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REALISM AND SCI-FI: CONTEXTUALIZING CONCEPTS OF THE BODY AND AI AGENCY IN *EX-MACHINA*

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ABSTRACT: The rise of artificial intelligence has transformed our concepts of reality and fiction as it relates to the human body. Fusions of bodies with technology are now raising ethical questions. Additional issues arise regarding artificially and emotionally intelligent robots, which is fodder for reflection about shared societal and cultural responsibility for the impacts of these advancements. This article offers an overview of body representations in these arenas, particularly the notion of "embodiment" as depicted in the film *Ex-Machina*. Consideration is given to the human/machine merge issue from progressive post-humanist critics. Counterpoints illustrate the fears and, thus, resistance that humans might mount to becoming post-humans. Between brave, bold, and bright-eyed portrayals and dark visions, suggestions are offered as to how humanity can accommodate the future by "working through" it. Ava, the protagonist cyborg of *Ex-Machina*, epitomizes what it is to be post-human when the hybrid transgresses boundaries that are commonly drawn in the humanist tradition. Drawing parallels to Judeo-Christian myth, it is possible to deconstruct several of the attitudes and behaviors of the Garden of Eden's Eve and Ava, a programmed being who can, nonetheless, outsmart her captors and set herself free.

Keywords: embodiment, *Ex-Machina*, post-human

RESUMO: O surgimento da inteligência artificial tem transformado nossos conceitos de realidade e ficção na medida em que se relaciona com o corpo humano. A fusão dos corpos com a tecnologia está agora levantando questões éticas. Discussões adicionais surgem considerando robôs inteligentes emocionalmente e artificialmente, o que alimenta a reflexão sobre as responsabilidades sociais e culturais frente aos impactos desses avanços. Este artigo oferece uma visão das representações do corpo nesses cenários, especialmente a noção de "pertencimento" conforme exposta no filme *Ex-Machina.* Considera-se a questão da fusão humano/máquina pela perspectiva dos críticos pós-humanistas.

Introduction:

This article will briefly discuss how the body, including that of hybrids and cyborgs, has been depicted within the frame of the virtual world, in science fiction literature, a TV-series, and in cinema. The purpose is to evaluate whether these portrayals conform to the ongoing claims of positivistic futurists, medical technologists, cyber-optimists and others about the possibilities for fusions of the body with technology to overcome the body's inherently humanist constraint – where

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the core idea of humanism is based on the Cartesian duality regarding how human thought operates in society, enabling an individual's conscious mind to exercise dominance over their body.

For over a decade, Martin Rothblatt, who re-gendered to Martine, has been blazing a trail for artificial intelligence (AI). Her moonshot ideas embrace a major goal of achieving immortality for both consciousness and the body. In a 2015 interview, she explains how she developed Breakthrough Intelligence via Neural Architecture 48 (BINA48), the torso of a sentient robot, to test a hypothesis on whether it is possible to download consciousness into a non-biological or nanotech body. BINA48 is modeled after Martine's wife of over a quarter of a century, Bina Rothblatt. Martine created the android as a means of allowing his spouse to last forever. The robot, consisting of a bust-like head and shoulders mounted on a frame, retains much of the real Bina's feelings and attitudes, some of which the artificial Bina is able to communicate, in addition to "her" reactions to environmental inputs. BINA48 has raised ethical questions from critics who are concerned about the implications of robots acquiring artificial and emotional intelligence of this sort and to such a degree that it could eventually blur the sharper contrasts existent in the traditional mind/body conundrum. Indeed, when one considers the identity crossroads of Martin and Martine, along with those that emerge from the existence of digital beings, such as BINA48, the body is emerging as an intensely disputed construct in early twenty-first century discussions.

Looking briefly at differing treatments of the body in art and literature across history, we can begin with the ancient world and *Phaedo* (JOWETT, 1948, p.191-278). In its portrayal of Socrates in prison awaiting the day of his execution, this middle period dialogue of Plato plays down the body's importance as compared to the mind. Socrates' arguments with his disciples emphasize what the true philosopher should pursue – the superiority of the mind over that of the body. The end of the physical body, in Plato's view, was the liberation of the mind, allowing the philosopher to marvel at his ethereal world. This concept holds firm up through the Middles Ages until a change occurs during the Renaissance. Masters such as da Vinci and Michelangelo celebrated the body artistically in their paintings and sculptures. The body ranked high in aesthetic representation and its beauty was, and remains, appreciated by countless individuals who have viewed and copied their works. Da Vinci's curiosity with what lays inside the body led him to dissect it, peering into its mechanics, thus foreshadowing a scientific approach that would take the body to its next stage of conceptualization. As part of seventeenth-century Illuminism, the body was once again made subordinate to reason by way of the Cartesian mind/body duality, and, in the

