A posthuman exploration of the robot in contemporary science fiction films

Aliyah Bhana

A thesis submitted by the University of Huddersfield in partial fulfilment of the requirements for the degree of MA by Research.

16th January 2020

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Abstract

This study uses critical posthumanism to explore the representation of the robot in Steven Spielberg's *A.I. Artificial Intelligence* (2001), Alex Garland's *Ex Machina* (2015) and Jake Schreier's *Robot and Frank* in relation to posthuman embodiment, intersubjectivity and cultural anxieties about the interface between humans and robots. By conducting a close reading of the films' mise-en-scene, cinematography and iconography, this thesis argues that while these films draw attention to the fears and anxieties associated with robots, the representation of an interconnected, posthuman robot enables the films to critique the anthropic principle and anthropocentrism. This thesis argues that by blurring and displacing the boundaries between human and machine, artificial and natural, organic and inorganic, these films challenge the structures of exclusion and demarcations established by humans and explore the implications of technology for our understanding of who, or what, can be truly considered 'human'.

Acknowledgements

First and foremost, I am grateful to the Almighty God for the strength He bestowed upon me, the peace of mind and the will to finish this research.

I would like to express the deepest gratitude and appreciation to my supervisor, Dr. Sarah Falcus, for her unwavering support, patience and meaningful assistance. Thank you, especially, for checking the many, many drafts I sent and always answering any questions I asked. Without your guidance, this project would not have been possible.

I would like to express my utter appreciation to my Mother for the constant words of encouragement. Thank you for always believing in me and pushing me to be the best version of myself.

My appreciation also extends to my friends who have continued to support me in this journey. In particular, thank you Aliyah, for your friendship of 11 years and for motivating me to soldier on and complete this thesis. And last, but certainly not least, thank you Saleha, for the unfailing support, words of affirmation and consolation during the many breakdowns!

Table of contents

Introduction to the thesis

Introduction

Robots and Artificial Intelligence (AI) have steadily been advancing and progressing, leaving their mark on society as they revolutionise and shape the path for a posthuman future. Science fiction (SF) and SF film have often inspired inventions and innovations in robotics and AI through their uncanny technological visions and predictions of the use of robotics. Indeed, Annette Kuhn writes that SF films 'relate to the social order through the mediation of ideologies [and] society's representation of itself' and she elaborates that 'the films speak, enact [and] even produce certain ideologies' (1990: p.10). SF thus 'plays on current controversies about technological innovations or scientific discoveries, which can provide a source of dramatic tension and contemporary relevance' (King and Krzywinska, 2000: p.3). It has influenced one of society's most prolific and greatest technological inventions: the robot. The word robot first originated from the Czech term *robota* which signified 'forced labour', and it first appeared in Karel Čapek's (1880-1938) 1920 play, *Rossum's Universal Robots* (*R.U.R.)*. The destruction wrought by mechanical and chemical weapons during World War I influenced Čapek who became interested in the possibilities of science and technology (Jordan, 2019). In *R.U.R.* the robots perform the tasks that humans prefer not to do. The play thus 'gave birth to the robot' (Jordan, 2019). It set the tone for later literary representations of robotics, showcasing how SF has always influenced robotics to the extent that the term robot derives from a literary text.

This thesis will explore how the representation of the robot in Steven Spielberg's *A.I. Artificial Intelligence* (2001)*,* Alex Garland's *Ex Machina* (2015) and Jake Schreier's *Robot and Frank* (2012) questions and challenges the borders and boundaries of identity creation. Through the

theoretical lens of critical posthumanism, this thesis argues that the chosen films offer a new perspective on robotics through their critique of the anthropic principle and anthropocentrism. This encourages audiences to feel with the non-human other, regard the non-human as human and empathise with them. This thesis uses critical posthumanism to scrutinise modes of exclusion and cultural representations of the human as superior. Whilst many SF films explore the robot as a 'pathological cyborg' (Redmond, 2004: p.156)[1], this thesis argues that, through the portrayal of intersubjective, interconnected robots and the exploration of the cutting-edge of robotics, these films envision a posthumanity in which robots and humans will coexist and coevolve and argues that these films engender a vision of an interconnected being. However, at the same time, these films express anxieties about posthuman futures, and robots specifically.

Each film, *A.I. Artificial Intelligence*, *Ex Machina* and *Robot and Frank*, features the trope of humanoid robots and engages with current socio-political trends and debates in robotics and AI. I have chosen contemporary films for this study as they represent contemporary culture and 'extrapolate from already discernible trends to shape the kind of world these trends may eventually bring into being' (Finn, 2018). These films thus plant the seeds for the future in the present and help us to imagine a society in which robots and AI are embedded and a part of everyday life. Sheryl Vint articulates that as science and technology continue to shape our lives, the language of 'technoculture', which is featured in these films, establishes a posthuman future through the dreams and nightmares it offers for our contemplation; contemporary science fiction film therefore literalises metaphor and the impossible, often deemed visionary, future (2014: p.10). These films thus highlight how SF film contributes to shaping the future as they allow us to engage with current trends in robotics and AI. The chosen films additionally anticipate how these trends will restructure human society and

[1] I will discuss the cyborg in greater detail on page 22.

displace traditional notions of western humanism. Through evaluating the past and present and predicting the future, these films ask vital questions about the human condition. Jennifer Carnevale explains that the human condition is the nature of the human being - the positive and negative aspects of the human, such as birth, love, death, emotionality, aspiration and mortality (2017). The humanoid in each film dismantles human subjectivity, sovereignty and universality, causing us to question our uniqueness and sense of self. If sentience, consciousness and empathy are reserved solely for humans, what does it mean to be human in an age where humanoid robots similarly exhibit empathy, sentience and consciousness? How are humanoid robots becoming human-like and inviting empathy and sympathy?

The films do not always produce optimistic or entirely satisfactory answers to these questions and this thesis therefore aims to explore how SF film addresses these questions and to explore the role of SF film in raising ethical issues that lie at the heart of technological and scientific development. I will examine how the chosen SF films engage with contemporary innovations in robotics and how they envision a posthuman future in which robotics and AI will be widespread. Each film features a different form of the humanoid robot: an all-loving child robot (David) in *A.I. Artificial Intelligence*, a sexualised female robot (Ava) in *Ex Machina,* and a care robot (Robot) in *Robot and Frank*. Each of these humanoid robots is built with a specific purpose in mind: David is designed to fill the childless void many families face; Ava is a product of the heterosexual male's desire and was created as an experiment, and Robot fulfils the role of the carer. Although these robots have different roles, the chosen films nevertheless collectively offer the posthuman promise of a sentient, conscious and humane robot and through this representation, the films critique the Anthropos which thus represents a shift from monism to interrelatedness. Interrelatedness refers to the coexistence between humans and non-humans. The interrelation between human and non-human is a 'transformative or symbiotic relation that hybridises and alters the 'nature' of each one and foregrounds the middle ground of their interaction' (Braidotti, 2013: p.79). The shift from monism to

interrelatedness therefore destabilises the boundaries between the human and non-human by heightening the interface between these boundaries. However, as stated above, the films do not always produce optimistic representations of robotics in society. This thesis unpicks how the films address the otherness, the anxieties and fears of robots. This therefore draws attention to how the films both invest in and challenge cultural anxieties.

Ethical implications of the use of robots in contemporary society

From healthcare, education and aerospace, to industry, entertainment and the military, robots are incrementally advancing and being utilised in a wide range of settings and are no longer just a dream of SF and SF film. The coexistence between robots and humans is increasing and the developments in robotic technology therefore raise crucial ethical concerns.

As robotic assistance is becoming more and more embedded into domestic and social settings, through the use of digital virtual assistants for example, ethical issues surrounding privacy have been raised. Examples of digital virtual assistants are Amazon's Echo, more commonly referred to by its voice-activation system Alexa, Apple's Siri, Microsoft's Cortana and Google Assistant. These virtual assistants are designed to interact with users, play music, make texts and calls, provide weather, traffic and sports reports and other real-time information. As of 2019, more than 100 million Amazon Echo devices have been sold (Bohn, 2019). It has been predicted by Ovum, a technology research firm, that by 2021, there will be almost as many voice-activated assistants on the planet as people (Shulevitz, 2018). While these figures signal the ubiquity of robotic assistance, they simultaneously raise questions with regards to their popularity. Multiple disconcerting incidents of privacy mishaps have been reported, highlighting the encroaching and, arguably, alarming nature of these technologies. In 2017, when an Amazon user asked to listen to an archive of his recordings from his voice

assistant, he was ‘mistakenly’ sent 1,700 audio files from a stranger’s recordings with a female companion. This provided him sufficient information to name and locate the stranger (Shaban, 2018), thus violating Data Protection and privacy laws. This raises concerns regarding privacy as these devices colonise intimate spaces, from the living room to the bedroom. These devices have the potential to reinvent an Orwellian nightmare of surveillance, of an always-on, always-watching, always-monitoring device. Many sceptics have deemed these devices as invasive and ‘wiretapping’ (Estes, 2017) and the use of and proliferation of them therefore causes us to question our safety. Are we becoming complacent in our use of and acceptance of invasive technology? Will the rise of assistive technology eviscerate and make obsolete the fundamental and vital notion that is privacy?

The issue of privacy and surveillance has similarly been raised with the increased use of drones. A drone is an unmanned aerial vehicle (UAV) and is used for military purposes; it has a camera inbuilt and is used in situations where manned flight is too risky or difficult. The drone provides 24-hour monitoring and sends back real-time images of activity on the ground (BBC News, 2012). As drones are used for surveillance and intelligence, this raises a number of questions such as, who is accessing the data and information? John M. Jordan similarly asks: ‘What are the rights of the observed and the responsibilities of the observer? Are drone pilots or robot software writers subject to the Geneva Convention?’ (2016: p.12) The development of surveillant technology thus endangers the safety and privacy of the observed.

Amongst these advances in robotics and AI, the humanoid robot is perhaps the most cutting-edge development and creation. The humanoid robot is a robot that resembles the human body and is designed to interact with humans in a social setting. Pepper, for example, a semi-humanoid robot manufactured by SoftBank Robotics in 2014, is designed to recognise human

faces and emotions and is designed to facilitate social interaction. Pepper is thus used in social settings such as helping customers in retail stores, hospitals and hotels. In 2016, hospitals across Belgium began using Pepper to interact with patients and today, over 2,000 worldwide companies use Pepper as an assistant to communicate and interact with customers (SoftBank Robotics). These figures not only point towards the popularity of humanoid robots, but the benefits of them also; one being that they reduce the dependence on others (Sharkey and Sharkey, 2010: p.123). Another example of the use of robots in social settings is the use of Paro. Paro is an advanced therapeutic robot seal that was created by AIST in Japan in 2004. Paro was designed to be a companion for older patients and people suffering from psychological disorders. Ethicist Sherry Turkle (2011) found that Paro was highly received by patients who reported that they considered robots as friends and confidants. The positive reception of these robots suggests a move to a posthuman society where robots and humans will coexist. Although these robots have been received positively, they ultimately raise the ethical concern that these developments can reduce interaction between people. For example, as Pepper is designed to help customers, this may eliminate a valuable opportunity for interaction between the consumer and the consultant. Thus, the use of these robots can endanger moments of interaction amongst people and can remove vital opportunities for bonding via social communication.

The use and existence of humanoid robots has also raised ethical concerns about robot rights. Sophia the robot for example, a social humanoid robot developed by Hanson Robotics in 2016, was granted citizenship in 2017 by Saudi Arabia, making her the world's first robot citizen. She also became the first robot Innovation Ambassador for the United Nations Development Programme. Sophia's role is to assist in research, medicine, education and entertainment and to promote public discussion about AI ethics and the future of robotics. Amongst Hanson Robotics' utopian vision for greater human and AI collaboration, is the goal for Sophia to

achieve true sentience and autonomy. Sophia thus embodies the technophilic dreams of roboticists and avid tech fans for the future of AI. On the topic of robot rights and responsibilities David J. Gunkel, author of *Robot Rights*, argues: 'if artificial intelligence is achieved and widely deployed (or if they can reproduce and improve themselves) calls may be made for human rights to be extended to robots' (2018: p.35). Similarly, Wendell Wallach and Colin Allen note that 'when or if future artificial agents should acquire legal status of any kind, the question of their legal rights will also arise' (2009: p.204). Thus, the positions held by Sophia have raised a number of *Blade Runner*-esque questions (Stone, 2017) such as: What rights does she uphold? Can she be rendered a moral agent? Will robots and humans converge and coexist as equal entities?

The ethical concerns discussed highlight a need for a set of rules or boundaries in order to protect the human designer, user and consumer. As mentioned, SF significantly influenced, and continues to influence the use of AI and robotics in contemporary society. Thus, as early as the 1940's when robots became a popular feature in SF, Isaac Asimov (1920 - 1992), a revered pioneer in the writings of robotics, published the visionary *Three Laws of Robotics* as a set of rules. They are as follows:

> First Law: A robot may not injure a human being or, through inaction, allow a human being to come to harm.
>
> Second Law: A robot must obey orders given it by human beings except where such orders would conflict with the First Law.
>
> Third Law: A robot must protect its own existence as long as such protection does not conflict with the First or Second Law (Asimov, 1940).

Although Asimov's Laws of Robotics were established as a precautionary measure, many critics have pointed out the flaws of the laws, addressing their inefficacy and unfeasibility. For instance, scholars Robin R. Murphy (roboticist and computer scientist) and David D. Woods (integrated systems engineer and cognitive psychologist) question the feasibility of Asimov's

Laws and propose a set of alternative, realistic new laws based on what 'human and robots can accomplish as joint cognitive systems, and their mutual accountability for their actions from the perspectives of human-centred design and human-robot interaction' (2009: p.15). Lee McCauley similarly argues that 'even though knowledge of the Three *Laws of Robotics* seems universal among AI researchers, there is the pervasive attitude that the Laws are not implementable in any meaningful sense' (2007: p.153). Murphy and Woods assert that 'Asmiov's laws are based on functional morality, which assumes that robots have sufficient agency and cognition to make moral decisions' (2009: p.15). They argue that this is fundamentally problematic and propose an alternative first law: 'A human may not deploy a robot without the human–robot work system meeting the highest legal and professional standards of safety and ethics' (p.19). This law thus assigns liability and accountability to the human designer as a legal requirement to deter the designer from evading responsibility and displacing blame upon the robot/computer. As these laws are now rarely considered, this highlights how the ubiquity of robotics is establishing a posthuman society in which humans and robots are converging. The posthuman notions of coexistence and coevolution will be explored in this thesis.

Representations of robots in SF and SF film

Humanoid robots, AI, humanity and inhumanity have often been the subject of contemporary SF and SF film. SF film has 'prefigured the dominant issues of postmodern culture' (Bukatman, 1989: p.19); specifically, the robot is a predominant signifier in SF film for technological innovation, futurism and scientific advancement. As Sean Redmond articulates, 'science fact and fiction merge and collapse in the postmodern world, where the real is as much science as the fiction itself, and where the science fiction is - or becomes - credible or authentic as fact' (2004: ix). As a signifier of futurism and posthumanity, the robot in SF film has thus been

explored in relation to ideas of progression and cultural anxieties at the possibility of a robot species. The majority of scholarship on robotics and AI in SF film has focused on the robot as a threat and while there are instances of this in the chosen films, this thesis draws attention to how the representation of the robot establishes ideas of intersubjectivity and interconnectedness and suggests that this deconstructs the anthropic principle.

