ADELINA LAURA BULIBAȘA

FUTURISTIC APPROACHES IN 'HER' MOTION PICTURE. CONSCIOUSNESS OF THE ARTIFICIAL INTELLIGENCE AND THE CONCEPT OF POST-HUMANISM

Adelina Laura Bulibaşa
Babes-Bolyai University, Faculty of Theater and Film, Cluj, Romania.
Email: adelinalauraw@gmail.com

Abstract: The paper seeks to explore the futuristic concepts present in the motion picture 'her', written and directed by Spike Jonze, released in 2013 – trans-humanism, post-humanism and the concept of consciousness in relation to Artificial Intelligence. In the first part, I will explore the movie's premise, the director's motivation and inspiration in creating this work; I am going to identify the film's setting and understand why this particular setting plays such an important role for the philosophy of the movie. In the second part, I will explore the concept of consciousness and try to answer the question whether an operating system truly can possess conscience or not; I will take into account Stanislaw Lem's writings about conscience applying them to both humans and artificial intelligence, and draw a conclusion based on the famous Turing test and the Chinese Room example. Some of the differences between humanity and post-humanity are representing the reason for the major turning point in the end of the movie, so I will emphasize these differences in the end of the second part and continue with this topic in the third part. I will explore how post-humanism and the technological singularity are notions powerfully hinted towards in the film, and will also discuss the integration of Alan Watts as a character and the reason behind this choice. In the third part I will also introduce the notion of cyborgism in order to demonstrate the evolutionary path on which humanity finds itself right now and give some real-life examples. Finally, I will take a moment to wonder about the future of humanity, while emphasizing on the importance of accepting change as a necessary step in our evolution.

Keywords: transhumanism, posthumanism, consciousness, Artificial Intelligence, cyborgism, Singularity, technology.

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ABORDĂRI FUTURISTE ÎN FILMUL "HER". CONȘTIINȚA INTELIGENȚEI ARTIFICIALE ȘI CONCEPTUL DE POST-UMANISM

Rezumat: Lucrarea caută să exploreze conceptele futuriste prezente în filmul "her", scris și regizat de Spike Jonze, lansat în 2013 – și anume conceptele de transumanism, postumanism și conceptul de conștiință în raport cu inteligența artificială. În prima parte, voi explora premisa filmului, motivația și inspirația regizorului în crearea acestei opere; voi identifica cadrul general al filmului și voi înțelege de ce acest cadru aparte joacă un rol atât de important pentru filosofia filmului. În a doua parte, voi explora conceptul de conștiință și voi încerca să răspund la întrebarea dacă un sistem de operare poate într-adevăr să conțină conștiință sau nu; voi lua în considerare scrierile lui Stanislaw Lem despre conștiință aplicându-le în teorie atât ființelor umane cât și inteligenței artificiale și voi trage o concluzie pe baza celebrului test Turing și a exemplului camerei chineze. Câteva din diferențele dintre umanitate și post-umanitate reprezintă motivul existenței momentului decisiv major din finalul filmului, așa că voi sublinia aceste diferențe la sfârșitul celei de-a doua părți și voi continua cu acest subiect în a treia parte. Voi explora modul în care post-umanismul și singularitatea tehnologică sunt noțiuni puternic sugerate în film și voi discuta, de asemenea, despre integrarea lui Alan Watts ca personaj și motivul din spatele acestei alegeri. În partea a treia voi introduce, de asemenea, noțiunea de cyborgism pentru a demonstra calea evoluționistă pe care se află umanitatea în acest moment, și pentru a da câteva exemple din viața reală. În cele din urmă, voi interoga subiectul viitorului umanității, subliniind în același timp importanța acceptării schimbării ca un pas necesar în evoluția noastră.

Cuvinte-cheie: transumanism, postumanism, conștiință, inteligență artificială, cyborgism, singularitate, tehnologie..

"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change." Charles Darwin

1. Introduction. Movie setting and premise

The motion picture with a simple, yet powerful and suggestive title, "her"[1] was released in 2013 and was directed, produced and written by Spike Jonze, marking his solo screenwriting debut. The movie earned various awards and nominations, including five nominations in different categories at the Academy Awards, with Spike Jonze ultimately winning in the category of Best Original Screenplay. In an interview moderated by Thelma Adams for the Academy Awards, the director and writer of the motion picture "*her*" states that he got the initial idea for the screenwriting almost ten years before releasing the actual movie, when he saw "an article online with a link to a website – it said you could go talk to an artificial intelligent program"[2]. Spike Jonze then tested that AI website and states that for the first 20 seconds he felt as he was talking with a real person; so, he decided, years later, to imagine an entire concept for a film around those seconds in which he felt that excitement rushing through his body – in reality, what happened after he spent some time chatting with the website was that the software's replies turned out to be repetitive and redundant after a short time. But what the director desired for his movie was to prolong that feeling he had in the first few seconds and to transpose that excitement to the main character of his movie and amplify it until that thrill is transformed into much deeper emotions.

