

CAN CYBORG REPLACE HUMANS WITH ETHICS AND VALUES?

Prof. (Dr.) Aparna Dixit*

ABSTRACT

Conscious Intelligence is the attribute of human minds! The Supreme positioned humans on the highest hierarchical level with sensitivity, intelligence and consciousness. With the advancement of time, the human mind mended technology to assist humans so as to ease their everyday lives. Artificial Intelligence can be well routed to assist and simulate an increasing number of human activities traditionally attributed to humans as a manifestation of the higher spiritual dimension in their nature. But replacement of human instinct and ethics will be a challenge to this augmenting process. Artificial Intelligence is 'Artificial' in its own ways as it involves a process of augmentation. Designing Robots and Humanoids is to provide extra hands to humans to fit in with the fast pace of life and artificial is legitimized only as an aid to nature. Technoscience has created transhuman with machine in the inner wiring of system. This augmented assistance no doubt is doing wonders in the terms of longevity of existence by providing assistance in medical domain and other spheres of life. Artificial Intelligence is a boon to society but has its own limitations. Have you ever thought of Humans without Consciousness? Humans have inner wiring of Ethics and Values but will Artificially Designed "Humanoids" have those Ethics and Values for which we are superior to other living entities? Designed brains follow installed software and commands given by Humans but they lack consciousness and human sensitivity. Have you ever thought of humans without humanity? Or Humans without compassion and values that we have imbibed and pass on to our generations along with our gene pool. Can you think of your future generations identifying siblings with a software rather than by the bond they share nourished by same womb? Will Software and coding take over the bonds of human connect and nourishment of values and ethics that a fetus receive through the umbilical cord?? Will humanoids have the empathy for the fellow beings around? Pandemic due to COVID-19 taught us a tough lesson for the need of social attitude of humans, necessity of being together and the real sense of "human is a social animal". Will these artificially created Cyborgs will play the same role that humans have played during the pandemic that gave a jerk to the planet earth? Are we ready to suffocate ourselves in the crowd of millions of Humanoids around but not a single heart with compassion and ethics?? Where we are pushing our generation we need to think of. Are we comforting ourselves with technological assistance or we are intervening the CREATOR'S creativity? Some roads never lead anywhere... Are we stepping on such path? Take a pause and think about it with conscious mind and a humane heart as technology can only assist humans but can't replace humans!.

Keywords: Intelligence, Consciousness, Ethics, Values, Creativity.

Introduction

The creation of Artificial Intelligence is not new, the foundation was laid back in 1950s. Initially people used to have high hopes and expectations toward success of AI in every sector of the society [1, 2,3,4]. Technically AI is a computer -centric technology having potential of resolving issues in the complex situations in a flawless, cost-effective and quick manner on its own [5,6,7] without taking assistance of any individual. Applicability of AI is multidimensional even associated with analysis of information including personal information for learning something and for reaching out to an accurate decision intelligently by

* Nirwan University Jaipur, Rajasthan, India.

its own [8,9,10,11] However, scientists such as Stephen Hawking (did not hesitate at the time to predict the dangers of AI for the human race, arguing that: "Humans, who are limited by their slow biological evolution, will not be able to compete with machines, and will be outcompeted" [12]. Foreseeing this situation of conflict between robotics as the ultimate material manifestation of AI and, the human condition, the celebrated science fiction writer Isaac Asimov had already in an early era formulated his three fundamental rules of robotics:

- A robot shall not harm any being or, by inaction, allow any being to come to harm.
- A robot shall do or perform the commands given by humans, except if these commands come into conflict with the 1st law.
- A robot must protect its own existence to the extent that this protection does not come into conflict with the 1st or 2nd law [13].

Conceptual Review: AI for "Social Good"

AI is to assist humans for the growth of human kind and society. It serves benefits and disadvantages to the humans [14,15,16]. It is evident that every innovation invites effective potential for development as well as damages to the society. AI can analyze, understand and can process data [17, 18, 19]. This capability of AI is expected to resolve several pressing problems of the world. In this way AI can do good to the society. AI can help the Health sector [20] and also help out to obtain relevant data concerning to issues of agronomy sector and weather information [21, 22]. Furthermore, by the help of AI, it has become possible to identify the root causes of disease spreading in insects and animals [23, 24]. There are other instances through which society is being benefited by the implementation AI [25, 26].

Artificial and Human Intelligence

- **Biological and Machine Intelligence**

Human intelligence is the most unique form of intelligence created by the supreme. Most of the researchers assume that machines can simulate biological human intelligence by computer programs through intricate frameworks and generic reasoning mechanisms.

- **Cyborgs!**

The term *cyborg* was coined by Manfred Clynes and Nathan Kline in 1960, to describe a being with both organic and synthetic parts. More broadly, cyborgs refer to symbiotic biological-machine systems, consisting of both organic and computing components. Cyborg intelligence is a new research paradigm, aiming to combine the best of both machine and biological intelligence.

