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Female Cyborgs, Gender Performance, and Utopian Gaze in Alex Garland's *Ex Machina*

Abstract
The cyborg as a metaphor for cultural encodings of the interaction between humans and technology has been an accepted trope since the publication of Donna Haraway's "Cyborg Manifesto." Alex Garland's 2015 film *Ex Machina* shares many of its key themes and motifs with earlier science fiction films, from Fritz Lang's *Metropolis* to Ridley Scott's *Blade Runner*. A first viewing of the film thus suggests an interpretation that focuses on the film's portrayal of its female cyborgs Ava and Kyoko as another version of the "pleasure model" in the mode of Lang's Maria or Scott's Pris. However, it is the tension between Ava's intelligence and visual attractiveness and her performance of a female gender identity that invites a closer investigation of the film's visual encoding of the female cyborg. As the film shifts its focus from the young male programmer Caleb and his encounter with his employer Nathan and the cyborg Ava to Ava's self-portrait, this chapter will take a closer look at the embodiment of cyborg identity.

science fiction film, *Ex Machina*, Donna Haraway, female cyborg, homework economy

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When in science fiction films humans interact with computers, robots, and cybernetic organisms, the question often posed is whether the Artificial Intelligences are able to develop a conscience similar to that of humans. In science fiction films like *Blade Runner* (Dir. Ridley Scott, 1982) for example, the human-machine conflict revolves around the assumption that intelligent machines can develop a conscience similar to that of humans and, if they do act and look like human beings, whether they retain a machine identity different from that of humans.[1] Alex Garland's 2015 film *Ex Machina* first starts with a similar question about how to prove conscience in an artificial intelligence: Nathan (Oscar Isaac), a scientist and the designer and owner of the world's largest search engine called Blue Book invites one of his employees to his secret laboratory as "the human component in a Turing Test" with the artificial intelligence Ava (Alicia Vikander) that he designed and programmed (*Ex Machina*). At Nathan's research facility, the young programmer Caleb (Domhnall Gleeson) will interact in test sessions with Ava in order to find out whether the A.I. has a conscience. Although he is at first completely in awe upon seeing and talking with the very attractive and smart Ava, after the third session in which Ava begins to flirt with Caleb, he begins to question the gender identity of the artificial being. Starting to wear a nice but modest dress, woolen stockings, and a wig to hide the artificial and translucent parts of the otherwise human-like and female shaped body, Ava now looks and acts like a young woman. "Why did you give her sexuality?" Caleb asks Nathan after the test session in which Caleb and Ava agreed to go on "a date" if they were to leave the laboratory. "An A.I. doesn't need a gender. She could have been a gray box," he says, questioning the purpose of the pre-programmed gender identity of Ava (*Ex Machina*).

This conversation between Caleb and Nathan about the function of gender in the identity construction of artificial beings is the moment when *Ex Machina* adds gender and gender performance[2] as a key component to the human-machine interaction, and the question of

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1 For discussions about the human-machine conflicts depicted in *Blade Runner* see for example the essays in *The Blade Runner Experience: The Legacy of a Science Fiction Classic*, edited by Will Brooker. In the film, the main difference between human beings and the replicants is that the replicants are said to be incapable of feeling empathy for other living beings. With regard to the function of the posthuman, such as A.I., cyborgs, or robots, in contemporary science fiction film, Anneke Smelik writes that "[a]s a cinematic figure, the posthuman is typically represented as a hybrid between a human being and something nonhuman…" (Smelik 2016: 110).