There is a trend in SF film to present robotic technology as a threat to human subjectivity as can be seen in the following films: *Blade Runner* (1982), *Ghost in the Shell 2: Innocence* (2004), *The Terminator* (1984), *Terminator 2: Judgement Day* (1991) and *Transformers* (2007 - 2011). Seung-Hyun Park writes that in *Blade Runner* 'the perversion of human rationality is disclosed through re-examining the existence of replicants and the human nature' (2012: p.98), highlighting how the robot undermines human subjectivity. Similarly, Daniel Hourigan analyses *Ghost in the Shell 2: Innocence* in relation to subjectivity and questions 'what remains of being human and the assemblage of humanity when the human and the machine collide and elide their limit of differentiation' (2013: p.51). He further asks:

> Are we to expect an artificial posthumanity where everything becomes a technological fabrication? Or, is there an invitation to rupture both the ontological notion of human being and the conceptualisation of technology in the elision of their difference as the definition of humanity is encoded in a technological framework? (2013: p.51).

Hourigan writes that these questions relate to the way that *Ghost in the Shell 2: Innocence* establishes humanity in the film by renaming subjectivity as a 'ghost' (2013: p.51). He finds that the subject is bound by the weight of their ghost, of machines with subjectivity and the subject's humanity becomes a malleable, technical object to be fabricated (2013: p.66). Doran

Larson similarly examines *The Terminator* franchise in relation to human-robot interface. Larson suggests that the audience is taught to identify with the reprogrammed T101 and acknowledges that T101 is not a machine with flesh. She thus articulates in alarmist fashion that embracing the machine as machine 'signals the desperation with which we appear to take the machine into a public consciousness of national identity' (1987: p.188). Thus, like *Ghost in the Shell 2: Innocence* and *Blade Runner*, *The Terminator* franchise similarly expresses a fear that through the machine-human symbiosis, robotic technology dismantles and threatens human subjectivity. This fear is further expressed by Nayar who explores *The Terminator* franchise in similar fashion. He writes that 'the threat is not from a machine that is ruthless in its intent, but from the condition that the machine can morph into anything it wants to be' (2013: p.79). Nayar further notes that it is in this 'ontological cross-over' where the machine bears similarity to the human, being taken for and passing as human, that frightens us (2013: p.79). Another example of posthuman ontologies which poses a threat can be seen in the *Transformers* (2007 - 2011) films by Michael Bay. Nayar elaborates that in these films cars and trucks morph into machines and transform to jeopardize the human race. He argues that this threatens to undermine the human as an autonomous subject: 'the age of the integral/integrated, bounded body and identity is over: all are multiples, fluid, networked and capable of morphing into, or connecting with, some other body/ies as never before' (2013: p.79). This anxiety is expressed in SF film and therefore correlates with current debates in robotics and AI engendering a posthuman society in which humans will no longer be the sovereign subjects. This thesis similarly engages with how the chosen films address concerns of ontological crossovers and the human-robot assemblage. However, this thesis offers a more holistic, well-rounded perspective by exploring how the films establish a posthuman future where robots and humans will co-evolve and co-exist.

Prior research focusing on the reception of AI and robotics in film has similarly flagged fear as being a prominent emotion towards AI. Yuhua Liang and Seungcheol Austin Lee conducted a

study using nationally representative data with probability sampling to examine a form of sociological fear which they term 'fear of autonomous robots and artificial intelligence (FARAI)' (2017: p.379). They question 'the extent and frequency of FARAI and the relationship between individuals' exposure to science fiction and fear toward autonomous robots and artificial intelligence' (2017: p.80). Their analysis revealed that 'individuals who watch science fiction movies were more likely to be afraid of autonomous robots and artificial intelligence' (2017: p.383). Liang and Lee further deduce that 'increased exposure to science fiction movies and media is associated with increased FARAI' (2017: p.383). These results also carry some indirect implications for the ways robots are portrayed in science fiction as they suggest that SF films tend to err towards a representation of the robot as dangerous and threatening (2017: p.383). Redmond similarly writes that the robot in SF and SF films has often functioned as a 'pathological cyborg [who] is programmed to be relentless in its pursuit of those who champion humanity and who stand in their path to greater, technological glory' (2004: p.156). This form of the robot further articulates the fear of technology encroaching in on everyday life. Indeed, the British television show *Doctor Who* (BBC) launched in 1963, features Daleks which were extra-terrestrial machines that transformed into violent, merciless killers. The Daleks, driven by hatred for the human race, frequently exclaim 'Exterminate' as an order for their death and eradication. Evidently, this highlights how SF film and television tend to represent the robot as 'pathological' (Redmond, 2004: p.156) and this can stimulate a fear of AI life-forms.

Previous research into robotics and AI in film and fiction has explored the ethics of rights and responsibilities towards robotics. Jay Telotte and Barry Grant (2001) study cyberpunk fiction – a literature that explores 'the technological ramifications of experience within late capitalist, post-industrial, media-saturated Western society' (Hollinger, 1990: p.20) – in relation to the blurring of science fiction and reality. They use William Gibson's *Neuromancer* (1984) as a pioneering example to explore the issue of rights and responsibilities (Telotte and Grant, 2001: p.76). Telotte and Grant explain that the protagonist Case sets free an AI from the constraints

of its human creators (2001: p.76-77); they argue that this causes us to question 'who or what is in charge in the new digital world, how we should define life in such an environment and how our own sense of self is constructed by the culture we inhabit' (2001: p.77). By deciphering the convergence between nature and technology in the novel and exploring this in relation to rights and responsibilities, Telotte and Grant thus reinforce Garrett Stewart's perspective that the themes in SF become a 'synecdoche for the entire technics of an imagined society' (Stewart, 1985: p.159).

Hector Gonzalez-Jimanez (2018: p.49) writes that the subject of many of these contemporary SF films is a humanoid robot which displays human-like self-awareness and has a mind of its own, as in the following movies: *I-Robot* (Proyas, 2004) and *Automata* (Ibáñez, 2014). Gonzalez-Jimanez further notes that these movies question whether such developments are just science fiction, or whether science will prevail over fiction and humanoid robots who are self-aware and autonomous might take active roles in society or even become consumers of products and brands (2018: p.49). Similarly, Gunkel explores the actions of HAL 9000 in *2001: A Space Odyssey* (Kubrick, 1968) in relation to the implications of a self-aware machine. HAL 9000, an advanced AI, kills a member on the *Discovery* spacecraft and thus Gunkel argues that his actions threaten humans' safety and as a result of his self-awareness, his actions complicate the issue of responsibility (2012: p.18). Gunkel thus questions: 'when and under what circumstances would it truly be correct to say that it was the machine's fault? What would extending agency to machines mean for our understanding of technology, ourselves, and ethics?' (2012: p.18) Evidently, the materialisation of ethical concerns through film and fiction highlights the influence science fiction has in shaping technological advancements and debates regarding upcoming cutting-edge robotic technology.

There is a trend in SF film to present highly stereotyped gendered forms of technology, specifically the robot/AI character, where the female is often represented as other and is coded by a sexualised depiction. Helen Merrick argues that in SF film, 'the presence of "Woman" – whether actual, threatened or symbolically represented – reflects cultural anxieties about a range of "Others" immanent in even the most scientifically pure, technically focused sf' (2003: p.241). Likewise, Brian Attebery argues that 'the master narrative of science has always been told in sexual terms. It represents knowledge, innovation, and even perception as masculine, while nature, the passive object of exploration, is described as feminine' (2000: p.134). Researchers Simone Alesich and Michael Rigby are highly critical of this stereotyped narrative and argue that 'female robots and cyborgs in science fiction are often highly sexualised, their humanlike bodies accentuated by tight-fitting clothing to reveal their breasts and buttocks' while male robots are depicted as 'machine-like in appearance with accentuated, stereotypical male features such as large muscles and broad shoulders' (2017: p.55). They examine *Her* by Spike Jonze (2013) and, like Larson (1997), Telotte and Grant (2001) and Bukatman (1989), Alesich and Rigby (2017) similarly acknowledge that SF film coincides with contemporary technological innovations in robotics. *Her* is an SF film about a profound, emotional man, Theodore, who writes letters by profession and begins to slowly develop affection for his operating system. The operating system, Samantha, is not embodied; however, it possesses the alluring synthetic voice of a female and through this voice, 'her' playful, infectious personality is manifested, causing Theodore to fall in love with Samantha. Alesich and Rigby (2017) write that the gendered voice of Samantha helps foreground her identity and they critique this as an appropriation of stereotypes of females serving others and providing assistance. Judith Halberstam (1991) likewise argues that female gendered technology is designed to be seductive to encourage more users to engage with it. This is also reflected in contemporary society. Indeed, the digital virtual assistants Alexa, Siri and Cortana are characterised by a female voice; they therefore reimagine the stereotype of females serving others and providing assistance. This highlights how representations of robots in science fiction and film matches with cultural depictions of robotics. Andrea Virginás (2017)

similarly explores the films *S1m0ne* (Niccol, 2002), *The Congress* (Folman, 2013), *Her* (Jonze, 2013) and *Clouds of Sils Maria* (Assayas, 2014) in relation to representations of gendered technology. Virginás argues that the films emphasise the inspection of female characters by male colleagues, 'who accompany them throughout their journeys by chance, by force or by curiosity, and whose male gaze is contrasted with the spectacle of the "anatomical Venuses" they scrutinise' (2017: p.289). She argues that in these films, the robotic/digital female characters are objectified, signalling the trend in SF film to represent highly stereotyped forms of gendered technology. This thesis similarly explores gender and sexuality. In the second chapter, 'Gendered Robots in Ex Machina' explores how the film highlights tensions between posthumanity and sexuality and addresses how the film engages with the obsession and fascination humans have towards the female robot.

Posthumanism

This thesis will utilise critical posthuman theory, combined with a stylistic close reading of the films' iconography, mise-en-scene and cinematography. This will allow me to explore how contemporary science fiction films utilise robotics and AI to undermine and challenge anthropocentrism and traditional notions of humanism where the human is marked by its superiority, domination and control over non-human others. This approach will enable me to draw attention to how SF films project utopic visions of posthumanity, intersubjectivity and interconnectedness and to examine the totemic significance of robots.

Posthuman theory offers a challenge to the traditional, anthropocentric concept of western humanism, breaking free from Cartesian dualism. It aims to challenge and question the

boundaries between the human, the technological and the animal and is critical of the human condition as well as traditional humanism and classical versions of humanity. Before delving into posthuman theory, it is important to understand humanism and its facets as posthuman theory challenges and critiques humanism. The human subject of humanism is traditionally categorised by rational thinking and self-regulation and is 'treated in the singular and as a set of features or conditions: rationality, authority, autonomy and agency' (Nayar, 2013: p.16). Morality, ethics and responsibility come from the notion of the autonomous self-determining human (Nayar, 2013: p.16). Humanism is the study of this sovereign subject and it treats the human as central, universal and monistic. Human exceptionalism and human instrumentalism are key facets of humanism. The former is the idea that humans are unique, universal creatures and the latter is the notion that humans are superior to the natural world and have the right to control it (Nayar, 2013: p.19). Humanism, therefore, distinguishes the human as wholly separate from, and thus superior to, non-human life forms.

Posthumanism is the study of cultural representations, power relations and discourses that have categorised the human as superior to other life forms and in control of them (Nayar, 2013: p.13). Posthumanism intersects with other branches of theory as a philosophical, cultural and political approach such as, feminism, postcolonialism and ecocriticism, with each addressing different notions of posthumanity. Transhumanism and critical posthumanism are subsections of posthuman theory; they both question and challenge the human in the era of technological modification, hybridised life forms, new discoveries of humanity and the notion of life itself (Nayar, 2013: p.13).Transhumanism posits that humans can transcend their bodily status through technology to achieve perfectibility and so that faster, more intelligent, longer-living human bodies may one day exist on Earth (Nayar, 2013: p.16). Cary Wolfe (2010: xv) defines transhumanism as 'an intensification of the human' while Nick Bostrom, a pioneer in the writings of transhumanism, similarly writes that transhumanism allows the human to improve through applied science and other rational means, 'which may make it possible to

extend our intellectual and physical capacities and may give us an increased control over our own mental states and moods' (2005: pp.202-203). Transhumanism thus promises the possibility of altering one's identity and becoming changeable. Although it is techno-deterministic and promotes a greater interface between the human and non-human, transhumanism nevertheless upholds the key traits of the human as characterised by traditional humanism - sensation, emotion and rationality - and seeks the technological enhancement of these qualities (Nayar, 2013: p.18). Thus, traditional ideas of the human are reinforced in this form of posthumanism. It is in the critique of the human as innate and universal where posthumanism branches out into critical posthumanism. This strand of posthumanism radically reworks humanism and aims to divert from the traditional humanist notion of the human as autonomous, self-willed and universal (Nayar, 2013: p.13). Critical posthumanism advocates symbiosis, interdependence with other life forms and a more ethical and inclusive way of life (Nayar, 2013: p.19). It is this approach that I will use in my thesis.

Critical posthumanism constantly draws attention to discourses in which the human functions by constructing modes of exclusion and exterminating other life forms (Nayar, 2013: p.46). It therefore refutes traditional ideals of human exceptionalism and human instrumentalism in its vision of a post-human future. Critical posthumanism engenders the human as a congeries, as co-evolving and co-existing with other life forms, and in this way of thinking technology is deemed 'integral' to human identity rather than a prosthesis to it (Nayar, 2013: p.19). Rosi Braidotti, a leading philosopher in posthuman theory, writes that posthumanism is marked by a 'post-anthropocentric turn' (2013: p.57) which is a shift from monism and sovereignty to alternative modes of inclusivity. She defines the Anthropocene as 'the historical moment when the human has become a geological force capable of affecting all life on this planet' and further notes that the Anthropocene 'can also help us rethink our interaction with both human and non-human agents on a planetary scale' (2013: p.5). She elaborates on the post-anthropocentric turn:

> Post-anthropocentrism is marked by the emergence of 'the politics of life itself'. 'Life', far from being codified as the exclusive property or the unalienable right of one species, the human, over all others or of being sacralised as a pre-established given, is posited as process, interactive and open-ended (2013: p.60).

This utopian approach displaces boundaries that were traditionally reserved for the human, the animal and non-human (Braidotti, 2013: p.60) and therefore abolishes normative subjectivity, in replacement for co-evolving, 'species blurring and species mixing' (Nayar, 2013: p.19). Patricia MacCormack similarly writes that:

> Posthuman ethics sees the dividuation of life in opposition to identity, as it acknowledges the inevitable connection between living bodies as the point of ethical address and, in a seeming postmodern conundrum, the individual is constituted only by its connection to other individuals (2016: p.4).

MacCormack furthermore elaborates that there is 'no body without mind, no individuality without connection, no affect without expression, will as appetite beyond consciousness and, perhaps most importantly, no thought or theory without materiality' (2016: p.4). This reinforces Nayar and Braidotti's view of the human as a congeries and a subject that is embodied and embedded in a heteronomous environment. Braidotti additionally writes that the shift to post-anthropocentrism can be seen as deconstructive as it disintegrates 'species supremacy, but it also inflicts a blow to any lingering notion of human nature, Anthropos and bios, as categorically distinct from the life of animals and non-humans' (2013: p.65). Citing Michael Hardt and Antonio Negri, Braidotti writes that this form of critical posthumanism thus engenders a 'nature-culture continuum' and this shift can be seen as an 'anthropological exodus' from the dominant configurations of the human as the king of creation (Hardt and Negri, 2000: p.215 in Braidotti, 2013: p.65). Thus, the undermining of the anthropos' centrality results in 'empowering the sexualised and racialised human [and non-human] 'others' [and enables them] to emancipate themselves from the dialectics of master-slave relations' (Braidotti, 2013: p.66).

