academically rigorous stance to answer the big question of what happens when the human race ceases to be the smartest species on the planet.

Tegmark in the first chapter, helps the reader visualize bacteria as an example of what he terms Life 1.0. Life where both hardware and software underwent evolution and were not formed by design. This is what he called the biological stage. Life 2.0 on the other hand has Humans as an example, whose hardware that is the bodies evolved through natural processes but whose software that is the mind was largely developed through acquired learnings like knowledge and algorithms used to process information using our senses and the ability to absorb knowledge through reading, writing, singing and even telling jokes. However, mankind reached a stage which the author terms as Life 3.0 in which ability to not only design but also evolve and develop both its software and hardware is achieved. This is the technological stage.

Even though the term AI has often been thrown around by tech giants, it surely has many facets that are yet to be explored. The term AI is most often used in conjunction with ML, however they carry their differences. For a simpler understanding, AI is the ability of machines to carry out functions that

we may consider as smart, while ML is the application of AI where in the very machines get hold of significant data and allow them to learn with each and every successive bit of information they receive. The application phase of AI poses broader possibilities than ML. Natural Language processing, biometric scanning and recognition, speech to text are some of the various nuances that surround us but go unnoticed due to the fool-proof and sophisticated technology that it uses.

Except for Isaac Asimov's 'three laws of robotics' which was a part of his short story 'Runaround', little interest has been assimilated around AI, its potential and its threats. In India NITI Aayog released a policy paper titled National Strategy for Artificial Intelligence in the year 2018, which took into account the importance of AI in varied sectors. Even when these developments are taking place heavily on the technological front globally, on the regulation front, no major comprehensive plan of action has been prepared yet.

Taking a leaf from other popular science fiction books, Tegmark opens the book with a fictional but probable story concerning a super intelligent AI named Prometheus. Rightly named, Prometheus under Greek Mythology was said to have moulded humans out of clay and taught them the basics of sciences and humanities thereby, proving themselves more capable than the humans. From here the author takes us onto a non-fictional ride of one Future of Life Institute co-founded by himself and his wife and others. In continuation with this, the author takes us into in depth analysis of every

possible outcome AI might construct. These multiple avenues include, but are not limited to, "Gatekeeper" AI, one which is super intelligent and safeguards humanity from being disparaged by further more sophisticated superintelligence; "Zookeeper" AI, one which tames humans in a similar fashion as zoo animals; "Enslaved Gods" AI, one which keeps humans as slaves and lastly "Benevolent Dictator" AI which on the surface attempts to be caring for the human race but intrinsically aims to rule it.

With his background in the discipline of physics, Tegmark next treats us to a dream of things to come, "our infinite enrichment" he calls it, that anticipates either ourselves, our artificial plunges, or some cyborg combination thereof. While visiting such obscure thoughts as 'Black hole Farming' and 'Uploading of Brain', Tegmark's narration stays comprehensible and precise, with rundowns of key ideas toward the finish of every part. The eye-catching part from the book is the last section's conversation of cognizance, including Guilio Tononi's integrated information theory. This becomes all the more interesting as the idea of cognizance has not been dealt with in depth in other books that discuss AI. Tegmark argues that in case AI is used to expand into the cosmos, it's important that there is an availability of conscience and has a more moral and ethical value to creating the artificial intelligence explosion. Although he doesn't hold a firm view, he only covers multiple vantage points from where artificial intelligence can pose to be a boon or a bane to mankind. Life 3.0 is about AI and what we can do

today to create the best possible future with it. The author deliberately avoids use of jargon as he believes that this is a conversation which everybody needs to join in with. We have traditionally thought of Intelligence being limited only to biological beings such as humans. But for the author here, intelligence is only a form of information processing performed by elementary particles moving around in conjunction with the laws of Physics. However, Tegmark suggests the laws of Physics do not talk of Machines being able to be more intelligent than biological beings.

There are multiple levels of questions that the book tackles ranging from the career advice children need to be given in this day and age of AI, to the more extraneous one's of whether we should start an arms race of Lethal autonomous weapons in the near future. However, the most important of all questions that the author raises is what kind of future do we want to be a part of. Because, and as the author puts himself, if we don't know what we want then we are much less likely to get it.

Self-driving AI vehicles are as of now confronting moral predicaments that we don't have the foggiest idea how to tackle. Who should bite the dust in an unavoidable auto collision? The passer by who heedlessly bounced into the road? Or then again the driver, when the vehicle dodges the passer by by crashing into a utility pole? As Tegmark cites from thinker Nick Bostrom, we are currently confronted with "Philosophy with a deadline."

At no other time has a discussion about something that could end human life

felt so intriguing. Be that as it may, AI isn't a diversion, nor is Tegmark's book. Before human level AI debuts, we should consider the qualities we need

machines to have. We don't yet have the appropriate responses. Be that as it may, Tegmark has the inquiries. The discussion begins now.