Cyborg engineering will go a step further and merge the organic body with non-organic devices, such as bionic hands, artificial eyes, or millions of nanorobots, which will navigate our bloodstream, diagnose problems and repair damage. Such a cyborg will be able to enjoy capabilities that will far exceed those of any organic body. A cyborg could exist in numerous places at the same time. A cyborg doctor could perform emergency surgery in Tokyo, in Chicago, and on a space station on Mars, without leaving her Stockholm office. All she would need is a fast Internet connection, and a few pairs of bionic eyes and hands. But, come to think of it, why pairs? Why not quartets? In fact, even these are superfluous. Why would a cyborg doctor have to hold a surgeon's scalpel in his hand when he could connect his mind directly to the instrument? [27,28]

Body, Mind, Intelligence, and Consciousness

So far, we have used the words "mind" and "intelligence" interchangeably. However, if we analyze carefully, they stand out to be distinct.

The basic level of existence of a living being, like the human, is the body which is made up of the sense organs. The fact that the mind is distinct from and subtler than the body is not hard to understand. Often times, we feel pain in our mind though there may not be any pain in the body.

Again, there may be a painful wound in the body, but if the mind is engaged in something pleasing and enjoyable, then we may forget the wound temporarily and feel no pain at all. The mind is simply a repository of thoughts and feelings. However, the intelligence is subtler than the mind. Intelligence can be defined as that entity which has the power to discriminate between right and wrong actions (or, between rational and irrational actions).

Consciousness is an entity which is the subtlest of all. It is beyond body, mind, and intelligence. In short, consciousness is the symptom of life. People have tried to discover link between consciousness with the brain, but with no success [29]. Mind and intelligence may have some connection with the brain,

as different types of living beings have different levels of intelligence. But consciousness does not seem to be merely a product of the nervous system or the brain. Whether a unicellular entity has a mind or intelligence may raise disputes, but it undoubtedly possesses consciousness ^[30].

Machine Intelligence and Consciousness

So far we have talked about AI in terms of designing intelligent machines. But now that we have discussed the relationship between intelligence and consciousness, the next question is: "Can we design conscious machines, i.e. machines which can identify a unique "me" in them?" As far as the current research goes, it does not seem feasible. In that sense, the term Artificial Intelligence is co- incidentally appropriate to the subject matter - people have not coined the term Artificial Consciousness maybe because of the seeming impossibility of its existence. But is there any justification why there cannot be conscious machines? It seems there is ^[31].

Intelligence understood as rationality can be defined and analyzed by mathematics and logic to some extent. And the whole of Computer Science and AI is based primarily on mathematics and logic. However, when it comes to consciousness, mathematics ends and philosophy begins. Scientists have tried to find the source of consciousness starting from the brain down to the genetic code. But even at that level, the trace of consciousness is not found, though its existence can be experienced by every individual. We cannot even understand our mind and intelligence completely, what to speak of understanding our consciousness. Had it been composed of matter only, it could be simulated by networks of electronic circuits or by some other engineering means. If, however, it is not just matter, but something beyond matter, which it seems it is, then there is no hope for artificial consciousness.

No matter how hard we try, perhaps consciousness will always remain transcendental to human knowledge. The very source of Logic is consciousness itself. Thus, it is impossible to understand consciousness by applying Logic. How can anybody understand the source by a product of the source? Maybe one can understand to some extent, but not completely.

Some Analogies and Differences between Devices Driven by AI and beings with Spirituality ^[32]

	...a device driven by artificial intelligence...	...a being, totally or partially spiritual (which may be called a 'person')...
When communicating with their surroundings...	...uses codes or predetermined symbols that are recognizable through its programming.	...can use open procedures with the ability to improvise and intuit.
In their relationship with polysemy and synonymy...	...cannot process them beyond their most obvious senses unless it has a huge amount of data and possible combinations and a very high level of programming.	...can fluidly utilise connotative and metaphorical language to proceed, obviously according to the degree of the person's intellectual and cultural learning.
Regarding its responsibility for its operations (actions) we can say that...	...has no responsibility.	...has responsibility as an essential feature, although it may be greater or lesser according to certain conditions.
The 'intelligence' of...	...is cognitive, only for recognition and comparison with stored information.	...is cognitive and affective, with no clear distinction between those dimensions.
The behaviour of...	...is predictable.	...is not always predictable.
When processing, storing, and using information...	...does so at great speed and with much precision.	...must exert certain effort.
Decision-making for...	...is fast and neutral, fully restricted to programming instructions and closed criteria.	...is creative and usually occurs after weighing repercussions of the decision in other areas, such as the morality of the actions.
Regarding moving, acting...	...can only imitate living beings within the parameters of its manufacturing and design.	...can be original, unprecedented.