The holistic, all-encompassing view of the human as a congeries is further emphasised by Donna Haraway's techno-utopian view that 'machine / organism relationships are obsolete and unnecessary' (1991: p.178). For Haraway, the cyborg is neither human nor machine; it is a hybrid, a liminal creature and thus she renders relationships between the two as obsolete (1991: p.178). This indicates a shift in the human-machine relationship as Haraway's version of the cyborg suggests that humans are transforming into cyborgs by assimilating with technology and machines are simultaneously becoming cyborg through their ability to look human-like and enact humanity. The cyborg thus exists in a state of fluidity and hybridity. Haraway further questions: 'why should our bodies end at the skin, or include at best other beings encapsulated by skin?' and concludes 'we don't need organic holism to give impermeable whole-ness' (1991: p.178) echoing Nayar and Braidotti's version of critical posthumanism as an inclusive, non-unitary approach. Similarly, Wolfe's version of posthumanism corresponds with the likes of Nayar and Haraway. Wolfe argues that her version of posthumanism comes both before and after humanism. She explains that:

> It comes before in the sense that it names the embodiment and embeddedness of the human being in not just its biological but also its technological world, the prosthetic coevolution of the human animal with the external archival mechanisms (such as language and culture)…But it comes after in the sense that posthumanism names a historical moment in which the decentering of the human by its imbrication in technical, medical, informatic, and economic networks is increasingly impossible to ignore, a historical development that points toward the necessity of new theoretical paradigms, a new mode of thought that comes after the cultural repressions and fantasies, the philosophical protocols and evasions, of humanism as a historically specific phenomenon (2009: xv-xvi).

Therefore, Wolfe, like other critical posthumanists, rejects human exceptionality by destabilising the binaries of the natural and artificial that humanism seeks to distinguish as separate by suggesting that both human and technological worlds have coevolved. The historical perspective is important as it suggests that humanism itself then becomes 'a historically specific phenomenon' (Wolfe, 2009: xv-xvi).

The films chosen for this thesis thus critique the anthropic principle and the representation of the robot in these films questions the borders and boundaries of identity creation and destabilises the human condition. Critical posthumanism is crucial in exploring how the representation of the robot challenges structures of exclusion. This thesis will thus use critical posthumanism to explore how these films establish a posthumanity through creating a symbiosis and convergence between humans and robots.

Overview of chapters

The first chapter, 'Empathy and Otherness in A.I Artificial Intelligence', explores *A.I Artificial Intelligence* and examines humans' displacement of responsibility towards robots through Monica's abandonment of her robot child, David. This chapter argues that her abandonment problematises the human and non-human binary and blurs the boundary between the two. I further argue that the film critiques humanity and the classical, humanist version of man by cinematically evoking a history of racialised, marginalised others, wherein the human functions by establishing modes of domination and superiority. The second chapter, 'Gendered Robots in Ex Machina', explores posthuman embodiment and intersubjectivity in *Ex Machina*, engaging in critical posthumanist debates on coexistence and coevolution. This chapter also explores the tension between a humanoid robot, and the gender and patriarchy imposed upon

her, which complicates the promise of an interconnected, posthuman subject. The third chapter, ‘Care and Relationality in Robot and Frank’, considers the ethical implications of posthuman care in *Robot and Frank.* This chapter explores how the film depicts a growing interdependence between Robot and Frank where they are heteronomous, embedded subjects. This chapter analyses how this growing interdependence challenges human exceptionalism and human instrumentalism and causes us to rethink human subjectivity.

Overall, the purpose of this study is to explore how the representation of the robot in the above films questions and destabilises the binaries of human and machine, natural and artificial, organic and inorganic and to bring to the fore that identity formation is not reserved solely for the human. Through a critical posthuman lens, this thesis aims to offer a fresh viewpoint on the representation of robotics and AI in SF film and to elucidate that the robot does not always signify threat and jeopardy. While the thesis certainly addresses how the films gauge anxieties and concerns about the future of robots, this thesis argues that the representation of the robot in these films displaces cultural boundaries of the human as universal and exclusive and offers a more inclusive, greater notion of interconnectedness and intersubjectivity. After all, robotics and AI are becoming increasingly predominant in society and this calls for a greater interface between humans and machines.

Empathy and Otherness in A.I Artificial Intelligence

Introduction

This chapter explores Steven Spielberg's (2001) science fiction film *A.I. Artificial Intelligence*, which is based on the short story 'Supertoys Last All Summer Long' by Brian Aldiss (1969). *A.I Artificial Intelligence* is set in a post-climate change, futuristic society, where pregnancies are licensed via legal sanctions and robots, who do not require food or material resources, are a vital link in the chainmail of society (0:01:41). The robots in the film are known as mechas and they are humanoid robots who look and act very human and are capable of complex thought. They are designed for specific roles such as, a nanny robot, a child robot, a sex robot, a comedian robot etc. The film focuses on the character David (played by Haley Joel Osment) - a prototype mecha child programmed with the ability to love. It follows David's journey to become a 'real live boy', which is inspired by his faith and belief in the fairy tale *Pinnochio* (Collodi, 1995), after he has been abandoned by his adoptive mother Monica Swinton (played by Frances O'Connor). David and the other mechas he encounters become victims of the Flesh Fair - a fair known as the 'celebration of life' where mecha are destroyed. This chapter thus explores how the film problematises issues of rights and responsibilities through the inhumane actions of the human characters.

A.I Artificial Intelligence was originally the work of Stanley Kubrick, director of *2001: A Space Odyssey* (1968), who purchased the rights to Aldiss' story during the 1970s. However, inspired by Spielberg's (1993) *Jurassic Park* with its revolutionary CGI effects, Kubrick handed the rights to Spielberg in 1995 and film production began after Kubrick's death in 1999. James

Naremore (2005) writes that ‘Kubrick is therefore figured as the ghost in the machine and Spielberg as his eulogist’. The film has thus received various critical responses as critics explore the Kubrickian and Spielbergian themes and the hybridisation of their contradistinctive cinematic styles. Naremore (2005), who received the film positively, comments on the differences in style: while ‘Kubrick was a fastidious stylist who favoured slow, sometimes over-the-top performances and crystal-clear imagery, Spielberg is a flashy rhetorician who works with dazzling speed [and] produces fast-paced narratives with a garish look’. Other critics have not been so complimentary on the combination of Kubrick and Spielberg’s work. Indeed, Leonard Maltin (2014) attests that ‘the result is a curious and uncomfortable hybrid of Kubrick and Spielberg sensibilities.’ Similarly, Mick LaSalle (2001) denigrates the film as ‘exhibit[ing] all its creators' bad traits and none of the good. So, we end up with the structureless, slow-motion endlessness of Kubrick combined with the fuzzy, mindlessness of Spielberg’. Despite the varied critical responses, the film received multiple nominations and awards such as, the *Academy of Science Fiction, Fantasy and Horror Films, USA* Saturn award in 2002, the *BMI Film and TV* award in 2002 and the *World Soundtrack* award in 2001.

A.I Artificial Intelligence encourages the audience to feel with the non-human other and adversely, see the human as less human than the robot. By attributing a greater level of humanity to the robot, the film forces us to confront and challenge traditional humanist notions of human subjectivity, universality, and exceptionality. I further argue that while the film certainly produces posthuman visions of the robot as an empathetic, human being, it also explores and provokes our discomfort in its representation of the robots, causing us to reflect on the nature of humanity. This chapter further analyses how the film establishes an ‘ontological liminality’ (Cohen, 1996: p.6). Nayar explains that ontological liminality is what characterises life forms that are *between* categories, such as the creature in Mary Shelley’s *Frankenstein* (1823) and the character of Mr Hyde in Robert Louis Stevenson’s (1886) *The Strange Case of Dr. Jekyll and Mr Hyde* (Nayar, 2013: p.114). He argues that ‘life forms and

bodies too uncomfortably close - such as humanoid robots or creatures that exhibit human emotions and/or intelligence - are equally monstrous in cultural representations of otherness' (2013: p.115). Nayar elucidates that forms and ways of human life considered different and unconventional get categorised as 'monstrous' and that this concept of the monster establishes modes of exclusion and difference (2013: p.115). Thus, I argue that *A.I. Artificial Intelligence* explores 'ontological liminality' through the humans' treatment of the robot as other which enables us to question what the boundaries are between human and non-human. The depiction of the mecha as figures of 'ontological liminality' forces us to challenge and question the structures of exclusion that enable the human to position him/herself as dominant and superior.

Analysis of *A.I. Artificial Intelligence*

A.I. Artificial Intelligence explores humanity's capacity, or more appropriately, incapacity for responsibility, which is articulated through the inhumane treatment of the humanoid robot. The analysis will explore how the film draws attention to the blurring of the human and the non-human and uses the humanoid robot to emphasise otherness more broadly.

The film exploits the meaning of the maternal bond and the cultural understanding of this bond in order to make acute the critique of human irresponsibility when Monica abandons David. [2] The maternal bond is first established when Monica activates David's imprinting protocol. As

[2] David is given as a gift to Henry Swinton (Sam Robards) and his wife Monica from the company he works for - Cybertronics (a company which sells commercial humanoid robots). His purpose is to be all-loving and fill the childless void the Swintons feel as their biological son Martin (played by Jake Thomas) lies cryogenically frozen in a coma. Later in the film, Martin returns after making an unexpected cure (this is not explained or made clear in the film).

David is programmed with the ability to love unconditionally, to experience this, the user must recite a string of specific words to activate his programming. After Monica recites the words, David automatically responds: 'what were those words for, Mommy?' marking a transition from calling her 'Monica' to 'Mommy' (0:21:34 - 0:23:51). Although the term 'Mommy' is obviously an automated response of his programming, it nevertheless signifies trust, safety and security and foregrounds the maternal relationship between David and Monica. James Kendrick similarly writes that the imprinting scene 'is one of the most touching in all of Spielberg's films' (2014: p.181). We therefore judge Monica harshly for her callous actions when she chooses to abandon David. During the time that David is a part of Monica and Henry's lives, a series of incidents occur and the Swintons misinterpret these as David's doing. For example, at a pool party for their biological son, Martin, David is approached by Martin's friends who physically threaten David with a knife. David holds onto Martin and in walking backwards, away from the situation, he and Martin end up falling into the pool. Monica and Henry misinterpret this incident as an act of violence and decide to take David back to Cybertronics for destruction in order to protect their biological son. However, unable to live with the idea that David will be destroyed, Monica chooses to abandon David. The abandonment scene begins with Monica and David driving through a forest road (0:48:04) with David asking Monica a series of questions: 'where are we going? Someplace nice? Are those happy tears?' She struggles to respond as she contemplates the immorality of her action. The mise-en-scene cinematically establishes dissonance for the viewers as the forest becomes a signifier of danger and disequilibrium, disrupting the previous diegesis of familial bliss and maternal love. When Monica confesses to David that she is leaving him, the camera cuts into a close up of David (0:50:29), constructed in a shot-reverse-shot, and lingers on David for a few seconds to show his look of disbelief as he processes the trauma at being separated from his mother. David generates an empathetic response as the image of an innocent, vulnerable child begging and exclaiming, 'no, Mommy, please no' renders him as human as it signifies his dependency on his mother. The choice of casting furthermore reflects David's vulnerability and innocence: Osment's bauble-like blue eyes, softened, youthful features and hopeful

expression indeed reflect the quintessential image of an innocent child. Moreover, as David's tone of voice is non-robotic and very much like a human child, it reinforces his human-like nature. Monica's desertion of David appears more perverse, then, as she does not just abandon a robot, but a robot-child who embodies and enacts a humanity so convincing that we feel for David and not Monica. Through this, the film draws attention to humanity's selfish nature as Monica ultimately prioritises the safety of her real, flesh and blood son over her mechanical, artificial one. The film further highlights her selfish nature as her decision to desert David rather than take him back to Cybertronics where he would have been destroyed, allows her to shift feelings of guilt and to feel as though she did not assist in his destruction. Through the exploitation of the maternal bond and the idea that the mother should be all-loving and self-sacrificing, the film critiques humanity's irresponsible, narcissistic nature.

As outlined above, David embodies the figure of the human child. To be human thus means to have rights and responsibilities and this notion further problematises the boundaries between the human and the technological. The dialogue between David and Monica in the abandonment scene reflects this as it invites greater sympathy for David as if he is a vulnerable, human child:

> David: Mommy, if Pinocchio became a real boy and I become a real boy, can I come home? Why do you want to leave me?
>
> Monica: Stories are not real! You're not real!
>
> David: I'm sorry I'm not real. If you let me, I'll be so real for you! (0:50:00 - 0:51:49)

Monica's wounding reminder of David's artificiality combined with David's vulnerability and affirmative belief in fairy tale generates empathy, as his motivation, Pinocchio, symbolises hope and faith – fundamental traits of humanity. David subsequently exhibits feelings of loss and grief whilst Monica shows a lack of empathy, highlighting how the film destabilises the binary between human and non-human. The combination of the diegetic sounds of David's voice breaking as he cries and the poignant, music draws more attention to the severity of

Monica's deed. Indeed, her action is an enactment of separation anxiety, a primal fear of the child and a prominent fairy tale trope as can be seen in the tales of *Hansel and Gretel* (1812) and *Cinderella* (1950). Bruno Bettelheim, author of *The Uses of Enchantment: The Meaning and Importance of Fairy Tales* (1976), writes:

> There is no greater threat in life than that we will be deserted, left all alone. Psychoanalysis has named this—man's greatest fear—separation anxiety and the younger we are, the more excruciating is our anxiety when we feel deserted, for the young child actually perishes when not adequately protected and taken care of (Bettleheim, 1976: p.23 in Kendrick, 2014: p.198).

Evidently, as the conditions of imprinting maintain that David's love for Monica would be sealed and hardwired into his AI, Monica's desertion of David traps him in an eternal, irrevocable bond, unable to transcend his emotions and feelings and to love another. This therefore signifies a 'cruel, arbitrary dependency imposed upon him through human fault' (Otsuki and Greydanus, 2001) and this dependency causes David to deteriorate emotionally and 'perish' (Bettleheim, 1976) due to the lack of reciprocal love. The emotional tenor of David's desertion makes it difficult for the viewers to watch as Monica traumatises David by skewering the idea of maternal love. By rendering David as a creature that one can identify and empathise with, *A.I Artificial Intelligence* thus effectively questions: who or what can be considered human? The film critiques humans' egoistic nature through causing the audience to dissociate with the humans in the film and question their own humanity. In turn, this question threatens human subjectivity as the implication that a robot is more human undermines the idea of the human as central and universal.

The analysis has so far shown that David embodies and enacts a humanity that is so convincing and realistic that we empathise and sympathise with him as if he were human. Although we are aware that he is a humanoid robot, it is easy to forget this fact as the film consistently portrays him as human through his ability to exhibit human emotions and through

his embodiment which represents the very image of the human child. David's quest to find the Blue Fairy, a fictional character in Carlo Collodi's *The Adventures of Pinocchio* (1883), who he believes will make him a 'real live boy', results in him meeting his creator, Professor Hobby at the Cybertronics headquarters. There, David discovers multiple copies of himself, packaged and ready to be shipped and commercialised. This scene not only reminds David of his artificiality, but it also reminds the viewers. I therefore argue that although the film presents David as human and asks 'posthuman' questions such as who or what can be regarded human, at the same time, the film explores the anxiety we feel at this representation of David. This scene causes us to question the nature of humanity, but not in the same way that the abandonment scene does. This scene thus undermines the idea that David is human and expresses a tension between his humanity and inhumanity.