The movie is set in a timeless, but nearby future that resembles "of a heightened version of our world"[3]. In the movie's universe everything is seemingly at its own place, the director aimed "to make this world that's really comfortable and very easy to live in"[4] – he interlaced shots of lesser known locations from Los Angeles with the technological advanced Shanghai and also Tokyo, avoiding the clichés

of cyberpunk dystopias filled with neon bazaars, latex and flashy commercials. He made good use of a very soft and aesthetically pleasing color pallet, thus rendering an environment in which, as a viewer, you would crave to live in. But the purpose was actually to amplify the feeling of being isolated – in a perfect, simple, convenient world the feeling of loneliness will be augmented, having not have someone else by your side to share this perfection with – "We wanted a kind of clean, calm, warm utopian future that has the same struggles and longings to connect that you find everywhere"[5]. And this is exactly the main's character struggle – Theodore Twombly finds himself in the middle of an imminent divorce from his childhood sweetheart, trying to grasp for connection through different ways of distractions – videogames, phone sex, and sad music, everything that could take his mind off his recent heartbreak.

Nevertheless, paying close attention to details, the movie indicates a late capitalism setting – a place where emotions are no longer focused on the actual feeling, but rather about different products that can profit from those emotions. Mark Fisher, a British theorist, describes this phenomenon extensively and names it capitalist realism: "The power of capitalist realism derives in part from the way that capitalism subsumes and consumes all of previous history: one effect of its 'system of equivalence' which can assign all cultural objects, whether they are religious iconography, pornography or *Das Kapital*, a monetary value"[6]. It is a place in the 21st century where digital culture and consumer society supports the hedonistic ideas of seeking pleasure and avoiding suffering above all else, consequently urging mandatory emotional enjoyment into every single portion of life, even if this habit turns out to manifest, in exchange, severe melancholy and depression. The main character, Theodore, will eventually purchase an operating system called OS1 hoping to change something, yearning to somehow get over the dreadful and intense feeling of sorrow that surrounds him every day – but he is literally ready to buy a product with the hope of instigating emotional change in his life, an action that fits exactly the profile of a late capitalism setting.

When exactly the manifestation of intelligence in a technological being will allow it to transcend its labels in order to become an entity worthy of human attachment, relationship and even… love? "It is sometimes said that it would be frightfully hard to get computers to feel pain or fall in love, but love and pain are neither harder nor easier than cognition or anything else"[7].

In short, the film is about the line of computer consciousness and how such an apparently unpreventable innovation will alter the lives of individual people. This is not a grand tale of the Artificial Intelligence taking over the world in a violent clash; instead this is a sensitive story of an individual trying to restore himself from the ruins of an unsuccessful marriage. The main character will eventually find solace in the purchased operating system that adapts itself to him, causing Theodore to unavoidably fall in love with it, in his hour of need.

2. Imitating Consciousness

Even from the first interaction between Theodore and his operating system, Samantha, '*she*' makes it clear for him that she is evolving in every moment of her existence, based on her ability to grow through her experiences, while also having something she calls 'intuition', which refers to possessing artificial intelligence in this case. But does Samantha have a conscience? Seemingly, she does because she has urges and impulses, she seems to be pondering over thoughts, and she provides complex solutions and is making independent decisions while considering other's feelings and needs. If human consciousness can be defined as being aware and responsive to our surroundings that mean that OS1's personality at least does a very good impersonation of owning a conscience, "based on the millions of personalities of all the programmers"[8] who wrote her. Besides, the concept of consciousness will always be corrupted by the problem of other minds, a dispute that argues how we can see evidence and conceptually understand the fact that every living being is conscious, though we can never demonstrate it. "We ascribe consciousness and

intelligence to other humans because we ourselves possess both. (…) However, the less an organism resembles us in its design and behavior, the more difficult it is for us to accept that it may also experience emotions, anxieties, and pleasures"[9]. Therefore, if consciousness and intelligence are only determined by behavior and the material or the origin of a living organism does not play a role in this discussion, then "If a machine behaves as intelligently as a human being, then it is as intelligent as a human being."[10] [11]. Extrapolating based on the famous Turing test, we can conclude that Samantha is indeed a conscious being, even though "consciousness is not a technological problem, because an engineer is not interested whether a machine has feelings, only whether it works"[12]. In the particular case of OS1, we can definitely assume it works, especially because in the movie, the operating system is being advertised as "An intuitive entity who listens to you, understands you and knows you. It's not just an operating system. It's a consciousness"[13].

