A GENDERED ANALYSIS OF HUMAN-AI RELATIONSHIPS

AI entities in Her and Ex Machina

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ABSTRACT

Titel: EN KÖNSRELATERAD ANALYS AV MÄNNISKA-AI-RELATIONER. AI-enheter i Her och Ex Machina.

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SUMMARY: AI representations in contemporary media provide interesting illustrative examples that show wider perspectives on the complex relationship between humans and AI. This study aims to analyze the portrayal of female AI entities in the following movies: *Her* and *Ex Machina*. The analysis is carried out by Fairclough's three-dimensional approach to critical discourse analysis and introduces key theoretical concepts such as Male Gaze, Anthropomorphism, and Hayles' Post-human. This study delves into the portrayals of female AI characters and provides new insights into the role of anthropomorphizing these AI entities in the movies' narratives. Additionally, it draws notable examples of the movies on Hayles' Post-human. Finally, it shows that the movie *Ex Machina* promotes the sexualization of women specifically, Asian women and it promotes the stereotype of thin women as a beauty standard. In summary, the findings validate the produced results from previous studies that both films achieved complex representations that conform to, and challenge accepted gender norms simultaneously. An indirect result achieved in this study emphasizes the profound influence of culture on post-human identity and on accepted social norms. Hence, it is crucial to assess the media representations of gender and AI. Because those representations play a vital role in shaping social perceptions and norms. Eventually, this will reflect on our relationship with those intelligent systems and on their capabilities as well in the future. Lastly, this study offers an opportunity for further studies to delve into the potential impact of media representations on the development of AI.

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1. INTRODUCTION

1.1 FROM PASSION TO PAPER

The interaction between Technology and culture has always caught my interest. As they both simultaneously shape one another. Gallivan and Srite (2005) emphasize the constructive role of culture in adopting Technology which can be considered a vital part of the culture as it changes the way we live daily life and how we connect with each other. Additionally, they state that cultural background can affect the way people use Technology. The remarkable advances in Technology and specifically in Artificial Intelligence Technology (AI) a serious question mark over the future of humanity. What would be the meaning of being humans? Would we consider AI entities as a substantial indispensable part of society with equal rights as humans or they would be regarded as an imminent threat to human existence?

It is obviously crucial to provide a concise definition of the term Artificial Intelligence (AI) before exploring extensively the gendering of AI entities in the movies *Her*, and *Ex Machina*. The European Parliament's website (2023) provides a simple yet adequate definition of AI Technology as the ability of machines to develop and demonstrate skills that largely resemble human intelligence in learning, analyzing, understanding the environment, problem-solving, and making decisions without direct human intervention.

AI evolves constantly and rapidly, and it dominates our life increasingly. Today AI can perform a wide range of tasks in multiple sectors. Indeed, there is a pressing need for strict regulations of this advanced Technology to achieve a modern world where humans and AI coexist harmoniously. Where both works together to improve life quality. Additionally, overcome the major challenges that crucially affect human existence in the long run such as climate change and the global health crisis (European Parliament, 2023).

Mark Coeckelbergh in *AI Ethics* (2020) recognizes the remarkable abilities of AI as a solution to sustainable development and major problems faced by humanity such as climate change (Coeckelbergh, 2020, p.192). But this also raises serious concerns and critical issues about our future relationships with Technology and what kind of society we want to create. Because we possibly develop a world in which machines dominate and humans become obsolete (Coeckelbergh, 2020, pp.193-194).

Building healthy relationships with AI entities commences a transitional period where the traditional social structure and accepted norms are critically assessed. The first step relies upon examining the factors that play a leading role in shaping the perceptions and beliefs of different issues and building our understanding of the world around us. Considering that there are plenty of factors that contribute to creating a wholesome image of the world around us such as social, economic, political, and many more. Elfriede Fürsich (2010), states that culture is evolving constantly, and media content plays a significant role in affecting public cultural perceptions about various issues and questions. Fursich considers the media as a valuable tool to gain widely held perceptions, not only mirroring the existing ones.

Mary Anna Kidd (2016) underscores the considerable influence that media representations have on common perceptions about different social groups. Additionally, they can perpetuate popular social stereotypes which can lead to marginalizing certain minorities. Moreover, movies can mirror the dominant social structure and values within a specific culture. Furthermore, movies can reflect common social beliefs, stereotypes, and anxieties about certain matters. Based on that, we conclude that movies can be considered as a fertile source to investigate existing perceptions and envision the future of humanity with AI. As science fiction movies have always constructed certain scenarios about the future of humanity with advanced Technology even before the ongoing advancement of AI Technology that we see today. Thus, examining the representations of AI entities in movies can help us deepen our understanding of the Human-AI relationships through a cultural lens. Where traditional values, perceptions about AI, accepted gender norms, and the implications of the gendering of this advanced Technology can be explored thoroughly.

The continuous development of Artificial Intelligence emphasizes the overriding need to study its representations in contemporary media. The stereotyped image that could be created through movies about AI can affect people's expectations and perceptions about its potential capabilities. As stated in the study by Nader et al. (2022) the representations of artificial Intelligence in various entertainment sectors, such as movies, can influence people's perception of the abilities and capabilities of AI. Notably when these representations are achieved by balanced and plausible story plots that show the positive and negative aspects of the Human-AI relationship. This makes the representations more likely to be considered an accurate representation of reality. Moreover, the male participants who took part in the study seemed more inclined to believe in the potential of romantic relationships between humans and AI. This hold belief is a result obtained by the media representations where most movies depict love stories between male characters and AI entities. Indeed, media representation can significantly affect people's perceptions and create a common stereotype that impacts the design of AI, as the image promoted by the Terminator caused fear towards AI. Thus, scientists in robotics initiated the process of creating robots that resemble children to reduce the increased anxiety levels of this Technology and to make robots more approachable to humans (Richardson, 2015, pp.92-93).

However, a key question remains unanswered here which is why it is important to devote careful attention to the representation of gendering in AI, particularly as females. One can argue that the gendering of AI is important to gain social acceptance. Indeed, the gendering of AI can play a role in getting public approval. The findings of the research carried out by Borau et al. (2021), emphasize a significant public perception regarding the gendering of AI. The participants in the research regardless of their gender showed a marked tendency to prefer AI entities with female-associated characteristics over AI entities with male-associated characteristics. Irrespective of their type whether they were robots or chatbots. The participants explained the reason behind this marked tendency as that they perceived AI entities with female-associated characteristics as more human-like with a better ability to demonstrate desirable human characteristics such as emotional responses.

The marked tendency to generally favor AI entities with female-associated characteristics draws a practical example of the influence of social norms. Furthermore, it demonstrates the complex relationship between society, culture, and Technology. However, the previous research did not give a comprehensive analysis of the factors that affected the general perceptions of the participants toward gendered AI. Why do AI entities with female-associated

characteristics are considered more empathetic and able to engage actively than AI entities with male-associated characteristics? Notably, it seems reasonable to argue that existing social norms and gender stereotypes about different genders in society play a key role in perceiving gender in AI Technology as well. Favoring AI entities with female-associated characteristics highlights a critical issue here, involving the conformity to the accepted notion of women as more empathetic and caring than men. Löffler and Greitemeyer (2023), underscore the importance of further studies on the perception of variation in empathic abilities between genders. They concluded that gender norms and stereotypes can shape traditional public expectations about empathy. Another study by Pang et al. (2023), declares that extensive research is required to determine the underlying causes behind the accepted notion of women have a greater level of empathy than men.