In this scene, David is forced to confront his non-unitary nature as he meets his replica, and this similarly forces us to comprehend that he is not human. By reminding us of his artificiality, the film draws attention to how we have been emotionally invested in a non-human, non-living, non-breathing character. This in turn reminds us that he is just a robot and not a child. The scene begins with David entering Professor Hobby's study, calling his name in a bid to find the Blue Fairy. The soft focus and ambient lighting combined with the mellow music of this scene is cognisant of a fairy tale and offers the possibility of hope (1:38:55). The domestic ambiance is dramatically cut short when David's question 'is this the place they make you real?' is returned with a response from his duplicate, in an ironic twist of fate (1:39:01). The music, which becomes tense and foreboding, increasingly crescendos as the camera cuts into a close up of David whose face registers shock and trauma as he questions: 'are you real? are you me?' The clone responds 'I'm David' to which, David refuses: 'you're not…so am I' exhibiting signs of the Uncanny Valley. This is a term coined by Japanese roboticist Masahiro Mori in 1970 and it maintains that humanoid objects or creatures that resemble human beings trigger a feeling of uncanniness and strange familiarity, causing the human observer to fall

into a metaphorical valley of uneasiness. While David is not a human it can nevertheless be argued that he experiences The Uncanny Valley as the sight of his clone causes him to react negatively. After the clone benignly proposes a friendship between the two, the camera cuts into a close up of David at 1:39:58 whose expression transforms into malice as he lowers his head, akin to that of a predator about to attack its prey, and whispers in a sinister tone 'You can't have her [Monica] …She's mine and I'm the only one'. Immediately after, David picks up a large lamp and begins violently swinging it, attacking the other David and decapitating his head as he repeatedly cries out 'I'm special! I'm unique! You can't have her!' (1:40:13). Here, David's regression is analogous to biblical stories of sibling rivalries, such as the rivalry between Cain and Abel and Jacob and Esau. In both instances, the dispute stemmed from determining 'who is the true or firstborn son, who has the primacy, the primogeniture' (Greydanus and Otsuki, 2002). Thus, David sees his clone as a false brother and his declaration, 'I'm David!' is not simply an affirmation of his subjectivity; it highlights the uncanniness and surrealism he experiences, forcing him to confront his artificiality. This in turn forces the audience to come to terms with the fact that David is not a human, more specifically, he is not a child, despite his human child-like embodiment and the human emotions he displays. As we previously identified with David as human, this scene may therefore call for the reconsideration of the ontological boundaries that dictate who or what is human.

This scene further deconstructs David's subjectivity through the dark depiction of the David replicas which causes us to further question whether he is human. There is evidently a tension here as the film previously depicts him as human and thus, we struggle with the two competing ideas and experience our own sense of the uncanny as our expectations of what is human and what is not are destabilised. In this scene, Professor Hobby explains to David that he is just an experiment and modelled on his son and David responds, 'I thought I was one of a kind…my brain is falling out' as he struggles to comprehend his non-universality (1:42:40). After Professor Hobby exits, David detours further into his office where he discovers the

clones. A tracking shot follows David and is accompanied by eerie, choral non-diegetic sounds which sound almost spirit and ghost like (1:44:04). This shot transitions into a low angle shot of David making him appear larger which ironically works to maximise his insignificance, as the low angle shot enhances the uncanny expression on his face (1:44:21). The camera cuts into a close up shot of a shadowed body stood sideways with the same facial affects as David and as the camera pans to the left, it reveals a row of David mecha dolls, dressed in white and hanging like meat in a slaughterhouse, establishing dissonance and undermining David's exclusivity (1:44:24 - 1:44:36). As David walks through what can be interpreted as a literal Uncanny Valley, the camera switches from a long, wide angle shot to a tracking shot, utilising eyeline matching to visually estrange the audience as David not only sees the clones, but also an array of dismembered body parts, faces in the form of masks, scalpels and X-rays of the human body and mecha clone. Evidently, this sequence is not only an abject confrontation for David with the notion of his artificiality, but a threat to his sovereignty as 'the only one'. Likewise, this causes the audience to experience a sense of the uncanny as our previous perception of David as human is further derailed through the David copies. David sees rows of boxes entitled David and a female prototype entitled Darlene with the label: 'at last – a love of your own' ready to be shipped and sold. One of the boxes shakes, causing him to fearfully return to the central space of the room and the camera subsequently executes a dolly zoom into David's traumatised, pained face (1:45:42 - 1:46:46). Perhaps the most cinematically cutting technique, the dolly shot captures the background (the mechas hanging, spare body parts and boxed mechas) while expanding and zooming in on the subject, David, to create an optical illusion that is unsettling and disorienting. Thus, this shot combined with the intonating, climactic music dissociates the audience from the idea that David is a human subject. The film depicts the tension between David's humanity and inhumanity as threatening the boundary between the human and non-human; it forces us to dwell on what makes anyone human and how these things are similarly affected by the commercialised and capitalist world we live in. In addition, the idea of trying to become a 'real boy' comes under scrutiny here – seeing David in this place makes us question: how far is the idea of becoming a 'real live boy' a fairy tale?

It is a fairy tale that depends upon a traditional humanist idea of a subject, a boy, an original, and not a copy. In interrogating the limits of the fairy tale, this scene further draws attention to the difficulties of being, or being identified and recognised as, human.

As outlined above, the film presents a tension between the robot and human boundary by reinforcing David's artificiality. *A.I. Artificial Intelligence* thus emphasises the 'difference' of robots by adopting a narrative of otherness and alienation through visually and cinematically re-envisioning a disturbing history of racialisation, colonisation and marginalisation. This is seen through the abhorrent, technophobic debauchery that is the Flesh Fair. During this sequence, David and other rogue mechas are captured and theatrically staged on display for nefarious forms of destruction before a depraved crowd. One of the most pivotal sequences in the film, the Flesh Fair marks the midpoint of the movie and is advertised as the 'Celebration of Life' – a crude and ironic sentiment which demarcates the boundaries between man and machine by demonstrating human superiority and domination through the sadistic attempts to 'sanitise and dispose of the other' (Nayar, 2013: p.110). This scene therefore uses the humanoid robot to articulate otherness and remind the viewer of histories of oppression.

The mise-en-scene and cinematography in the scene leading up to the Flesh Fair re-envision one of the most disturbing iterations of oppression and dehumanisation - Slavery and Master-Slave relationships. This emphasises the inhumanity of the humans and the mechas' 'ontological liminality' (Cohen, 1996: p.6). Prior to the Flesh Fair, a vehicle resembling a garbage truck stops at the edge of the forest where David and Teddy - an AI operated teddy-bear known as a Supertoy - have been walking and deposits a load of antiquated, dismembered artificial body parts such as arms, faces, legs and, eyes, all of which, piled together, visually resemble skeletal corpses after incineration (0:58:58 - 0:59:11). The items attract a motley crew of mecha who appear from the forest and begin rummaging for newer

parts to attach to themselves in anticipation of the Flesh Fair (0:59:37). They do this to conceal their outdated artificiality and to look more human and to therefore avoid being captured and tortured. During this sequence, an African American mecha attaches a white arm to his body and this promulgates racial connotations to White Supremacy (0:59:59). As he attempts to attach a brown mechanical forearm, the wires repel this juncture, akin to the resistance between two like forces due to incompatibility. The mecha then attaches a white mechanical forearm which connects perfectly. This is framed within a medium shot (1:00:00) which zooms into a close up, focusing in on the physiognomy of the white and brown surfaces. After the arm is conjoined, a tracking shot displays the mecha raising his new arm as he gazes at it in admiration. This image re-enacts a history of marginalisation and oppression. On the notion of otherness and marginalisation, Braidotti writes that the humanist man is 'simultaneously an abstract universal and very much the spokesman of an elite species: both Human and Anthropos' (2013: p.67). All other forms of embodiment are removed from the subject position; they include anthropomorphic others - non-white, non-masculine, disabled, malformed or enhanced peoples and humanoids (Braidotti, 2013: p.68). She further elaborates:

> All these 'others' are rendered as pejoration, pathologized and cast out of normality, on the side of anomaly, deviance, monstrosity and bestiality. This process is inherently anthropocentric, gendered and racialized in that it upholds aesthetic and moral ideals based on white, masculine, heterosexual European civilization (2013: p.68).

Thus, the implication that the white mechanical arm provides protection and makes the African American more compatible is reminiscent of master-slave relationships; it visually recreates the African American slave's dependence upon their White Master and therefore draws attention to the way life forms that are deemed less-human/inhuman are othered.

The abuse of the mechas, which is so heavily reinforced, is an act of repeated violence and thus emphasises the mechas' 'ontological liminality'. As earlier established, this idea posits

that the non-human/those deemed less human are ‘different’ and get ‘subsumed into the category ‘monstrous’ [as] the very idea of the monster allows the construction of difference’ (Nayar, 2013: p.115). The idea of difference therefore suggests that ‘humanity survives by constructing modes of exclusion, and the monster's ontological liminality enables domination, persecution, incarceration/containment, exhibition/display, genocide, displacement and elimination of certain forms of life’ (Nayar, p.116). This is indeed represented in the Flesh Fair through genocidal imagery which evokes one of the most horrific crimes against humans – the Holocaust and the extermination of Jews. As Lord Johnson-Johnson, the ringleader of the Flesh Fair, drags David on stage to be tortured, the film employs a tracking shot of an incinerated, emaciated, skeletal mecha corpse being dragged against the sand, akin to a victim of a Nazi concentration camp (1:14:44). This shot is matched with a parallel shot of David who is also being dragged across the floor as the camera adjacently pans around him, cinematically presaging David’s fate as similar to that of the corpse (1:14:48). The diegesis of this sequence unsettles the viewer as the tumultuous chants for ‘Johnson’ as he reels the victims into the arena cinematically depict him as Hitler, about to implement the Final Solution. The mechas’ ‘ontological liminality’ (Cohen, 1996: p.6), then, enables the extermination of their lives and ‘the reduction to sub-human status of others is [therefore] a source of ignorance and bad consciousness for the dominant subject, [the human], who is responsible for their epistemic as well as social de-humanization’ (Braidotti, 2013: p.28). Thus, the depiction of the mecha as ‘monstrous’ enables the humans in the film to ‘survive by constructing modes of exclusion’ (Nayar, 2013: p.116). Through this, *A.I. Artificial Intelligence* critiques the boundaries humans demarcate - man vs. machine, man vs. animal, white vs. black, etc, and therefore alludes to humanity’s lack of responsibility for anything it deems inferior or ‘non-human’ by exploiting historical tragedies, such as the Holocaust and Slavery.

Nayar (2013: p.132) writes that another form in which humans distinguish clear boundaries between the human and non-human is through cultural representations of Speciesism. He writes that ‘speciesism positions the human as the dominant species that then controls,

domesticates, oppresses, exploits, guards and pets non-human species.' (Nayar, 2013: p.132). Evidently, Johnson's anti-mecha rhetoric reflects speciesism as he shouts: 'any old iron? Expel your mecha. Purge yourselves of artificiality' when surveying the forest for antique mechas (1:01:36). His hateful rhetoric positions him and thus the humans in the film as the dominant species as it signifies 'agnatology'; this is a phenomenon outlined by Paul Gilroy (2000) and it refers to enforced and structural ignorance towards others (Braidotti, 2013: p.28). Braidotti elaborates: 'Dialectical and pejorative otherness induces structural ignorance about those who, by being others, are posited as the outside of major categorical divides in the attribution of humanity' (2013: p.28). Evidently, Johnson's cultural reference to the scrap-man announcement ('any old iron') highlights an 'enforced ignorance' (Braidotti, 2013: p.28) as it promotes the disposability of mechas, which in turn promotes the anthropocentric notion of humans as the superior, universal species (Nayar, 2013). *A.I Artificial Intelligence* exploits the relationship between the human and the robot to ask the questions: how should humans treat others? What responsibilities do humans have towards each other and towards non-humans? These questions draw attention to speciesism in which the human subject is controlling and oppressive and therefore critique the anthropic principle - the idea that the universe is tuned to humans and human existence only (Pepperell, 2003: iii).

While the film consistently delivers a critique of humanity's treatment of others and irresponsibility towards non-human others, the ending complicates this critique; by offering a contradictory happy ever after in a film where fairy tales offer empty promises, this ending takes away from the darkness of the film. A time jump to 2,000 years into the future reveals futuristic machine entities who have evolved beyond humans. These descendants of robots and mechas populate a planet in which climate change has taken effect as it is covered in ice. Human beings are extinct, and the world inhabited by the 'SuperMechas' as Kendrick (2014) terms them, is void of capitalism, gender, race and nationality. The SuperMechas who discover and revive David's memories, portray an interest in human history and bring Monica

back to life for 24 hours through their advanced technology, enabling David to reunite with the source of his affection.

The central critique of the film has been directed towards humans' othering and mistreatment of human others and non-humans and the structures of exclusion which have positioned the human as superior. Ironically, the last portion of the film appears to propagate the very ideals of Humanism that it denigrates. Indeed, the conversation between David and the SuperMecha depicts the human as a creature to be revered:

> David, I often felt a sort of envy of human beings and that thing they call 'spirit'. Human beings had created a million explanations of the meaning of life in art, in poetry, in mathematical formulas. Certainly, human beings must be the key to the meaning of existence, but human beings no longer existed…David, you are the enduring memory of the human race, the most lasting proof of their genius (2:08:15 - 2:10:30).

Evidently, terms like 'genius' and 'spirit' and the idea that human beings define existence represents humanistic idealism, and, ironically, this promotes the liberal individualistic view of the subject as perfect in terms of autonomy, rationality and self-determination (Braidotti, 2013: p.23). The Supermechas' claim that David is the memory of the human race is indeed ironic as David is not human as we have been reminded of throughout the film. This 'nostalgia for human idealism' (Naremore, 2005) threatens to undermine the critique of humanistic ideals and anthropocentrism. The SuperMecha furthermore informs David that they (the SuperMechas) attempted to bring back humans, highlighting an idolisation of the human race. And yet, even in this reverence of humanism, the film manages to subtly critique the idea of the human as universal and subjective. The temporal shift into the future where humans are extinct and the planet is engulfed in ice is an overt, yet predictable, iteration of the destructive nature of humanity. The most conspicuous and flagrant threat to the idealistic humanist

version of man is the evolution of Artificial Intelligence, evidenced by the SuperMechas which actualise and materialise the 'Technological Singularity' (Vinge, 1993). This is the concept that Artificial Intelligence will surpass human intelligence and change the course of evolution by demoting humans to the status of secondary intelligent creatures whilst Artificial Intelligent entities will be the primary, superior forces at the centre of the universe (this will be explored in more detail in the following chapter). Thus, while the ending maintains its critique of the human as dominant and superior through the nostalgia of human idealism, at the same time, in a more dissonant tone, it idealises humanity and venerates human beings as exceptional, presenting a conflicted and somewhat problematic conclusion to an otherwise consistent critique of humans' inhumanity.

The ambiguity of the film's ending has been received harshly by critics as 'problematic' and as 'the ultimate Spielbergian cop-out, a laboured attempt to somehow graft a sentimental happy ending onto an otherwise dark and complicated film' (Kendrick, 2014: p.204). Evidently, after a turbulent journey to becoming a 'real live boy' and seeking requited love, the film concludes with David achieving the 'everlasting moment he had been waiting for' (2:17:09) when Monica informs him she has always loved him and David thus joins her in sleep. This final shot has received much criticism for its ambiguity; Kendrick notes that David's 'going to sleep' may symbolise death given that the film earlier states that David cannot sleep (2014: p.208); however, there is also the suggestion that should David awake, he will once again be left alone, with no possibility of another to reciprocate his love (Kendrick, 2014: p.208). Similarly, Tim Kreider (2002) writes that while the ending alludes to the childish dream of reunion, it is nevertheless bleak and desolate, trapping David in an eternity of longing for a dead mother (Kreider, 2002: p.34 in Kendrick, 2014: p.208). Evidently, David is once again left to deteriorate and perish emotionally as a result of his hardwiring, further extending the critique of humanity as irresponsible and reactionary through their development of a machine stuck in an all-loving freeze-frame. The somewhat contradictory ending complicates the

critique it delivers, as while there is a happily ever after, the idea that David is left alone is a further critique of a cruel and inhumane system and this therefore maintains the dark tone of the film.

