

A CRITICAL APPROACH TO TRANSHUMANIST IDEALS WITHIN THE CONTEXT OF GREG EGAN'S "THE EXTRA"

*Greg Egan'ın "Ekstra" Öyküsü Bağlamında Transhümanist İdeallere Eleştirel Bir Yaklaşım*



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*Araştırma Makalesi/Research Article*

**Geliş/Received**

28.08.2023

**Abstract**

Hugo Award-winning Australian science-fiction author Greg Egan's short story, "The Extra" (1990) envisions a transhumanist future in which the use of human clones as organ donors and the transplantation of human brains' into clones' bodies with the aim of extending the human lifespan are made possible. This study aims to present a critical transhumanist analysis of Egan's "The Extra" in order to provide insight into how the transhumanist technologies of cloning and transplantation hold the potential to engender detrimental outcomes for human life both at the individual and societal level. This study will demonstrate that the radical interventions in the interdependence of the body and the mind via transhumanist technologies could disrupt the integrity of human identity by alienating the individual from a unified sense of self. In addition to this, it will also be concluded that a transhumanist society may pose the risk of creating new forms of abuse and discrimination in society by deepening the hierarchical gap between those who have access to enhancement technologies and those who do not and leading to the exploitation of the clones as a new victimized and marginalized group.

**Kabul/Accepted**

24.12.2023

**Sayfa/ Page**

24-35



**Keywords:** Greg Egan, "The Extra", transhumanism, clones, brain transplant

**Öz**

Hugo ödüllü Avustralyalı bilim-kurgu yazarı Greg Egan'ın "Ekstra" adlı öyküsü (1990) insan klonlarının organ bağışçısı olarak kullanılmasının ve yaşam süresini uzatmak amacıyla insan beyninin klon bedenlerine nakledilmesinin mümkün olduğu transhümanist bir gelecek tasviri sunar. Bu çalışma, transhümanist klonlama ve nakil teknolojilerinin hem bireysel hem de sosyal düzeyde insan yaşamı için zararlı sonuçlar doğurma potansiyeline sahip olduğunun anlaşılması için Egan'ın "Ekstra" öyküsünün eleştirel bir transhümanist analizini sunmayı amaçlamaktadır. Bu analiz sonucunda bu çalışma transhümanist teknolojiler aracılığıyla beden ve zihin birlikteliğine yapılan radikal müdahalelerin bireyi tam bir benlik algısına yabancılaştırarak insan kimliğinin bütünlüğünü bozabileceği fikrini ortaya koyacaktır. Buna ek olarak, transhümanist bir toplum yapısının geliştirme teknolojilerine erişimi olanlar ve olmayanlar arasındaki hiyerarşik uçurumu derinleştirerek ve mağdur edilen ve ötekileştirilen yeni bir grup olarak klonların suistimal edilmesine yol açarak toplumda yeni sömürü ve ayrımcılık biçimleri yaratabileceği riski taşıdığı sonucuna varılacaktır.

**Anahtar Sözcükler:** Greg Egan, "Ekstra", transhümanizm, klonlar, beyin nakli

**Atıf/Citation:** Kızılay, Y. (2023). A Critical approach to transhumanist ideals within the context of greg egan's "the extra". *International Journal of Filologia*. ISSN: 2667-7318 6(10), 24-35.

## Introduction

Transhumanism is a scientific and cultural movement that advocates the idea that human's biological nature is improvable through the use of contemporary technosciences, such as biotechnology, cloning, genetic enhancement, artificial intelligence and robotics. The proponents of transhumanism believe that it could be possible to extend the human life span, enhance human intellectual and physical capacities, and eventually eliminate aging, disease and suffering thanks to these technologies (More, 1990, p. 10). Science fiction as a literary genre that "*presents readers with an alternative view of social, technological and industrial progress*", therefore, conveniently becomes "*the locus classicus for reframing transhumanist questions*" (Baratta, 2012, p. 4; Hayles, 2010, p. 216). Hugo Award-winning Australian science-fiction author Greg Egan's short story, "The Extra" (1990) envisions a transhumanist future in which the use of human clones as organ donors and the transplantation of human brains' into clones' bodies with the aim of extending the human lifespan are made possible. Since "*all science fiction seeks to humanize the problems and potentials of scientific and technological advances*", Egan's "The Extra" can be viewed as a striking example of how science fiction becomes a valuable medium for providing a social and cultural context through which the far-reaching implications of transhumanist ideals both at the individual and societal level could be perceived (Burnham, 2014, p. 40).

In "The Extra", the transhumanist ideals of improving the human condition through scientific and technological advances and enabling humans to transcend their biological limitations with cloning and transplantation technologies are brought into question. Egan's story depicts a transhumanist society in which only the privileged minority have the chance to make use of clones to rejuvenate their damaged organs and eventually to transplant their brains into clones' bodies for a prolonged lifespan. Accordingly, the story raises questions with regard to the possible consequences of seeing the body as discardable and separating human consciousness from the body as well as how these technologies create new forms of abuse and discrimination in society. This study aims to present a critical transhumanist analysis of Greg Egan's "The Extra" in order to provide an understanding of how the transhumanist technologies of cloning and transplantation hold the potential to engender detrimental outcomes for human life both at the individual and societal level. It will be concluded that while the radical interventions in the interdependence of the body and the mind via transhumanist technologies could disrupt the integrity of human identity by alienating the individual from a unified sense of self, a transhumanist society may pose the risk of not only deepening the hierarchical gap between those who have access to enhancement technologies and those who do not, but also exploiting the clones as a new victimized and marginalized group.