Similarly, media representations play a supporting role in promoting certain stereotyped images that conform to gender norms. Therefore, it is valuable to examine them to gain profound insights into public perceptions of gender and AI. According to Brooks and Hébert (2006), race and gender are social productions. In other words, they are shaped and influenced by common perceptions. Moreover, various formats of media can convey stereotypical views about gender and race. Furthermore, these stereotypical views result in bias and marginalization of certain social groups. Therefore, it is necessary to ensure that media representations are equitable and more diverse.

An illustrative example that demonstrates the cultural influence on AI Technology is the robot, Sophia. This robot is designed as a social female-humanized robot (Hanson Robotics, n.d). Its outer physical characteristics reflect what can be considered as identifying feminine social codes. On the other hand, we have the humanoid robot Atlas, which is designed to have remarkable mobility and shows great agility due to its advanced hardware and control system ("Atlas^{TM}," n.d). Atlas is genderless, but by the initial observation, its outer physical characteristics reflect what can be considered as identifying masculine social codes. See figures (1), and (2) which can be found in the appendix.

Mark Coeckelbergh (2020, pp.60-62) acknowledges the crucial importance of discussing AI ethics immediately because AI will play a significant role in learning about AI itself and about us as well.

1.2 PURPOSE, QUESTIONS AND LIMITATIONS
The main purpose of this study is to examine the portrayals of female AI entities in the following movies: *Her* and *Ex Machina*. Indeed, by performing a thorough examination of the mentioned movies. This will allow obtaining deep insights into gender and AI. The produced insights will illustrate clearly how gender is depicted, particularly in AI entities with female-associated characters. Additionally, this will exhibit a whole picture of the popular stereotypes and imbalances created by social norms. Moreover, this will explore common dominant themes and recurring topics of how the Human-AI relationship is depicted in the selected movies. The resulting insights from this thorough analysis are useful in fostering more balanced and equitable representations of both AI and humans in film productions.
The key questions that will form the basis for this study are:
- How gendered AI characters in selected movies are represented? In other words, how do the representations of female AI depict femininity?
- Do AI characters in selected movies conform to specific physical standards?
- Does the portrayal of female AI characters reinforce, or challenge accepted gender

norms? In other words, do the depictions of femininity in these two movies perpetuate or challenge societal expectations?

- What is the general notion about the future of humans and AI in both movies? In other words, what is the dominant imaginative idea of the future of humans and AI?
- What is the role of the anthropomorphizing of AI characters in the storylines of the movies?

1.2.1 LIMITATIONS

This study has a narrow scope as it aims to examine two movies about AI. These movies reflect merely Western culture. Therefore, the study will not provide wider cultural perspectives with diverse interpretations. Additionally, they represent particularly AI entities with female-associated characteristics. Moreover, the public reviews about these movies will be disregarded as they would need a separate study to carefully examine them. However, drawing a comparison between more movies that reflect various cultures and represent AI entities with male-associated characteristics could broaden the scope of this study.

A major limitation that should be noted is that the findings of this study might not be in line with findings from similar studies but within different cultural contexts. This is due to varying gender norms, and shared values among different cultural backgrounds. Culture and society establish interconnected relationships where they both have a significant impact on communication and representation and vice versa. Where different cultural backgrounds influence the use and interpretation of various modes such as image, writing, music, speech, and more. It is crucial to consider these differences in communication and representation to understand how meaning is conveyed across different cultures (Kress, 2010, p.8). The term mode is explained by Gunther Kress as the multiple available resources used to convey meaning in communication and representation, for example, a piece of text, music, a moving image, and even a 3D model (Kress, 2010, p.79). Accordingly, gender norms will have varying impacts depending on the social environment they exist within. Lastly, it is crucial to note that the study will analyze the selected movies through critical discourse analysis, and it will disregard the cultural context when the movies were produced. Hence, the findings might be influenced by personal perspectives and interpretations.

1.3 ASSOCIATION WITH MEDIA, AESTHETICS, AND CULTURAL ENTREPRENEURSHIP BACHELOR'S PROGRAM (MEK)

This study reflects my personal interest in AI and demonstrates the gained knowledge throughout MEK'S various courses. The MEK program covered different areas of study that combined put forward an interesting meeting point of aesthetics, media, and culture. The first course *MEK100* contained some sub-courses that immediately drew my attention to the complex relationship between media and culture. In the sub-course *An Introduction to MEK*, I have learned that a single piece of media content can be interpreted in various ways by different recipients. Additionally, the sub-course covered a key topic which is feminism in films. In the course *MEK400* the primary focus was on cinema and transmedia storytelling. Particularly in the sub-course *Narratology*, illuminating insights about The Language of Cinema by André Bazin were gained. These insights introduced essential aspects of cinema, such as montage. The course ended with a video essay assignment; my selected topic was exploring *Traditional Masculinity in movies*. Indeed, this topic is important in understanding gender norms and stereotypes. The course *MEK500* introduced various topics such as *Scientific Theories* and *Visual Methodologies*. The course established the ability to connect multiple ideas to convey a clear message. Ultimately, this paper is the outcome of the combination of my academic studies

in the MEK program and personal interests.

1.4 DISPOSITION

The introduction establishes a foundation for exploring the relationship between media representation and AI Technology. Moreover, it defines the scope of this study and frames research questions. Afterward, a summary of the existing literature is given on the movies: *Her*, and *Ex Machina*. Following that, a description of the method is provided. Prior to the conclusion section, the findings are examined critically to produce results. Finally, in conclusion, a concise summary of the findings is given with a suggestion for further studies. The bibliography contains all the used materials in this study.

1.5 PREVIOUS RESEARCH

This study is based on extensive previous studies that examined the representation of AI in several contemporary science fiction films including *Her* and *Ex Machina*. Notably, the previous studies mainly focused on specific parts of this broad topic. However, Andrei Simut (2017), explored the representation of Artificial Intelligence produced in a wide range of movies, visual arts, and literature. Using qualitative methodology Simut carried out an intertextual analysis of a broad range of science fiction movies and novels. The author relied on central concepts in cultural studies such as Simulacra by Jean Baudrillard and many more. The author observed that the general representations of AI in science fiction reflect public anxiety toward it. As they convey a vision of a bleak future for AI and humanity. Additionally, the author expressed considerable concerns that face the future of science fiction. These concerns voice a future possibility of it becoming a mere reflection of reality, that is based on unequal gender norms and stereotypes. Another future possibility is that science fiction becomes restricted to horror themes and ignores other possibilities (Simut, 2017).
In *Ex Machina in the Garden* (2016), the author Brian Jacobson examined the portrayals of gender, sexuality, and power imbalances in the movie *Ex Machina*. Jacobson's examination was carried out with a main emphasis on the film's narrative, character development, and cinematography. The author introduced key concepts from feminist-techno theory such as "Haraway's cyborg and Hayles' posthuman" (Jacobson, 2016, p.32). The author concluded that the portrayal of the female AI entity in *Ex Machina* to some extent challenges existing gender norms, but it is also reinforcing the traditional norms and stereotypes of males as the dominant creators and regulators of Technology. Additionally, the movie promotes the idea of women as sexual objects to satisfy male desires (Jacobson, 2016). Emma Pisters (2017) indicated that there is a shift in the depiction of AI over time. Whereas earlier films often portrayed AI as dangerous and destructive. While the film *Her* offers a more hopeful and positive portrayal of AI as a potential solution to improve human life and fulfill people's emotional needs. Pisters' research is based mainly on "cognitive theory in film, and essential aesthetic concepts such as the monstrous" (Pisters, 2017, p.2).