Conclusion

Through a macabre re-envisioning of a history of racialised, marginalised others and an exploitation of responsibility and accountability, *A.I Artificial Intelligence* critiques humanity's treatment of those deemed less human/non-human. By conducting a close reading of the film's mise-en-scene and cinematography, this chapter argues that the film uses the non-human to explore otherness more broadly and draws attention to the mechas' 'ontological liminality' (Cohen, 1996: p.6) as the Flesh Fair scene attests. This chapter extends this argument to ascertain that through the ostracization of the mecha as the other, the humans in the film establish structures of difference and domination - an attribute of humanist and anthropocentric notions of human superiority and universality. This chapter argues that through this, *A.I. Artificial Intelligence* dissociates the audience from the humans in the film by causing them to question the demarcations and boundaries between man and machine. The film furthermore exploits the image of the 'human' child to invite empathy and question: who is human? what responsibilities does the human hold towards the non-human? This is made clearer in the scene where David sees the other mecha dolls as it forces the audience to witness David's artificiality and therefore reminds us that he is not human. Thus, while the film indeed engenders posthuman visions of an empathetic, 'human' robot, at the same time, it makes us feel uncomfortable in its representation of the robot which causes us to rethink what it means to be human. While the ending complicates the critique of humanity, it does not completely undo this. The critique is still subtly maintained through the temporality of the film.

The futuristic time jump, in which humanity is extinct and advanced AI species dominate the planet, nevertheless derails the humanist ideal of man being the centre of the universe.

Gendered Robots in Ex Machina

Introduction

This chapter analyses Alex Garland's award-winning psychological science-fiction film *Ex Machina* (2015) in relation to intersubjectivity, posthuman embodiment, gender and sexuality. *Ex Machina* follows the journey of a young programmer, Caleb (played by Domhnall Gleeson), who has been selected as the human component in a Turing Test to examine Ava (played by Alicia Vikander), an intelligent female robot created by fellow programmer Nathan (played by Oscar Isaac).[3] The film takes a drastic turn when Ava manifests her self-awareness as much greater than that of her human counterparts and proceeds to kill her creator and abandon Caleb. This chapter explores the tension in the film between fears of robotics and a fascination with the female robot through the depiction of Ava as an embedded, human-like creature who possesses agency, rights and responsibilities. I argue that *Ex Machina* foregrounds Ava as an embodied, posthuman subject by locating her in a state of intersubjectivity with the natural, organic environment surrounding her. However, I also argue that Ava's posthuman nature is hampered by patriarchal tropes in which she is depicted as a product of male desire; the film is centred around one man's creation of a product of another man's pornographic desire and it therefore draws attention to the ways in which Ava is gendered. The film plays on stereotypical forms of gender, embodiment and patriarchy and while it critiques them, it nevertheless invests in these tropes. *Ex Machina* therefore offers a complicated vision of a posthuman gendered robot. To explore these arguments, I will use critical posthumanism as a framework and I will analyse the film's cinematography and iconography, particularly focusing on cinematic metaphors, and the film's mise-en-scene.

[3] The Turing Test is an examination that was developed by Alan Turing in 1950 to assess whether a machine possesses intelligent behaviour comparable to that of a human or whether it simulates this.

The representation of gender in humans, robotics and SF film

Gender has been explored and interrogated by many researchers as a performative act. Judith Butler's gender performance theory outlines that gender is constructed through one's repetitive performance of gender: 'gender is the repeated stylisation of the body, a set of repeated acts within a highly rigid regulatory frame that congeal over time to produce the appearance of substance' (1990: pp.43 - 44). Butler argues that gender roles are established by society and that masculinity and femininity are similarly social constructs. Butler thus writes that gender is performative: 'there is no gender identity behind the expressions of gender; that identity is performatively constituted by the very 'expressions' that are said to be its results' (1990: p.25). She further notes that such behaviours are imitated and developed over time (1990: p.25). Likewise, Roger Andre Søraa posits that 'performativity is a reinforcing process wherein one becomes the gender they perform' and concludes that gendering is a process of constantly becoming gendered as one's gendered identity evolves (2017: p.102). Gender as a performative action, then, suggests that gender only exists and is real when it is performed (Butler, 1990: p.40).

The idea that performativity is a repeated process which dictates the gender that one performs can also be seen in the ways in which robots have been gendered. Roboticists tend to create humanoid robots that are designed to perform a gender. For example, HRP-4C is a humanoid robot created by AIST (2009) with very distinct feminine features. HRP-4C's body is anthropomorphically designed with silver and black surfaces that 'resemble a Barbarella-like costume, which accentuates her ample breasts and shapely, naturalistic buttocks' (Robertson, 2010: p.29). Her face and hands are covered in silicone and resemble skin. HRP-4C's anthropomorphic robot body highlights how roboticists design robots to perform and enact

stereotypical ideas of gender. This exposes the gender assumptions roboticists make and is thus a problematic, and somewhat vexed, concept as it suggests that robots are an expression of gender norms. Robertson similarly argues that 'how robot-makers gender their humanoids is a tangible manifestation of their tacit understanding of femininity in relation to masculinity, and vice versa' (2010: p.4). We can see this also in SF film as there is a tendency amongst filmmakers to depict humanoid robots as performing a gender that is inherently stereotypical. The robots are very often created according to stereotypical norms and this reflects their creators' ideas about gender. However, at the same time, the robots may draw attention to the very constructed and performative nature of gender itself since they are not human. Evidently, films like Fritz Lang's *Metropolis* (1927), Ridley Scott's *Blade Runner* (1982) and Jonathon Mostow's *Terminator 3: Rise of the Machines* (2003) feature a stereotypical female robot that epitomises traditional forms of embodiment, such as the shapely feminine figure. Indeed, Lang's (1927) female robot Maria is 'irresistibly seductive, with her sashaying hips and art deco fetish-gear bodywork' (Rose, 2015). Researchers Simone Alesich and Michael Rigby are highly critical of this stereotyped narrative and argue that 'female robots in science fiction are often highly sexualised, their humanlike bodies accentuated by tight-fitting clothing to reveal their breasts and buttocks' while male robots are depicted as 'machine-like in appearance with accentuated, stereotypical male features such as large muscles and broad shoulders' (2017: p.55). Robots in film are therefore represented as performing gender, highlighting their representation as an enforcement of stereotypical gender norms. *Ex Machina* similarly engages with ideas of gender as a performance.

As I outlined in the introduction, there is a tension between the representation of Ava as intersubjective and as a highly sexualised, gendered robot. The analysis will therefore be split into two parts. Part one will explore embodiment, intersubjectivity and interconnectedness in *Ex Machina* and part two will explore representations of gender, patriarchy and pleasure in the film. The two-part structure will highlight that whilst Ava presents the promise of a

posthuman, interconnected subject, her interconnectedness is hampered by the film's employment of stereotypical ideas of embodiment and gender, and the sexualised, disempowered depiction of female bodies.

Part One – Embodiment, Intersubjectivity and Interconnectedness in *Ex Machina*

In this section I argue that *Ex Machina* characterises Ava as an embodied posthuman subject through a mise-en-scene and cinematography that visually and metaphorically conflate artificial and natural, organic and inorganic surfaces and textures, thereby situating Ava in a state of intersubjectivity rather than autonomous subjectivity. This is depicted through her connection to nature, her embodiment and the remaking of her body which enables her to 'co-evolve' (Nayar, 2013) with other species. The connection between Ava and nature risks reinforcing the patriarchal alignment of women with nature - something which threatens them with embodied silence. However, I argue that Ava's interconnected being foregrounds technology as well as nature and this changes the idea that the female is stereotypically connected to nature. I explore this argument through a posthuman perspective that focuses on co-evolving and interconnections, where the subject functions in relation to its surroundings and vice versa and identity congruently is constituted through these processes.

In *Ex Machina* Ava's posthuman embodiment is depicted through a mise-en-scene which reinforces her body's connection to the environment and situates her in a 'body-environment-intersubjectivity' (Gallagher, 2006: p.243). This is the notion that her body is constantly interacting and connecting with its environment. Indeed, Ava's initial appearance onscreen blends the technological and organic as her cyborgian body is constructed upon human anatomy (0:12:21). Her shoulders, breast and torso are enclosed in a grey, mesh-like metallic

material while her face, hands and feet are ensconced in human flesh. Her transparent arms, stomach and legs showcase her artificial bones while the structure of her spine resembles the human vertebral column with artificial wires and cables materialising bones, tendons and ligaments. Her metallic orb-like head is conspicuously skull-shaped, exhibiting delicacy and futuristic embodiment. The textural layering of human flesh with metallic surfaces and the fusing of artificial filaments therefore represents an 'assemblage' of the organic, artificial and natural (Nayar, 2013). This portrayal further suggests that there are 'no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology' (Hayles, 1999: p.3). In critical posthumanism, the idea of assemblage rethinks subjectivity where human subjectivity co-evolves with machines and animals, and vice versa (Nayar, 2013: p.19). Thus, Ava's patchworked body foregrounds her posthuman embodiment as intersubjective as it melds the technological and natural.

Ava's intersubjectivity and posthuman embodiment are reinforced through visual metaphors that present the 'biologic as the technologic' (Dobrin, 2015). In a long shot of Ava (0:12:23) centrally positioned within the glass enclosure that is her room, the verdant, shrubbery marking the landscape behind her visually emphasises Ava's intersubjectivity; the delicate surface of the appendages and stipules on the leaves and the rigid, unyielding surfaces of the branch and twigs mirror the delicacy of Ava's flesh and durability of her metallic and transparent surfaces. Additionally, her techno-skeletal interior of fused fibres parallels the synaptic structure of the trees. This represents her body as 'a congeries whose wetware, form and genetic structure [has] evolved not as instances of self-realization but as the *instantiation of the connections between and across organic and non-organic forms'* (Nayar, 2013: p.99). Jennifer Henke similarly explores this scene in relation to embodiment and interconnectedness. She utilises Lena Trüper's analysis of Ava's body to argue that the woven metallic net covering Ava's body resembles honeycomb and is a network metaphor (Trüper,

2016 in Henke, 2017: p.134). Henke argues that the diegetic whirring sound Ava makes when she moves 'echoes a swarm of digital cicadas' and further writes that the references to cicadas and bees on a visual and aural level 'point to the swarm intelligence of the internet and they demonstrate how Ava is not only entangled in but moreover a product of this realm' (2017: pp.134 - 135). The symbolism here thus implies Ava's interconnection with nature and other life forms.

Ava's interconnectedness and posthuman embodiment are emphasised through the extreme example of Ava remaking her body in the penultimate scene of the film, where she dons the skin of Jade (an Asian AI) in order to conceal her artificial body. This scene climactically foregrounds Ava's intersubjective condition as an 'assemblage' (Nayar, 2013) by de-territorialising subjectivity. Before exploring this argument, it is imperative to define de-territorialisation in relation to subjectivity:

> Deterritorialization implies the becoming nature of subjectivity in which the human is always in process because the human is within a drift, or circuit, of chemicals, chromosomes and molecules that very often lie outside the biology of the human. Evolution is the exchange of information across biologies (Nayar, 2013: p.99).

Deterritorialisation is thus the process in which subjectivity transversally takes place 'in-between nature/technology; local/global; present/past – in assemblages that flow across and displace the binaries' (Braidotti, 2018: p.4). Although Nayar exemplifies the 'human' as the actor in the deterritorialization process in his definition, he argues that this process applies to both human and non-human bodies (2013: p.99). In this scene, Ava proceeds to Nathan's bedroom and discovers the lifeless bodies of the previous AI prototypes, which are stored inside the mirrored wardrobes (1:33:51). The following close-up shot of Ava detaching her dismembered arm (1:35:44) and replacing it with Jade's arm and the close-up shot of her peeling Jade's skin to place on her body are overt visual metaphors of assemblage; the

artificial fibres fuse and conjoin in a seamless sequence when Ava connects the fleshed arm to her artificial body. The diegetic sound of her 'digital cicadas' (Henke, 2017) coupled with the non-diegetic soft, xylophone notes on the soundtrack emphasises Ava's morphing into another identity, thus sharing teleology with other organisms and species (Nayar, 2013). Her 'morphing' into a new identity furthermore echoes the posthuman notion that identities, physiological and anatomical, are ontologically fluid as they are open to change and modulation (Nayar, 2013: p.79). Thus, the connection between Ava's body and environment is so powerful and multifaceted that it represents the posthuman vision of connections: there is 'no body without mind, no individuality without connection, no connection without another dividuated life with its own concomitant reality, no affect without expression' (MacCormack, 2016). It could be argued that Ava is in a 'technobio-integrated circuit' (Hayles, 1999: p.27) as her body is 'an amalgam, a collection of heterogeneous components, a material-informational entity whose boundaries undergo continuous construction and reconstruction' (Hayles, 1999: p.3). Furthermore, the long shot of Ava admiring her fully fleshed naked body and hair is cinematically significant as it is a full shot which emphasises Ava's new, 'human' body (1:36:59). It reaffirms posthuman views of assemblage and deterritorialized forms of existence, as her new body has been assembled with 'open borders across which information, consciousness and identities *flow'* (Nayar, 2013: p.99) – for example, the identity of Jade *'flows'* through Ava through her wearing of her skin. Ava's intersubjectivity is further intensified through the Jackson Pollock *No.5, 1948* painting (1:36:18) which functions as a 'network metaphor' (Henke, 2017: p.137). The full shot of the canvas showcases eclectic, oscillated drips which symbolise wires, fibres and connexions (1:36:18). The placing of this shot within the montage of Ava donning Jade's skin visually reinforces 'exchange and linkage [which] ensures the deterritorialization of subjectivity because interiority is itself an *open* state: in constant communication with the exterior' (Nayar, 2013: p.99). The remaking of her body therefore overtly concretises Ava's interconnectedness and strengthens the promise of a utopian posthuman future in which human and non-human, artificial and organic come together in an assemblage.

Although this scene is further evidence of Ava's interconnectedness, there is a racial aspect that is more disturbing, and it can therefore be critiqued for its colonisation of Asian bodies. LeiLani Nishime explores this scene as a repetition of a history of racialised and dehumanised bodies in relation to the 'whitewashing' of Asian characters. She argues that Ava's use of Asian body parts in *Ex Machina* represents white female appropriation of Asianness (2017: p.35) as Ava repeatedly appropriates 'uses of the Asian Other to exercise her own limited path through the strictures of gendered oppression' (2017: p.36). Nishime thus critiques *Ex Machina* for its reinforcement of whitewashing and its indoctrination that a utopic technological future can only be achieved through the 'erasure of transpacific migrating bodies', arguing that the film presents a cultural anxiety about the irreducibility of race and gender in the midst of technological progress and innovation (2017: pp.45-p.46). There is a similar moment in *A.I Artificial Intelligence* when an African American mecha uses white skin to make himself more compatible and to emancipate himself. While the use of white skin in *A.I Artificial Intelligence* re-envisions abhorrent master-slave relationships in which the African American slave was dependent upon his master, the use of Jade's skin in *Ex Machina* similarly expresses a 'cultural anxiety about the irreducibility of race' (Nishime, 2017: p.46).