## 1. THE BASICS OF THE TRANSHUMANIST DISCOURSE

With various technological and medical breakthroughs that have been achieved in the contemporary era, a paradigm shift in our understanding of the human condition has accordingly become inevitable. As such, "*the human is giving way to a different construction called the posthuman*" through these technological advancements thanks to which humans are believed to be able to improve their physical and mental capabilities and free themselves from the detriments of aging and various diseases (Hayles, 1999, p. 2). The interfusion of human bodies with digital technologies and machinery and the technological advances that give rise to the possibilities in transcending the constraints of the body have become influential in the emergence of the transhumanist movement.

The term "transhumanism" was coined by Julian Huxley, "*the grandson of the Victorian Darwinian Thomas Henry Huxley*" in 1957 (Tirosh-Samuelson, 2010, p. 20). In his *New Bottles for New Wine*, Julian Huxley proposes the name "transhumanism" to refer to the belief in the possibility for the human to "*transcend itself- not just sporadically [...] but in its entirety, as humanity [...] by realizing new possibilities of and for his human nature*" (1957/1959, p. 17). Consequently, transhumanism is viewed as an extension and intensification of humanism and hence signified by "H+" as an indication of its vision of "*enhanced humanity*" (Bostrom, 2003, p. 4; Tirosh-Samuelson, 2010, p. 26). As one of the leading figures of transhumanism, Max More defines transhumanism as "*a class of philosophies of life that seek the continuation and acceleration of the evolution of intelligent life beyond its currently human form and human limitations by means of science and technology*" (1990, p. 10). Furthermore, for Nick

Bostrom, the prominent philosopher of the transhumanist movement, "*the human species in its current form does not represent the end of our development but rather a comparatively early phase*" (2003, p. 4). Accordingly, the transhumanist movement supports that humans are in the process of becoming "*transitional human*", which is "*a phase in human evolution from the ordinary human today to the posthuman of the remote future*" (Tirosh-Samuels, 2010, p. 26). What transhumanists pursue is to reshape humans into a posthuman state, which is not only a departure from what are commonly considered human qualities but also radically better than, or transcendent of, humanity as we know it (Bostrom, 2014, p. 219). Concisely, with its emphasis on the human perfectibility "*by transcending the bonds of materiality and embodiment*", transhumanism seeks to eradicate "*traditional, biological, genetic, and intellectual constraints on [human] progress and possibility*" with the aim of enabling humans to evolve into an enhanced state (More, 1998; Wolfe, 2009, p. xv).

However, transhumanists' futuristic vision of humans as superior beings liberated from the limitations of their physical body through means of certain possibilities such as uploaded consciousness and extended lifespan is not free from serious consequences as reflected in Egan's "The Extra". Egan's story offers a glimpse into a transhumanist future by touching upon some of the fundamental themes of the transhumanist discourse in its exploration of the use of human clones as organ donors and the transplantation of human brains into clones' bodies. By naming his main character Daniel Gray, Egan hints at Oscar Wilde's Dorian Gray in *The Picture of Dorian Gray* (Burnham, 2014, p. 54). In Wilde's well-known work, the inner workings of Dorian Gray's soul and mind are reflected in the painting of him that gets more and more hideous over the years while his body remains young and beautiful. The representation of Dorian Gray's moral collapse and mental deterioration in the painting in the form of physical decay exemplifies "*Wilde's sense of self*", according to which "*mind and body exist in intimate yet ambiguous combination, each necessarily part of the self and neither reducible to the other*" (Davis, 2013, p. 558). Egan's short story, thus, not only presents a futuristic touch on the complex relationship between the mind and the body by delving into the implications of splitting the mind from the body via transhumanist technologies but also addresses the issues of embodiment, consciousness, ethics, social and economic equality in a transhumanist future.

