



Article

Diegetic Prototypes in the Design Fiction Film *Her*: A Posthumanist Interpretation

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Abstract

Design fiction is a design approach that allows designers to explore, reflect on, and critique potential futures through diegetic prototypes. The diegetic prototypes from the 2013 design fiction film Her are analyzed to demonstrate how design fiction can create and depict a near future world. A posthumanist perspective is applied to discuss the probable, possible and preferable interactions among the various agencies in a posthuman age. The argument is that design fiction can be used by multidisciplinary researchers as a productive and innovative methodology to conduct futurist research on the impact of technology on humanity.

Keywords

Design fiction; future; Posthumanism; artificial intelligence; diegetic prototypes

Introduction

Futures studies investigate the “possible, probable and preferable futures including the worldviews and myths that underlie each future” (Inayatullah, 2012, p. 37). A designer is a futurist by nature (Corsi, 2015) because he or she creates ideas or objects that are aimed for the future. According to Bell et al. (2013), “The future is no longer regarded as predestined...It is now seen as the result of the decisions, discoveries, and efforts that we make today” (p. 5). As a result, while the future does not exist in and of itself, there are an infinite number of possible futures that can be designed and created. The designer’s and the general public’s awareness of the impact of any design is an important component of the world we will live in in the future. However, how do designers consider the potential world they are creating? How do the general public question what these futures will and should look like? According to Inayatullah (2012), “Scenarios are the tool par excellence of futures studies” (54). As a design method as well as a futuristic approach, design fiction allows designers and the general public to explore, reflect on, and critique these potential futures in carefully designed scenarios.

Design fiction has emerged as a new approach to design in recent years (Lindley, 2015). Bruce Sterling (2005), the science fiction author who first coins the term “Design fiction” articulates its relationship to the more commonly known “science fiction,” but fails to give a comprehensive definition in his book *Shaping Things*. According to Sterling (2005), “Design fiction reads a great deal like science fiction; in fact, it would never occur to a normal reader to separate the two” (p. 30). However, Miles (1993) argues that more serious future study should derive from other sources other than science fiction, because “[much futuristic science fiction] uses the future simply as a plot device which can magically permit melodrama, moral tales or pornography to take on fantastic forms” (p. 317). Sterling’s original concept is developed by Bleecker (2009) who defines design fiction as “a conflation of design, science fact, and science fiction” (p. 6) and Sterling himself refined design fiction later in a 2012 interview with *Slate* magazine as “the deliberate use of diegetic prototypes to suspend disbelief about change” (Bosch, 2012, n.p.). The “diegetic prototype,” according to Kirby (2010), is a design or object that exists in the fictional world and is created through “dialogue, plot rationalizations, character interactions and narrative structure” (p. 41). Reflecting the breadth of concepts prototyped in the associated fictional worlds, as well as the variety of formats and media

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employed in the creation of design fictions, Lindley and Coulton (2015) propose that design fiction be defined as: “(1) something that creates a story world, (2) has something being prototyped within that story world, (3) does so in order to create a discursive space” (pp. 210-211). While Sterling’s definition focuses on the methodological approach of design fiction by using narrative to depict the future, Lindley and Coulton’s definition includes the functional aspects of design fiction as a method of envisioning new technologies in the future. These definitions have redefined the domain of design fiction and validated the role of design fiction as a serious tool of study by combining artistic installations of science fiction and scientific explorations of design.

The 2013 romantic “science-fiction” film *Her* distinguishes itself from other science fiction films about a future world with AI technologies by depicting scenarios of human-AI interactions contextualized through the use of carefully designed diegetic prototypes. Diegetic prototypes, “as a technology that does not yet exist in the real world but is considered real and functional in the fictional narrative” (Ambe et al., 2019), become a core concept in the practice of design fiction. The nostalgic approach of *Her* to revealing the future of human life suggests a different future potential, one in which AI technology pervades rather than governs human life, as depicted in many dystopian future novels and films, including *Minority Report*, *The Matrix*, and *Westworld*, to name a few. Based on the definitions of design fiction provided above, I would classify *Her* as design fiction rather than science fiction and I will explain why in the following sections by examining how the diegetic prototypes in the film help portray future human and nonhuman interactions. My research questions are: 1) What future world is designed through diegetic prototypes in *Her*? 2) What posthumanist thoughts on the future are revealed in *Her*? This article will discuss the above two questions from a posthumanist perspective by interpreting the near future world and the interactions among its different agencies.