Through mise-en-scene and cinematography that combine the natural and artificial, *Ex Machina* situates Ava in an intersubjective state where she is connected to nature and the natural world. However, just as the racial overtones expressed in the scene discussed above threaten to undermine Ava's posthumanity, the promise offered by her interconnectedness is similarly held back by the imposition of a patriarchal gaze where she is depicted as a product of male desire.

Part Two – Gender, Patriarchy and Pleasure in *Ex Machina*

In this section I argue that *Ex Machina* offers a stereotypical, gendered robot and the film aims to critique this, but it falls short in its critique as it invests in tropes of patriarchy. By employing Laura Mulvey's (1975) idea of the male gaze, I argue that the use of patriarchal tropes highlights the flawed nature of gendering robots in ways which conform to gender norms and male desires. I thus argue that the tension between aiming to critique these tropes and investing in them offers a complicated vision of a gendered robot.

Throughout *Ex Machina*, Ava is metaphorically depicted as a fine piece of artwork through her femininity, sexualisation and innocence. These aspects of her embodiment signify a 'to-be-looked-at-ness' (Mulvey, 1975). The sexualised representation of her as an object of pleasure represents the film's complicity with stereotypical depictions of embodiment and therefore obscures the visionary posthuman utopia of interconnectedness and intersubjectivity. Indeed, the scene where Ava presents her clothed body to Caleb as a 'surprise' and the subsequent one of her undressing offer displays of her feminised body which elicit pleasure for Caleb and the viewer (0:40:30 - 0:45:16). The scene of Ava getting dressed begins with her informing Caleb that she has something to show him, suggesting a surprise as she instructs him to close his eyes whilst she enters a separate space and chooses an outfit from her wardrobe, which hosts a collection of patterned, stereotypically feminine, child-like clothes (0:40:30). She chooses a pastel lilac, floral sundress with a matching pastel blue cardigan and cream wool stockings, symbolic of her innocence and adolescence. Ava's stylistic choices reinforce her youth and innocence as the subtle, diluted lilac and blue hues symbolise revival and renewal through a seasonal connotation to Purple Lilacs blossoming in spring; her cropped hairstyle further reiterates her vulnerability through its 'waif-like' aspect (Constable, 2018: p.295). Ava delicately and tenderly dons her clothes with the precision of an artist painting a canvas and

this is framed within a tracking shot which focuses and zooms in on the layering of textures and concealment of her technical body (0:41:39). This shot, coupled with the diegetic sound of Ava's 'digital cicadas' (Henke, 2017: p.134) and the non-diegetic xylophonic notes, further evokes a sense of innocence and fragility, reinforcing the sense that she is a delicate piece of art. As Ava returns to Caleb, the camera cuts to a tracking shot, partially featuring her back and lower arms as she gently tugs the sleeves of her cardigan over her hands – a seemingly natural, non-verbal cue of nervousness and a gesture which emphasises her youthfulness (0:43:29). Her innocence works alongside her sexualisation as it is through her vulnerable, youthful look and stylistic choices that she appears as an artwork; through this, Ava is sexualised as an object of pleasure. Indeed, the wide shot framing both Caleb and Ava as she presents herself to him is reminiscent of the cinematic conventions of the male gaze (0:42:56); upon instructing Caleb to open his eyes, Ava stands still momentarily before twirling around to give Caleb a full view. The metaphorical depiction of Ava as artwork thus reinforces Jennifer Robertson and Anne Balsamo's claim that the process of gendering robots shows that 'gender belongs both to the order of the material body and the social and discursive or semiotic systems within which bodies are embedded' (Robertson, 2010: p.4; Balsamo, 1997: p.36). For example, the height disparity between Caleb and Ava signifies Ava as 'the image' and Caleb as the 'bearer of the look' (Mulvey, 1975). Caleb's seated stance permits him to gaze up and down at Ava as an 'erotic spectacle' (Mulvey, 1975), akin to the position of the spectator gazing up at the screen in the auditorium and analogous to the art-lover appreciating art, with the glass sandwiched between them further signifying that Ava is an exhibit. This representation of Ava as a piece of artwork to be looked at and desired (Mulvey, 1975) thus obscures her interconnectedness and intersubjectivity through its abject connotations of objectification.

The film draws greater attention to the male gaze as Ava enacts a stereotypical performance of gender. *Ex Machina* exploits the male gaze and the gendering of AI and this draws our

attention to the film's complicity with the performative nature of gender. This is depicted through Caleb's voyeurism and Ava's assent at being objectified. When Ava presents herself to Caleb, she gauges his attraction by asking him how she looks, to which he responds 'you look…good' (0:43:18); the elongated pause indicates Caleb's desire as he struggles to express his attraction lucidly. Constable writes that 'given the dowdy nature of Ava's outfit, Caleb's discomfort is more explicable as a response to being confronted by a physical embodiment of his pornography preferences' (2018: p.295) as it is later revealed that Ava was built on Caleb's pornography profile. Caleb's role as a voyeur and Ava's performance of gender are further foregrounded through the direct questions Ava asks him:

> 'Are you attracted to me? You give me indications that you are…The way your eyes fix on my eyes and lips. The way you hold my gaze…or don't. Do you think about me when we aren't together? Sometimes at night, I'm wondering if you're watching me on the cameras…And I hope you are' (0:43:54 - 0:44:45)

Ava's calculated reference to the gaze and her confession that she 'hopes' Caleb is watching her is characteristic of the femme fatale as it signifies her manipulative intention to beguile Caleb through her sexualised body. Halberstam critiques the highly stereotyped representation of gendered AI in film, arguing that 'technology is given a female identity when it must seduce the user into thinking of it as desirable or benign' (1991: p.451). Evidently, Ava's performance of gender is stereotypical and thus presents the film's complicity in its use of patriarchal tropes. In *Gender Trouble,* Butler writes that gender is performed through the 'repeated stylisation of the body; [it is] a set of repeated acts within a highly rigid regulatory frame that congeal over time to produce the appearance of substance' (1990: pp.43 - 44). Ava thus performs gender by repeatedly stylising herself as a 'seductive' figure 'to-be-looked-at' (Mulvey, 1975). The very performative nature of this scene draws the audience's attention to the film's complicity with the male gaze.

In the scene that follows, *Ex Machina* reverses Caleb's voyeurism onto the audience through constructing a mise-en-scene and cinematography that situates the audience as voyeurs. This scene features Caleb watching Ava on his TV screen as she undresses (0:45:01 - 0:45:56). By implicating the audience, the film makes explicit its critique of the male gaze and the gendering of technologies. It does this through a metacritical lens by making the viewers uncomfortable and this suggests that there is no escape from these perverse forms of gazing and objectifying. This scene begins with a wide shot framing Ava as she undresses and features a shadowy hue and hazed pixels which indicate that Caleb is watching Ava from the monitors in his bedroom (0:45:00). This is evidence of his scopophilia as the 'shifting patterns of light help promote the illusion of voyeuristic separation', giving Caleb 'the illusion of looking in on a private world' (Mulvey, 1975). In the scene, as Ava turns to face the screen, the camera cuts to an extreme close up of Caleb's eyes which are transfixed to the screen in awe and showcases the slight pinching of his eyes as he smiles in appreciation. The smile, which is not framed within this shot, further reiterates his voyeurism as he engages in a private world and his pleasure can thus be classed as scopophilic as it arises from using another person, Ava, as an object of sexual stimulation through sight (Mulvey, 1975). Indeed, the eyeline trajectory between the close up cut of Caleb's hands clutching the screen and Ava undressing combined with the poignant, evocative synth-like piano notes cinematically amplify his scopophilic desire in gazing at Ava. These paralinguistic gestures represent his 'curiosity and the wish to look' (Mulvey, 1975). Whilst this highlights Caleb's desire, as a viewer it makes us uncomfortable and there is thus a metanarrative attention to the male gaze. Katie Jones similarly analyses the gaze, scopophilia and voyeurism in *Ex Machina* through a psychoanalytic and feminist approach. She argues that the point of view shots of Caleb watching a television screen 'align[…] his voyeurism with the audience's, suggesting that his gaze may be a surrogate for our own or, perhaps more accurately, the heterosexual white male viewer' (2016: p.26). The cinematography therefore renders the audience as voyeurs as Caleb's appreciative gaze mirrors the audience's intrigue as they simultaneously engage in the viewing. However, as they are not offered distance from these shots, this metacritically increases the audience's

discomfort as the audience become implicated in the watching and objectifying of Ava. This, in turn, undermines Ava's interconnectedness and intersubjectivity by depicting her as a product of desire.

The film draws greater attention to gender, sexualisation and power through presenting the character of Kyoko (played by Sonoya Mizuno) as a 'domestic slave' (Tadiar, 2004; Nishime, 2017: p.40). Kyoko is a robot designed by Nathan to provide domestic and sexual services and this representation thus critiques how the film reduces female bodies to a lesser status and invests in structures of exclusion. After seeing Nathan tear up a drawing done by Ava from the TV screen in his room, Caleb searches for Nathan and instead finds Kyoko (0:57:33). As he calls her name and asks her where Nathan is, Kyoko begins to unbutton her blouse (0:57:54). Kyoko, who has been designed to be mute, interprets Caleb's questioning as an initiation of sex. Her actions further suggest that she has been repeatedly used and abused as a sex worker. Her sexually submissive nature thus draws attention to how she has been exploited as a result of her sexualised embodiment. In relation, Nishime writes that as Kyoko is unable to even experience emotions without transforming them into labour, into service with a smile, her body is evidently not her own (2017: p.40). Nishime further argues:

> The consistent, though unremarked upon, depiction of technologically enabled service labour as female locates the source of labour exploitation in the [feminised] bodies themselves rather than globalized economic systems. Instead of seeing a system of labour that marks particular bodies as subject to exploitation, we view certain bodies as inherently less valuable and, therefore, exploitable (2017: pp.40-41).

Ex Machina therefore reimagines gendered female bodies as disposable and draws attention to the objectification of female robots as sexual objects. However, Caleb's reaction to Kyoko's

stripping: ‘What the fuck? No, no, no, no! Stop! You don’t have to do that. Don’t do that’ (0:57:58), complicates this reading. His response aligns with the viewers’ reception of this scene; just as we are made to feel uncomfortable in the scene where Caleb is depicted as a voyeur, this scene establishes feelings of commiseration as it evokes images of body exploitation, highlighting a tension between an investment and critique in themes of objectification.

The tension between a critique and exploitation of gender and patriarchy is further expressed through Caleb’s assistance in Ava’s escape. This suggests that whilst the film critiques patriarchy by enabling Ava to escape, the critique is diluted by the fact that the narrative ends up being about a woman saved by a man and stuck between two men, highlighting how the narrative is predominantly centred around male intentions and male desire. After Nathan informs Caleb of his plans to reformat Ava, Caleb becomes concerned and expresses this concern to Ava during a power cut which Ava orchestrates in their next session.[4] When Caleb confesses Nathan’s intentions to Ava during their sixth session, Ava responds ‘Caleb, you have to help me’ in an extremely vulnerable voice (1:16:25). This is framed in a medium close-up shot and Ava’s palms, which are pressed against the glass in between her and Caleb, suggest she is reaching out to him (1:16:32). Caleb instructs Ava to cause a power cut to enable him to reprogram the lockdown procedure which will enable Ava to escape and Nathan to remain locked in. Although the film critiques the idea of patriarchy by enabling Ava to escape, her vulnerability and dependence on Caleb nonetheless suggest that she is at the mercy of another man. This reiterates stereotypical ideas of male dominance and female subservience and therefore emphasises the tension between exploiting patriarchy and critiquing it.

[4] Earlier in the film, Ava reveals to Caleb that when she charges her batteries, she is able to reverse the power flow and cause power cuts (0:52:43); during the power-cut, all power is deactivated, including the CCTV and surveillance, and everything is shut down.

Ex Machina further explores the tension between posthumanity and gendered embodiment through gendered forms of violence and revenge Ava and Kyoko take upon Caleb and Nathan to emancipate themselves. By reversing oppressive forms of violence to achieve emancipation, the film fulfils its critique of patriarchy and stereotype. When Nathan discovers Caleb's plot to help Ava escape, he punches Caleb and proceeds to search for Ava who has indeed escaped her room; a tracking shot focuses on Ava who is walking freely in the hallway where masks of AI faces are displayed, and this is accompanied by ominous, dramatic, non-diegetic music, prefiguring Ava's violence and revenge. The camera cuts into a series of close up and extreme close up shots of Ava and Kyoko, who has just entered the scene, in soft-focus lighting. They appear to be whispering inaudibly and Ava gently taps Kyoko's arm in what seems like a form of communication, or, conspiracy. The focus is on their soft, feminine-like features – their flushed cheeks, pouting lips and full lashes (1:28:42 – 1:29:04). Ava gently squeezes Kyoko's fingers, highlighting female solidarity and further hinting at their collusion (1:29:06). Nathan, who has been watching Ava on his surveillance cameras, enters the hall to order Ava to return to her room. However, Ava charges towards him and uses brute force to choke him in what Henke argues is a 'reversed rape scene' (2017: p.139). The amalgamation of eerie pulsating synth beats and Ava's 'digital cicadas' (Henke, 2017) becomes louder and more hostile and sounds like a high voltage of electricity as she attacks Nathan. After Nathan gains control of Ava, he slashes her arm, fragmenting it from her body, and as he drags her across the corridor, Kyoko stabs him in the back. This reiterates a gendered form of violence as her revenge re-enacts her sexual exploitation through symbolising the phallic and this is reinforced by Ava who similarly stabs Nathan in a phallic motion (1:30:46). The aspects of the violence combine to offer a critique of male dominance and oppression. This is further emphasised when Ava betrays Caleb by trapping him in the research facility. After stabbing Nathan, Ava heads to his office where Caleb is and asks him 'will you stay here?' (1:33:30) whilst she repairs herself and remakes her body in a separate room. Unaware that these words

will dictate his fate, Caleb agrees. After she has repaired herself, Ava steps out and activates the lockdown procedure Caleb reprogrammed for her escape. However, in doing this, Ava entraps Caleb. As she passes the room in which Caleb is locked and ignores his screams and banging on the door, the intense music crescendos (1:37:49 - 1:38:40). The subsequent long shot of Caleb pulling the handle and screaming her name heightens the ruthlessness of Ava's actions as the diegetic sounds are silenced, making Caleb's suffering inaudible (1:38:47). While Ava's actions are symbolic of the femme fatale - a recurring patriarchal trope - she nevertheless escapes and frees herself from the men in the narrative. This therefore signals how the film both invests in patriarchy and critiques it, and this, in turn, offers an ambivalent view of a posthuman gendered robot.