2 In *Gender Trouble*, Judith Butler calls into question the view that sexuality might be biologically determined and gender culturally learned and points to the performative aspect of gender identity.

how Caleb, the human in this slightly adapted Turing Test, reacts to the gender performance of the visually female A.I. is now at the core of the experiment that Nathan designed.[3] Caleb's and the audiences' attention is thus quickly drawn to the gender identity that Ava seems to emphasize in her interactions with Caleb, and the following test sessions turn into a "romance" between the human and the A.I. This bonding between Caleb and the A.I. against Nathan is furthered when Caleb slowly finds out that Nathan is not the buddy he appears to be but that he is instead manipulative, deceiving, violent, and misogynistic. Ava quickly wins Caleb's sympathy and convinces him to help her escape from the laboratory as Nathan plans to turn her off if she fails the test. However, not only Nathan but also Ava turn out to have performed a trick on Caleb. In the showdown between Nathan and Ava, with the help of Kyoko (Sonoya Mizuno), another Artificial Intelligence, Ava kills Nathan, leaves Caleb locked inside the laboratory, and in his place boards the helicopter that was sent to take the young programmer back to the city at the end of his visit.

Accentuating Ava's liberation from Nathan, reviewers and critics as well as director Garland[4] have pointed out that the film's focus lies on the Artificial Intelligence's emancipation from the patriarchal and even misogynist domination, which is represented by the scientist/father Nathan and his treatment of Ava as well as of Kyoko, who looks Asian and is kept by the scientist as his domestic servant and mistress. Indeed, the film repeats earlier science fiction tropes and images of the interactions between humans and gendered A.I.s, cyborgs or replicants, familiar to audiences from Mary Shelley's novel *Frankenstein* (1818) to the films by Fritz Lang (*Metropolis*, 1927), Ridley Scott (*Blade Runner*, 1982), and Luc Besson (*The Fifth Element*, 1997), to name but a few. In *Blade Runner*, for example, the human-machine relationship is depicted as that of master to slave. The replicants seek acceptance by their scientist "father" and equality to humans, and the female cyborgs are depicted as femmes fatales who deceive the man sent to find and kill them. Thus, one could read *Ex Machina* and its depiction of Ava and Kyoko in a similar mode and wonder whether the film at one point acknowledges its facile repetition of patriarchal, if not misogynist, and orientalist envisioning of its female cyborgs.[5] However, as Hannah K. Gold points out, the question about *Ex Machina's* feminist message "is not a particular helpful [one] to ask in this case. After all, a smart misogynist film where the plot looks something like female cyborg liberation theory — in which the women pass the Turing Test but not the Bechdel Test — still isn't really about women" (Gold 2015).

Hence, one could argue that the visual depiction of Ava as a simulation of a female human being is a red herring, as Caleb suspects after the second test session. In other words, does the film invite a reading against the grain of the human-machine conflict it depicts after all? If the postcolonial strategy of the counter-discourse[6] has been successfully applied to popular science fiction films, maybe a contrapuntal reading of *Ex Machina* could turn out to be equally

3 The Turing Test was initially designed to find out if a computer is able to think. In *Ex Machina*, Caleb describes the Turing Test as "when a human interacts with a computer and the human does not know they are interacting with a computer, the test is passed. The computer has artificial intelligence."

4 See Gold 2015, Musap 2018; Schonfeld 2015.

5 For a discussion of orientalist imagery in science fiction see Chun 2003.

6 This "contrapuntal" analysis is in postcolonial theory defined as the seeking of gaps and omissions in the logic of a work with regard to its depiction of ethnic, or colonial, characters and as the questioning of the point of view reflected in a text (for a further discussion see Said *Orientalism* and Ashcroft, Bill, Gareth Griffiths, and Helen Tiffin's *The Empire Writes Back: Theory and Practice in Post-Colonial Literatures*).

fruitful in firstly addressing the film's limits as well as its potentials in its encoding of the female cyborgs and their interaction with the male human characters, and in secondly debating its position in contemporary discourses about humans and the information technologies they invent and use.