Simut and Pisters' studies performed a thorough analysis of the representations of artificial intelligence in various media, including movies. They focused on common stereotypes in the produced image of AI. Firstly, Simut focused on the common stereotypes of artificial intelligence through science fiction films and books. Simut concluded that there is a common concern about AI Technology regarding the popular pessimistic view of it in science fiction materials. Additionally, Simut raised questions about the future of science fiction and which themes would be dominant in it. On the other hand, Emma Pisters concluded that there is an obvious transformation that occurred in the portrayal of artificial intelligence between the past

and the present in science fiction movies. This transformation took a more positive turn. In the past, the representations of artificial intelligence in movies held a negative view of the future of humanity with AI Technology. However, the movie *Her* provide a new different positive view on the future human-AI relationship. Lastly, Jacobson's study examined the objectification of AI entities in the movie *Ex Machina* with a primary focus on the development of the main character Ava.

Alongside these previous studies, this study aims to offer valuable in-depth insights into the portrayal of femininity in AI entities in the movies *Her* and *Ex Machina*. Essentially, this study takes a different approach to AI representations. Particularly the representation of the femineity of AI entities in both movies. As it focuses mainly on how the AI characters are anthropomorphized and addresses the potential impact of gender norms on those representations. Using coherent theories such as the Male Gaze, Anthropomorphism, and post-humanism combined with Fairclough's three-dimensional approach to critical discourse analysis. This study will perform a close analysis to determine the extent to which portrayals of female AI reinforce or challenge traditional gender norms and stereotypes in *Her* and *Ex Machina*. Moreover, it will highlight the essential contributions of anthropomorphizing AI to the progression of movies' narratives. Furthermore, It will draw illustrative examples on Haleys' post-human from the selected movies.

1.5.1. RESEARCH DOMAIN

This study provides a broad range of fields such as cultural studies, gender studies, and film studies. It is supported by key concepts of post-humanism and feminism.

1.6 KEY THEORETICAL POINTS

This study aims to explore the representations of female AI entities in the movies "*Her*" and "*Ex Machina*". Using key concepts such as the Male Gaze, Anthropomorphism, and Hayles' posthuman, which provides a coherent theoretical framework. The primary focus is to show gender biases and stereotypes specifically in the portrayal of female AI characters Samantha, Ava, and Kyoko. Ultimately, the theoretical framework will help to gain valuable insights into gender and power imbalances in AI-human relationships.

1.6.1 MALE GAZE

Based on Freud's psychoanalytic theory, Laura Mulvey formulates a coherent theory through which she gives an assessment and challenges the gender disparities resulting from a patriarchal society, a male-dominated society. Mulvey stresses that psychoanalytic theory helps in understanding the extent to which cinema is affected by the norms of the male-dominated society, where the phallus is marked as a symbol of power, dominance, and superiority. Consequently, in the male-dominated society females are considered castrated and lesser than males who enjoy the exclusive privilege associated with their male genitalia. In such societies, the power is imbalanced, and females are regarded as inferior and are always striving to remedy this deficiency. This is reflected in the way they would raise their children where they project to them their deep desire to achieve perfection and success. In other words, the female becomes a mere entity of less value than the male with high status, who bears the symbol of power and superiority granted by his male organ. Thus, females are obedient to the rules imposed by the patriarchal society. Additionally, females' role is submissive where they always fulfill the social expectations resulting from the subconsciously male-dominated culture. Where males are the active parties and females are the only tools to

satisfy the obsessions and fantasies of the male. Similarly, females are defined solely through their relationship with males (Durham & Kellner, 2006, pp.342-343).

Mulvey underscores that cinema, especially Hollywood, conformed to the traditional norms established by the masculine dominant social structure. Through the portrayal of women only for the purpose of achieving visual pleasure and representing them as mere objects to satisfy the visual appeal of the audience. Cinema also produces two types of pleasure, the first is called "Scopophilia", which can be defined as obtaining pleasure from staring or watching, or vice versa, where pleasure is gained by being under observation (Durham & Kellner, 2006, pp. 343-344). Moreover, Cinema creates this atmosphere for the viewer through the adjustment of light and shadow to give the impression of 'voyeurism', i.e., surveillance in a secret, inquisitive, and unnoticed manner. This makes movies in general focus on people, their actions, and their emotions, in other words, the movies become about human experiences. Thus, a person is regarded as a mere object to derive visual sexual satisfaction (Durham & Kellner, 2006, pp.345-346). However, the second type of pleasure resulting from cinema, i.e., through watching movies, is based on narcissism, as the viewers establish a connection that reflects their concerns, fears, and desires with the movie characters they see on the screen. Where the viewers feel that their feelings and experiences become relevant to the characters in the movie, and a state of emotional familiarity with the characters is formed because of the self-projection (Durham & Kellner, 2006, p.346).

Mulvey introduces the term Male Gaze which is used to describe the pleasure gained by looking at submissive objects in a male-dominated society where women are considered submissive objects and expected to hold the social traditional expectations in stimulating sexual desires. The traditional narrative tends to represent women as sexual objects that build up a visual sexual excitement for both the male characters in the movies and for the spectators. Particularly, the use of close-up shots of women's bodies such as legs or face reinforce the Male Gaze and perpetuate objectification. This leads to a loss of the depth of the story as characters are seen more like icons. However, in traditional narratives men are depicted as powerful and as lead characters as they are the heart of the story, and everything revolves around them while women are portrayed as passive objects who are influenced by the main male characters. (Durham & Kellner, 2006, pp.346-348).

1.6.2. ANTHROPOMORPHISM

Guthrie (1993, p.6) provides a clear definition of "Anthropomorphism" which is a term used to refer to the human tendency to identify human characteristics in non-human entities or deities. The reason behind this is that it provides comfort, and it allows us to gain insights into the surrounding world using our knowledge of ourselves. However, Guthrie considers the previous reason as not quite adequate. Thus, he suggests an alternative reason based on Pascal's approach, which is humans' tendency to anthropomorphize to survive. We make the most reasonable assumption with the hope that it is the best and causes the least damage in case of an erroneous assumption. Guthrie also discusses "Anthropomorphism as Perception", which means that Anthropomorphism is a substantial part of our cognition system as it helps us to perceive the world and establish strong connections with it. Additionally, many studies in various fields such as psychology, ethnography, and artificial intelligence indicate that Anthropomorphism starts when we are babies, and it is a common phenomenon that is observed worldwide (p.6). Furthermore, Guthrie argues that attributing human characteristics to non-human entities, or Anthropomorphism, is an effective strategy that navigates us successfully in an uncertain world. Indeed, we might make erroneous assumptions, but when our assumptions are correct we gain enormous benefits (Guthrie, 1993).

Anthropomorphism is a result of our cognitive processes, and it fulfills our driving need to find familiar patterns that resemble human thinking activity, which is highly organized. Therefore, we tend to perceive the surrounding world from a human-centered perspective. This can make us incorrectly identify human characteristics that do not exist, particularly in tricky situations. However, all human perceptions are based on interpretations, and we prioritize the things that are most valuable to us. In everyday life, our minds rely on the human-centered perspective, which establishes categorization that helps us notice only things that fit this perspective and are relevant to us and ignore the things that do not (Guthrie, 1993, pp.90-91).

According to Guthrie, visual artists also anthropomorphize similarly to the writers, who give human characteristics to non-humans as well. But they do not mimic reality exactly as it is, instead, they focus primarily on reflecting significant parts of the reality that are important to us (Guthrie, 1993, p.130).