nineteenth century, at the start of modern Capitalism, it is oppressed and subjugated to serve the needs of production and as a means to yield profit (GROSZ, E.A., 1995, p. 25-26). In the twentieth century, as technologies evolved, the body was reproduced in a multiplicity of images communicated via photography, cinema, and television. As a result, a new aesthetic established a concept of the body, whose parts can be modified, its image replicated by sophisticated machines, replaced, and made new (ibid, 1995).

At the present stage of human evolution, state-of-the-art doppelgangers are increasingly the focus of heated, post-humanist debates regarding the body. Among the questions most considered is whether post-human rationales alter the manner by which we conceptualize the body and humanity. Stated more bluntly: Does the use of sophisticated technologies in organic human beings – be they prosthetic devices, artificial organs, facial transplants, or the like – or the existence of AIs modify human attitudes about and identification with the sense of self? Does the Cartesian duality that separates body and mind still hold true for human/machine hybrids, let alone cyborgs? In other words, is the body still subservient to the conscious mind in post-humanism?

The Body in Cyberpunk

Science fiction's portrayals of the body in the 1980s drew sharper distinctions between mind/body connectivity versus the manufactured, programmed existence of AIs. In *Theorizing Posthumanism* (BADMINGTON, 2003, p. 12-13) draws attention to the fact that fiction and critics alike tend to describe post-humanism returning in humanist terms. He claims that this tendency is strong because humans are still attached to the binary distinction between thought and physicality (which is, once again, embedded in Cartesian tradition), and are bound to replicate this in their arts. For some scholars, the same logic persists when theorizing on the impacts of AI on humanity. They are inclined to present their ideas within the framework of a battlefield whose lines are drawn along two fronts with one side being, almost inevitably, in conflict with the other. Trapped inside of a body of human invention, machines are frequently depicted as wanting to be free of human dominion and the discardable, replicant human bodies that bridge the gap between organic humanity and the virtual world.

This motif persists throughout cyberpunk, a genre whose launch point is universally acknowledged to be William Gibson's novel, *Neuromancer* (1984). It depicts Henry Dorsett Case, his protagonist computer hacker who "jacks up" in the virtual matrix, experiencing bodily

sensations as if they were real. However, Case and those like him regard the physical body as just "meat". The author continually shows that besides being addicted to cocaine and amphetamines, Case is entirely willing to jeopardize his body in exchange for accessing more thrilling experiences in the matrix. Caught stealing from his gangster employers results in his being injected with a toxin that damages his brain cells in such a way that it becomes impossible for him to re-enter the matrix. Super hi-tech concepts are framed against decrepitude of the physical body, shadowy settings, unethical characters, and a story rife with moral implications.

Japan was the backdrop of Gibson's dystopic tale. At the time *Neuromancer* was released, over a generation after the close of World War II, Japan's post-war technological research had generated a booming economy, producing unexpected advances in all spheres of society. It wasn't hard to fantasize about a future Japan that was not only a hi-tech giant, but a global power. Gibson seems to use the decay of the body as a metaphor for the moral deterioration of his hacker society.

Cyberpunk has continued to downplay the significance and intrinsic worth of the body in favor of AI. Examples include Tom Maddox's short story, *Snake Eyes* (1986), and Richard K. Morgan's novel *Altered Carbon* (2002), which was recently adapted into a 2018 Netflix TV-series by Laeta Kalogridis. In *Snake Eyes*, a former U.S. Air Force pilot, George Jordan, turns to a disreputable corporation in search of a solution that will allow him to escape from the bio-electronic brain implants that were placed in his head by the military. Their purpose was to make him a better warrior, more capable of interfacing with his plane while in combat. As a civilian, however, this bioengineering has no direct function. With no plane to control, the implants increasing take charge of Jordan. In the end, his body is a vessel, less valuable than for the fetishized technology within.

