

## The post-cyborg era and the importance of ethics

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### Abstract

This study examines the ethical implications of humanity's transition into the post-cyborg era, characterized by integrating advanced technologies into human biology and cognition. Focusing on the works of Steve Mann, the analysis explores how cyborg technologies—once confined to science fiction—now challenge traditional notions of human identity, agency, and morality. The paper highlights the dual nature of technological progress; while innovations like neural implants and wearable computing enhance human capabilities and inclusivity, they also risk eroding privacy, autonomy, and emotional depth. Case studies, including cochlear implants and Mann's wearable computing experiments, illustrate the tension between empowerment and dehumanization. The emergence of post-cyborg ethics is framed as a critical response to these challenges, advocating for a human-centric approach that prioritizes wisdom, silence, and moral reflection over unchecked technological assimilation. The study argues that the post-cyborg age demands a redefinition of ethical frameworks to address hyperconnectivity, data commodification, and the existential risks of merging human consciousness with artificial systems. By synthesizing philosophical critiques and technological case studies, this work underscores the urgency of balancing innovation with ethical stewardship to preserve humanity's core values in an increasingly technologized world.

**Keywords:** Ethics, Post-Cyborg Age, Steve Mann, Ted Chiang

### 1. Introduction

The rapid development of human sciences and technological advancements has yielded significant achievements for humanity, but

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exploring new scientific and technological domains inevitably raises ethical considerations and limitations. “Before the 20th century, People were working on farms, and everything was different back then. The economic system was different, and the lives and situations of people were nothing like today. By the Industrial Revolution, there was the development of the bourgeoisie and the emergence of capitalism” (Darvishian et al., 2024, p. 12).

A two-way process has accompanied scientific progress and development, one aspect of services and values provided by new technology, and the other is the applied and ethical culture of emerging sciences. Services and achievements of new technologies play an essential role in improving the quality of human life and addressing human needs, problems, wants, and interests. But on the other hand, the same growth of technology has led to the importance of ethics in the new era.

Technology is helping people worldwide hear again with hearing implants and walk again with artificial limbs. This can be a definition for cyborgs, but in this study, the meaning of cyborg is considered only for healthy people who have exceeded their natural human limitations with empowering technologies. The term was once used exclusively in science fiction, but nowadays, cyborg is no longer an abstract term. Some argue that linking technology with humankind can be seen as humans acting as eccentric living beings. Any view of the appearance of super-human cyborgs can be seen as unwarranted ‘metaphysical’ speculation (Coolen, 2001). While cyborgs may possess a human background, their perspective on life differs significantly from that of traditional humans. One key distinction is their ability to perceive the world through advanced sensors and data analysis. Cyborgs can process information at an unprecedented speed and accuracy, leading to a more rational and calculated approach to decision-making. This contrasts with the subjective and emotionally driven nature of human decision-making.

Furthermore, cyborgs often exhibit an enhanced understanding of the interconnectedness of various systems, both biological and technological. Humans, on the other hand, tend to perceive life through a narrower lens, focusing on individual experiences and relationships. With a brain that is part human and part machine, a Cyborg would have some links to their human background, but their view on life, what is possible and what is not, would be very different from that of a human. A Cyborg's values, morals, and ethics would relate to its own life, what it feels is important, and what is not. Humans may not figure too highly in such a scenario (Warwick, 2003).

In the post-cyborg age, the emergence of cyborgs has brought forth a new perspective on life. While they retain a human background, their unique blend of organic and technological components gives rise to a distinct viewpoint. By recognizing and appreciating the differences between cyborgs and humans, we can gain a deeper understanding of the human experience itself.

Among thinkers who focus on cyborgs and offer their views on the subject, Mann (2003) is more prominent in two ways. First of all, Mann's theories have gone through the cyborg period and entered the post-cyborg, so apart from the theories about the physical differences between cyborgs and humans, he deals with their spiritual part. The concern for ethics in the post-cyborg period is significant in his theories. Mann is one of the cyborgs that live on our planet. He wears a wearable computer to create human-machine combinations. Mann (2003) believes this invention can improve the quality of daily life for many people because it gives us a lot of power and makes the user feel personal comfort and safety.

Mann (2003) believes that in today's world, the progress of industry has completely changed the face of human life, and industrial evolution and the amazing transformation that has been found in all vital matters, lightens the darkness and eases the problems but in parallel with these developments and the concentration of forces and thoughts on material issues, the foundations of faith and goodness have been weakened.