The work performance of...	...is delivered in complete alignment with requirements and specifications.	...tends to depend on the degree of fulfilment of certain conditions.
Faced with concepts like 'compassion', 'affection', or such...	...cannot react, as it 'ignores' the concept and the practice.	...can feel referenced or affected.
Regarding the care of people and things, contributing to improving humanity and nature...	...can be very effective if its design and Maintenance are focused in that direction.	...will undertake it as far as their education, capabilities, beliefs, ideologies, etc. allow.
Regarding the construction, use, and interpretation of data...	...can only move within the limits allowed by its design and the nature of the information.	...has options that enable them to question all the related dimensions and imagine new ones.
Faced with concrete occurrences...	...cannot act until they have been transformed into 'understandable' data.	...can act without needing all the information; in fact, the interpretation, response, and assessment of consequences can be taken into consideration at a glance, even if there is difficulty in describing what happened.
The language of...	...must be exclusively denotative.	...may be connotative, metaphorical.

Already in the late 19th century, the great German thinker Friedrich Nietzsche sentenced that:

Man exists only to be overcome. "Man is a rope stretched between the beast and the superman a rope over an abyss". Hence his greatness lies in the fact that "he is a bridge and not a goal" and that what is to be loved in him is "that he is a transition and a sun-set".

Conclusion

AI and the human condition are inexorably debating whether to be "opposing entities or complementary forces? Essentially everything will depend on the general use that people make of this technology, the purposes for which it is designed and the concrete results obtained from it for the benefit or deterioration of life in general, of course, if humanity can keep this form of intelligence under control under certain ethical and bioethical standards in the triangle that combines AI, robotics and genetic engineering. So far, AI could apparently in many aspects overcome the limitations and contradictions of human intelligence, deepening its condition of being a complementary force to it. However, it should not be ruled out a priori that at a certain point in its evolution, AI, in its various forms of existence, may come into conflict with humanity as it develops very high levels of autonomy that allow it to make a set of decisions that may be controversial from an ethical, ontological or legal perspective. We have informally analyzed the foundations and frontiers of artificial intelligence and its limitations. We have discussed four components of a so-called intelligent living being, namely: body, mind, intelligence, and consciousness. The body is just gross tangible matter. But when it comes to the other three components, they are not just chemical or mechanical systems made of matter. Hardware can simulate the body in some form or other. Software can attempt to simulate the mind and intelligence with the help of tools like Logic, but the simulation will always be incomplete due to some inherent limitations. The best we can do is to provide better and better approximations, though the best approximation may lag far behind the ideal target. Going further in the hierarchy, when it comes to consciousness, the subtlest of all components, then we hit a brick wall and there is no hope.

Still, the research in AI has its own significance. Though the original goal of AI was to create thinking machines and the research towards that goal has created completely different kinds of systems far from the goal, these systems have been and will continue to be successfully applied to solve many practical problems for the benefits of the human society not be able to compete with machines, and will be outcompeted"

References

1. Chatterjee S, Bhattacharya K. Adoption of artificial intelligence in higher education: a quantitative analysis using structural equation modelling", Education and Information