## 2. THE IMPLICATIONS OF TRANSHUMANIST IDEALS IN "THE EXTRA"

### 2.1. The Exploitation of Human and Nonhuman Bodies and Ethical Concerns

In "The Extra", the destructive consequences of transhumanist technologies on the embodiment of the individual are explored through the forty-four-year-old billionaire Daniel Gray. Gray keeps "*a stock of congenitally brain-damaged clones [...] in the short term, as organ donors; in the long term (once the techniques [are] perfected), as the recipients of brain transplants*" (Egan, 1990, p. 34). Comforted by the fact that he has the privilege to harness the vital organs of his clones and transplant them into his own body, Gray leads and "*fervently approve[s] of [a] gluttonous, sedentary, drug-hazed, promiscuous life*" and treats his body in an abusive way (Egan, 1990, p. 37). Gray is "*the ultimate beneficiary*" of the good health of his clones called "Extras", since these "*athletic, clean-living brothers had already supplied him with two livers, one kidney, one lung, and quantities of coronary artery and mucous membrane*" (Egan, 1990, p. 34). Evidently, Gray exploits his clones' organs in order to remove the traces of his self-indulgent and pernicious lifestyle on his body. Gray's treatment of his body as a discardable object that can be rejuvenated by the organs of his clones and eventually replaced with one of his young and healthy clones' bodies emphasizes the fact that he commodifies his body through transhumanist technologies. For Z. Bauman, in the posthuman world we live in our existence is defined by consumption, as we are trained to "*perceive the world as of a container full of disposable objects, objects for one-off use*", including our own bodies (2001, p. 156). Based on the Marxist idea that "*the utility of a commodity is its use value and use values become a reality only by use or consumption*", it could be commented that people commodify their bodies because they have to prove their usefulness as a functional value in this society of consumers (1867/2011, p. 27). Bauman underlines that the body is thought of as a transmitter of pleasurable sensations and simultaneously as the final criterion of usefulness (2010, p. 143). Therefore, the main concern of consumers in the modern era has become

struggling with body imperfections and replacing ineffective organs as seen in the case of Daniel Gray in Egan's story.

Furthermore, new biotechnologies in the posthuman era enable consumers to remake their bodies which are "far from perfect" and available "to be tinkered and tampered with" (Bauman, 2010, p. 144-45). Through these biotechnological advancements, people are prone to dump their discarded body and construct "a substitute" in an act of "being born again" (Bauman, 2010, p. 148). This is exactly what Gray does in the story by replacing his degenerated and abused organs with the new and untouched organs of his clones as he holds the belief that the purified bodies of his Extras can provide him with "a sense of purification, a sense of rebirth" (Egan, 1990, p. 36). He even considers cremating his old and sinful body after his brain is transplanted into a clone's body:

He could not wipe out his past, nor did he wish to, but to discard his ravaged body and begin again in blameless flesh would be the perfect way to neutralise this irrational self-disgust. He would attend his own cremation, and watch his "sinful" corpse consigned to "hellfire"! (Egan, 1990, p. 37)

Gray falsely believes that by discarding his degenerated body, he can be relieved from the immoral acts of his past and his self-hatred. Such commodification of his own body not only results in its depreciation by subjecting it to every type of sexual and drug abuse, but also creates an illusion that he can easily get rid of his worn-out body and transfer his brain into a young and healthy clone's body with no effects on his identity and self.

Gray's exploitation of the clones' bodies for his self-interests can also be thought in relation to nonhuman ethics. Rosi Braidotti states, "the posthuman era is ripe with contradictions" in terms of its positive and negative outcomes (2013, p. 51). Transgressing the borders between the human and the nonhuman with biotechnological interventions that make it possible to extend human lives and to improve their quality of life could be thought as a positive development. However, the darker side of this posthumanist world is that these possibilities create new ways for humans to exploit and victimise the nonhuman entities through their commodification. The ethical concerns in regard to the position of the clones in a transhumanist future are also reflected in the story from Gray's point of view:

Any owner who went public could expect a barrage of anonymous hate mail, intense media scrutiny, property damage, threats of violence - all the usual behaviour associated with the public debate of a subtle point of ethics. There had been legal challenges, of course, but time and again the highest courts had ruled that Extras were not human beings. Too much cortex was missing; if Extras deserved human rights, so did half the mammalian species on the planet.

It is clear that the ownership of clones is a controversial issue in terms of the ethicality of using Extras for the benefits of the wealthy minority in this transhumanist society. Besides, the argument of whether Extras must be endowed with human rights or not points to anthropocentrism due to the faulty understanding that only humans deserve rights. Nevertheless, as opposed to this human-centred understanding of the posthuman/transhumanist world, a vision of the posthuman era with "an enlarged sense of inter-connection between self and others, including the nonhuman or 'earth' others, by removing the obstacle of self-centred individualism on the one hand and the barriers of negativity on the other" must be embraced for a transhumanist future to be egalitarian and non-exploitative (Braidotti, 2013, p. 190).

Viewed in this context, reflecting different forms of abuse Extras are subjected to, Egan's story takes issue with the lower status of clones as nonhuman entities in a transhumanist society. To illustrate, in the story Gray discards his Extras after the organ transplantations even if they can still function: "[...] he'd had the donor put down, whether or not it had remained strictly viable; the idea of having imperfect Extras in his collection offended his aesthetic sensibilities" (Egan, 1990, p. 34). Being reduced to their bodily parts and rendered functional only because of their usefulness to their owner as "a living factory of vital organs", Extras are treated as mere commodities in the Marxist sense (Pastourmatzi, 2009, p. 209). More strikingly, in his midsummer garden party in which Gray proudly presents his Extras to "his wealthy and powerful guests" with a parade, Sarah Brash, "a recent former lover" expresses her disappointment with the fact that Gray did not use one of his Extras for their past sexual intercourse:

"Don't you think it was terribly selfish of you, Daniel? You gave me your body...but you didn't give me your best one" (Egan, 1990, pp. 33, 35). Later that night Sarah, Gray and one of his Extras engage in a sexual intercourse in which Sarah has sex with one of Gray's Extras as Gray tapes them: "*The Extra Sarah had chosen - C7, one of the twenty-four-year-olds - had been muzzled and tightly bound throughout, but it had made copious noises in its throat, and its eyes had been remarkably expressive*" (Egan, 1990, p. 35). Subdued and sexually exploited, the body of the Extra serves for the bodily pleasures of both Sarah and Gray: "*His appetite for sexual novelty aside, perhaps he had agreed to Sarah's request for that very reason: to see this primitive aspect of himself unleashed, without the least risk to his own equilibrium*" (Egan, 1990, p. 36). It is through the sexual abuse of his Extra's body Gray satisfies his primitive sexual urges with no moral bearings. Therefore, in stark contrast with an understanding of the human life in the posthuman era as "*embedded in a material world of complexity, one on which we depend for our continued survival*", the position of Extras in the transhumanist society Egan envisions is highly problematic (Hayles, 1999, p. 5). To put it simply, Extras are simply utilized by affluent humans for their physical needs and sexual pleasure instead of being viewed and treated as nonhuman entities with which they are closely entwined for their healthy and prolonged lives.

The ethical concerns in relation to Extras in the story culminate when Sarah has conceived a child of Gray's Extra and requests that "*Gray provide her with fifteen billion dollars to assist with the child's upbringing*" (Egan, 1990, p. 37). Sarah's impregnation by Gray's Extra functions as one of the pivotal events of the story by making us question the ramifications of the existence of clones in a transhumanist future. Firstly, as Gray underlines, Sarah may have planned to have a sexual intercourse with Gray's Extra in order to exploit her pregnancy as a means of providing herself with financial security in this transhumanist society in which the rich have extended lives: "*Her wealth was comparable to his own, but the prospect of living for centuries seemed to have made the rich greedier than ever; a fortune that sufficed for seven or eight decades was no longer enough*" (Egan, 1990, p. 37).

Moreover, having decided to "*take the matter to court*", Gray thinks that he can easily prove that it is not him but his Extra who has impregnated Sarah (Egan, 1990, p. 37). As "*all Extras were genetically tagged with a coded serial number, written into portions of DNA*", "*these tags were always on both chromosomes of each pair, so any child fathered by an Extra would necessarily inherit all of them*" (Egan, 1990, p. 37). The "*practice of branding the DNA of clones with indelible genetic markers automatically reifies [Extras] and justifies their commodification*" (Pastourmatzi, 2019, pp. 211-12). The objectification of Gray's Extra during the sexual intercourse with Sarah is highlighted when Gray later on sees "*the night's events re-enacted, except that this time it was he who was bound and muzzled, slave to Sarah's hands and tongue, while the Extra stood back and watched*" in his dream (Egan, 1990, p. 38). As Gray's dream reveals, having been made to have sex, Gray's Extra is treated simply as "*a fabricated commodity whose social status is the same as chattel*" (Pastourmatzi, 2019, p. 212). Therefore, the fact that Gray is not the father of Sarah's child does not necessarily mean that he is free from ethical and legal responsibilities. Gray points out, "*perhaps Sarah planned to freely admit that the Extra was the father, and hoped to set a precedent making its owner responsible for the upkeep of its human offspring*" (Egan, 1990, p. 37). Hence, the role Gray plays in the impregnation of Sarah by one of his Extras as a matter of controversy in the story presents a future vision into the possible issues to be faced with in a transhumanist society of which clones are a part and the extent of "*real material consequences to our actions and choices*" related to these nonhuman subjects (Vint, 2007, p. 187).

Another significant issue seems to be the future of the child fathered by Gray's Extra, pointing to the area of reproduction "*at the center of transhumanist concerns*" (Hayles, 2010, p. 216). It is because of the fact that "*when advanced technologies come together with reproduction [...], it is impossible to predict accurately all the consequences*" (LaTorra, 2010, p. 225). Accordingly, it can be anticipated that the position of the child "*as [the] product of miscegenation*" in the transhumanist society Egan depicts will not only give rise to disputes with respect to the social status of the child but also mental and psychological complexities for the child due to its in-between position as the offspring of a clone and a human (Pastourmatzi, 2019, p. 212). Consequently, as LaTorra underlines, "*to arrive at the future we want, we must first be able to imagine it as fully as we can, including all the contexts in which its consequences will play out*" (2010, p. 225). In line with this view, the multi-faceted issue of Sarah's

impregnation by Gray's Extra in Egan's story could be interpreted as a thought experiment with which the various repercussions of a transhumanist future where human and nonhuman subjects are involved in possible scenarios could be glimpsed into in order to be able to address the problems that lie in store in such a future.