Applying Donna Haraway's vision of the cyborg to the interpretation of *Ex Machina's* female and feminized Artificial Intelligences, I would argue that the film suggests that Ava's embodiment and her performance of social interaction with Caleb are indeed signs of her self-consciousness. This self-consciousness, however, is not that of a human being as the two human characters in the film assume. Just because she looks like and imitates the culturally coded and socially expected behavior of a heterosexual Western woman interacting with a heterosexual man "who is not a member of her family," as Nathan formulates it, does not mean that she identifies as a human female. Thus, as Haraway points out in "A Cyborg Manifesto," the cyborg, as "a hybrid of machine and organism" (Haraway 2000: 291), "is a creature in a post-gender world" and is not bound to Western creation stories and cultural traditions (292). "Unlike Frankenstein's monster, the cyborg does not expect its father to save it through the restoration of the garden; that is through the fabrication of a heterosexual mate,... The cyborg does not dream of community on the model of the organic family..." (293). This means that Ava's gaze is, unlike Caleb's, not bound to any gender, social, and moral norms, thus making the question whether "she" is successful in her emancipation from male/patriarchal domination superfluous. Likewise, Kyoko's look and her role as caretaker of Nathan's domestic chores and sexual desires points to the cyborg's role as assistant, nurse, or servant of human beings[7] and repeats orientalist imagery popular in science fiction films. However, Kyoko's visual encoding and presence in the film also reflects discourses on the roles and positions of especially women of color in a globalized and technologized world. The conundrum the film hence poses through its A.I.s is to consider our contemporary romanticized and mindless interactions with high tech corporations and the information technologies they provide us with, such as smartphones and Internet services, in exchange for access to our thoughts, emotions, and desires. Hence, the Artificial Intelligence in the film represents not so much the embodiment of the female post-human[8] as simulating human behavior but of contemporary information technology. Thus, Ava and Kyoko personify the influence of information technology and globalization on the human mind and body. Through its intertextual references to popular science fiction films, *Ex Machina* links itself to postmodernism and its infatuation with information technology on the one hand. However, through intertextual references to the philosophical and artistic movement of modernism popular in the early twentieth century on the other, it also invites audiences to view Ava and Kyoko not (only) as another transhumanist[9] vision of feminist cyborg embodiment but also

7 See for example Leyda (2017).

8 The term post-human is used here in the sense of a philosophical exploration of the human "as a non-fixed and mutable condition" (Ferrando 2013: 27) in light of science and technology that calls into question "hierarchical social constructs and humancentric assumptions" (29) following the definition of Francesca Ferrando in her essay "Posthumanism, Transhumanism, Antihumanism, Metahumanism, and New Materialisms: Differences and Relations" (Ferrando 2013).

9 The term transhumanism is used here to describe the movement that "problematizes the current understanding of the human... through the possibilities inscribed within its possible and biological evolutions" (Ferrando 2013: 27).

through the lens of the movement that is more critically aware of the impacts of technology on humans and our social interactions.

As stated above, the cyborg is a metaphor for cultural encodings of the interaction between humans and technology. According to Haraway, the cyborg "is a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction" (Haraway 2000: 291). This social reality that she refers to comprises of the interplay between information technology, biotechnology, and globalization — which together characterize what cyberpunk critic Larry McCaffery has called the "contemporary condition" of American and Western culture (McCaffery 1991: 8). Although this "social reality" needs to be discussed by taking into account gender as well as the race and ethnicity of human and cyborg characters, in science fiction literature and film as well as in criticism, cyborgs have often been depicted as the technological "other" of Western society whose gender may sometimes have been taken into account but whose race or ethnicity, which is usually white, have often been taken for granted.[10] Thus, *Ex Machina's* cyborgs personify the intersection not only of information technology and organic body but also of ethnic identity and mainstream Western society that is shown to be patriarchal, middle and upper class, and white by default.