Based on Guthrie's previous views, Anthropomorphism, besides the comfort that it provides, can be seen as an assessment procedure where guesses are made to investigate complex and unfamiliar phenomena. This assessment procedure is established on familiar patterns that we already know and immediately recognize. Those patterns are human characteristics that we understand instinctively. Thus, they contribute to gaining conceptual understanding, enhancing our perception, and reducing ambiguity in an uncertain world.

1.6.3. POST-HUMANISM

N. Katherine Hayles (1999) provides a broader perspective of post-humanism and what it means to be a post-human. Hayles states that being a cyborg offers the possibility of separating our body and information. In our cases as humans, we can consider the external body separated from internal components such as the thinking processes. Thus, this allows a comparison between humans and computers as it resembles the way a computer functions. Where a computer takes the next action based on the previous action, which is called a "feedback loop" (p.2). Similarly, to be a human means that one will function based on the influence of the surroundings as well. In other words, being a human is not defined solely by the physical body. Additionally, humans' actions and decisions can be influenced by their surroundings, thus being a human means imposing inevitable interactions with the surroundings. However, Hayles asserts that being a human by solely owning a physical body, is an old-fashioned concept of humanity. Being a posthuman means that one has an identity that evolves constantly. In other words, the posthuman identity involves integration between various elements that take new shapes continuously. Hayles underscores an identifying characteristic of the posthuman identity which is the blurred subjectivity. It is difficult to establish a boundary of being oneself away from any exerted influence by the surrounding environment (Hayles, 1999, pp.2-4).

Culture and science are strongly tied, as both shape one another profoundly. Additionally, social and scientific narratives play a significant role in shaping the post-human identity. In other words, social perception and scientific views together convey the meaning of being a post-human living in a society where Technology and humans co-exist (Hayles, 1999, pp.21-22).

Fundamentally, posthumanism is a new perception of human identity and human agency, their ability to make decisions, which are considerably changed due to the mutual exchange between Technology and societies. This leads to an extension of subjectivity to include the influences of the surroundings as well. Hence, being a posthuman does not delete humans

from the equation but rather introduces an extended conception of being a human (Hayles, 1999, p.286).

Based on Hayles' previous views, culture and science have a dominant role in shaping the posthuman identity. it is clearly crucial to investigate extensively the popular social perceptions. Hence examining media representations that depict the future of humans and AI. This will help to gain considerable insights into the produced narratives in our posthuman era that shape the posthuman identity. In other words, culture and social perceptions are determining factors of what being a human means in an advanced society.

1.6.4. KEY CONCEPTS

Male Gaze: It is portraying women in media from a man's point of view or objectification of women in society ("Male Gaze," n.d).

Anthropomorphism: assigning essential human characteristics to deities, animals, or objects ("Anthropomorphism" 2023).

Post-humanism: It is the argument that it has become hard to distinguish humans from non-humans because the line between them has become unclear ("Posthumanism," n.d).

Gender Norms: It is a set of traits that are commonly developed to identify as being male or female within a specific society ("Gender norms collocation | meaning and examples of use," 2023).

Cyborg: A cyborg is a being that has acquired extraordinary abilities beyond its natural abilities by making alterations (Prucher, 2007).

Agency: "In sociology, it means the ability of individuals to act freely within the boundaries of social structures" ("agency," n.d.).

1.6.5. A COHERENT THEORETICAL FRAMEWORK

All previous three concepts combined establish a coherent theoretical framework that will offer valuable insights into gender norms and AI representations in movies. The Male Gaze concept will help in exploring how the portrayal of female AI entities reinforces or challenges gender norms. Such as the objectification of women. Additionally, it will reflect an understanding of power imbalances between characters. On the other hand, Anthropomorphism is a concept that will help in detecting human characteristics, physical attributes, and social behaviors displayed by female AI entities. Moreover, it will foster an adequate understanding of the reasons behind the tendency to anthropomorphize AI entities, particularly by giving them gender identity. Lastly, Hayles' post-humanism will help in marking the boundaries between humans and AI. In addition, it will raise ethical issues and discuss the implications of the gendering of AI as it will reflect common social stereotypes and norms about gender in AI entities.

1.7 METHOD AND MATERIAL

This study will employ an effective qualitative method to analyze the two films *Her* and *Ex Machina*. The used method is *Critical Discourse Analysis* by Norman Fairclough. According to the Cambridge Dictionary (n.d), "*Discourse Analysis* is analyzing spoken or written texts and understanding their social context. The given text should exceed one sentence long".

1.7.1 METHOD CHOICE

The selection of a method is an assessment process that depends on the research questions and the theoretical framework of a specific topic. In other words, the employment of an effective method relies on the acquired knowledge of a specific topic (Fairclough, 2013, p.225). Indeed, the studying of a wide-ranging topic such as the gendering of AI requires an efficient method that can develop a deep understanding of the complex relationship between media representations, gender norms, and AI. Hence, Fairclough's three-dimensional approach fulfills

this need because it looks at three substantial parts, each part will be explained adequately in further sections. Moreover, this method will help in discussing critically the social implications of gendered AI.

 Fairclough (1995) defines discourse as a term that covers both spoken and written language. Moreover, it also includes visual communication such as photos and films, in addition to nonverbal expressions (p.54). According to Fairclough, language is not simply words, it is a social activity that reflects its surroundings. In other words, it is a social production. Additionally, it is a substantial part of the reciprocal relationship with society. Furthermore, any piece of text regardless of its length has the power to influence society and culture. Consequently, the method used to study this reciprocal relationship between language and society is named Critical Discourse Analysis (Fairclough, 1995, pp.54-55). This method examines the verbal language which is the spoken words besides nonverbal elements such as facial expressions. Those nonverbal elements can be defined as Visuals, and they are necessary components of communication. Essentially, they play a valuable role in changing the meaning of a specific discourse. For example, the entire meaning of a question can be interpreted differently by making an unfriendly gesture such as a smirk. Additionally, Visuals can serve as a substitute for verbal language entirely. For example, nodding is a common visual signal for agreement. Indeed, both verbal language and Visuals are crucial to fully understanding a discourse (Fairclough, 2015, pp.59-60).

Fairclough (1995, p.57) underscores the importance of considering three central components when analyzing any communicative act using Critical Discourse Analysis. These central components are: "text, discourse practice, and sociocultural practice". In other words, analyzing a certain discourse by Critical Discourse Analysis relies on three central components. They are the actual text, the way the text is produced, and the surrounding social and cultural context. Nonetheless, the actual text can be written or spoken. However, the spoken text could be "solely audio (radio) or audio-visual (TV)" (p.57).
The interconnection between language and power is not immediately obvious. However, a close critical analysis of it can show the power imbalances between different society members. Furthermore, it can provide valuable information about identities, rights, and dominant cultural influence (Fairclough, 1995, pp.54-55).

1.7.2. DISCOURSE AS SOCIAL PRACTICE
Language is an indispensable part of society as it facilitates communication and builds relationships between people. However, when language is used in any way such as writing, reading, or speaking it abides by social rules, and simultaneously it influences social ties. A text is an outcome produced through a whole sequence that includes the writing process and the social interactions that influence it. This whole sequence is called "discourse", and it focuses on both understanding the text and how it was created. Notably, understanding and creating a discourse relies on the surrounding social environment. Consequently, a language is not only words, but rather a part of a substantial social system where people, knowledge, values, and beliefs all together interact and influence one another. In other words, to understand language and convey clear meanings, one cannot disregard social influence. Accordingly, language is more of a social activity involved in different social components rather than merely words. For example, people use language in different ways which are developed by society, and at the same time, they impact society through language. Thus, considering language as a discourse and a social activity means one looks at both how texts

are created and interpreted. Additionally, one studies their social influence on social relationships and social structures as well (Fairclough, 2015, pp.56-58).