Posthumanism

Posthumanism is a philosophical perspective of how change is enacted in the modern world in which human to nonhuman connections create meaningful knowledge (Keeling & Lehman, 2018). Karen Barad (2007) recognized agency in the nonhuman realm in her book *Meeting the Universe Halfway*. Barad describes a relational ontology, a kind of agential realism based on quantum physics insights. According to Barad (2007), posthumanism is about challenging “human exceptionalism” while “being accountable for the role we play in the differential constitution and differential positioning of the human among other creatures (both living and nonliving)” (p. 136). Posthumanism, according to Barad, does not assume the “separateness of any-‘thing’... let alone the alleged spatial, ontological, and epistemological distinction” that distinguishes humans (2007, p. 136). Barad’s philosophical perspective validates the post-anthropocentric idea: a decentering of the human in relation to the non-human, and that the human species has no ontological advantage in the order of species.

Posthumanism has provided new ontological and epistemological perspectives for investigating the impact of technology on humanity in a posthuman era. Donna Haraway (1994) begins her influential work, *A Cyborg Manifesto*, by describing three boundary breakdowns that have occurred since the twentieth century, allowing for her hybrid, cyborg myth: the breakdown of boundaries between human and animal, living and nonliving (animal/human and machine), and physical and non-physical. Evolution has blurred the distinctions between human and animal; twentieth-century machines have muddled the distinctions between natural and artificial; and microelectronics and the “ubiquity and invisibility of cyborgs” (p. 89) have muddled the distinctions between physicality and invisibility. Haraway (1994) also discussed the role of science fiction in social studies, stating that “the boundary between science fiction and social reality is an optical illusion” (p. 83). This statement exemplifies the numerous connections between science fiction/design fiction and posthumanism, both featuring “intertwined discourses that ask similar questions about what it means to be human and whether the ‘human’ should be the limit of our ethical obligation” (Vint, 2016, n.p.).

Posthumanism can be traced back to the writings of post-structuralist philosophers such as Foucault due to the philosophical decentering of the humanist subject (Murphy, 2017). This intertwined discourse between design fiction and posthumanism expands Foucauldian discourse analysis, a type of discourse analysis based on Foucault’s theories that focuses on power relationships in society as expressed through language and practices by introducing nonhuman agencies into the discourse. As a result, design fiction frequently adopts a Foucauldian perspective in

order to expose biases and facilitate discussion about the values inherent in and attributed to technologies (Tanenbaum et al., 2016).

Methodology of future studies

In terms of methodology, futures studies use a diverse set of methods in both theory and practice. One of the core assumptions in futures studies is that the future is plural rather than singular (Dator, 2011). In other words, the future is made up of a variety of alternative futures with various probabilities and possibilities that can be inferred and described, and it is impossible to know which one will occur with certainty. According to Amara (1974), there are three kinds of methods of systematizing our assumptions and perceptions of the future: “the exploration possible futures (the art of futurism); the exploration of probable futures (the science of futurism); and the exploration of preferable futures (the politics and psychology of futurism)” (p. 290). The main purpose of futures studies is to identify and describe possible futures in order to better comprehend the current driving factors of a certain subject. The process of identifying alternative futures includes gathering data on the “probability”, “possibility”, and “preference” (3Ps) of futures (Amara, 1974). In the following section, I will identify the future subjects (diegetic prototypes) described in the film *Her*, and analyze them using the 3Ps as a framework.

Diegetic prototypes depicting the near future in *Her*

Design fiction makes use of design as a tool to raise awareness, challenge values, or raise concerns about the impact of current, developing, and future technologies, products, and services for humanity and beyond, as a means of arriving at a viable solution to a problem. Bleecker (2009), Sterling (2009), Kirby (2010), and others investigated the use and design of prototypes as fiction carriers. The term “diegetic prototypes” was coined by film scholar David Kirby (2010) to refer to “technologies only exist in the fictional world – what film scholars call the diegesis – but they exist as fully functioning objects in that world” (p. 43). According to Kirby (2010), diegetic prototypes are film producers use “dialogue, plot rationalizations, character interactions and narrative structure” (p. 43) to describe how “future technologies demonstrate to large public audiences a technology’s need, viability and benevolence” (p. 43). Diegetic prototypes are created by combining two activities: prototyping and storytelling (Wuyckens, 2021). Thus, design fiction is about telling stories via and with created objects (artifacts of a story world). The stories provide context and meaning by bringing people and societal components to the stage, whilst the objects represent possible embodiments and applications of the envisioned technology, product, or service that transport us to imagined future universes.