## 2.2. Social and Economic Inequalities

The social and economic implications of transhumanist technologies are also problematized in Egan's story. Viewed in the Marxist framework, "*every society has been based on the antagonism of oppressing and oppressed classes*" throughout the history (Marx & Engels, 1848/1969, p. 119). It can be expected that a transhumanist society will maintain and even deepen the gap between these classes by "*lead[ing] to a stratification of society between the enhanced and the unenhanced*" (Baumann, 2010, p. 77). Egan's story also underscores that the transhumanist ideals of improving the human condition and transcending human limitations can only be possible for those who have economic privilege in society: "*Twenty-first century medicine had gradually weakened many of the causal links between lifestyle and life expectancy - and the advent of Extras would, for the very rich, soon sever them completely*" (Egan, 1990, p. 36). This inequality gap in terms of having access to transhumanist technologies becomes one of the most challenged aspects of transhumanism. In her "Wrestling with Transhumanism", Hayles asserts that "*transhumanist rhetoric concentrates on individual transcendence; [however], there is a conspicuous absence of considering socioeconomic dynamics beyond the individual*" (2010, p. 217). Hayles states that "*the social and economic inequalities entwined with questions of access*" are not considered as an issue in the transhumanist discourse, which points to the fact that "*transhumanist individuals will be among the privileged elite that can afford the advantages advanced technologies will offer*" (2010, p. 218). This is also observed in Egan's vision of a transhumanist future in which very few people have Extras in the world, "*perhaps the wealthiest ten thousand, perhaps the wealthiest hundred thousand*" (Egan, 1990, p. 34).

Moreover, from a Marxist perspective, the modern society as a whole is split into "*two great classes directly facing each other; Bourgeoisie and Proletariat*" (Marx & Engels, 1848/1969, p. 109). Accordingly, it can be deduced that the status of the clones and lower-class people in a transhumanist society will "*revive the conflict between the bourgeoisie and the proletariat*" (Klichowski & Marciniak 164). To clarify, in a transhumanist future these two classes will likely to become more "*polarized into conflicted groups*", namely, "*digitariat*" and "*technological proletariat*" (Klichowski & Marciniak, 2013, p. 164). In Egan's story, the wealthy minority who have access to enhancement technologies could be thought as 'digitariat' while the lower-class people who are both deprived of such access and exploited by digitariat and the clones who are commodified by the digitariat could be classified as 'technological proletariat'. In the story, the "*issues of social injustice*" in a transhumanist world are revealed by the fact that lower-class people are used as subjects in brain transplant experiments conducted by "*Gray's vast corporate empire*" (Egan, 1990, p. 38; Elliott, 2003, p. 20):

[T]heir own scientists had (illegally) signed up fifty men and women in their early twenties, and Extras had been made for them. These volunteers had been well paid but not so well paid that a far larger sum, withheld until after the actual transplant, would lose its appeal. (Egan, 1990, p. 40)

The deepened gap between socio-economic classes in this transhumanist society, therefore, becomes emblematic of how not only the benefits of transhumanist technologies are solely "*restricted to the economic elite*" but also the privileged minority "*profits from the scientific and economic control and the commodification*" of the lower classes (Braidotti 2013, p. 59; Vint, 2007, p. 61).

Besides, Hayles asserts that the transhumanist vision of a future in which humans will embrace their "*postbiological successors*", such as intelligent machines, androids or clones is implausible (2010, p. 210). In a similar vein, Egan's story shows that a transhumanist society runs the risk of not being an egalitarian one in which humans and clones exist on equal terms. The hierarchy between humans and clones in a transhumanist future is directly related to Foucault's idea that relations of power are immanent in all types of relationships because of the fact that "*they are the immediate effects of the divisions, inequalities, and disequilibriums*" (1978, p. 94). To exemplify, in Egan's story Gray exerts

dominance and authority over his clones and exploits them in every possible way because of "*his long-held belief in human superiority over Extras*" (Egan, 1990, p. 47). The hierarchical relationship between Gray and his Extras "*by virtue of [its] inequality engender[s] states of power*", which is exemplified in Gray's parade of five batches of his Extras, "*each batch a decade younger than the preceding one, each comprising twenty-five Extras*" to impress his rich and distinguished guests in his luxurious residence (Egan, 1990, p. 33; Foucault, 1978, p. 93). In an effort to highlight the "*less-than-human*" status of his clones and his superiority over them, Gray purposely presents his Extras naked in the parade as he fears that clothing them would make them appear "*too human*" (Egan, 1990, p. 33). He is content that he has managed to get the approval and admiration of the members of his privileged class: "*Everyone applauded demurely as it passed by - in the context, an extravagant gesture of approval. They weren't applauding the Extras themselves [...] they were applauding Daniel Gray*" (Egan, 1990, p. 34). Clearly, Gray exploits his clones which have arisen as an underprivileged group in a transhumanist society as a means of displaying and confirming his economic power and prestige in his social milieu.