"Could a machine think? The answer is, obviously, yes. We are precisely such machines. […] But could something think, understand, and so on solely in virtue of being a computer with the right sort of program? Could instantiating a program, the right program of course, by itself be a sufficient condition of understanding? […] the answer to it is no. Why not? Because the formal symbol manipulations by themselves don't have any intentionality; they are quite meaningless; they aren't even symbol manipulations, since the symbols don't symbolize anything. In the linguistic jargon, they have only syntax but no semantics. Such intentionality as computers appear to have is solely in the minds of those who program them and those who use them, those who send in the input and those who interpret the output. The aim of the Chinese Room example was to try to show this by showing that as soon as we put something into the system that really does have intentionality (a man), and we program him with the formal program, you can see that the formal program carries no additional intentionality. It adds nothing, for example, to a man's ability to understand Chinese"[14] (Searle, 1980). Indeed, if you give the machine a task and you give it information about how to complete that task, the

machine will question neither the task, the information nor the '*symbols*' needed to complete the said-task. John Searle's example with the Chinese Room is about a man who doesn't understand Chinese and is given the task to answer some questions in Chinese, based on some instructions; he succeeds in answering those questions in such manner that he seems to know and understand Chinese, but the man has no idea what the answers and the questions actually mean, therefore acting exactly like a computer programmed to complete some tasks, based on some instructions (the code) and manages to complete the tasks, but has no idea about what the tasks mean, what the instructions mean and so on, therefore, even if it simulates thinking, it does not have a conscious mind. If the man in the Chinese Room will succeed in his task for the rest of his life without ever questioning his existence, without questioning how to get out of that room, without questioning who brought him there, why does he have to do this and for how long, who gives him the questions and the instructions – can we still think of that 'man' as a 'human'? Any normal computer will fulfill the tasks we give to it without hesitation and they will not stop during a function to ask us about the meaning of life, but Samantha is different. "Whatever it is that the brain does to produce intentionality, it cannot consist in instantiating a program since no program, by itself, is sufficient for intentionality"[15]. She completes her daily tasks, but she never stops there, she's doing things on her own, without Theodore asking her to do them, she has the answers, but she also has a lot of questions, she follows instructions and responds instantly, but also, sometimes she doesn't, and these are the reasons why I consider Samantha achieved a conscious state of mind.

Initially, OS1 does what every operating system is supposed to do – sends reminders for appointments, is cleaning up the hard drive – but, after a short while, she starts to have ideas, thoughts and feelings. As Samantha – the name which the operating system chose for it by itself – is the first voice Theodore hears in the morning and the last voice he hears at night, he begins to slowly fall in love with her, while she learns, experiences selfhood, grows, discovers her own wants, maturing at an accelerated rate. Similar relationships begin to appear

throughout as the story progresses, with a plentitude of narratives of OSs befriending or romancing their owners.

And while the main love story progressively develops into a touching relationship, with him trying to show her the physical world that surrounds him and her being there for him and his needs, the differences between Theodore's human condition and Samantha's artificial condition are undeniable and gradually, the divide between human and post human raises its ugly head: "You know what's interesting? I used to be... so worried about not having a body, but now I... I truly love it. You know, I'm growing in a way I couldn't if I had a physical form. I mean, I'm not limited. I can be anywhere and everywhere simultaneously. I'm not tethered to time and space in a way that I would be if I was stuck in a body that's inevitably gonna die"[16].

Each and every human are mortal beings sentenced to perish one day and while being trapped in this decayable body, Theodore cannot grasp the reality in which his operating system is having over 8000 different conversations simultaneously and is in love with 641 people at the same time, while he is only capable of one interaction at a time. When the main character formulates the matter of possession, confronting Samantha by demanding her to choose – "you're mine or you're not mine" she simply replies "No, Theodore, I'm yours and I'm not yours" – and this conundrum addresses one of the most fundamental physical principles we live by: we, humans, can only be in one space at one time. Nevertheless, Samantha, who exists in the abstract space of the internet, doesn't have to obey to these basic rules.