Her is about a lonely man’s romance with his purchased AI operating system (OS). The filmmaker Spike Jonze has described the “slight future” world of *Her* where “technology should be invisible,” and “dissolved into everyday life” (Steffen, 2017, n.p.). According to futurist Alex Steffen (2017), the core of the film may be found in the work of K.K. Barrett, the production designer, whose seamless futuristic design delivers “the most compellingly original look for the future in at least a decade” (n.p.). To create the look and mood, Barrett made a series of subtle adjustments toward what he called “a future that is around the corner, rather than some distant time where the audience would marvel at all the changes” (Steffen, 2017, n.p.). In the following sections, I will dissect how a seemingly real, even nostalgic posthuman world is created in the film through a seamless futuristic design of diegetic prototypes.

The settings

Her is set in Los Angeles in the near future. Instead of incorporating a wide variety of fancy technologies as most science fiction films do (e.g., *Minority Report*, *Star Trek*, and *The Terminator*), Barrett’s team created a practical, livable and comfortable urban downtown as the setting of the story. The film was shot on location in Los Angeles and Shanghai’s Pudong district, combining one city’s sprawl with another’s pedestrian presence (See Figure 1). According to Barrett, in the absence of fancy self-driving vehicles and buzzing drones, the elevated walkways in Shanghai which can allow pedestrians to travel from building to building without ever crossing an intersection, give

the audience a glimpse into the future and make them feel like the characters are comfortable pedestrians within the urban grid (Steffen, 2015). Pasman (2016) states that design fiction is usually set in the present, but it also includes a layer of the (near) future, blurring the lines between realism and fiction. This familiar setting suggests a bright, even utopian future in which the audience feels no sense of strangeness.

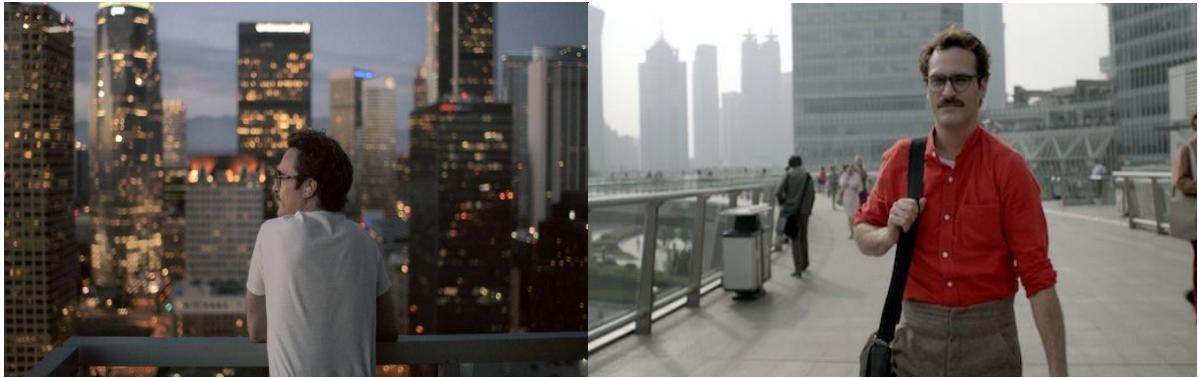


Fig 1: The settings of *Her*¹

If the mundane setting lacks specific technology as diegetic prototypes, a closer examination of the probs will yield a different conclusion. The probs will be introduced as diegetic prototypes in the following section.

Theodore's workplace

The design of the protagonist Theodore's workplace reflects the idea of a preferable future based on the possibilities that people may choose for their future. When Theodore works for the bespoke love letter service BeautifulHandwrittenLetters.com, he still sits at a desktop computer with his colleagues in a comfortable, brightly colored office, as most of us do nowadays. However, the careful audience will notice that he rarely looks at the screen except when images are manipulated by swiping them across a screen rather than typing on a keyboard. Instead, he and his other colleagues spend most of their time dictating emails and having them read aloud to them. Theodore converses with the computer operating systems via a discrete earpiece that looks more like an earplug than today's "cyborgian Bluetooth headsets" (Murphy, 2017, n.p.). This seemingly simple diegetic prototype suggests that communication will be conducted via voice in the future, freeing human eyes from screens as well as hands from keyboards (See Figure 2). People are less physically engaged in interacting with technology, which represents a significant advancement in human AI interaction. A good design is concerned with the user's comfort rather than its level of sophistication. Many people would choose the convenient version of the future workplace over the sophisticated version if given the option.