The foundations that once advanced with speed and power are now unable to solve the problems and questions of human beings. According to Mann (2003), for a better understanding of our state toward technology, post-cyborg ethics is needed. The post-cyborg ethic that Mann (2003) mentions is based on human intelligence. Humans need to move in a direction that enhances the extraordinary human mind instead of replacing it with Artificial Intelligence.

Post-cyborg man has lost something important, and that is silence. In this era, man is always worried about losing something in the environment, so he insists on always being aware of what is happening around him. But he is caught in an over-connected trap, so he does not understand the depth and distances himself from his environment. Once again, Chiang (2016) warns human beings that post-cyborg man cannot get out of the swamp of immorality until he learns to remain silent.

## 2. Entering the Post-Cyborg Era

Historically, Classical and Neo-classical models of humanity suggest that not all humans are recognized as possessing the same degree of humanity. As Braidotti (2013, p. 15) mentions in *The Posthuman*:

At the start of it all, there is He: the classical ideal of “Man”, formulated first by Protagoras as “the measure of all things”, later renewed in the Italian Renaissance as a universal model and represented in Leonardo da Vinci’s Vitruvian Man [...]. An ideal of bodily perfection which, in keeping with the classical dictum *mens sana in corpore sano*, doubles up as a set of mental, discursive, and spiritual values. Together, they uphold a specific view of what is “human” about humanity. Moreover, they assert with unshakable certainty the almost boundless capacity of humans to pursue their individual and collective perfectibility.

Building on this historical context, Mann’s (2003) work provides a modern lens for examining the ethical challenges of the post-cyborg era. What is known today as “technology” is a manifestation of this unique human ability. But this “technology” has two fundamental differences with other manifestations of human expression before the cyborg era. One is that, thanks to this technology, man has acquired an extraordinary and even unimaginable power, and the other is that this power, contrary to expectations, has controlled man himself, instead of technology serving man, human is at the service of technology, and this technology has affected and transformed many aspects of human life.

Following this point of view, Campbell (2006) debates how the discourse of cyborgs and the posthuman “takes seriously issues related to the role and status of the human in a world of rapidly increasing technological developments”. In the cyborg era, man is no longer alone with his biological resources. Rather, the variety of technological tools that are evolving every day seeks to help him and enhance his capabilities. This situation has caused human nature to be intertwined with technological tools and create new conditions. Conditions that will intensify day by day. The entanglement of the biological and digital realms has two advantages: one is the empowerment of new generations of human beings with the help of technology for the new world, and that is tighter control of human beings, and the other is the expansion of communication.

The era of postcyborg begins with a kind of need to reconsider the basic foundations of cyborgs, foundations that once advanced with speed and power, and are now unable to solve the problems and questions facing

man. Challenges are an inherent aspect of our existence, present in every environment we encounter, and each society has confronted its distinct array of obstacles (Alishiri et al., 2025). The great cognitive transformation in the fields of nature, cosmology, and psychology reached its endpoint, and an important doubt arose in the field of efficiency and integrity of these cognitive fields; Areas at the helm of the Cyborg human intellect. In the post-cyborg period, this intellect loses its validity and authority due to epistemic failure. Mann asserts (2003, p. 329):

Loosely speaking, the cyborg age of yesterday is connected with ideas of postmodernism, deconstructionism, and posthumanism (itself, somewhat related to the ideas of cyborgism). But these ideas, along with culture jamming, as well as my own sur/sousveillance, have become ineffective in the contemporary age of Terror.

By looking at the technology of the post-cyborg era in the realm of individual life and the power of reflection on the positive and negative effects of technology in this field, one can understand the way of human life. The post-cyborg man is a man alone in the crowd. Despite his extensive means of communication, his many social organizations and institutions, and his frequent face-to-face encounters, he is increasingly feeling lonely. Today, the human crisis must be added to the sum of economic and social crises. In this age, human beings have become separate and distinct elements from each other, whose cooperation to advance society has taken on a machine aspect and has been deprived of its human content. Extreme individualism is growing which is the cause of many anxieties, mental distress, and social isolation of individuals. Individuality was a liberating and revolutionary force when it emerged at the end of the Middle Ages. The resulting individuality freed man from the bondage of petrification and superstition and gave rise to the emergence of human talents that had been suppressed by the church and the mass culture of the society of that time.