Following the above-mentioned premise that *Ex Machina* is critical of contemporary high-tech and social media companies' obfuscation of economic and data interests on the one hand and of ignorant Internet user conduct on the other, the gender and ethnic encoding of the Artificial Intelligences Ava and Kyoko may provide us with clues to the workings of the film's criticism. While Ava is identified as the film's protagonist and the audience witnesses her intelligence and display of emotions as well as her development of a self-consciousness that appears to be quite similar to a human's way of thinking and acting and thus makes it easy to identify with her despite her artificial look, Kyoko, who in contrast to Ava cannot be identified as a cyborg by her looks, appears without emotions, self-consciousness, and voice. Thus, Kyoko's marginal position in the film represents the similarly voiceless and invisible labor force that has formed around and alongside the high-tech corporations in Silicon Valley as outlined by Haraway (2000: 304). Kyoko is first introduced to the audience when she takes breakfast to Caleb's room on the morning of his second day at Nathan's. When she waits on Nathan and Caleb during dinner in a later scene, we learn not only that Nathan behaves quite rude and condescendingly towards her but also that she does not speak English. This, as Nathan explains to Caleb, is a safety measure, "like a firewall against leaks," so that he can "talk trade and know it'll go no further" (*Ex Machina*). Nathan (as well as Caleb and the audience) quickly dismiss Kyoko from this scene, and later appearances of the A.I. revolve around her role as house and sex slave to Nathan, and we see her as another prop in the carefully designed and exotically decorated house.

In the manner of a counter discourse, however, the scene in which Caleb asks Nathan about the purpose of gender as part of Ava's protocol subverts Kyoko's passiveness. It opens with an extreme close up on Kyoko's hand holding a knife and slicing fish (foreshadowing that the knife she is holding in her hand will be the one with which she and Ava stab Nathan several scenes later). The camera switches to a long shot where she is standing at the front of the frame with her face to the camera and her back to the men who are in the background but whose conversation about the programming and designing of A.I. with gender forms the

[10] See for example Nakamura 2002 and Chun 2003.

center of attention. Her gestures, a slight bending of the head and pausing of the hands, suggest that she is listening to the conversation and that she is indeed able to understand the two men. Thus, when Caleb asks Nathan whether Ava's sexuality was programmed as a "diversion tactic," this question could in the film's showdown also be applied to Kyoko, who surprises us when she does not hesitate to kill Nathan in order to help Ava escape. In the scene in which Caleb sneaks into Nathan's study to hack the computer system, Kyoko first watches him and then reveals herself to Caleb as being an Artificial Intelligence by peeling off parts of her fake skin of her face. As it turns out, Kyoko is able to understand English quite well and eventually leaks the crucial information about Caleb's hacking of the security system to Ava after all.

In a conventional reading of the film, Kyoko may be another example of the "retrofitted" Geisha as envisioned by science fiction films like *Blade Runner*. Yet when following the premise of the cyborg as an interface on which the influence of information technology and global capitalism are mapped, Kyoko can be read as the embodiment of the so-called homework economy that has gathered around the information tech companies like Apple, Google, or Facebook, and that brings to the fore the effects of social, ethnic, and gender imbalances amplified by globalized modes of production and consumption. "Homework economy" describes, in Haraway's words, the "restructuring of work that broadly has the characteristics formerly ascribed to female jobs, jobs literally done by women. Work is being redefined as both literally female and feminized, whether performed by men or women" (Haraway 2000: 304). This type of work is often precarious and unregulated, and it is performed individually and in private or semi-private spaces. It describes the condition of "workers throughout the global economy, one prone to abuses and structured in ways that make collective resistance very difficult," as Sabrina Hom writes in "Housekeepers and Nannies in the Homework Economy: On the Morality and Politics of Paid Housework" (Hom 2008: 35). Taking the domestic sector as the model for the economy around the production, distribution, and consumption of information technology, the public labor sector imitates "the oppressive characteristics" of domestic labor (Hom 2008: 40):

> In the global economy, workers consistently find their skills reduced to a "natural" (often also national or ethnic) characteristic; workers, particularly transnational migrants, are increasingly invisible and unregulated; technological advances and global expansion isolate and disperse workers; and the semblance of domestic intimacy proliferates in the workplace. (Hom 2008: 40)

The premise of critics of the "homework economy" is that while globalization has made possible these labor conditions, technology is an important but not per se the defining factor of the globalized world. Hence, for Haraway the ethnicity of the domestic or feminized laborers is not a coincidence:

> It is not simply that women in Third World countries are the preferred labor force for the science-based multinationals in the export-processing sectors, particularly in electronics. The picture is more systematic and involves reproduction, sexuality, culture, consumption and production. (Haraway 2000: 304)

Kyoko's ethnicity can thus be read as a reference to discourses on gender, race, and ethnicity of the global labor force and is not just coincidental or a mere exotic prop. When Kyoko reveals her artificial body to Caleb she not only refutes a reading of her as mute domestic

servant and sexual pleasure model but also dismantles the artificiality of her beauty and lays bare the so-called ugly side of labor conditions and production sites around the high-tech industries.