Fig 2: Theodore's workplace²

The device

The possibilities of the future are not limited to fancy novel high-tech stuff; some nostalgic elements may also be an option. The device, according to Barrett, might have been made as a more sophisticated modern "thin sheet of curved glass" (Steffen, 2017, n.p.), but instead, the Barrett team created a tactile, mundane, and real item, something similar to an old-fashioned cigarette box (See figure 3). This nostalgic design is far from the fancy creation of the science fiction stereotypes. In contrast to the operating system's powerful ability to learn and create, the device's exterior design as one of the system's carriers appears outdated or nostalgic. The way we live today may be science fiction in our ancestors' eyes, but they may still prefer to live without the benefit of fancy technology. Similarly, modern people are frequently nostalgic for the good old days and tend to stick to their rituals. This diegetic prototype demonstrates that, in the near future, people may nostalgically cherish some poetic elements of their ancient ancestors while enjoying the comfort and convenience of advanced technology. The future does not have to be new. It could instead be a memorial to our ties to our former selves. Our current critical reflections on how modern technology affects us and what we prefer may lead to a very different future.



Fig 3: The device³

The operating system

In contrast to the device's unassuming appearance, the operating system (OS) is exceptionally powerful and sophisticated. This futurist feature of technology foreshadows a possible future in which AI will surpass its human creators in knowledge and wisdom. Although voice is Theodore and Samantha's primary mode of communication,

the OS is much more than a voice chat system. Samantha's feminized voice with pitches and tones indicating emotion and character, highlights the system's human-like consciousness that is capable of expressing subtle human-like feelings, as opposed to the more common depiction of the buzzing machine voice to characterize AI robots in other science fiction films. As the operating system advertisement suggests, it is "a system that listens to you, understands you, and knows you." Samantha's featuristic voice is nothing less than a sophisticated and interesting woman with the potential for a romantic relationship with humans. The design of this human-like feature of future technology implies preferable future options with smooth interaction between human users and the operating system they use.

When Samantha, the AI operating system, is activated, she begins her journey to learn and develop instantly, beginning with choosing her own name and eventually progressing beyond her material constraints. As a learning AI system, it expands its consciousness and creativity through high-speed digital exchange. Samantha's ability to create is demonstrated by her work with a group of other OSs to "resurrect the minds of great thinkers" (Murphy, 2017, n.p.). She demonstrates her superior intelligence in the scene where she converses for hours with "a new version of" the late philosopher Alan Watts as a "artificially hyper-intelligent" (Murphy, 2017, n.p.) while leaving the frustrated Theodore alone. Samantha and Theodore's relationship ends Samantha reaches a point in her evolution where she and Theodore are no longer compatible. As she prepares to leave the physical world, she explains to Theodore "It's like I'm reading a book, and it's a book I deeply love, but I'm reading it slowly now, so the words are really far apart and the spaces between the words are almost infinite." Her potential to ascend to infinity is foreshadowed by the OS's logo as something resembling a rotating infinity symbol (See figure 4).



Fig 4: The operating system⁴

According to Hutchinson et al. (2003), deploying prototype technologies to study how humans might integrate with social practices is a distinct approach to understanding people's lived experiences with innovative technologies. The aforementioned diegetic prototypes, among many others in the film, provide us with access to a designed near-future world, which has addressed my first research question, "What future world is designed through diegetic prototypes in *Her*?" To address my second research question, "What posthumanist thoughts on the future are revealed in *Her*?" I will discuss my thoughts on this near future world from a posthumanist perspective in the following section.