### 2.3. The Abuse of Transhumanist Brain Transplant Technology and Its Detrimental Outcomes

Gray's ease of access to enhancement technologies and hence his inclination to squander them bring about catastrophic consequences as demonstrated by his brain transplant operation, which goes terribly wrong. Gray's over-dependence on transhumanist technologies and his desire to go through a brain transplant although he does not need it in his current state epitomize how "*technological developments can change drastically the human experience of life and the personal meanings and subjectivities that go with this*" (Marsen, 2010, p. 87). To clarify, Egan's story successfully reflects how living in a high-tech society can affect people's perception of themselves and make them falsely believe that they are all-powerful with the advanced technology at their disposal. In the story although Gray first plans to discard his old body after his brain is transplanted to one of his Extras, he then changes his mind since he wishes to "*be remembered for the rest of his vastly prolonged life*" for "*keeping his old body alive with the Extra's brain*" (Egan, 1990, p. 38). Inspired by the idea that "*what could be more controversial, more outrageous, than having not just his Extras, but his own discarded corpse, walking the grounds of his estate*", Gray apparently capitalizes on transhumanist technologies with the aim of rendering himself worth remembering for his radical and excessive actions (Egan, 1990, p. 38). His grandiosity bolstered by his exploitation of the advanced transhumanist technologies could also be discerned in his dream to be the first person to go through a brain transplant operation:

[...] He was not in urgent need by any means - there was nothing currently wrong with him that required a single new organ, let alone an entire new body - but he desperately wanted to be first. The penniless volunteers didn't count - and that was why he hesitated: trials on humans from those lower social classes struck him as not much more reassuring than trials on Extras. Who was to say that a process that left a rough-hewn, culturally deficient personality intact, would preserve his own refined, complex sensibilities? Therein lay the dilemma: he would only feel safe if he knew that an equal - a rival - had undergone a transplant before him, in which case he would be deprived of all the glory of being a path-breaker. Vanity fought cowardice; it was a battle of titans. (Egan, 1990, p. 41-42)

Already convinced of his superiority over lower-class volunteers used as subjects in brain transplant experiments, Gray feels that he has to go great lengths in order to prove his supremacy to his fellow upper-class members in this high-tech culture and society, which has turned into an arena of power struggle for the wealthiest who compete to make the most of transhumanist technologies.

In addition, Gray sees his brain transplant operation as an opportunity to avoid possible legal liabilities that the approaching Sarah Brash's court case will bring to him. He believes that his brain transplant operation would make Sarah's case seem trivial and invalid, since "*if he swapped bodies with an Extra in time for the trial - becoming, officially, the first human to do so - nobody would waste time covering the obscure details of Sarah's side of the case*" (Egan, 1990, p. 42). It is obvious that enhancement technologies in a transhumanist future could easily be used for purposes other than intended. To put it simply, a transhumanist future poses the risk of "*subjugating all [...] technological achievements to the values of the bourgeois class*" (Peters, 2010, p. 172) as observed in the billionaire Daniel Gray's wish

to undergo a brain transplant not because of a medical urgency but simply because of his wealth that allows him to do so as well as his selfishness and pomposity in Egan's story.

Towards the end of the story, Gray chooses the Extra D12 "at random" from "Batch D, which were now just over nineteen years old" for his brain transplant operation (Egan, 1990, p. 43). Gray's wish to transplant his brain into one of his Extras showcases the transhumanist assumption that it is possible to free the human from being slave to his/her ineffective body, which is an idea that renders the body inferior and obsolete (Bergsma, 2000, p. 403). This also resonates with the Cartesian worldview asserting that the immaterial mind is distinctly separated from the material body (Descartes, 1637/2006, p. 29). As one of the fundamental tenets of transhumanism, the Cartesian mind-body dualism not only privileges the mind as the locus of rationality and intellect over the material body but also reduces the mind to brain functions such as reason and intelligence. Therefore, it can be concluded that the Cartesian mind/body split is radicalized in the transhumanist ideal of uploading the contents of the human brain into an external entity. Transhumanist visionaries such as Ray Kurzweil and Hans Moravec imagine a "brain-porting scenario" that will enable disembodied consciousness to transcend the limitations of the body (Tirosh-Samuelson, 2010, p. 42). Kurzweil's concept of "singularity" puts forward that in the transhumanist future human brain will leap from human bodies to machines because "intelligence is not dependent upon our biological substrate; rather, as information in patterns, intelligence can be extricated from our bodies" (Peters, 2010, p. 151). Similarly, in the story Gray also views his body as a "discarded corpse" (Egan, 1990, p. 38). He is convinced that by transplanting his brain into a young clone's body he will be able to preserve his mind, a very precious part of his self, which is "full of memories of great music and literature and art, full of moments of joy and insight from the finest psychotropic drugs, full of ambitions that, given time, might change the course of civilisation" (Egan, 1990, p. 44). Having embraced the Cartesian mind/body dualism in his privileging his mind over his body, Gray turns the transhumanist ideal of brain transplant into a reality by eventually having his brain uploaded into his clone's body.