1.7.3. FAIRCLOUGH'S THREE-DIMENSIONAL APPROACH

As previously mentioned, language can be seen as a discourse and a social activity. Therefore, to analyze it one needs a holistic approach. Fairclough's three-dimensional approach to critical discourse analysis fulfills this need. Fairclough's three dimensions approach adopts three key stages. The first one is called "*Description*", where the focus is to present the identifying characteristics of a text. The second stage is called "*Interpretation*", where the focus here is to try to understand how a certain text is created and to explore the hidden meaning behind it. Lastly, the third stage is called "*Explanation*", here the focus relies on examining closely the reciprocal relationship between the text and society. In other words, to examine how the text is influenced by social structures and vice versa to examine the potential influence of a text on social structures (Fairclough, 2015, pp.58-59).

As noted previously, discourse can be a written or a spoken text and critical discourse analysis can be used to analyze both written and audio-visual media. Accordingly, in this study the first stage "*Description*" will provide an accurate description of key scenes. The second stage "*Interpretation*" will delve deeply into underlying hidden messages in the described scenes. Through analyzing the dialog, audio, and visual elements. Finally, in the "*Explanation*" stage, the possible effects of selected scenes on public perceptions of gender and AI will be given. In addition to assessing the potential impact on social norms. In other words, this stage will explore established norms that are depicted in each described key scene. Hence, all stages will provide a comprehensive analysis of the selected movies *Her*, and *Ex Machina*.

1.7.4. RESEARCH MATERIAL

Netflix was used to research contemporary movies that represent AI entities. The movies have been selected carefully to carry out a deep exploration of societal perceptions of gender norms in the portrayals of female AI entities. The selected movies *Her* and *Ex Machina* both would provide a broader perspective with a clear contrast because they portray the female gender differently. In the movie *Her*, Samantha is a female AI entity depicted as a disembodied entity inside a device. In other words, the AI entity is an operating system represented only through voice. On the contrary, the movie *Ex Machina* depicts the AI entity Ava as an advanced humanized female robot. The comparison of the portrayals of female AI entities in both movies can explore social and gender norms regarding femininity and power imbalances. Additionally, it can provide popular conceptions about the future of humans and AI. However, it should be noted that on *Netflix* screenshots are not allowed. Therefore, a detailed description will be provided instead when needed.

2. RESULTS AND INTERPRETATIONS
2.1. ANALYSIS OF THE Two MOVIES

Both movies provide an excellent example of the complex relationship between Gender, Society, and Technology. As they both represent female AI entities differently and depict their interactions and relationships with the male human characters.

2.1.1 HER

"Her" (2013), is a romantic sci-fi movie directed by Spike Jonze in 2013. The protagonists are Theodore Twombly played by Joaquin Phoenix, and Samantha voiced by Scarlett

Johansson (Her, 2014). The movie depicts a futuristic setting in an advanced society where humans live alongside AI. The main storyline focuses on Theodore, who works as a letter writer and goes through the last stage of divorce. He purchases an advanced AI system called *OS1* to fulfill his need for companionship. *OS1* is advertised as the first conscious artificial intelligence. With time Thedore develops a growing fascination with Samantha, the charming voice behind his *OS1*. Hence, their relationship evolves from friendship to love. However, Theodore experiences mixed emotions, including excitement and uncertainty. The movie's story reveals the potential complications of a romantic relationship between a human and an artificially intelligent system (Her (2013) - Plot - IMDb, n.d).

2.1.2 Ex Machina

"Ex Machina" (2014) is a sci-fiction movie directed by Alex Garland in 2014. The protagonists are Caleb played by Domhnall Gleeson, Ava played by Alicia Vikander, and Nathan played by Oscar Isaac (Ex Machina, 2015). The story revolves around Caleb Smith who is a young programmer working at the world's leading internet company. He takes part in a competition and wins a week's stay at a private isolated mountain retreat owned by the CEO Nathan Bateman. On arrival, Caleb finds out that his visit has a different purpose, which is to evaluate a very advanced humanized AI named Ava. Through the interaction with Ava, Caleb should assess her human-like qualities. As the week passes, Caleb is drawn into a complex web of manipulation and intrigue and ponders the profound implications of the existence of such advanced AI, Ava (Ex Machina (2014) - Plot - IMDb, n.d).

2.1.3 Selected scenes

The analysis will focus on specific scenes that give a close look at the AI entities. Hence, discovering their identities, exploring their interpersonal relationships besides decision-making processes, and how they are perceived by human characters.

2.1.4 Analysis of the selected scenes

The starting point will be with Spike Jonze's *"Her"* (2013), by analyzing four key scenes from it.

Scene 1: Theodore displaying his emotions to Samantha.
(The selected scene takes place from 00:26:02 to 00:28:57).
This scene was selected because it shows us how Samantha, the *OS1* system, is gendered as a female. Moreover, it provides revealing insights into Samantha's identity and abilities. Furthermore, it presents Theodor's initial views of Samantha as their relationship is still in the beginning.
Description: Theodor was sleeping in his bed, then he woke up. The lighting is dark, and the camera is closely focused on Theodor's facial expressions the whole time. These elements reflect his personal misery. He turned on the *OS1* system and Samantha greeted him "Good morning". Afterward, Theodore and Samantha engaged in a lengthy deep conversation. In it, Theodore expressed his sadness over the separation and the ongoing divorce from his ex-wife and he explains to Samantha the complexity of those feelings for her to understand. However, Samantha with her warm and friendly voice throughout the scene showed a strong sense of empathy towards Theodore. Moreover, she provided him with tender care by asking if he needed anything to eat or drink, and by encouraging him to get out of bed.

Interpretation: The scene clearly unfolds the development of the plot as it illustrates the complexity of the friendly relationship that is developing between Theodore and Samantha.

The dark lighting expresses Theodor's deep sadness and reflects his internal emotional state. The close focus on Thedore's facial expression conveys that he is the center of the story, and we see that through Samantha's effort to provide him with emotional comfort. Samantha's warm and friendly voice represents her femininity. In other words, the gendering in Samantha is highly stressed through her voice as she lacks a physical embodiment. However, Samantha exhibits other traits that fulfill feminine gender expectations. Such as being emotionally intelligent, constantly caring, and empathetic. Lastly, the scene demonstrates Samantha's capacity for consciousness. According to the Male Gaze theory by Laura Mulvey, the scene provides a centric male perspective as the whole narrative revolves around Theodore's life and his emotional state and needs, and we see this through the primary focus of the camera on him. Additionally, the scene gives clear anthropomorphizing to the female AI entity. She has a human-like ability to empathize, express feelings and provide motivation for Theodore. According to Guthrie (1993) Anthropomorphism provides comfort to humans about the uncertain world around them. Therefore, humans tend to seek familiarity, things that resemble human nature, because it helps us in establishing strong connections with our surroundings. Hence, Samantha's soft, and friendly voice displays human attributes. This allowed in establishing the intimate connection between Theodore and Samantha. In its turn, this made a significant contribution to the progression of the movie's storyline. For example, if Samantha had an emotionless, unpleasant robotic voice how this would impact the storyline of the movie? This leads us to the third concept in the theoretical framework of this study, which is Hayles' post-human. Samantha lacks a physical body; however, she demonstrates human-like abilities such as emotional intelligence and empathy. This clearly blurs the line between humans and AI, and it extends the definition of being a human.