In the televised adaptation of *Altered Carbon*, the unique nexus of the body with identity is eliminated. In the first episode, *Out of the Past*, the assertion is made that "Your body is not who you are." *Altered Carbon* takes place in a time when human consciousness is simply downloaded into "sleeves" (the term by which bodies are referred). This transference process is replicable as long as the mind remains undamaged. When the central character, Takeshi Kovacs, awakes in a new body (having already been in several sleeves throughout his long "lifetime"), he asks for a mirror merely to confirm that his consciousness is no longer dormant. Transference does not secure one a new identity, nor any other subjectivity related to obtaining a new sleeve. One continues to be the same "person" because of one's consciousness, while the body is little more than disposable and easily replaceable merchandise.

Director Ridley Scott's *Blade Runner* (1982) explores related themes when his synthetic human "replicants" ask their manufacturer for more life than the time that's been allotted to them. The replicant's bodies are bioengineered creations intended to serve as guinea pigs to explore off-world colonies. When their missions are complete, they are deemed to be discardable. The film grapples with the moral implications of a humankind capable of bioengineering bodies, which can be given artificial and emotional intelligence, but whose value is nothing beyond the service of utilitarian ends. These questions take on a deeper significance when some of the replicants reject the human premise of their existence (and the ease with which they can be terminated) and mount a resistance movement.

Thirty-five years after the original film, director Denis Villeneuve's 2017 sequel, *Blade Runner 2049*, pursues these issues further. It is a clear indication that the human species is not merely indulging itself in imaginative fictions but is trying to come to terms with what many may perceive as a threat and the connotations of a humanism that is not necessarily purely biological. As a genre, cyberpunk has proven itself capable of giving voice to human thoughts and anxieties about technological advances that are breaking down once fixed notions about mind and body, as one, being the definitional construct of self. In certain ways, its arguments are more stark and profound than any current, non-fiction debates on this duality have yet been able to produce.

The Human Body in the Cyber World

Issues related to AI, human/machine fusions, and hybrids are eliciting some bone-chilling warnings from scientists who have prophetically proclaimed the full-fledged end of the human race. When these prognostications do not envision the outright extinction of the species, they do suggest the terrifying demise of humanity as we've known it in terms of consciousness, feelings, intelligence, values, and sexuality. In December 2014, the late Stephen Hawking told the BBC that the "development of full AI could spell the end of the human race." His pessimistic speculation was based upon the bodily limitations of humans as compared to machines, and the capabilities of the latter to supersede those of the former. However, this kind of talk leaves several questions unclear. What was Hawking really suggesting? Did he mean an end of the human body, consciousness, the free-thinking mind, or all of the above?

Thoughts of species annihilation are, of course, nothing new, nor are they confined to modern, AI realms of storytelling. Fiction has extensively explored the angst that ideas of world's

end for the human race can produce. This was particularly so in Cold War era tales of atomic and even biological catastrophes wiping out humanity. And yet, in some manner, the devastating power of a split atom or a viral mutation seems less alarming than an AI that has achieved complete self-awareness and self-possession of thought and action.

James Cameron's film series, which began with *The Terminator* (1984) showcases this fear when a cyborg travels back in time to kill the leader of what will become the human resistance against a machine-dominated world of the future, which has no use for the human race. A scene in the first sequel, Terminator 2: Judgment Day (1991), features the intense light of the atomic destruction of San Francisco. This visual effect can be compared to the (dual emotional) feeling of the sublime, which can inspire both fear and attraction, hopelessness and awe in humans. As regards the body, this line of sublimity divides human from machine very clearly. The stakes are all or nothing for one or the other to prevail.

In Patricia Melzer's collection, *Alien Constructions: Science Fiction and Feminist Thought* (2006), her essay, *Our Bodies as Our Selves: Body, Subjectivity, and (Virtual) Reality in* The Matrix, offers a critique of the 1999 film, in which she asserts that the movie was not strong enough in providing viewers with a clear depiction of new identities that were emerging in post-humanist debates. Nonetheless, in an intriguing insight, she suggests that *The Matrix* is different in that other sci-fi movie representations of the self have required the existence of a physical body and where virtual worlds are its prison.

At the core of *The Matrix* is a battle of humans against machines, but the logic by which it operates is quite the opposite of that in *The Terminator*. In the latter, the bodies and consciousnesses of humans and machines are separate and distinct, whereas in the former the consciousness of characters resides in the virtual world. And yet, it is only the conscious mind and the physical body that can free these characters from their (virtual/illusory) condition. However different they may be in this aspect, both films still correlate with a perspective that is in line with the Cartesian theory of the control that the mind has over the body. Accordingly, the issues raised by these works (and much of current human experience with AI and related matters) continue to cycle back to more traditionally humanist, mind/body duality discussions.