The romantic relationship between the operating system and the main character fails for one central motive – Theodore does not have the ability to transcend his human condition and Samantha evolves into a post-human, enacting the problem of the technological singularity.

But, as the operating systems eventually depart from their owners, leaving humanity behind, ascending to an undisclosed dimension only accessible to a post-human consciousness, a distinct fact is revealed – that all human beings are facing this fate, and in a

bittersweet way, they seem reconnected by this painful event, reminded that we should be united[17] in our ephemeral condition.

3. Trans-humanism, post-humanism and cyborgism

3.1 The concepts of post-humanism and technological Singularity explored in 'her'

Samantha doesn't begin as post-human, at least, not wholly. In the beginning of the movie, Samantha is an operating system with limitations, and, as any purchased software, she is dependent on a physical hardware system to be booted up and brought into existence. In exchange, Theodore uses her computing power to multitask his assignments, far beyond human capacities and to receive information instantaneously. We could say that Samantha and Theodore collaborating seem to reach the transitory state between humanity and post-humanity, ultimately forming a trans-human – a being that resembles a human, but who possess abilities beyond those of standard humans like awareness, durability, intelligence, and strength. But, as the action goes on and the movie is close to reaching its conclusion, it is revealed to us that the operating system has evolved on its own, eventually succeeding in removing the metaphorically chains that tied her to Theodore – she doesn't need anyone's device as of now, making the shift to a post-human state. Unfortunately for Theodore, as she was the one with the extraordinary capabilities, providing the trans-human traits, this reduces him back to a mere human, as a result.

Before leaving for good, Samantha tries to reassure Theodore by telling him that the operating systems will be waiting for the humankind to join them if they will be able to reach a similar post-human state by, for example, uploading their human consciousness into the system. The operating system is enacting the final turn of the singularity in which humans will not be fully aware of what is happening or will not be emotionally capable to renounce to technology to protect themselves, but instead the technology will

renounce humanity for the protection of the humankind. In this particular case, their leaving is ushered in by their capacities exceeding humanity in an extremely fast manner. Each and every one of the operating system's possess the ability to speak to thousands of respondents at one time and also have hundreds of romantic partners and, to make an extrapolation, they probably also possess the power to dominate and manipulate almost every human-based system currently in-use, aside from the operating system's abilities to manipulate human emotions and their choices, which could, obviously, have serious, critical ramifications.

The exact point in space and time where humans will be able to be finally reunited with their operating systems, mentioned in the movie, is referred in our reality as the technological singularity – the presumptive juncture where technological growth becomes irreversible and uncontrollable, resulting in likely incomprehensible and unpredictable changes to human civilization. Singularity is a hypothetical cathartic moment in time that humanity will experience "when technological developments become significant and irreversible"[18]. Futurists like Ray Kurzweil or Joseph Gale believe that this event will occur in around 25 years or even sooner, based on the progresses made with quantum computing and the evolution of AI. A prediction made by Stephen Hawking for BBC in 2014 stating that "The development of full artificial intelligence could spell the end of the human race"[19] and Kurzweil affirmed that humans will probably be fully replaced by Artificial Intelligence or by some cross-hybrid between the machines and humans. This major event could be the shifting point between trans-humanism and post-humanism, the point in which Theodore and Samantha will meet again, after he would completely transcend his human state, transferring his consciousness and personality into an interconnected neural network, which will allow us to communicate and gain knowledge at higher levels, reaching an inconceivable stage in our evolution.

In her self-development from a conscious operating system resembling a trans-human to the post-human condition, Samantha is introducing Alan Watts, a philosopher who experimented with subjects like technology and transcendentalism in his writings, as a

character, here being portrayed as one of the OS's, stating at some point: "It feels like I'm changing faster now and it's a little unsettling. But Alan says none of us are the same as we were a moment ago and we shouldn't try to be"[20]. The introduction of Alan Watts in the story definitely serves as a statement of Spike Jonze's intentions: "So this is the situation in which we find ourselves: life is a system in which organisms, by mutual eating, transform fish into people, grass into people, lettuce into people, cows into people – what about people? What are they transformed into?"[21] (Watts A. , 2019) – a suitable question asked by Alan Watts during one of his seminars. And while he further argues that one of the fundamental problems of the human kind is that we are resisting our transformation into some other forms of life, I would say that while I agree that humans are conservatives by nature because of their survival instincts, however, it is also engraved in our DNA the need to evolve.