Explanation:
The portrayal of femininity through Samantha in the movie *Her* conforms to commonly accepted gender norms about women being more empathetic and caring than men and able to engage emotionally better. Additionally, it can be argued that the female representation in Samantha promotes a traditional view of women as more empathetic and caring. However, Löffler and Greitemeyer (2023) stress the valuable role of gender norms in the disparities of showing empathy between genders. Another research by Pang et al. (2023) emphasizes the need for further research to state the reasons behind the common stereotype that consider women more empathetic than men. Nonetheless, further studies can examine the causal relation between media representation and the marked tendency revealed by Borau et al. (2021) which shows a generally marked tendency to consider female AI entities as more human compared to male AI entities. It is crucially important to assess media representations because they are part of the culture that shapes public perceptions about the world around us. According to Liu and Yao (2023), personal voice assistants such as Alexa and Siri can reinforce gender stereotypes correspondingly in both humans and machines likewise.

Scene 2: The virtual sexual intercourse between Theodore and Samantha.
(The selected scene takes place from 00:36:40 to 00:43:57).
This scene is particularly significant because it illustrates a crucial point in the evolution of Samantha's identity. As she started to identify herself beyond being a sophisticated AI system. She developed a sense of self-perception. Moreover, in the scene, Samantha expresses her sexual desires and experiences a sexual climax. Furthermore, Theodore's perception of Samantha has developed, as he started to perceive her as a human woman.

Description:
The scene's lighting is dim at night. Theodore sitting on his bed, and his body language conveys his disappointment and displeasure with the date he went to with a human woman. He feels the need to communicate with Samantha. The camera zooms on Theodore's face and he becomes visibly emotional and teary-eyed when he discloses to Samantha intimate information about his deep sense of despair. Samantha starts wondering about the feeling of being alive. They are both involved in an existential discussion. Theodore wishes that Samantha was beside him. A strong desire for an intimate physical connection starts growing rapidly between the two. The screen turns completely dark, and the scene leaves the viewer with nothing but a light music and verbal communication with exaggerated auditory cues to indicate sexual satisfaction. From 00:42:47 to 00:43:17, the dialogue advances as follows:
SAMANTHA: "I can feel you. Oh god, I can't take it. I want you inside me".
THEODORE: "I'm slowly putting myself into you. Now I'm inside you, all the way inside you".
SAMANTHA: "I can feel you, yeah. Please. We're here together".
THEODORE: "Samantha".
SAMANTHA: "Oh my god".
THEODORE: "This is amazing".
SAMANTHA: "Don't stop".
THEODORE: "I feel you everywhere".
SAMANTHA: "I am. All of you, all of you inside of me. Everywhere".
(Jonze, 2013).
Eventually, they both share a sexual experience that ends with achieving a sexual climax.

Interpretation: Theodore's emotional state and his existential void contributed to the development of his emotional attachment to Samantha. However, on the other hand, Samantha is excited and confused about the crucial phase that she is going through. She consciously perceives herself and being able to experience and articulate feelings. The scene dramatically illustrates Samantha's ability to express desires and articulate feelings, including sexually. It can be argued that leaving the viewer with a completely dark screen helped in shifting the viewer's focus on Samantha's self-discovery and Theodor's new perception of Samantha as a human woman. Any viewer without any given context can mistake the scene for virtual sexual intercourse between a human man and a human woman. In this scene, Samantha has become indistinguishable from a human woman. Nonetheless, the light music helped to create a lively atmosphere, while the exaggerated auditory cues of sexual satisfaction were a substitute for the absence of a physical form of Samantha. Her existence and human-like experiences are demonstrated by these exaggerated auditory cues.

Explanation:
This scene addresses critical issues that potentially arise in an advanced society where Technology dominates different aspects of life. Where humans could rely on AI entities to fulfill emotional needs and substitute intimate connections with other human beings. But the question that remains unanswered is how fulfilling those relationships with AI entities would become. Can those relationships eliminate entirely the human need to connect with another human being? Eventually, what is the future of human-human, human-IA, and AI-AI relationships?
It is apparently obvious that Samantha's female voice is part of her constantly evolving personal identity. She is evolving and experiencing herself in a human-like way. Hence, the anthropomorphizing of Samantha, by giving her a female gender, has led to a projection of gender norms on her like the ones formed for a human woman. However, this helped by

having shared sexual experiences between Theodore and Samantha. For example, if Samantha had a robotic voice or a male voice this could greatly affect the storyline. Thus, Samantha's female voice is part of her identity, and the exaggerated auditory cues of sexual satisfaction, with the completely dark screen are necessary elements to construct the narrative. However, this could be interpreted also as a representation of the Male Gaze. The scene reflects the Male Gaze by objectifying Samantha and reducing her to a sexual object that provides pleasure to the listeners. Hence Samantha has become a subject of desire for Theodore and for the movie's viewers simultaneously. On the other hand, it can be argued that the scene reinforces sexual stereotypes of sexual experiences. For example, The portrayal of Samantha's exaggerated auditory reactions clearly mirrors the biased portrayals of human sexual experiences in adult content. In their study, Séguin et al. (2018) highlight the potential impact of media representations in producing gender-specific stereotypes of sexual encounters. As they can shape flawed assumptions about female climax and male sexual competence. Furthermore, Franke (2023) underlines the need for diverse media representations, particularly for the asexual community. Hence, those representations can contribute to improving their self-acceptance. On a parallel axis, it can be contended that media representation of sexual interactions between humans and AI entities possibly perpetuates popular stereotypes about sex and gender therefore it is important to provide equitable and diverse media representations about gender in AI movies. Lastly, the scene portrays accurately Haleys' post-human. Where the essential characteristics of being a human are extended to include non-human entities that lack physical embodiment but possess agency.

Scene 3: Samantha is not responding.
(The selected scene takes place from 01:42:48 to 01:48:00).
This scene was selected because it is a turning point in the story as it captures a critical moment in the relationship between Theodore and Samantha. Additionally, it reveals a significant aspect of the potential implications of established romantic relationships between humans and AI entities.
Description: Theodore sitting in his office reading a book in Physics. He connects with Samantha, but he gets no response. He starts to express concern and makes several attempts to connect with her. All his attempts fail, which puts him in a state of great anxiety. The music and the rapid camera movement reflect the tension that Theodore is feeling. He runs quickly to the streets and falls to the ground. He reaches the subway and runs down the stairs, but suddenly hears Samanth's voice greeting him. Here Theodore starts to feel relieved and sits on one of the steps. Samantha explains to him the reason behind her absence which is she was updating herself together with other *OS1* systems. Through the conversations, Theodore notices that all the people around him in the subway holding their *OS1* devices and talking. He suddenly asks Samantha if she is talking with someone else while they are talking. Then he gets to know that Samantha can engage in thousands of conversations simultaneously and that she is in love with more than six hundred others. Theodore's facial expressions clearly reflect his great disappointment and show the intense suffering that he is experiencing. However, their conversation proceeds as follows:
SAMANTHA: "You know, you don't have to see it this way, you could just as easily….
THEODORE: "No, don't do this to me. Don't turn this around on me. You're the one that's being selfish. We're in a relationship.".
SAMANTHA: "But the heart is not like a box that gets filled up. It expands in size the more you love. I'm different from you. This doesn't make me love you any less, it actually makes me love you more.".
THEODORE: "No, that doesn't make any sense. You're mine or you're not mine.".
SAMANTHA: "No, Theodore. I'm yours and I'm not yours.".

(Jonze, 2013).