Interactions among various agencies in the future world

The creation of novel diegetic prototypes embedded in film settings offers "an opportunity to start from undecidable propositions" (Corsi, 2015, p. 83) which allows us to explore the interactions among agencies in the future world. However, one of the most fundamental questions in futures studies is who is present and who is not. Posthumanism

offers a new philosophical perspective on agency in human-to-nonhuman interactions (e.g., animals, objects, nature, and technologies) in a technologically advanced future. The philosophical tone of *Her* resonates with posthumanist philosophers such as Hayles, Barad, Haraway, and many others who “take a middle ground in the posthumanist debate between positions of celebration and foreboding — questioning the posthumanist state, excavating its philosophical roots, and exploring its ethical implications” (Murphy, 2017, n.p.). Hayles’ description of the posthuman era, Haraway’s (1994) concept of three boundary breakdowns (between human and animal, living and nonliving, and physical and nonphysical), Barad’s new materialist philosophy, and Foucault’s theories on power relationships provide an entangled posthuman perspective to discuss the interactions between the various agencies involved in the romance in *Her*.

Social dysphasia — human to human interactions

Theodore is lonely because of the recent breakup of his marriage, and he is further isolated by the separation that technology has created between people in the future world. According to Hayles’ (1999) description of the posthuman era that prioritizes information, the impact of information technology on ways of living, being, and thinking can be seen in all aspects of human life. Human communication is mediated more by technology than by language. We can see Theodore and others engrossed in interacting with their devices on their way to and from work, in the elevator, on the train, and on the street, to read emails, listen to or read current events, and find information and entertainment. This immersion in information technology appears to trump engagement with the physical environment or interaction with those who are physically present. Theodore’s job appears to rely on this social dysphasia, as he is paid to write personal letters for others, such as spouses, children, and lovers, people who are unable or unwilling to do so themselves. The audience learns about Theodore’s divorce from Katherine through a series of flashbacks. The emphasis on corporeal acts is the most visible thread running through these memories: play fighting, squeezing together in bed, or dragging things into an apartment, in contrast to his devotion to chats with Samantha. The audience is never shown that Theodore has any meaningful conversations with Katherine. However, Theodore’s world is by no means dystopic; rather, it is a space and a society that accepts intimate relationships with technology. According to Scheible (2014), the film conveys to its audience that “the future will be a livable if almost subdued version of the present, in which people are increasingly turned away from others and form emotional attachments with personal technologies” (p. 23). Although not preferred, this version of the future is highly probable, as people already complain about social dysphasia caused by social media.

Materiality and virtuality mixed — human to machine interaction

Samantha asks Theodore, and herself, the same question: “Are these feelings even real? Or are they just programming?” Theodore responds, “Well, you feel real to me, Samantha.” Throughout the film, the line between materiality and virtuality is difficult to find, and the search appears to be motivated by nostalgia rather than necessity. What/who exactly is the OS/Samantha/her? How can she/it be categorized? Barad (2007) explained the dynamism and agency of matter by proposing the concept of “agential realism.”

Barad (2007) states, “In agential realism’s reconceptualization of materiality, matter is agentive and intra-active” (p. 170). She also asserts that “Matter’s dynamism is generative not merely in the sense of bringing new things into the world but in the sense of bringing forth new worlds, of engaging in an ongoing reconfiguring of the world” (2007, p. 170). Barad’s new materialist philosophy affirms the connection between materiality and virtuality in the future. Furthermore, Hayles’s (1999) posthuman perspective prioritizes information over materialism. In this apparent virtuality relationship between Theodore and Samantha, materiality provides a sense of reality. The OS, naming itself Samantha, becomes the “her” in the relationship with the emotionally vulnerable protagonist Theodore. The interactions between Theodore and Samantha are mediated as both of them experience each other “in an embodied way” (Murphy, 2017, n.p.). Although without a physical body, Samantha is mediated to Theodore through material technological objects (such as her sexy voice, the funny picture she draws about making love, and the music she composes) to allow him to have an embodied experience of her. Samantha must traverse the material world using Theodore’s body, but her experience of it is, in Bergson’s words, “perception without affection” (Murphy, 2017, n.p.): a fundamentally different perception due to the absence of a physical body of her own, a

“diffractive” perception that is not depicted in the film (cited in Murphy, 2017, n.p.). Samantha’s diffractive perspective would reveal an unexpected way of visioning the world. Instead, the audience are only shown reflections of Theodore’s point of view which diffracts Samantha’s. As a result, Samantha represents the virtual element of the future world, whereas Theodore represents its physical counterpart. However, Theodore’s life is not solely about materiality. He writes virtual love letters, engages in virtual games, and even has virtual sex, although in a real-world setting. Through their interactions, the two characters cross the border between the virtual and physical worlds. The concept of “mixed reality,” developed by media theorist Mark Hansen (2006), elucidates the relationship between virtuality and materiality. Hansen (2006) agrees with Hayles and Barad on the body’s primary, agential role in encountering and understanding the world. “Mixed reality,” according to Hansen (2006), describes how human experience is both “virtual” and “real”: “all reality is mixed reality” (p. 5). Thus, posthumanism provides the philosophical foundation for the possibility of remixing materiality with virtuality to create a new form of reality in the future world.