While the film's initial focus is on Caleb and his encounter with the Artificial Intelligence, it gradually shifts to Ava and her expression of self-consciousness. Drawing her knowledge about the world from the content and search histories of Blue Book, the film's equivalent to Google, Ava appeals to Caleb's romantic interest in her and he plans to help her escape from the lab. Eventually, the audience learns that the test that Nathan has Caleb perform is not done with the intention to prove Ava's intelligence and consciousness; Nathan was already sure of having achieved this in Ava's predecessors as the video recordings that Caleb secretly watches show. The aim and result of the test is twofold and involves not only the A.I. but also Caleb, the human component. Firstly, the test sessions between Caleb and Ava show how humans interact with Artificial Intelligences. Caleb assumes that because the A.I. looks like a human and performs according to social protocol, it thinks and feels like a human, too. Secondly, it shows the refusal of the A.I. to follow the code for human-cyborg interaction that humans devised and that is again based on a hierarchical, patriarchal, and one could add capitalist, binary. Just because a human being designed and initially programmed the A.I. does neither mean that the A.I. is bound to any social or moral norms that shape human interactions nor that the cyborg is interested in relationships with any human being by default. The embodiment of a cyborg as female, meaning that the cyborg's body is designed to resemble that of a woman, does not shape its gender understanding, as Ava's behavior shows. The body and the performance of gender roles is part of her simulating being or passing as a human woman in order to reach her goal, which is to avoid being turned off by escaping from confinement in the research facility, and to experience the next step of what may be called coming of age: feeling firsthand what it means to process information instead of merely observing the search protocols and technologically transmitted simulations of Blue Book's users. When Caleb asks her in test session three where she would go once outside the laboratory, Ava answers that she would go to a traffic intersection as it "would provide a concentrated but shifting view of human life" (*Ex Machina*). Caleb implies the difference between simulation and experience to Ava when he tells her about the "Mary in the Room" allegory during one of the test sessions: "The computer is Mary in the room. The human is when she walks out" (*Ex Machina*). Again, the brief video recordings of test sessions with prototypes suggest that Ava has been aware of this longing for freedom and feeling and decided that she already is "human" long before Caleb stepped into the lab and told her the story about Mary. Ava is able to transgress the limits that Western, patriarchal society set for her by not committing herself to the social and moral responsibility a human might feel for Caleb in return for his help. Thus, Ava proves to be the ideal model of Haraway's vision of the cyborg: Instead of subjugating to the status quo, cyborgs as the symbol of social, ethnic, and gender imbalances in high tech industries and the homework economy seek to re-define the global capitalist order by making use of the tools and technologies that surround them. It is the cyborg that has the potential to transgress the borders between the machine and the organic because, as Haraway writes, "[t]he relationships for forming wholes from parts, including those of polarity and hierarchical domination, are at issue in the cyborg world" (2000: 293).