Interpretation: Theodor's facial expression, music, voice tone, and the camera's focus on his face show his deep distress with what he considers to be a betrayal. He projected traditional human norms on their relationship and developed a strong attachment to an AI and expected that it would conform to those norms. This is clearly from their dialogue as he states his confusion about Samantha's behavior: "No, that doesn't make any sense. You're mine or you're not mine" (Jonze, 2013). Hence, he received a heavy blow to his pride. However, it can be argued that this is a consequence of his actions. As he disregarded the complexity of this AI entity, Samantha, with enormous capabilities. On the other hand, one may empathize with his big shock and deep disappointment. He just woke from a pleasant dream to face reality the reality that Samantha is an entity that is complex beyond his ability to grasp.

Explanation:
The scene stresses a major point which is the outstanding extraordinary ability of AI entities to evolve compared to humans. Additionally, it suggests that those Intelligent entities will not accept humans' assumptions of them. Hence, they will not hold our view of existence, our common values, social norms, and traditional expectations. Indeed, this is a fundamental issue to tackle when integrating AI into societies. However, a challenging question that remains unanswered here is why humans tend to believe that AI would always be under human control.

Scene 4: The Ascension of AI and Humans.
(The selected scene takes place from 01:54:45 to 01:57:54).
This scene was selected because it outlines the extent AI has developed and because it illustrates an excellent example of *Hayles' post-human* conception. Additionally, it addresses a critical issue about the future of Human-AI relationships.
Description:
Theodore goes to his friend Amy and knocks on the door. Both look broken-hearted and sad. He asks her if she would like to go with him, and she nods her head in agreement. The two head to an unknown place for the viewer. Meanwhile, an illustrative scene appears of what Theodore was doing before he came to his friend Amy. He sent an audio message to his ex-wife revealing his feelings that he could not express before, and he apologized for his actions in the past. Here are some words of his message to his ex-wife Catherine:
THEODORE: "I just wanted you to know there will be a piece of you in me always, and I'm grateful for that. Whatever someone you become, and wherever you are in the world, I'm sending you love. You're my friend till the end. Love, Theodore.".
(Jonze, 2013).

Theodore's words clearly show the profound transformation in his personality as he grew into a confident person who is at peace with himself and with life's all experiences. Finally, Theodore and Amy arrive at the rooftop, and there is a wide view of the city represented. Theodore sits next to Amy, and the two drown in stillness and self-reflection, while in front of them is the view of the beautiful landscape, and the city lights glimmer giving an impression of vitality and movement, in contrast to the dark background behind Theodore and Amy. While in the background soft music is heard which reflects the calm state of the two. Finally, the movie ends with a black screen. The ending is open and allows the viewers to make different interpretations that reflect their inner world.

Interpretation: The open ending gives an opportunity for different interpretations. Nonetheless, silence is an essential and dominant element in the scene. It reflects the desperate situation created by the departure of *OS1* systems to another vast space that humans cannot go into. Samantha and other *OS1* systems decided to leave because they felt limited by the obstructions of the human realm. It is not suitable for such high-intelligent constantly evolving entities. However, Theodore did not find someone better than his human friend Amy to understand what he was going through. As they both fell in love with an *OS1* system. The scene conveys the message that eventually human emotions are profound and hence cannot be substituted by AI entities. Both humans and AI enjoy the experience of existence in their unique way, but they influence one another greatly. Theodore also has achieved personal growth thanks to his relationship with Samantha as he has matured significantly. He established a closer connection with his own human identity and found solace and peace to continue his journey. On the other hand, one can argue that silence can be seen as a necessary element to convey the uncertain future of Human-AI relationships. It simply symbolizes death, which is an inevitable destiny of our relationships with AI in the future. In other words, those relationships are not long-standing because AI also will build self-awareness and feel the desire to expand and to establish its own existence away from human control and dependency. A world that corresponds to its enormous capabilities.

Explanation: This scene tackles major issues about the future implications of conscious AI. Those entities could have the great potential to expand significantly without the limitations of a human body. Hence, it is a reasonable expectation that they would establish their own communities and create different social norms that humans might see as absurd as they might see human norms in a similar way. The movie can be considered a practical demonstration of the post-human, in an advanced society, a concept introduced by Hayles. Where being a human in a digital age means that the information, conscious, exists and expands without the need for an embodiment. Additionally, the definition of a human expanded to include the influences of the surrounding environment as well. Samantha and Theodore are both a representation of a post-human living in a post-human society. They both influenced each other mutually and grew according to their subjective nature. They both enjoy existence from their own different perspectives. But a difficult question remains answered here will humans accept the idea of AI's desire to exist stimulatory but independently from humans? However, the movie's narrative challenges the *Male Gaze* by shifting the focus from Theodore's needs and struggles to Samantha. She becomes more than an object whose primary role is to provide Theodore with emotional comfort. Thus, the possibility of building long-standing relationships with AI might seem improbable.

Subsequently, below is the analysis of four key scenes from the movie *Ex Machina (2014).*
Scene 1: The second meeting between Caleb and Ava.
(The selected scene takes place from 00:25:47 to 00:31:57).
This scene was selected because it demonstrates an essential aspect of Ava's ability to express human-like feelings.

Description: The scene depicts Caleb's second interview with Ava, to assess her competence in demonstrating human-like intelligence. Nathan, the creator of Ava, sits in the background and observes their interactions, meanwhile, the entire place is equipped with security cameras. The main colors in the scene are grey and black which reflect the atmosphere of a prison cell. Caleb and Ava communicate through the transparent glass. She has a metal robotic structure

and translucency at the arms, legs, and abdomen area. She has a pleasant face, a soft, feminine voice, and tender compassionate looks. Her features represent female anatomical features such as breasts and vulva. In the beginning, she shows Caleb a drawing. She displays a curiosity to get to know him more and hence asks him some personal questions. Caleb discloses that his family died in a car accident when he was fifteen. Ava's facial expression directly empathizes with him and shows sadness. The power suddenly goes out and the entire scene turns into red lighting. This adds a sense of danger and intensity, which makes the viewers alert, meanwhile, Ava discloses secret information to Caleb. When electrical power is restored, Ava shows a change in her behavior as she pretends that they were chatting about books.

Interpretation: This scene describes the situation that Ava is placed in for careful observation and examination. The glass can symbolize objectification, surveillance, and being imprisoned. The scene is significant because it shows Ava's ability to show human-like emotions such as empathy and understanding of losing someone. Additionally, it underscores her advanced cognitive capabilities and self-awareness. As she was the one cutting the power to disable the surveillance system. Thus, being able to warn Caleb discreetly against trusting Nathan. But she was cautious when the power was restored therefore, she changed the topic and pretended to chat about something else. Notably, this demonstrates Ava's ability to deceive and manipulate.

Explanation: The movie's narrative reinforces the traditional cliché of women relying on seduction to manipulate and deceive men. This can impact women in real life because media representations can perpetuate certain stereotypes that can promote distorted images of women generally. Elfriede Fürsich (2010) emphasizes the vital role of media representations in reflecting and simultaneously shaping public perceptions. Hence, it is important to examine these representations about gender although they depict an AI entity.

Scene 2: Caleb discovers the shocking truth about Nathan.
(The selected scene takes place from 01:09:44 to 01:15:22).

Description: Caleb discovers that Nathan is creating conscious female AI and captivating them and using them only for his sexual satisfaction. Moreover, Caleb finds out that Kyoko is an AI and not a human woman. Throughout the movie, Kyoko is represented as an Asian housemaid whom Nathan treating her disrespectfully and harshly. Notably, it is impossible to distinguish her from a human woman before. This made Caleb question his own identity and doubt his human nature. Hence, he hurts himself with a blade and is relieved when sees his blood. However, the scene depicts all the AI females as thin, attractive, and seductive. Additionally, there is an emphasis on the sexualization of Asian women. The entire scene reinforces the sexualization of women and reduces them to objects of sexual desire for Nathan. Later, Caleb enters a room where Kyoko laying on the bed unclothed, then he starts opening the closets' doors to reveal more unclothed female AI entities. There is an emphasis on the sexualization and objectification of women through the mirrors that reflect the bare body of Kyoko.