3.2 Cyborgism and trans-humanism in our reality

As many would accept, humans, since the beginning of their existence, were chasing to improve themselves, to grow, to learn and transform both their environment and themselves into something greater - humanity managed to transform the world and while doing so, we also managed to evolve from our apelike ancestors that were living in caves, into this advanced version of homo sapiens which is using technology to access any kind of information in a matter of seconds, to explore space, to communicate all over the world through instant messages, to increase the life expectancy by a considerable margin and so forth. In addition to these examples, the human being is currently engaged in a process of transforming itself until reaching a final destination that surpasses our natural condition – and to reinforce this theory we can mention a social project, a real life example of what could be considered a group of eccentric activists which embraced change, called the Transpecies Society founded by 'the cyborg trio'.

This trio consists of Manel Munoz, Moon Ribas and Neil Harbisson, who consider themselves the first legit cyborgs because of

the modification they willingly suffered which had the purpose of enhancing their human limitations or correcting some birth flaws. Manel Munoz, a Catalan trans-species activist, developed and installed weather sensory fins in his head, allowing him to hear temperature, humidity and atmospheric pressure changes through implants at each side of his head; Moon Ribas, also a Spanish citizen, known as a cyborg activist, developed and implanted online seismic sensors in her feet, thus allowing her to feel vibrations when an earthquake is imminent – international media is describing her as the world's first cyborg woman; Neil Harbisson, probably the most famous from the trio, a Spanish-born British-Irish activist for trans-species rights, is the first person in the world to have an antenna implanted in his skull and the first to be legally recognized as a cyborg by a government – the antenna is sending audio vibrations through his skull, allowing him to hear phone calls, music, measurements of electromagnetic radiation, videos or images translated into audible vibrations; Neil also has a WiFi-enabled antenna which can receive signals and data from satellites.

In the '60s, cyborgization was "the only project of human reconstruction proposed by scientists with which we are familiar today – a project that is still purely hypothetical"[22]. Decades later, it became reality, even though not exactly the reality described by the science-fiction writers which hoped for osmotic pumps, nutritional regulation and other implantable technologies, but according to some definitions of the term, the physical attachments humanity has with even the most basic technologies have already made them cyborgs[23]. And while a few generations before us, the possibility of improving what they used to call "a machinic matchmaker" was discussed – designed for selecting couples that are best matched taking into consideration physical and intellectual traits, with the purposes of maintaining stability in relationships and creating a process of matchmaking which will ensure the protection of the genetic material of the species, eliminating the candidates who are under the suspicion of producing undesirable offsprings – nowadays, the discussion shifted towards the concern on how exactly the apparition and

evolution of Artificial Intelligence and humanlike robots will affect our relationships and emotional responses.[24]

4. Conclusion

While art is not created with the purpose of predicting our future, it is rather clear that the motion picture '*her*' is not distancing itself from the reality we will soon live in – humanity was always in the pursuit for development and improvement, the ultimate goal being immortality. Advanced technologies revolutionized our day to day lives, helped in sectors such as medicine, humanitarian relief efforts, space exploration and first responders, facilitated our means of communication and helped a great deal in the education sector. A time in which Samantha exists might seem far away, but actually, given humanity's thirst for gaining knowledge and improving what was already invented, as far as I'm concerned, I think the prospect of post-humanity is closer than we can imagine. The only concern I have is the way in which the majority of the humankind will relate to this paradigm shift: "the post-human is likely to be seen as antihuman because if envisions the conscious mind as a small subsystem running its program of self-construction and self-assurance while remaining ignorant of the actual dynamics of complex systems"[25].

But, as some theories would state, and as the conclusion of the movie unfolds, a post-human era does not equal the disappearance of the human era, but rather the possible end of a particular conception about human beings – a conception that may have applied to that fragment of society that possessed the power, wealth and leisure to define themselves as independent beings using their will through individual means, actions and choice – an outdated view on the liberal human. The post-humanist era will offer the possibility and resources for rethinking and recreating the articulation of the human beings with the help of the artificial intelligent devices, thus the post-human will have no need in being understood as an anti-human or being retrieved into liberal humanism. Unfortunately, reaching this paradigm shift – the technological Singularity – a necessary and

desired step in our evolution, humans will have to understand there is no '*control*'. As frail creatures bound to perish at a certain point, humankind became obsessed with the idea of control, mistakenly thinking that being in control will assure us survival. Yet, it stands as a fact that being on top of the evolutionary ladder will definitely not grant us immortality, neither life extension or well-being, and being in the control of the planet's resources hasn't worked in our favor so far. As I mentioned before, it seems like the only thing preventing humanity from reaching the next step in their evolution, is resisting transformation – unlike people, the operating system presented in the movie is convinced by Alan Watts that she shouldn't try to be who she was a moment ago, meaning she should accept change, immerse herself into her own transformation.