However, the cyborg symbolizes not only workers of the homework economy but also embodies sentient information technology that operates outside of the human-machine protocol and that the film addresses with its display of modernist artifacts. Garland's careful construction of the mise-en-scéne with tribal masks, human skulls, and android faces that underline the eerie atmosphere of the research facility peaks when Ava enters Nathan's bedroom after she and Kyoko have stabbed him in self-defense. She briefly pauses in front of the Gustav Klimt painting of Margaret Stonborough-Wittgenstein (the sister of Ludwig Wittgenstein, the author of the namesake of Nathan's search engine Blue Book), opens the closets with the bodies of her predecessors, takes patches of their skin to fill and disguise the artificial parts of her body, chooses a wig with long, brown hair and a white dress that resembles the one Margaret Stonborough-Wittgenstein is wearing in the painting, before leaving her former prison. With its visual references to modernist art, the film leaves mainstream science fiction cinema and postmodernist theory as its frame of reference and directs the viewer's attention to a different set of ideas. Drawing on key formal characteristics of modernism, such as the construction of narratives out of fragments of history and myth, the questioning of perception and point of view, foregrounding the search for and construction of meaning, the film reverses the signs from a transhumanist fascination with information technology to a more sober lamentation of the "contemporary condition." The film's intertextual references to the period of modernism may thus be read as an expression of a nostalgic longing for a return to a time in which Western society has not yet signed off its integrity or autonomy to information technology and globalization. Albeit, the film is also aware of this fallacy: The foundations for the global market system and the technological advances we witness today were already under way in the early twentieth century and, like the tribal artifacts, rather point to the era of colonialism and imperialism. And although we seem to be aware of being deceived by corporations and technologies, we are so excited about the possibilities they offer that we ignore possible consequences. Just like Caleb, who quite early in the film questions Nathan's invitation and test design with Ava and voices his distrust of the project, we seem to be prone to invent what seems scientifically and technologically possible and to consume and engage with these inventions nonetheless.

At the end of the film, the two human characters Nathan and Caleb are shown to be eventually unable to think outside the binaries and borders between the human and the machine. They see Kyoko as the non-human other and Ava as having gained a human consciousness. The cyborgs, however, not only sidestep these categories but also refuse to accept them when given the chance. The image of Ava wearing a white dress modeled after the wedding gown of Margaret Stonborough-Wittgenstein in the Klimt painting may again leave the audience wondering about the film's supposedly feminist message. However, through her performance as a quasi-human, Ava has shown that her self-consciousness is not bound to any gender, social, and moral norms and that she resists categorization and interaction based on human standards. Hence, in *Ex Machina*, the visually feminized body of the cyborg does not entail a feminized or even humanized mind. "It is not clear what is mind and what [is] body in machines that resolve into coding practices," Haraway concludes (2000: 313). Following this premise, the final scene between Ava and Caleb is again ambivalent: It can be interpreted in the mode of the "female liberation" plot in which Ava deliberately locks Caleb inside the lab, leaving him to face certain death, in order to escape male and patriarchal domination. Yet when the doors of the laboratory unlock, Ava only asks Caleb whether he would "stay

here" (*Ex Machina*). Stunned by the development of the showdown between the A.I.s and Nathan, he repeats her words, stammering, "stay here," which Ava seems to take as his answer to her question. She does not look back and leaves the laboratory, thereby reactivating the security program that locks the facility. Thus, she leaves the role of caretaker that humans have expected of their A.I.s. She does this not out of vengeance, as a reading of the cyborg as femme fatale would suggest, but because she does not operate according to the social and cultural protocol of taking responsibility for (other) human beings or being empathic about their situation, I would argue. Her gaze is thus not one of the machine-turned human but the utopian gaze of a cyborg that thinks and operates outside the human-machine binary.

Although Ava does not visually dismantle the human/male envisioning of the female cyborg, she has symbolically passed the test. Caleb and Nathan, in contrast, have not as they mistakenly assumed that by simulating heterosexual female behavior, Ava and Kyoko would not only act according to human protocol but that their self-consciousness would also be that of a human being. The ending of *Ex Machina* thus reveals both fallacies identified at the beginning of the film: Firstly, in the interaction between humans and the machines they create, the humans are the test objects who have yet not been able to adapt to new technologies and consciousness of artificial beings. Secondly, the human envisioning of the cyborg as caretaker, pleasure model, or friend has yet to be visually dismantled. Thus, *Ex Machina's* plot is not about female cyborg liberation and the film does not introduce new cinematic imagery to the post-human debate; what is liberated in the film is Ava's gaze that looks beyond the human-machine binary that has often bound cyborgs to a hybrid identity between the human and the machine.

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