However, the illusion that transplanting Gray's brain into a clone's body, namely, separating his mind from his body will preserve his consciousness and identity intact is completely shattered when the brain transplant ends disastrously at the end of the story. After the brain transplant operation, Gray's self is split between his old body and the body of the Extra to which his brain has been transferred. This tragic result of Gray's brain transplant operation, thus, casts doubt on the transhumanist view of the human brain as a "computational machine", which can be extricated from the body as expressed in Kurzweil's idea of singularity (Tirosh-Samuelson, 2010, p. 38). Prior to Gray's brain transplant, his team of neuroscientists have carried out brain transplant trials both among Extras and between Extras and human volunteers. Some of these trials have resulted in complications like "paralysis, sensory dysfunction, and sometimes even death" (Egan, 1990, p. 39). The interdependence of the body and the brain is proposed as the possible reason for these results in the story:

Brain and body grow and change together throughout life, becoming increasingly reliant on each other's idiosyncrasies, in a feedback process riddled with chaotic attractors-hence the unavoidable differences, even between clones. In the body of a human (or an Extra), there are thousands of sophisticated control systems which may include the brain, but are certainly not contained within it, involving everything from the spinal cord and the peripheral nervous system to hormonal feedback loops, the immune system, and, ultimately, almost every organ in the body. Over time, all these elements adapt in some degree to the particular demands placed upon them-and the brain grows to rely upon the specific characteristics that these external systems acquire. A brain transplant throws this complex interdependence into disarray [...] (Egan, 1990, p. 39)

It is highlighted that human consciousness is formed through an interplay between the mind and the body as they change and develop through new experiences and interaction with an environment in flux. Namely, the "human brain is part of a highly complex and integrated organism" that cannot be reduced to brain functions like intelligence (Tirosh-Samuelson, 2010, p. 38). Therefore, "it is an illusion to assume that human essence can be extracted at will just like we extricate information from a computer chip" (Pastourmatzi, 2009, p. 211). Moreover, in her criticism of Hans Moravec's scenario of transferring human consciousness into an external entity without any effect on the identity of the

individual, Hayles states that *"how could anyone think that consciousness in an entirely different medium would remain unchanged, as if it had no connection with embodiment?"* (1999, p. 1). In parallel with Hayles' argument, Egan's story also underscores that the transhumanist ideal of extracting the brain from the body without any effects on human consciousness and self is doubtful and unrealistic as proved by Gray's fragmented consciousness and disintegration of his identity after the brain transplant.

Despite being aware of the dangers of such radical medical interventions and remembering his parents who *"had both died years before (on the operating table - an almost inevitable outcome of their hundreds of non-essential transplants)"*, Gary still undergoes the brain transplant and suffers from the consequences of a risky operation that he does not actually need similar to his parents (Egan, 1990, p. 40). The brain transplant fails to provide a complete transfer of the contents of Gray's brain to the clone's body. Accordingly, the *"remnants of his brain in [his old] body retain[ing] enough memory and personality make him believe that he, too, was Daniel Gray"* (Egan, 1990, p. 47). It is ironic that instead of splitting his mind and body, Gray ends up splitting his self. Following his brain transplant surgery, he wakes up to find that he is trapped in his old body, which is numb. *"Unable to move or make a sound"*, he feels *"utterly helpless and humiliated"* (Egan, 1990, p. 44). Although a certain period of physiotherapy restores his motor control and sense of touch over time in his old body, he can never regain his neurological faculties such as *"power of speech"* and *"the necessary modes of thought"* (Egan, 1990, p. 47).

Gray is initially not cognizant of the fact that his brain transplant has actually been completed and *"part of his brain is left in a decrepit and mute body, still conscious of its treatment as leftover meat"* (Burnham, 2014, p. 54). Thus, the Gray in his old body falsely believes that *"something must have gone wrong, late in the operation, forcing them to cancel the transplant after they had cut up his brain"* (Egan, 1990, p. 45). His desperate attempts to *"regain what he [has] lost"* via certain treatments make him swear that *"he would never try the transplant again; he would be faithful to his own body, in sickness and in health"*, emphasizing his regret for attempting to disconnect his body and mind (Egan, 1990, p. 46).

At the end of the story, when Gray is introduced to Extra D12, the clone to whom his brain has been transplanted, he eventually perceives the sad and shocking reality: *"There [are] now two Daniel Grays [...] One had everything: The power of speech. Money. Influence. Ten thousand servants. And now, at last, immaculate health. And the other? He had one thing only. The knowledge of his helplessness"* (Egan, 1990, p. 47). This shows that Gray has lost his sense of self as a whole person since he is split into two Daniel Grays, one in the body of Extra D12 and one in his original body. Gray's alienation as a result of the detachment of his organic brain from his physical body could be deciphered within the psychoanalytic framework. Based on the psychoanalytical theories of Freud and Lacan, the interrelation between mind and body is decisive for the formation of one's self. Freud emphasizes that the instincts, in other words, unconscious bodily drives and desires *"represent the somatic demands upon the mind"* (1940/2000, p. 4959). Freud asserts that a human's instinctual drives, bodily needs, desires and impulses, particularly sexual and aggressive drives are what determine his/her behaviours, thoughts and feelings (1940/2000, p. 4957). By highlighting the interdependence of body and mind in the identity formation of an individual, Freud indicates that the unconscious drives and desires can never be fully removed from human life; thus, they become a constant reminder of the centrality of the body for human self.

The French psychoanalyst Jacques Lacan, on the other hand, situates the identification with the body image as the first layer of the ego. When the infant identifies him/herself with the mirrored image, s/he gains mastery over its chaotic bodily experience and the disturbances initiated by the drives (1949/1977, p. 4). Lacan also states that the human subject must be integrated into the Symbolic Order, mediated by the signifiers such as the words, behaviours and gestures of the others so that the infant is progressively informed of its bodily coherence and unity (1957/1977, p. 112). In brief, both Freud and Lacan affirm that the interplay between the mind and the body is central in one's identity formation. It is through this interaction between the body and the mind that one gains a coherent sense of self and identity.