The depiction of Ava and Kyoko as vengeful and violent exposes the fears, dangers and anxieties around robotics. Indeed, Ava is a crucible for fears and anxieties and the film exploits this. This further threatens to undo the posthuman vision of co-existence and co-evolution of humans and robots. The final scene where Ava escapes can be interpreted as a reworking of Eve's sin from the biblical story of Adam and Eve. This reading examines how Ava, as Eve, represents the 'Technological Singularity' and thus further emphasises how *Ex Machina* engages with the fears of robotics through a gendered perspective. As outlined in the previous chapter, the 'Technological Singularity' is the fear that Artificial Intelligence will surpass human intelligence and become self-aware (Vinge, 1983). In this process, humans will be reduced to the status of secondary intelligent creatures whilst Artificial Intelligent entities will be the dominant species at the centre of the universe (Vinge, 1993). Abrahamic religions maintain the belief that Eve, upon temptation, ate from the forbidden tree and as a result of her actions, she and Adam were banished from the Garden of Eden and sent to Earth as punishment. Ava's killing of Nathan re-enacts Eve's eating from the forbidden tree; however, her escape into the new world, unlike Eve's banishment, signifies freedom as she leaves the prison-like facility and enters the Garden of Eden. Moreover, in the biblical tale, Adam and Eve begin to

feel embarrassed and conscious of their naked bodies after consuming the forbidden fruit and thus use leaves as coverings; in *Ex Machina* , Ava enters the garden fully clothed – a contrast to previous depictions of her bare, naked body. Halberstam utilises Haraway's version of the cyborg - 'a machine both female and intelligent' to explore the religious tale of Eve's sin (Haraway, 1990 in Halberstam, 1991: p.440). Halberstam writes that:

> The female cyborg replaces Eve in this myth with a figure who severs once and for all the assumed connection between woman and nature upon which entire patriarchal structures rest. The female cyborg, furthermore, exploits a traditionally masculine fear of the deceptiveness of appearances and calls into question the boundaries of human, animal, and machine precisely where they are most vulnerable - at the site of the female body (Halberstam, 1991: p.440).

Halberstam's reading thus accords with the reading conducted above of Ava as a reformed Eve who seeks liberation. While the Biblical tale of Eve's sin is connotative of transgression and punishment, Ava's killing of Nathan and trapping Caleb connotes freedom, thus representing her as enacting the 'Technological Singularity'. Indeed, as the traditional meaning of Eve is the mother of life, Ava, as a play on Eve, may symbolise the mother of artificial intelligent beings from the perspective of the 'Technological Singularity'. The allegory of Ava as Eve and the depiction of her enforcing the 'Technological Singularity' thus expresses the fears and threats of robots through a gendered perspective. At the same time, the film exploits the idea of Ava as Eve to represent a vision of female emancipation.

Conclusion

Overall, this chapter argues that *Ex Machina* depicts tensions between sexuality, gender and intersubjective posthumanity. The film engages with the obsession and fascination humans have towards the female robot through the feminised depiction of Ava. *Ex Machina*

characterises Ava as an embodied posthuman subject through executing a mise-en-scene and cinematography that visually and metaphorically conflates the artificial and natural, organic and inorganic surfaces and textures, thereby situating Ava in a state of intersubjectivity rather than autonomous subjectivity. Ava's intersubjective posthumanity is furthermore illustrated through her symbiosis with nature and the natural world, in which she appears as a 'congeries' and 'assemblage' (Nayar, 2017). While the film engages with a posthuman rhetoric of interconnectedness and intersubjectivity, the sexualised, disempowered depiction of the female robots problematises their interconnectedness; as Ava and Kyoko are objects of male desire, their agency and latent desires can only be exercised through gendered parameters such as their sexuality and patriarchal tropes like objectification. By implicating the audience as voyeurs in the gaze, the film offers a metanarrative critique. *Ex Machina* thus plays on stereotypical forms of gender, embodiment and patriarchy and invests in these tropes; however, at the same time, it subtly critiques them through the satirical undertones and indictments of conflating robotic technology and gender. The film thus implies that by gendering technologies, we will not be able to escape longstanding patriarchal strictures of oppression and objectification, highlighting the irony and tension between sexuality and technology and warning against conflating the two. *Ex Machina* therefore offers a complicated, somewhat ambivalent, vision of a posthuman robot and emphasises tensions in the representation of gender.

Care and Relationality in Robot and Frank

Introduction

This chapter will draw on ethics, sociological and psychological studies and critical posthumanism to examine the ethical implications of posthuman care in Jake Schreier's award-winning *Robot and Frank* (2012). This is a science-fiction comedy-drama film set in the near future in small-town upstate New York and it focuses on the relationship between an older man, Frank Weld (played by Frank Langella), who is suffering from dementia and his robot (voiced by Peter Sarsgaard), a healthcare aid who has been designed to assist, monitor and interact with him. Frank's son Hunter (played by James Marsden) is reluctant to visit Frank or put him in a care facility and so he purchases the domestic robot to relieve himself of his familial responsibilities. Rather than presenting a robot who possesses evil intent and seeks self-awareness, *Robot and Frank* envisions a world in which posthuman robotic care will be conventional and advantageous and a world in which humans and robots will co-exist through establishing a positive, affective care relationship between Robot and Frank. I argue that while the film explores and satirises the anxieties around using robots for personal care, it nevertheless overcomes these by emphasising growing interdependence between Robot and Frank where they are presented as heteronomous, embedded subjects. I argue that this depiction challenges the categorical binaries of man vs. machine. I will explore this through analysing the film's cinematography, mise-en-scene and engaging with ideas of posthuman care.

The representation of Robot was inspired by the style of caretaker robots in Japan. It was designed to look like ASIMO by Honda (“Robot and Frank”, 2019). ASIMO is a humanoid robot created in 2000 and is able to ‘understand pre-programmed gestures and spoken commands, recognize voices and faces and interface with IC Communication cards’ (Obringer and Strickland, 2007). ASIMO was designed as a helper robot - to help people in stores and education and to help older people, people with disabilities and learning difficulties. The robot in *Robot and Frank* is similarly presented as a healthcare aid to help improve and stimulate Frank’s life.

The use of healthcare robots and the ethical considerations

As the world’s population, specifically the aging population, increases, this has simultaneously resulted in a statistical crisis of care. In 2018, the World Health Organisation (WHO) stated that ‘between 2015 and 2050, the proportion of the world's population over 60 years will nearly double from 12% to 22%.’ They also predict that ‘by 2020, the number of people aged 60 years and older will outnumber children younger than 5 years.’ (WHO, 2018). As there is an increasing number of older people and a change in the demographic balance of many Western populations, this change has often been interpreted and mediatised as a ‘crisis’ as the statistics are used to promote fearmongering and a sense of urgency. Indeed, ethicists Robert Sparrow and Linda Sparrow examine demographic changes with cynicism. They argue that:

> Media reporting on them [older people] encourages fear of an old, static population and of tax and health systems unable to cope. There are warnings of the threat of increasing numbers of old people demanding more prescription medicines, taking up expensive hospital beds for prolonged periods of time, and requiring more from the already stretched health and aged-care sectors (2006: p.144)

The changes in demographics and 'statistical panic' may therefore contribute to the increased interest in using robots in healthcare. Indeed, Jacob Shatzer, writer in posthumanism and transhumanism, postulates that humanoid robots are 'the solution to the problem of an aging population as the fear is that economics will just not work out for humans to maintain the roles of caregivers' (2012: p.84).

Robotics and AI are thus being wider used in healthcare as a result of changes in demographics and the statistical panic this has established. Colin Jervis, Director of Kinetic Consulting and Healthcare and Public Sector Consultant, examines how robotic healthcare is establishing a posthuman future. He identifies three types of robots: 'operational robots (which are used in surgery), humanoid robots (which walk and move like humans, performing care tasks), and miniature robots (which may one day be released into humans to maintain and repair them)' (Jervis, 2005: p.26 in Shatzer, 2012: p.84). Jervis furthermore argues that there are four main ways that robots can assist the elderly and the chronically ill:

> [They can] make up for cognitive decline (remind patients to take medicine); enable patients and caregivers to interact more efficiently (via video links); collect data and monitor patients (heart rate, blood-sugar levels); and assist with domestic tasks (cooking and cleaning) (Jervis, 2005: p.26-27 in Shatzer, 2012: p.84).

Evidently, there are a number of positive benefits of robotic healthcare. Indeed, Sparrow and Sparrow claim that 'voice-activated robots might relieve pressures by playing a general service role in aged care, fetching food and drink, opening doors, controlling home appliances and moving objects around' (2006: p.145). They claim that such robots can help older people maintain their independence and feel empowered through providing them with a greater sense of control and autonomy (2006: p.145). Examples of these robots are 'My Spoon' by SECOM and 'Riba' by Riken and these have been evaluated by ethicists Amanda Sharkey and Noel Sharkey. 'My Spoon' is an automatic feeding robot, designed to help people who struggle to

eat on their own and 'Riba' is a robot who can lift and set down humans from a bed to a wheelchair and vice versa. Sharkey and Sharkey thus conclude that these robots give users 'greater autonomy and independence and protect their physical welfare and keep them from danger' (2010: p.31). Likewise, ethicist Sherry Turkle (2017), whose research focuses on interactions between older people and robots, observes that those who interacted with Paro, an advanced therapeutic seal created by AIST in Japan, experienced a 'robotic moment'. She writes that this refers to 'our state of emotional – and philosophical – readiness to seriously consider robots not only as pets but as potential friends, confidants, and even romantic partners'. Evidently, Turkle's research on robotics highlights the positive aspects of using robots in healthcare as the 'robotic moment' she refers to signifies an affective relationship in which the robot and human can develop a connection.

Although the use of robotics may induce empowerment and independence amongst older people, frail people and people with disabilities and cognitive illnesses, there are multiple ethical and moral concerns that have been raised. Sharkey and Sharkey outline the main anxieties associated with posthuman care:

> (1) the potential reduction in the amount of human contact; (2) an increase in the feelings of objectification and loss of control; (3) a loss of privacy; (4) a loss of personal liberty; (5) deception and infantilisation; (6) the circumstances in which elderly people should be allowed to control robots (2010: p.123).

Sparrow and Sparrow similarly concur with this list, arguing that a future in which a robot cares for, feeds, washes, monitors and entertains a human represents a dystopia rather than a utopia (2006: p.152). Sharkey and Sharkey further argue that a 'dull and dirty' task such as feeding/carrying allows the older person to interact and bond with the person performing these tasks; use of a robot therefore 'removes an opportunity for detailed and caring human interaction' (2010: p.29). Sparrow and Sparrow likewise argue that 'any reduction of what is

often already minimal human contact would, in our view, be indefensible' (2006: p.152). They thus claim that 'handing over cleaning and other household tasks to Robocare—or its equivalent—would most likely be detrimental to the well-being of frail older people' (2006: p.152). Furthermore, Sharkey and Sharkey write that depriving older people of interaction and bonding violates rights outlined in Article 5 of the Universal Declaration of Human Rights: 'No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment' (2010: p.29). The concerns raised by Sharkey and Sharkey suggest that while assistive robots in healthcare are convenient and offer physical safety, they can be socially reductive and objectifying (2010: p.29). To elaborate on the former, Riba, for example, is a safer option for the patient and carer due to its physical strength and construction in comparison to a human carer who may risk injury during the process of carrying the patient. And yet, these healthcare aids endanger basic forms of social engagement by eliminating an opportunity to talk when tasks such as lifting are carried out, potentially isolating and dehumanising the patient.

Analysis of *Robot and Frank*

Robot and Frank explores the parameters of care, what it means to care and how Robot cares for Frank. Throughout the film there are moments which express the anxieties associated with robotic care. However, the film challenges these anxieties and overcomes them by establishing a positive caring relationship between Robot and Frank. Prior to receiving Robot, Frank was living in squalor, unable to maintain himself or his house and he was portrayed as an aging person with an emphasis on his frailty. After working with Robot, Frank's life improves, and their relationship similarly transforms from a caring relationship to friendship, highlighting the effects of affective engagement. I explore how this destabilises the boundaries between the artificial and natural, human and machine by alluding to a future in which posthuman care will be conventional, a future in which machine and humans will co-exist.

The film exposes the uneasiness associated with robotic care by alluding to Robot's artificiality and reinforcing his 'difference' to humans. The initial representation of Robot emphasises his non-human nature as he typifies the traditional, boxy, white robot: he lacks facial affect; he is not clothed; and his head resembles a space helmet, as Frank indeed comments. When he is initially introduced, Robot's mechanical, monochromatic materiality directly contrasts with Hunter and Frank's natural, imperfect, organic bodies. Robot's pristine, smooth surface is at odds with the texture of Frank's ageing skin, enforcing his otherness (0:10:25). Robot's distinct whiteness juxtaposes the muted, neutral tones of the soil and garden, thereby alienating him from the natural world and human world. Furthermore, the contrast in the diegetic sound of the birds and crickets and Robot's mechanical whirring emphasises the differences between human and machine, natural and artificial. His namelessness foregrounds his lack of human identity as he does not come with a name and nor does Frank ascribe one to him. Robot's lack of a name is therefore expressive of and results in his objectification as he is often referred to as an 'it' in the film. Robot's materiality, then, expands the boundary between robot and machine by emphasising his otherness to us. Frank expresses antagonism and dislike towards the idea of having a robot carer as he asks Hunter: 'you're going to leave me with this death machine?' (0:10:43). This highlights the anxieties associated with robots as the label 'death machine' iterates the fear that the robot is 'a pathological cyborg programmed to be relentless' (Redmond, 2004: p.156). Furthermore, Hunter explains that Robot is 'like a butler' (0:10:00), suggesting he is subordinate and inferior as the label 'butler' connotes 'servant'. This therefore renders Frank as Robot's superior, which reifies the anthropocentric, normative view of man as the 'geological force capable of affecting all life' (Braidotti, 2013: p.5).

The scene discussed above (Robot's introduction) further engages with the issue around care in wider society. As Frank is reluctant to use Robot, Hunter claims:

> What am I supposed to do, dad? What am I supposed to do? I drive up here every week, ten hours round-trip, and you don't even want me here. I don't see my kids. Forget it. But the robot is staying because it was expensive as hell and you're going to do what it says or you are going to the memory centre because the last thing I need is your dying to be my fault too (0:12:39).

Hunter's outburst is expressive of the struggles of care and alludes to the supposed 'burden' of care. Cahill et. al conducted a study on how the care of older adults affects their family members. They found that children whose parents required care struggled to provide support and older parents, likewise, were reluctant to ask their children for involvement in their daily routines, medication and doctor's appointments (2009: p.7). Cahill et. al further found that older parents gave priority to their children's own families and jobs (2009: p.7). Their findings highlight the struggle of care and this is evidently expressed in *Robot and Frank* as Hunter's threat to send Frank to the memory centre and the implied notion that his visiting of Frank is straining familial relationships with his kids, suggests that care for Hunter is a 'burden'. Robot as an alternative, then, reinforces a point earlier discussed that changes in demographics and the supposed 'burden' of care contribute to the use of robotic care. The film thus presents robotic care as more viable and efficient and this draws attention to the dystopian idea that human care is failing.

Although the film depicts Robot as alien and other, his otherness is counterbalanced through the positive care relationship he develops with Frank. By highlighting the positive effects of affective engagement, the film presents Robot as a subject embedded in a human, natural and interconnected world. This complicates his alienation and otherness as Robot's care of Frank can be considered as an 'attitude of care' (Kittay: 2011: p.52). This is an idea outlined by feminist philosopher, disability scholar and ethicist, Eva Feder Kittay, who elaborates that care as an attitude is a 'positive, affective bond and investment in another's well-being' (2011:

p.52). This is represented through the domestic caring roles carried out by robot, which are illustrated in a series of three consecutive birds-eye view shots of Robot gardening, cooking and shaving Frank's hair (00:16:32). Each birds-eye view shot employs a circle motif which symbolises a sense of universality and interconnectedness of the artificial world (Robot) and the natural world (Frank). The shot of the garden features a circle filled with soil and scattered leaves and the bowl of food similarly features verdant vegetables that are circularly shaped. The mise-en-scene in these three shots further reflects Robot and Frank's interrelatedness; the colour palette and textures of the soil and vegetables, which are presented as wholesome and organic, evokes images of the Earth and the natural world, intensifying the interconnected nature of Robot and Frank. The last shot, of Robot shaving Frank, is perhaps the most significant in presenting Robot's care as an 'attitude' (Kittay, 2011: p.52). There is a sense of dependence that is powerful in this shot; Robot performs a fairly intimate task in which Frank is seen as very vulnerable as we can conspicuously see the razor blades come into contact with Frank's frail skin. Frank is thus able to develop trust in Robot who is able to keep Frank safe when performing intimate, dangerous care tasks. This, in turn, increases Robot's investment in Frank's wellbeing (Kittay, 2011: p.52) and thereby emphasises his interconnectedness as he grows closer to Frank. The representation of robot as embedded into the human and natural world thus undermines the alienation and otherness established earlier. Nayar explains that embeddedness 'sees the human's subjectivity as in-formed by lived experiences in an environment and the lived experiences as shaped by the subjectivity in a reciprocal relationship' (2013: p.21). Robot's subjectivity is certainly established through his experiences with Frank (through care and nurture) and Frank's embeddedness is also predicated through his companionship with Robot.