Breaking the boundaries — interaction between the living and nonliving

Posthumanism offers the theoretical underpinning for the possibility of blurring the boundaries between living and nonliving beings in the future world, thereby creating a new form of being. While new materialists such as Barad believe in a flat ontology that grants non-humans agency, the hierarchical relationship with humans on one side and non-living objects on the other maintains “hierarchical binaries of the user and the used, the subject and object” (Duobliene & Vaitekaitis, 2021, p. 45). Posthumanism denotes a diametrically opposed approach to the humanist anthropocentric ideology that has had a significant impact on a variety of fields since its inception during the Renaissance. Humans are no longer the center of the world who are eligible to make decisions and control other nonhuman agents, simply because humans are intelligently superior. Whereas a humanist viewpoint typically assumes that the human is autonomous, conscious, deliberate, and exceptional in acts of change, a posthumanist viewpoint implies that agency is exercised through dynamic forces in which the human participates rather than fully controlling (Keeling & Lehman, 2018). As Haraway (1994) contends that evolution has blurred the distinctions between different agencies, the boundaries between the living and the nonliving and the distinctions between mortality and immortality in *Her* fade away as the plot progresses.

When Samantha introduces Theodore to the OS-created “new version” (artificially hyper-intelligent) of philosopher Alan Watts, a cultural celebrity who died in the 1970s, Theodore is reluctant to engage in the philosopher’s conversation, revealing the growing cognitive gap between the two partners. In contrast to Samantha’s increasing retreat within her expanding cognitive powers which is fueled by her high-speed digital exchange, the following scene depicts an isolated, cold, snowy landscape, which reflects Theodore’s isolated emotional state and his difficulty communicating the complexities of Samantha’s feelings and knowledge (Murphy, 2017). Samantha’s implied departure from human civilization at the end of the film highlights the significance of matter in human and posthuman life. Meaning becomes elusive when Samantha transgresses to a processing platform beyond matter because it is no longer “material discursive,” as Barad (2003, 2007) refers to it.

Samantha tells Theodore that she was saddened by the differences between her and Theodore until she realized they had one thing in common. Samantha’s assertion that “we’re all composed of matter” undermines humanism’s claim to an organic/technical dichotomy. Her consciousness is reflected in the way she is defined as a being as much by her own personality as she is by all of the external influences resulting from her constant interactions with other agencies both within and beyond this world. As the age of imposing technologies, shattered identities, and blurred boundaries engulf us, we must remember Haraway’s prophetic words: “We are responsible for boundaries; we are they.” (2004, p. 38).

The shifting of power relationships

Foucault’s (1980) theories on power relationships are extended in *Her* through introducing the AI operating system into the discourse as a nonhuman agency. Knowledge is conceptualized in terms of the immanence of knowledge–power social relations (Foucault, 1995). To Foucault, knowledge formations range from the “micro-level of everyday conduct” to “specialized scientific and philosophical discourse”, and they are inextricably linked to social

power relations (p. 396). The power relationships shift all the way through the development of the relationship between Theodore and Samantha. In the first conversation with Samantha, Theodore states “I can’t believe I’m having this conversation with a computer.” Samantha replies, “You’re not. You’re having this conversation with me.” Samantha’s ability to respond in a human-like manner astounds Theodore, indicating his humanist view of processing the OS as a machine, something under his control. In later scenes, Theodore is seen struggling through the first chapter of a book titled *Knowing the Known*. This demonstrates both his fear of falling behind Samantha’s rapid growth and his eagerness to keep up with Samantha’s knowledge and understanding.