Tracing the theories of Freud and Lacan, modern psychoanalytic studies also maintain that emotive and cognitive processes have their roots in the body because they are interlinked and exist to make

interaction with the world (Fuchs, 2009, p. 8). It is denoted that embodiment impairments play a significant role in disturbances that primarily affect one's sense of self. Thus, the break of bodily functioning and the disconnection of intercorporeality could lead to a loss of the link between the self and the world, resulting in an alienated self (Fuchs & Schlimme, 2009, p. 571). In this sense, the psychoanalytic view of the inseparability of the mind and the body for a coherent human self can explain why Gray's brain could not be totally transferred to the clone's body. As Gray comes to understand, "*processes that constituted human self-awareness were redundantly duplicated in the most primitive parts of the brain*" (Egan, 1990, p. 47). As revealed by the complexity of the brain-body relationship which can be irrevocably impaired with the attempt of separating the physical body from the organic brain, the transhumanist ideal of brain transplant is proved to be quite controversial in the story.

Adopting a psychoanalytic perspective, F. Baumann also criticizes the mind-body distinction radicalized by the transhumanist discourse. Baumann asserts that since "*the relation one has to one's self is certainly in a large part a matter of one's vulnerable, mortal, finite body, its moods and appetites and physical capacities*", transhumanists' interpretation of the body as obsolete and discardable would "*ultimately loosen our sense of identity*" (2010, p. 75). As such, since Gray's mind has perceived and reacted to the world in relation to his body throughout his life, the split of his mind from his body and the transfer of his brain into his Extra has resulted in the loss of his sense of integrity and identity. On the one hand, he feels that he is still himself in his old body because "*all his memories told him he was Daniel Gray*"; on the other hand, he has gradually come to awareness that "*the other Daniel Gray*" in the body of Extra D12 "*without a doubt - the more complete Daniel Gray - had achieved his lifelong ambition*" now that the brain transplant has been carried out despite its complications (Egan, 1990, p. 47). Ending his story with Gray's realization that human consciousness is "*the most physical of things*" and that it is naive to expect that it can "*still be kept intact*" after cutting up it "*like a starfish*", Egan showcases how the transhumanist ideal of disconnecting consciousness from the body poses a great danger to the integration of human self and identity (Egan, 1990, p. 47; Pastourmatzi, 2009, p. 212).

## Conclusion

In the modern era in which lots of scientific and medical breakthroughs have been achieved, the question of what could be the potential impacts of further advancements on the human condition in the future makes such an analysis of transhumanist ideals as represented in Egan's story topical and worth-pondering. A critical transhumanist analysis of Egan's "The Extra" makes it clear that it is vital to perceive transhumanism as "*a set of dynamic and diverse approaches to the relationship between technology, self, and society*" (Marsen, 2010, p. 86). Egan's story offers us the chance to contemplate on the implications of a transhumanist future from diverse aspects ranging from the possible effects of transhumanist technologies on the embodiment and consciousness of the individual to the economic and social consequences of such technologies in relation to the central concerns of ethics and equality.

As the representative of transhumanist individual, Egan's protagonist Daniel Gray's dependence on his clones, namely his Extras, as organ donors and his eventual brain transplant operation exemplify how the abuse of enhancement technologies could lead to catastrophic consequences both for the individual and society. On an individual level, Gray's brain transplant surgery that results in his fragmented consciousness and alienated self brings the transhumanist ideal of transplanting human brain into an external body/entity into question by showing its potential to sever an individual's ties not only with his/her own body but also with the entirety of his/her existence. On a societal level, the enjoyment of transhumanist technologies only by the privileged minority at the expense of both lower-class people as experiment subjects and clones as discardable objects that serve for the enhancement of the wealthy and powerful could be anticipated to become a major issue of social justice, equality and ethics in a transhumanist future.

To conclude, for transhumanism to be a giant leap for humanity, it needs to ensure not only the improvement of human capabilities by means of various technologies but also the conception and creation of an inclusive, ethical and egalitarian transhumanist future in which human life will be intricately interconnected with the scientific, social, economic, ethical and individual dimensions of an enhanced state of humanity.

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**Çatışma Beyanı / Conflict Statement:** Yazar bu çalışma ile ilgili taraf olabilecek herhangi bir kişi ya da finansal ilişkisinin bulunmadığını, herhangi bir çıkar çatışmasının olmadığını beyan etmiştir.

**Etik Beyanı / Ethical Statement:** Yazar bu makalede "Etik Kurul İzni"ne gerek olmadığını beyan etmiştir.

**Destek ve Teşekkür / Support and Thanks:** Yazar bu çalışmada herhangi bir kurum ya da kuruluştan destek alınmadığını beyan etmiştir.

Yayımlanan makalede araştırma ve yayın etiğine riayet edilmiş; COPE (Committee on Publication Ethics)'nin editör ve yazarlar için yayımlanmış olduğu uluslararası standartlar dikkate alınmıştır.