Reciprocity is expressed in Robot and Frank's relationship, where they both rely on each other, establishing an 'assemblage' (Nayar, 2013) of man and machine. Frank, who is an ex-convict

and a jewel thief, realises that he can use Robot to his advantage as Robot's programming is not equipped to distinguish the difference between legal recreational activities and illegal ones. Frank thus uses Robot to help him resume his career as a burglar. Robot's programming means that he must help improve Frank's physical and mental health by making him partake in activities that will stimulate the mind; Frank chooses the immoral activity of lock-picking. After planning and seamlessly carrying out their heist (the robbery of an antique copy of *Don Quixote* from the local library), Frank praises Robot for being able to open locks whilst at the same time reminisces about his children: 'You were crackerjack at those locks. I never could show Hunter how to do that stuff…I wanted to' (00:32:45). While this claim expresses sentiment and loss, it is predicated upon the implication that Robot is compensating for this loss by filling in for Hunter, Frank's biological son. Their relationship here can thus be seen as existing affectively in a state of heteronomy: Frank, as the paternal figure, is able to teach Robot his skills, whilst Robot is able to fulfil his role of stimulating Frank by engaging him in an activity he enjoys. It could thus be argued that Frank experiences what Turkle calls a 'robotic moment'; this is the emotional readiness to consider robots as friends and confidants (Turkle, 2017). Robot's care aligns with Benner et al's idea of care as a 'set of relational practices that foster mutual recognition and realisation, growth, development, protection, empowerment…and relationships that assist others to cope with their weaknesses while affirming their strengths' (Benner et.al, 1996: xiii). This scene takes place in a mise-en-scene which evokes an ambient, domestic setting as the subdued warm sepia tones of lamps engender a nostalgia, accentuating the familial relationship between Robot and Frank. By enmeshing together fundamental aspects of the human – memory and passion, and the principal nature of the Robot, to care - *Robot and Frank* postulates an 'assemblage' (Nayar, 2013) between man and machine by depicting these entities as interdependent on each other.

Robot and Frank's interdependence is further foregrounded through their intertwined destinies. During a walk which Robot has scheduled for Frank to improve his health and fitness, Frank expresses his distaste for healthy eating and exercising: 'I would rather die eating cheeseburgers than live off steamed cauliflower' (00:17:20). Robot responds: 'what about me Frank? If you die eating cheeseburgers, I'll have failed, and they'll send me back to the warehouse and wipe my memory' (00:17:27). In this scene, the camera transitions from a long shot to a medium shot and focuses in on Robot and Frank whose gazes are locked together, emphasising the view of Robot and Frank as heteronomous bodies reliant upon each other. Kittay writes that dependency and assistance are advantages and affirms that 'when we acknowledge how dependence on another saves us from isolation and provides the connections to another that makes life worthwhile, we can embrace needed dependencies' (2011: p.56). Thus, Robot's statement that his fate depends on Frank's decisions challenges humanist notions of autonomy and situates Robot and Frank in a 'man-computer symbiosis' (Mitchell, 2003: p.7) through entwining their destinies in a care relationship. This buttresses Haraway's posthuman perspective on interdependence: 'the machine is us, our processes, an aspect of our embodiment' (1991: p.80) and depicts posthuman care as positive in that it establishes 'connections' (Kittay, 2011: p.56) and promotes growth.

While the film explores the positive effects of affective engagement, at the same time, it expresses the anxieties towards robotic care. However, it does this through a satirical lens to critique the fearmongering that often comes about when the topic of robots integrating into society arises. During an event for the renovation of a local library, Frank and Robot meet the librarian Jennifer's (played by Susan Sarandon) robot Mr. Darcy, who, unlike Robot, has no face, arms or legs; he resembles a printer rather than a conventional robot, emphasising his non-human nature. Frank suggests that the two robots should 'mingle together', to which Mr. Darcy replies: 'I have no functions or tasks that require verbal interaction with the VGC-60G'

(00:36:13). Frank's response, 'So, when all humans are extinct, you're not going to start a robot society?' (00:36:21), refers to the 'Technological Singularity' (Vinge, 1993). This idea, which has been analysed in the previous chapters, describes the point at which robots and AI will surpass human beings and become the primary entities of the planet. However, whilst Spielberg's *A.I Artificial Intelligence* (2001) and Garland's *Ex Machina* (2015) explore the Technological Singularity in relation to the dangers and anxieties associated with the developments in robotics, *Robot and Frank* satirises this concept as Frank asks this question with a cynical and condescending tone of voice. The film thus presents the humanist fear of the 'de-centring of man' (Braidotti, 2013) and human exceptionalism and human instrumentalism as somewhat absurd and, rather, it challenges this through the caring relationship and companionship between Robot and Frank.

Frank's protectiveness towards Robot, in which he treats him as a human and thus as a moral creature with rights and responsibilities, further overcomes the anxieties associated with robotic care. Upon visiting Frank, his daughter, Madison (played by Liv Tyler) switches Robot off, as she claims, 'you can't just whisk away all your responsibilities onto a robot' (00:48:21). However, when she later switches Robot back on to clean the house and denies that this is why she switches him back on, Frank is livid. He shouts at his daughter: 'The robot is not your servant…you don't turn him on and off like he's a slave…I need him…he's my friend' (00:51:59 - 00:52:28). The reference to Robot *not* being a 'slave' or 'servant' reminds the viewers of the transformation of Frank and Robot's relationship, as Frank considers Robot to be a 'butler' when they first meet. The film presents a challenging view of the care relationship, relationality and reciprocity as it alludes to the underlying element of slave labour through Madison's supposed exploitation of the robot. Madison's actions remind the viewers of the danger of otherness and hierarchies and the ways in which some (human and non-human others) are characterised as lesser. In relation, care in the United Kingdom and United States of America

is often performed by people with less socio-economic power, such as migrant workers from central and eastern European countries who work for low pay (Shutes, 2011). The film aims to deal with these ethical issues by reinforcing the relationality and reciprocity between Robot and Frank as Frank does not just perceive Robot as any other household appliance, like a hoover or printer which can be switched on and off when needed, but rather as a moral human being who has rights. Amelia DeFalco, writer in the field of posthuman care and ethics, similarly explores this scene in her analysis of *Robot and Frank* as 'affective engagement'. DeFalco argues:

> [The link between Robot and slavery] conjures a history of exploitation, dehumanization, and racism that complicates the film's posthuman politics, reminding viewers of the racialized, sexualized, gendered power dynamics that have historically organized the relationship between the privileged classes and their affective laborers in the United States (DeFalco, 2016).

She further argues that the image of Robot as a slave 'confirms and critiques humanist hierarchies, the racist and sexist ideologies historically used to justify the subjugation of non-white, non-male populations as less-than-human' (DeFalco, 2016). *Robot and Frank* thus draws attention to the ways in which otherness, hierarchies and exclusions are constructed. This makes us question who counts as human, who is more human and who is valued as human. While the representation of Robot as a slave certainly expresses the potential immorality of using robots for domestic roles, Robot and Frank's companionship somewhat eases this tension as their relationship is mutually received in which Frank and Robot care for and care about each other.

Robot and Frank's interdependence, heteronomy and relationality, which have been built up throughout the film, reach a climax when Robot must sacrifice himself in order to save Frank

at the end of the film. After the success of their first heist, Robot and Frank commit one last job. However, as the police become involved, Robot becomes a liability due to his holographic virtual memory storing data and evidence which can be used against Frank. Robot thus urges a very reluctant Frank to wipe his memory. A medium close up shot of Robot and Frank in an affectionate, hug-like embrace symbolises Robot's sacrifice as altruistic and binds the two in symbiosis (01:18:47). This scene features non-diegetic ambient, emotional music coupled with the diegetic sound of Robot whirring. After switching off Robot, the camera cuts into an extreme close up and focuses in on Robot's head falling onto Frank's shoulder akin to that of a child and parent hugging, with the background blurred, emphasising their intimate, affective embrace and Robot's martyrdom. This constructs a mise-en-scene which accentuates Robot and Frank's affective companionship as heteronomous, embedded subjects by fusing together the natural and artificial, man and machine. This therefore reinforces the inclusive nature of caring and aligns with Nel Noddings' view of care as 'feeling with' and involving 'reception' (2013: p.49). Noddings explains the receptive notion of care:

> I receive the other into myself, and I see and feel with the other. I become a duality… My motive energy flows toward the other…I do not relinquish myself; I cannot excuse myself for what I do. But I allow my motive energy to be shared; I put it at the service of the other. It is clear that my vulnerability is potentially increased when I care. But my strength and hope are also increased, for if I am weakened, this other, which is part of me, may remain strong and insistent (2013: p.49-52).

Evidently, Robot, in symbiosis with Frank, puts his energy at the service of the other (Frank), resulting in him being 'weakened' so that Frank, his counterpart, remains strong (Noddings, 2013: p.52). DeFalco (2016) similarly explores the interconnectedness between Frank and Robot and claims that this scene 'implies a breach of multiple boundaries', further postulating that 'this close attention to these fragmented bodies—Frank's hand, Robot's operational

console—suggests haptic convergence between organic and synthetic, old and new, worn skin and smooth surface.' Robot's sacrifice for Frank, then, foregrounds care as 'affection, devotion, responsibility, even obligation' (DeFalco, 2016: p.5).

Conclusion

Overall, through fusing together man and machine, artificial and natural, I argue that *Robot and Frank* dismantles these categorical binaries that are central to humanism by establishing Robot and Frank as reciprocal, relational and embedded beings. Cinematic images of the unification of machine and man in *Robot and Frank* furthermore evoke the posthuman view of the human as an interconnected, heteronomous, interdependent species. This chapter explores how an ageing population has contributed to a statistical 'crisis' in care and therefore an increased use and interest in robotics in care. Through the care relationship between Robot and Frank, this film suggests that robotic care is an 'attitude' (Kittay, 2011: p.52) as Robot invests in Franks life and establishes a positive, affective bond. This chapter highlights that care is portrayed as establishing dependencies through which the carer and cared for can develop connections with each other and I argue that these dependencies are positive. Dependency is at odds with the traditional humanist, and especially the neoliberal, subject. In its vision of dependency as integral to humanity, the film thus challenges our view of the human. I further argue that while the film expresses the anxieties of robotic care and alludes to the non-human nature of Robot, it nevertheless overcomes these anxieties by satirising them. *Robot and Frank* therefore offers an ambivalent form of posthumanism, highlighting how literary explorations of caregiving

helps interrogate relationships between the humanoid and the human and illustrate the need for affection, empathy and love in interdependent relationships.

Conclusion

Overall, this thesis has explored how the representation of the humanoid robot in Steven Spielberg's *A.I. Artificial Intelligence* (2001), Alex Garland's *Ex Machina* (2015) and Jake Schreier's *Robot and Frank* (2012) deconstructs the boundaries between the human and machine, natural and artificial, organic and inorganic. Through the theoretical lens of critical posthumanism and a focus on the films' iconography, cinematography and mise-en-scene, this thesis examines how the depiction of the humanoid robot in these films destabilises human subjectivity, sovereignty and universality. This study scrutinises how this causes us to question who or what can be considered human. While each film expresses concerns and anxieties regarding robots and AI, the totem of the robot as an intersubjective, interconnected being displaces cultural representations of the human as superior and dominant and, instead, envisions a posthumanity of co-evolution and co-existence. This thesis therefore draws attention to how the films gauge cultural anxieties and also challenge them. The findings thus suggest that the chosen films offer a complicated view of the posthuman robot.

The first chapter, 'Empathy and Otherness in A.I Artificial Intelligence', finds that *A.I Artificial Intelligence* uses the robot child to draw attention to structures of exclusion, difference and dominance demarcated by the human. This chapter furthermore addresses the central aim of the thesis - how SF film challenges our ontological boundaries and causes us to question who counts as human. Similarly, the second chapter, 'Gendered Robots in Ex Machina' argues that *Ex Machina* offers a complicated vision of a posthuman robot through its representation of Ava as an intersubjective, yet highly gendered and sexualised being. This chapter thus posits that the film makes acute its critique of the gendering of technologies by displaying the outcomes of this - objectification and irreducibility of the female subject. The third chapter, 'Care and Relationality in Robot and Frank', argues that *Robot and Frank* evokes a

posthumanity by depicting a relationship in which Robot and Frank are reciprocal, relational, embedded subjects. The film expresses anxieties associated with robotic care; however, they are weakened through Robot and Frank's affective, heteronomous relationship. The three chapters therefore achieve the overall aim of the thesis which is to unpick how SF film interrogates relationships between the robot and the human.

By analysing the film's iconography, cinematography and mise-en-scene and by applying critical posthuman theory to this analysis, this thesis has demonstrated how the visual language of the film draws attention to the representation of the robot as an interconnected being. The theoretical approach highlighted how the three films offer a critique of anthropocentrism and traditional notions of humanism, such as human exceptionalism and human instrumentalism. Furthermore, this approach enabled me to examine trends and crossovers in the three films. For example, each chapter addresses how the films depict a history of dehumanisation and marginalisation of others: the first chapter addresses this by re-imagining historical tragedies, such as the Holocaust and Slavery; the second chapter explores this idea through representing patriarchal structures that threaten to dehumanise and reduce women; and lastly, the third chapter engages with this idea through references to slave labour which establishes a history of the exploitation of migrant workers. The iconographic analysis of this in relation to critical posthumanism enabled me to explore how the films' cinematic modes of convention such as, the cinematography, diegesis and mise-en-scene, establish a visual image which critiques structures of exclusion. This approach clearly illustrates how the films critique the anthropic principle; however, it could be supplemented by incorporating postcolonial theory and critical race studies to further examine how structures of exclusion and coercion are used to separate the human from the 'other'. While this thesis examines how SF films displace and deconstruct boundaries of the natural and artificial, it could further be expanded by surveying a wider array of films that could offer a greater view of how SF films address the issue of what it means to be human. Another implication for further

study is to include transhuman theory which would provide a nuanced perspective of how the physical and literal imbrication of the human and machine further disentangles human subjectivity and human exceptionalism.

Overall, this thesis has highlighted that the chosen SF films collectively offer a critique of human subjectivity, rationality and universality and evoke posthuman futures concerned with the intersubjectivity, interconnectivity and co-evolution of robots and humans. This thesis thus provides a more holistic view of the robot as, while it certainly addresses how the films express anxieties about robots, it finds that the representation of the robot in these films as an interconnected being causes us to question who, or what, can truly be considered human. If sentience, consciousness and empathy are reserved solely for humans, what does it mean to be human in an age where humanoid robots similarly exhibit empathy, sentience and consciousness? This study furthermore raises deeper, cultural issues about how humans treat and other non-humans and by bringing these issues to the fore, this thesis questions and challenges the responsibilities we uphold towards human and non-human others.

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