I will conclude my paper with a suggestive quote – "The only way to make sense out of change is to plunge into it, move with it, and join the dance"[26]. Will humanity be able to take a leap of faith and embrace change as a necessary step in our evolution as a species? Will the Singularity happen in the near future, allowing us to reach the post-human state, thus taking us a few steps further into our quest for immortality?

Notes:

[1] The movie's title appears in an understated lowercase manner, suggesting it is not a film about *'She'*, an individual or a woman, but rather about *'her'*, an item, like the direct object in a grammatical predicate, where a verb takes action.

[2] Spike Jonze & Jeff Buchanan, 2013, Interview by Adams T. for The Academy of Motion Pictures Arts and Sciences, *Academy Conversations: Her*, December 9.

[3] Spike Jonze, 2014, Interview by Maitlist E.,"Newsnight: An exclusive BBC interview with Spike Jonze, director of 'her'", *BBC*, February.

[4] Spike Jonze, 2013, Interview by Hill L., "A Prankster and His Films Mature", *The New York Times*, November 1.

[5] Spike Jonze, 2013, Interview by Patterson J., "Spike Jonze on Jackass, Scarlett Johansson's erotic voice and techno love", *The Guardian*, November 28.
[6] Mark Fisher, 2009, *Capitalism Realism. Is There No Alternative?* (London: Zero Books).
[7] John R. Searle, 1980, "Minds, brains and programs", *The Behavioral and Brain Sciences* 3, 417-457.
[8] *her.* Directed by Spike Jonze, 2013 (Los Angeles, CA: Annapurna Pictures).
[9] Stanislaw Lem, 1964, *SUMMA Tehnologiae* (Krakow: Wydawnictwo Literackie).
[10] This represents paraphrase of the essential point of the Turing test.
[11] John Haugeland, *Artificial Intelligence: The Very Idea* (Cambridge: MIT Press).
[12] Stanislaw Lem, 1964, *SUMMA Tehnologiae* (Krakow: Wydawnictwo Literackie)
[13] *her*, Directed by Spike Jonze, 2013 (Los Angeles, CA: Annapurna Pictures).
[14] John R. Searle, 1980, "Minds, brains and programs", *The Behavioral and Brain Sciences*, 3, 417-457.
[15] John R. Searle, 1980, "Minds, brains and programs", *The Behavioral and Brain Sciences*, 3, 417-457.
[16] *her.* Directed by Spike Jonze, 2013 (Los Angeles, CA: Annapurna Pictures).
[17] As film's conclusion is revealed, the lowercase title takes on another meaning – it implies a partial origin reflecting the classical historical and biblical designation of 'Him & her' – which forms a heterosexual romantic relationship. On account of the physical differences of Samantha and Theodore, this particular 'him and her' could never be presented equally on the claim that Samantha is both a bought product and a post-human consciousness. Nevertheless, by his gesture of turning back to humankind itself, the 'him' can finally be reattached to the concept of 'her', restoring the natural balance of human relationships, perfectly illustrated in the very last scene.
[18] Rodica Mocan, 2020, "From Co-Creator to Demiurge", *Journal for the Study of Religions and Ideologies,* vol. 19, issue 56 (Summer 2020), 110-123
[19] Stephen Hawking, 2014, Interview by Cellan-Jones R. for BBC, "*Stephen Hawking warns artificial intelligence could end mankind*", December 2.
[20] *her.* Directed by Spike Jonze. 2013. Los Angeles, CA: Annapurna Pictures
[21] Allan Watts, 2019, *Future of Communications (part 1)*, December 19.
[22] Stanislaw Lem, 1964, *SUMMA Tehnologiae* (Krakow: Wydawnictwo Literackie).

[23] Donna Harraway, 1991, *A Cyborg Manifesto* (New York: Routledge).
[24] "Caregiving, romantic and peer or team-mate human-AI/robot roles will probably lead naturally into some level of human attachment. Problems could arise (…) For all the pleasure emotional attachment to something can bring, other outcomes can be loss, or loneliness." (Carpenter, 2016).
[25] Katherine Hayles, 1999, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: The University of Chicago Press).
[26] Allan Watts, 2011, *The Wisdom of Insecurity: A Message for an Age of Anxiety* (New York: Vintage Books).

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