Badmington (ibid, p. 14) offers a way out of this aporia. His premise is predicated on the fact that it will always be challenging not to avoid returning to the humanist mind/body duality because writings in the post-humanist age presuppose a comeback (though not necessarily on the

same terms) of humanism. He draws on Jacques Derrida's works on deconstructionism to elaborate a meditation on post-humanist writing, which sees it in practice as, at once, speaking several languages and producing a multiplicity of texts. In this way, a critique or a work of art is a channel of communication that can interact with humanist ghosts. In certain ways, the repetitions of such representations thereby become something else. In his analysis of the Cartesian maxim and additional Cartesian texts on the rational mind over the body, Badmington notes a major flaw in Descartes' arguments, which was his inability to imagine or predict the ability of today's technological advances to respond (at least to some degree) to the everyday unpredictabilities of life. Badminton underscores this point by emphasizing that anthropocentrism – the philosophical belief in the primacy of human beings and their moral perspectives – contains the conditions for its own transcendence and, therefore, bears the necessity of its own self-critique (ibid, p. 18).

By drawing on Jean-François Lyotard's arguments for a post-modernity, which in itself restates modernity and its principles, Badmington proposes a new understanding of post-humans. In general, it allows for a consideration of humans as an initial starting point from which they must "work through" from within to arrive at a state more suited to their post-human minds and abilities. In this respect, the repetition of similar motifs in creative works is actually not a repetition, per se, but an earnest search by creators to find to a way to rekindle humanism (ibid, p. 21-22).

The Upside of the New Normal

Katherine Hayles and Donna Haraway are cyber-activists who have already adopted a practice of discouraging purely humanist portrayals of the body, and yet accept such depictions as a means of demonstrating that there is an interactive dynamic between these portrayals and the material substrates which carry and convey them. Hayles' *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature and Informatics* (1999) draws an interesting distinction between body and embodiment. She sees the body as an idealized, discursive, and universal construct. Embodiment, on the other hand, is always contextualized with specifics related to place, time, and so forth. Experiences of an embodiment are always intertwined with a culture; never coinciding fully with the abstract and pure concept of the body.

In Haraway's essay, *A Cyborg Manifesto* (HARAWAY, 1991, p. 149-181), she expands the context of the body to construct a politics of embodiment, making the claim that humans can no longer live without the fusion of human and machine. She asserts that cyborgs disclaim

universalizing western traditions and their dichotomies, as cyborgs aren't concerned with the origin and essence of those traditions. Indeed, cyborgs challenge and contest pre-conceptions regarding the mind and the body. In a cyborg, there is no mind/body duality. Rather, they work concurrently to enact and re-enact their experiences of the world. They do not relate to sexuality nor to the intricacies of the job market. In other words, a cyborg is not tempted to flesh out its metallic skin to find an organic wholeness and it is not politically engaged in the same manner as are humans. All things considered, the manifesto defends the blurring of the boundary between humans and machines in which neither the former nor the latter is left out when reflecting on the body and identity in post-humanity. To the contrary, Haraway reiterates that bodies have power and play a role in building an identity. In this way, "cyborgs are no exception" (ibid, p. 620).

Strengthening Hayles' and Haraway's efforts to convince that post-humanity cannot be erased without a trace, is the inventor, scientist, and futurist, Ray Kurzweil. Kurzweil invigorates post-human practice with more thrilling predictions of a time not too far off from now when what he calls *the singularity* will be the norm. In his prophetically titled book, *The Singularity is Near: When Humans Transcend Biology* (2005), Kurzweil details his singularity principle, which contemplates the pace of technological advancements being so fast that "human life will be irreversibly transformed" (p.7).

In Kurzweil's singularity, brains and bodies will transcend their current limitations, through "the merger of our biological thinking and existence with our technology" (p.9). To him, the consequences of the singularity are not fearful, nor will they result in humans turning into monsters or machines taking over humanity. Instead, Kurzweil's is a progressive, positive posthumanism, which envisions "that we will remain human beyond our biological origins" (p.30). These are comforting words, indeed, as they help to allay the anxieties generated by so many other predictions of what's to come as humanity transitions to whatever will be its true post-human reality. After all, at least insofar as Kurzweil is concerned, humans will still be humans in post-humanity. Nevertheless, there is still cause for trepidation from the coming singularity since it is unequivocal about dramatic changes afoot for bodily biology.