The spread of cyborg as a new movement means that various aspects of it are now taking shape. This term refers to a kind of philosophy of life that is eager to continue and accelerate the evolution of intelligent human life and reduce human limitations using science and technology, and with its principles and values to improve human life according to the specific views and perceptions of this group. Even in the field of education, a digital linguistic setting has the potential to foster learners' comprehension of their creative capabilities and to nurture their belief in their own creative abilities (Najafi et al., 2024). Providing students with greater

autonomy within the educational environment can significantly boost their creativity, enhance critical thinking, and improve decision-making skills. Being a Cyborg alone is not enough; it is necessary to go beyond this age to be able to fundamentally improve the human condition, especially with the development and creation of available technologies that eliminate human limitations and significantly increase human physical and mental abilities. Therefore, studying the branches, promises, and potential dangers of technologies that will enable cyborgs to overcome the natural limitations of human-specific creation, given the vast and unknown aspects of this issue, foresight on ethical approaches to cyborgs is essential.

One of the primary ethical reasons for entering the post-cyborg age is the potential enhancement of human abilities. Advancements in technology, such as neural implants, exoskeletons, and artificial organs, can significantly improve the quality of life for individuals with disabilities. For instance, cochlear implants have allowed many deaf individuals to regain their hearing, enhancing their ability to communicate and participate in society. This not only improves their quality of life but also promotes inclusivity and equal opportunities for all members of society. While there are compelling reasons to enter the post-cyborg age, it is essential to address the ethical considerations and precautions associated with this transition. Privacy concerns, potential misuse of technology, and unequal access to enhancements are just a few of the ethical challenges that need to be carefully navigated.

Entering the post-cyborg age presents numerous ethical considerations, but the potential benefits cannot be ignored. The enhancement of human abilities, medical advancements, and the promotion of equality and inclusivity are all compelling reasons to embrace this future era. However, it is crucial to approach this transition with caution and address the ethical challenges that may arise.

The unchallenged integration of aggressive technologies in our private lives leads, to Mann (2003), to a post-cyborg age in which people become reducible to their data, and society and humanity are seen as mere information. This review, assessment, and critique are not a step backward, but a step toward a new perspective on the human condition and how wisdom is used. From the beginning of mankind on earth, man has been able to create tools for his goals and use those tools. This unique human trait has enabled him to employ other creatures, despite his relatively limited physical ability. In the field of education, the significance of technological progress pertains to the evolution of an E-learning framework that possesses the capacity to fundamentally alter the

methodologies employed in the teaching and learning of the English language (Bagheri Masoumzadeh & Fatehi Rad, 2022). What is known as "technology" in this period is one of the manifestations of this unique human ability. But this "technology" has two fundamental differences with other manifestations of human expression before the pre-modern era. One is that, thanks to this technology, man has gained extraordinary and even unimaginable power, and the other is that this power, contrary to expectations, has controlled man himself, instead of technology serving man, humanity is at the service of technology, and this technology has affected and transformed many aspects of human life. What makes the discussion of human-cyborg monitoring ineffective is the possibility of artificial intelligence competing with human intelligence. Mann (2003) believes that man has passed through the cyborg era and entered the post-cyborg era.

In his work following his de-cyborging, Mann began to piece together a philosophical framework to explain human responses and perceptions toward technology. In several articles and papers, Mann suggested that humanity is undergoing a significant philosophical shift related to the nature of reality and the self, because of the technology we have appropriated into our daily lives... Mann's argument presupposes a cultural movement toward a new era of discourse, postcyborgism. This is a move past negotiating the idea of the cyborg as a blended being of flesh and machine to seeing the emergence of the post-cyborg that further recontextualizes the role of the body in a technological world, by focusing its prime interest instead on the modification of the mind. (Campbell, 2006, p. 286)

In the post-cyborg age, communication takes on a whole new dimension. The integration of technology into our bodies and minds transforms the way we interact with each other and the world around us. This evolution in communication impacts the way literature and language are crafted. The importance of emotional intelligence, which is characterized as the capacity to recognize, evaluate, and manage both personal and others' emotions, has increasingly been acknowledged in educational environments across the globe (Khodami, 2023). Writers may explore the use of augmented reality virtual worlds or even telepathic communication in their narratives. The possibilities for experimentation and creativity are endless (Hayles, 2000).

In the post-cyborg age, man and the means of communication will accompany each other, and people will communicate with each other

through virtual language or telepathy. Despite the lack of large spatial distances, face-to-face communication is minimal. Human emotions are reduced to the minimum, and human traits that have grown in human societies. Chiang (2004) is one of the thinkers who criticizes the use of technology in this way. He repeatedly associates the feeling of loneliness and isolation with the hyper-intelligence of human beings. In *Understand*, he asserts:

I've gone outside to reobserve society. The sign language of emotion I once knew has been replaced by a matrix of interrelated equations. Lines of force twist and elongate between people, objects, institutions, and ideas. The individuals are tragically like marionettes, independently animate but bound by a web they choose not to see; they could resist if they wished, but so few of them do (Chiang, 2004, p. 53).