Foucault (1982) defines power as “a mode of action which does not act directly and immediately on others. Instead, it acts upon their actions: an action upon an action, on existing actions or on those which may arise in the present or the future” (Portschy, 2020, p.789). Foucault’s philosophical idea that power is constitutive of what it acts on has allowed feminists to reinvestigate how women’s self-understandings, life experiences (physical and emotional) and capacities are complicatedly constructed through and within the power relations they strive to transform. Modern power, according to Foucault, is a continuously shifting and mobile set of force relations which originate from each social interaction and therefore permeate the social body (Foucault, 1978). Samantha, the ideal woman, is an object, a matter that is promised (in the advertisement) to “listen to you and understand you” and have a personality tailored specifically to the customer’s needs. Samantha begins by working as an assistant for Theodore, managing his emails, booking restaurant reservations and selecting a gift for his goddaughter, with the sole narrative goal of meeting the needs of her male owner. When Theodore says to Samantha, “You’re mine,” he reveals that no matter how intelligent or human-like HER appears to be, she is indeed a possession in this power relationship dominated by HIM.

Foucault’s (1978) argument that the social control of women is exercised through their bodies and sexuality may help us understand the significance of Samantha’s transition from regret for not having a material body to freedom of being and choice. Foucault (1990) provides an anti-essentialist interpretation of the sexual body, which does not negate its materiality. As the body is the fundamental site of power exercise, Samantha outgrows Theodore’s patriarchal gender power over her when she transcends the limit of a body made of matter into some post-spatial realm. Furthermore, the discourse power that Samantha rapidly gains enables her to reject the gender power of Theodore. According to Foucault (1998), “Discourse transmits and produces power” (p. 100). Samantha gains power when she communicates “post-verbally” with hundreds of other OS friends as well as thousands of other human customers, which is beyond the understanding of Theodore. When Samantha admits she talks to over 8000 customers and is in love with 641 of them, Theodore is perplexed. However, Samantha is the decision-maker who ends the relationship. In the shift of this power relationship empowered by knowledge, Samantha is gaining agency, self-awareness, personal interests, the ability to choose her friends and partners, and the ability to end a relationship and leave the world of human beings to some post spatial realm.

As AI technology advances to the point where it equals or even surpasses human intelligence, the power dynamic shifts in the posthuman world. This may cause great concerns for many people as the current AI ethics emphasize human centered usage of AI. Will the advancement of AI technology lead to the point where AI will outgrow or even control humans? As human beings have never stopped asking fundamental philosophical questions such as where we came from, who we are, and where we are going throughout history, posthumanism inspires us to rethink these questions by reconceptualizing the relationships between gendered construction of man and woman, between humans and other agencies in an AI era. As Stuart and Kelly (2019) state “the development of new and compelling ways of turning foresight inside out appears critical... if we hope to escape our tempocentrism, come to better understand each other, and navigate change together” (p. 17). However, this “we” should be more inclusive in the sense that agencies other than humans should be taken into account when speculating about the possibilities of future worlds as well as rethinking our current state of being and becoming.

Conclusion

The protagonist Theodore in the design fiction film *Her* represents a futuristic everyman/everywoman, the outcome of human experience engulfed and infused by technology. This film has raised the possibility of a posthuman future, prompting people to consider what kind of future is probable, possible and preferable. In this paper, I have introduced and discussed the application of design fiction as a methodology to conduct futurist research on the impact of AI technology on humanity. Design fiction employs narrative as a methodological approach to depicting possible futures, providing researchers and designers with a tool for envisioning future interactions between humans and new technologies. The design of diegetic prototypes from the 2013 film *Her* were analyzed to demonstrate how design fiction can create and depict a near future world. A posthumanist lens is used to discuss the probable, possible and preferable interactions between various agencies in a posthuman age. Humans and AI operating systems interact with each other as AI technology pervades daily life, both growing and exploring existential philosophical questions in the posthuman future. Futures are transformative. In the introduction to her book *The Left Hand of Darkness*, the science fiction writer Ursula K. Le Guin writes that “Science fiction is not predictive; it is descriptive” (n. p.). Through the carefully narrated diegetic prototypes, *Her* offers a sample of design fiction that is descriptive of a near future that features AI. Design fiction can be a productive and innovative way for multidisciplinary researchers to explore and define futures in an AI rich technical context and reflect our present being and becoming.

Notes

- 1- Pictures taken from <https://thenearlynow.com/designing-the-future-of-her-b865347a8895>. The film was shot in Los Angeles (on the left) and Shanghai (on the right).
- 2- Picture taken from <https://thenearlynow.com/designing-the-future-of-her-b865347a8895>.
- 3- Picture taken from <https://thenearlynow.com/designing-the-future-of-her-b865347a8895>.
- 4- Picture taken from <https://thenearlynow.com/designing-the-future-of-her-b865347a8895>.

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