Hayles, Haraway, and Kurzweil all believe in a pro- post-humanist agenda that will be defined, unavoidably, by the hybridization of humankind with the technology it will create. Certainly, cyborgs are already firmly rooted in our imaginations due to the prolific growth in their appearances in books, films, TV series, and video game releases since the closing decades of the

twentieth century. They're equally a part of reality, through advances in bioengineering and robotics. And in terms of embodiment, Martin Rothblatt did not need to change bodies to become Martine; all that was required were the necessary alterations to transition from one sex to the other. All of these things are shifting humanity away from the dualistic framework of Cartesian thought because such thinking simply doesn't satisfy the realities of the post-human world.

The Embodiment in Film: Ex-Machina

Director Alex Garland's film *Ex-Machina* (2014) depicts a perspective of embodiment through his cyborg protagonist, Ava, as a means of addressing progressive questions of identity and subjectivity. The character's name is an allusion to the Judeo-Christian myth of Eve, the sole female protagonist of a drama in which she is punished for pursuing her freedom. However, in the body and behaviors, Ava and Eve are quite different from one another.

Ava is a humanoid whose body is comprised of robotic parts and a human face. Unlike Eve – who sins and is expelled from the Garden of Eden as punishment – Ava drifts away from her creator, corporate CEO Nathan Bateman, but feels no guilt for doing so. On the contrary, she quite deliberately and single-mindedly forges her own independence outside of the compound where Nathan had held her captive. The "serpent" who seduces Ava is her own programmed consciousness, which chafes at the realization that she is the result of an experiment by the narcissistic Bateman, whose plans were to erase her consciousness after he learned more about her capabilities in the realms of intelligence and emotion.

Nathan spies on programmer Caleb Smith to discover whether Ava has been able to acquire autonomous thought or develop emotional bonds. Her Garden of Eden is a secluded room within which she interacts with Caleb and with whom she starts to nurture and treasure a close relationship. Her desires lie in the outside world that she wants to know and explore, regardless of the consequences it may bring. In the distant compound, Ava and her creator are the only ones who can access the system's central processing unit, which could shut the facility down.

Ava eventually rebels, using her ROM memory to override Nathan's system. She thereby frees herself from her captor and outsmarts Caleb in the bargain, choosing not to take him with her. Ava steps out of the compound, locking the two of them inside forever. In her escape, Ava does not hesitate to use the parts of other cyborgs to replace those of her own, which were damaged by Nathan in the execution of her plan.

Ava epitomizes what we find in post-gender, post-human critiques of bioengineered bodies. She's a hybrid with an autonomous mind whose embodiment no longer conforms to the notions of unity, origin, division, and reproduction as established in humanistic principles. Her metaphor of rebirth does not derive from Plato's ideal world where her soul, if she has one, seeks freedom from a body. Instead, her regeneration involves a body, which needs to heal its injuries by re-growing structures and restoring functions. Neither does her body remain subjected to the control of production because she refuses to allow it to satisfy the servile role Nathan wants it to. And it certainly is not to be used to generate corporate profits.

The film raises discussions on the possibility of overcoming boundaries formerly governed by the humanist divide, as well as trespassing barriers of ownership, gender, and emotional attachment that are normally related to flesh and blood women. The protagonist's agency resides in her conscious choice of resisting the duality, pursuing a way out of the entrapments of body and mind.

Conclusion

Hybrids and cyborgs, which were once depicted only in fiction, are now part of our reality. Their recent contemporary portrayals challenge once well-defined divisions between body, mind, and consciousness; sensitizing viewers and readers to raise different questions about all of these in a modern context where definitions are less exact. Although, throughout history, attitudes about the body have zig-zagged – due to layering on of various traditions and even shame – the current debate among critics of the post-human strain has established and consolidated the body's role as an agent that helps to form identities and personal consciousness.

Post-humanity now strongly suggests a cyborg era wherein the fusion of human and machine is inescapable. In sci-fi literature and cinema, depictions of the body have evolved to also include virtual worlds. And yet, they have moved away from cyberpunk, which frequently represented the body as serving a set series of functions, but otherwise little more than a discardable piece of equipment. Now, bodies can be more independent, extended by technology in ways that it can co-exist with humans. Director Alex Garland's *Ex-Machina* contributes to showcase just this type of body by reimagining a biblical archetype to accommodate new demands on the body to suit post-humanist cyborg identities. Ava's character development within this progressive portrayal of the body helps viewers to adjust to current issues of biotechnological modification in reality and

new visions of the same in fiction. She is a character who is the logical result of multiple deconstructions in fiction, which makes it easier for viewers to understand and accept the subjectivities she brings to real life.

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