### **3. Toward a PostCyborg Ethic**

Mann (2003) acknowledges that in today's world, the advancement of industry has completely changed the face of human life and that industrial evolution and the astonishing transformation found in all vital aspects have illuminated the darkness and alleviated the problems. But in parallel with these developments, a series of terrible corruptions have arisen in various parts of society, and the number of crimes and inhumane catastrophes has increased on a large scale. The factors of prosperity and goodness of society are kneeling before the manifestations of corruption and destruction. So, he invites the “PostCyborg Ethic” to evade the deterministic consequences of technology.

We need to be aware that the hybrid is monitored by the corporations and governments that produce, control, and survey the devices and their supporting infrastructures. From this perspective, wearable devices represent more than just a potential economic disruption, but, in a broader sense, a disruption of the ethics by which we live. (Ferenbok et al., 2016, p. 97)

Recent technological advancements are fundamentally reshaping our understanding of human identity, especially with the emergence of cyborgs and individuals possessing enhanced abilities. As these hybrid forms of humanity develop, the traditional boundaries that separate humans from machines may lose their significance, leading to a redefinition of what it means to be human. This evolution raises important



questions about the essence of identity and the implications of merging biological and technological elements in our lives (Ireni-Saban & Sherman, 2022).

In the post-cyborg era, man must dominate the world and restore his natural rights from the past and history. “As technological components become an inherent part of the human body, the international community should adhere to reshaping the notion of cyborg ethics and its ethical and regulatory implications” (Ireni-Saban & Sherman, 2022, p. 45).

It is a seemingly brilliant and very difficult path that stands in front of man, so he has to find the courage to find and use his intellect and take control of the world and life. It may not be possible to be immoral in one's life. To be immoral, one must either go beyond the human level or fall into the pure animal level. As Warwick (2003, p. 134) mentions in *Cyborg morals, cyborg values, cyborg ethics*:

With a brain which is part human, part machine, a Cyborg would have some links to their human background, but their view on life, what is possible and what is not, would be very much different from that of a human. The values, morals, and ethics of a Cyborg would relate to its own life, what it feels is important, and what is not. Humans may not figure too highly in such a scenario.

According to Mann (2003), we have entered the post-cyborg era, and the devaluation of values is better and easier to understand as if there is a wound in the soul that needs to be healed. We build technology and decide to use it; whenever we use a technological tool, it can change both us and the way we relate to other human beings and our environment. Technology profoundly shapes a cyborg's way of thinking and feeling. It not only changes his life but also his "self". In addition to studying technological advances and the development of new computer software and hardware, a growing body of thinkers in various disciplines on the moral dilemmas and security issues of the cyborg age are engaged in research and writing. In this age of technology, as mentioned above, Mann (2003) has felt the need for ethics, and this is a good sign.

In his description of what a post-cyborg ethic may look like, he presented a trajectory that seeks to describe the place and value of the body and divisions between the real–virtual and flesh–machine in the current information age...He claimed we currently live within a postcyborg era, where we have readily and often unquestioningly assimilated technology into the intimate areas of our daily life. The

cry of the post-cyborg is to question the technology that envelopes them. This gives rise to post-cyborg ethics, which attempts to reflect on how we are shaped by the technology we have accepted into our life sphere and the effects on our personhood and privacy. These are important explorations lacking a significant response from communication scholars interested in information and communication technologies (Campbell, 2006, p. 281).

#### 4. Conclusion

The post-cyborg era presents humanity with unprecedented opportunities and existential dilemmas. As technological advancements blur the boundaries between Human and Machine, ethical considerations must evolve to address the complexities of enhanced cognition, data-driven identities, and the erosion of privacy. Theorists like Steve Mann caution against the uncritical adoption of technologies that reduce individuals to data points, advocating instead for post-cyborg ethics rooted in human dignity and self-awareness. This era demands a reevaluation of industrial progress, emphasizing the need to harmonize innovation with moral responsibility. While technologies such as neural implants and augmented communication promise inclusivity and empowerment, they also risk fostering isolation, inequality, and a loss of emotional authenticity. The critique of hyperconnectivity and algorithmic determinism—exemplified by Chiang’s literary warnings—highlights the importance of preserving silence, introspection, and human agency. Moving forward, a collaborative, interdisciplinary approach is essential to navigate the post-cyborg landscape. By prioritizing ethical foresight, equitable access, and the preservation of humanistic values, society can harness technological potential without sacrificing the essence of what it means to be human. The post-cyborg ethic, as Mann (2003) envisions, is not a rejection of progress but a call to reclaim control over the tools that shape our lives and identities.

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