- Technologies, In Press, 2020. <https://doi.org/10.1007/s10639-020-10159-7>.
2. Gomory RE, Baumol WJ. *Global Trade and Conflicting National Interests*. MIT Press, Cambridge, MA, 2000.
 3. Chatterjee S. "Organization learning and learning organization: A critical review - A Paradox", *Asian Journal of Computer Science and Information Technology*. 2011; (3):64-70. ISSN: 2249-5126.
 4. Garner R. *The political theory of animal rights*. Manchester University Press, Manchester, 2005
 5. Chatterjee S. "Security and privacy issues in E- Commerce: A proposed guidelines to mitigate the risk", *IEEE International Advance Computing Conference (IACC)*, 2015, 393-396.
 6. <https://doi.org/10.1109/IADCC.2015.7154737>.
 7. Chen N. *Are robots replacing routine jobs?* Harvard College Thesis, Applied Mathematics Cambridge, MA, 2018.
 8. Chatterjee S. "A synthesis of structural creative problem solving in the perspective of OR/MS methodology", *International Conference on Computational Techniques in Information and Communication Technologies (ICCTICT)*, 2018:1-6. <https://doi.org/10.1109/ICCTICT.2016.7514614>.
 9. Chatterjee S. "Issues of personal data protection and privacy in cyberspace: A comparative analysis among different countries", *International Journal of Law*. 2018; 4(2):01-08. ISSN: 2455-2194.
 10. Chatterjee S. "Surveillance Threatening Privacy and Data Protection: A Review", *International Journal of Current Trends in Science and Technology*. 2017; 8(3):20583- 20590. ISSN:0976-9498.<https://doi.org/10.15520/ctst.v8i03.360>.
 11. Brynjolfsson E, McAfee A. *The Second Machine Age: Work, Progress, and Prosperity in a time of Brilliant Technologies*. W.W. Norton & Company, New York, NY, 2014.
 12. Chace C. *Surviving AI. Three Cs*, Bradford, 2015.
 13. BBC News. Stephen Hawking: Artificial intelligence portends the end of the human race[Internet]. *BBC News*; 2014. Available from https://www.bbc.com/mundo/ultimas_noticias/2014/12/141202_ultrnot_hawking_inteligencia_artificial_risk_humanity_egn.
 14. /12/141202_ultrnot_hawking_inteligencia_artificial_risk_humanity_egn.
 15. Asimov I. *Runaround*. Manhattan: Street & Smith; 1942.
 16. Chatterjee S. "Emergence of AI and its implication towards data privacy: From Indian legal perspective", *International Conference on Justice Education: Artificial Intelligence and Its Legal Implication [ICJE 2019]*. Institute of Law, Nirma University, Ahmedabad, Gujrat, India, 2019, 15-16.
 17. Chatterjee S. "Factors Impacting Behavioral Intention of users to adopt IoT in India: From Security and Privacy Perspective", *International Journal of Information Security and Privacy*. 2019; 14(4):6. DOI: To be updated.
 18. Chatterjee S. "Impact of AI regulation on intention to use robots: From citizens and government perspective", *International Journal of Intelligent Unmanned Systems*. 2019; 8(2):97-114. <https://doi.org/10.1108/IJIUS-09-2019-0051>.
 19. Wiegel V. *The ethics of IT-artefacts*. In: Floridi L (ed) *The Cambridge handbook of information and computer ethics*. Cambridge University Press, Cambridge, 2019, 201- 218.
 20. Chatterjee S. "Determinants impacting diffusion of knowledge in higher learning institutes in India: an empirical study", *Journal of Studies in Higher Education, Early site*. <https://doi.org/10.1080/03075079.2019.1599847>.
 21. Autor DH, Levy F, Murnane RJ. The skill content of recent technological change: an empirical exploration. *The Quarterly Journal of Economics*. 2003; 118(4):1279-1333
 22. Chatterjee S. "Antecedents of phubbing: from technological and psychological perspectives", *Journal of Systems and Information Technology*, Vol. ahead-of- print No. ahead-of-print, 2020. <https://doi.org/10.1108/JSIT-05-2019-0089>.
 23. Chatterjee S, Chaudhuri R. "A System Theoretic Analysis of IT/IS Outsourcing: A Case Based Approach", *Journal of Modeling and Simulation of Systems*. 2010; 1(2):131-143.

24. Chatterjee S, Chaudhuri R. "Information-Knowledge Space: A Transformation Model for IT and other knowledge Intensive organizations", *Global Journal of Management and Business Research*. 2013; 13(1):42- 52.
25. Chatterjee S, Kar AK. "Regulation and governance of the Internet of Things in India", *Journal of Digital Policy, Regulation and Governance*. 2018; 20(5):399- 412. <https://doi.org/10.1108/DPRG-04-2018-0017>.
26. Chatterjee S, Kar AK. "Securing IoT devices in Smart Cities of India: From ethical and enterprise information system management perspective", *Journal of Enterprise Information System*. In Press, 2019. <https://doi.org/10.1080/17517575.2019.1654617>.
27. Chatterjee S, Kar AK. "Why do small and medium enterprises use social media marketing and what is the impact: Empirical insights from India", *International Journal of Information Management*, In Press. <https://doi.org/10.1016/j.ijinfomgt.2020.102103>.
29. Chatterjee S, Sreenivasulu NS. "Personal Data Sharing and Legal Issues of Human Rights in the Era of Artificial Intelligence: Moderating Effect of Government Regulation", *International Journal of Electronic Government Research*. 2019; 15(3):21- 36. <https://doi.org/10.4018/IJEGR.2019070102>.
30. Z Daniel, University of Arizona and Chinese Academy of Sciences Wu Z, Zhejiang University "Artificial Intelligence to Cyborg Intelligence"
31. Harari YN. *Homo Deus: Breve historia del mañana* (Spanish) [*Homo Deus: A brief history of tomorrow*]. Madrid: Debate; 2015.
32. Harari YN. *Sapiens: De animales a dioses. Una breve historia de la humanidad* (Spanish) [*From animals to gods. A brief history of humanity*]. Madrid: Debate; 2014.
33. Moravec H., *Mind Children: The Future of Robot and Human Intelligence*, Harvard University Press, Cambridge, Massachusetts, 1988.
34. Paul G. "Artificial Intelligence and Consciousness", Article 2014.
35. Hernandez J. *Artificial Intelligence and Spirituality*, Universidad Internacional de la Rioja, Logrino (Spain), July 2021.