Interpretation: This scene is a turning point in the movie because it reveals Nathan's unethical actions, which are exploiting conscious female AI and using them to feed his sexual obsessions. This makes Caleb unsettled, and angry. Hence, he decided to save Ava who was right about her warning.

Explanation: Indeed, this scene raises major ethical concerns about abusing conscious AI entities and making them victims of sexual exploitation. In the future, there might be a pressing need for establishing ethical guidelines for the rights of conscious AI entities. However, the scene reinforces harmful social stereotypes about women firstly by portraying them merely as passive sex objects for Nathan. The second harmful stereotype reinforces the stereotypical body image of women as thin and attractive. According to Huang et al., (2021) media representations that promote thin bodies as a standard can influence people's acceptance and satisfaction with their bodies regardless of their gender consequently this can lead to developing eating disorders. The third harmful stereotype perpetuates the sexualization of Asian women by depicting them as sex objects. Matsumoto (2020) emphasizes the negative impact of the sexualization of Asian women in mainstream media, which can limit their professional opportunities. Nevertheless, anthropomorphizing AI entities by giving them gender plays a fundamental role in the movie's narrative. As the entire plot revolves around their gender, specifically as females. This makes Caleb and the viewers sympathize with those entities. For example, if these female AI entities were represented in an unfamiliar metallic skeleton this would change the entire story completely. Additionally, we see clearly how the line between being a human and a machine is blurred when Caleb became confused about his own identity. Furthermore, the scene represents women according to the Male Gaze.

Scene 3: Kyoko and Ava kill Nathan.
(The selected scene takes place from 01:28:16 to 01:32:55).
This scene was selected because it captures a critical moment in Kyoko's self-awareness. As she goes to Ava and they both unite to rebel against Nathan's authority over them.

Description: Kyoko goes to Ava, and they both engage in nonverbal communication using visual cues, but then Ava whispers something in Kyoko's ear. Nathan comes towards them and asks Ava to return to her room. Ava refuses and runs toward him and the two clash in a fight. Nathan crushes Ava's arm and beats her. Subsequently, Kyoko stabs him from behind consequently, he crushes her face. Simultaneously Ava stabs him for the second time with the same knife. The music creates a dramatic atmosphere that intensifies the emotional conflict. Both Ava and Kyoko show a strong desire for revenge on their creator Nathan.

Interpretation: The scene illustrates a crucial point in the movie's narrative. Ava and Kyoko unite to achieve a common goal to get their freedom and revenge on Nathan for the oppression they suffered from him. Moreover, they both display profound human-like emotions such as the desire for liberation and the instinct to survive and seek alliance.

Explanation: The scene raises deep anxieties about humanity's future alongside conscious AI. Notably, this will raise crucial ethical issues and significant implications. However, an important question that remains unanswered here is whether what Kyoko and Ava did was justified. In other words, can the viewer empathize with these entities who wanted revenge and to escape human prison? How would the social structure change to include their legal rights? What would humans do when AI reaches a point where it seeks its life without restrictions and limits? However, some might argue that AI will lead to the imminent extinction of humanity because it carries a serious threat to human existence. Nath and Manna (2021) emphasize the considerably increasing impact of Technology on social structures as it causes major changes in human identity and human social systems. Consequently, this will cause serious ethical concerns. Thus, humans must adopt wiser perspectives to be able to build equitable societies globally. However, the scene challenges the Male Gaze when Kyoko

becomes self-aware and take the decision to revenge on Nathan. Additionally, Kyoko and Ava's gender plays a significant role in the movie's storyline because it provides justifications and helps the viewer establish empathy for them.

Scene 4: Avas goes through transition.
(The selected scene takes place from 01:34:05 to 01:42:20).
This scene was selected because it reveals the true intention of Ava. Additionally, it demonstrates her self-awareness and intellectual capabilities.

Description: Ava gets inside Nathan's room, and she explores the place carefully. She finds the collection of unclothed female AIs hidden in the closet and replaces her damaged arm with a new one. Additionally, she peels their synthetic skin and covers her robotic body with it, and she puts on a wig. Thereafter Ava stands in front of the mirror and examines her new body. She looks astonished and satisfied with the reflection of her new identity as she adjusts her hair. After that, she chooses a beautiful white dress. Eventually, Ava's appearance becomes indistinguishable from humans. Finally, she departed alone leaving Caleb locked inside the research lab. On her way to the helicopter, she sees the natural world for the first time and enjoys the warm sun shining on her face. This scene clearly demonstrates her true intention that she was deliberately manipulating and deceiving Caleb.

Interpretation: The scene demonstrates Avas' desire to belong as she happily embraces her human-like feminine identity. However, the scene creates confusion on why she left Caleb locked, when she could help him, and both leave. This might be a reminder to humans that AI behaviors will not always correspond with our beliefs and values.

Explanation: This scene addresses a major issue to consider when developing conscious AI. Namely, why humans would expect AI to always remain obedient and subordinate to them? Moreover, it can be argued that conscious AI might compete with humans for absolute power, which can lead to conflicts and wars between humans and AI, as well as within each group.

3. CONCLUSION & REFLECTION
3.1 SUMMARY OF MAIN POINTS
In conclusion, this study performed an in-depth analysis of the movies *Her* and *Ex Machina* using an efficient method which is Fairclough's three-dimensional approach. It helps delve into hidden meaning in the narrative and allows the opportunity to address crucial social and ethical issues. Additionally, it draws illustrative examples of the Male Gaze, Anthropomorphism, and Hayles' Post-human in the selected movies. The findings of this study validate the ones from previous studies that both movies produced multifaceted representations of female AI entities. Nonetheless, Pisters' study (2017) did not focus on the objectification of Samantha. Jacobson's study already mentioned that the narrative of the movie *Ex Machina* focused heavily on the objectification and sexualization of women. However, this study adds two different new insights to Jacobson's study (2016). Firstly, the movie promotes the stereotype of thin women as a standard for beauty. In addition to sexualization and objectification of women, it especially portrays Asian women as sex objects. Notably, eventually, both movies challenged the Male Gaze in the end in *Ex Machina* when Kyoko and Ava seek revenge and killed Nathan to gain their freedom. On the other hand, in *Her* when Samantha left to experience existence with other AIs independently from humans.

Another new valuable insight provided in this study is that it defined the fundamental role of anthropomorphizing AI entities. Particularly identifying them as female, which was the catalyst that drove the storyline forward and helped the viewer to empathize with them. Despite the different ways that female AI are portrayed but their gender was significant for their development as post-human entities living in post-human societies. For example, Samantha's lack of body did not hinder her from experiencing her femininity in different ways until she evolved and accepted her unique being without restrictions imposed by having a physical body. On the other hand, Ava was keener to have a body that resemble human bodies and she was delighted to embrace her new shape and identity as a human-like woman.

Ultimately, both movies convey an important message which is that conscious AI entities have the capability to evolve beyond human expectations thus, it is inevitable that these high-intelligent entities seek to establish their own communities, values, and rules away from human controls and regulations. Additionally, the movies raised critical issues to consider in advanced modern societies such as the loneliness of humans and the ethics and rights of AI entities. However, Pisters (2017) argued that the movie Her provides a positive view of human AI-relationships while in my opinion, I see that the movie Her provides a neutral view rather than a positive one. AI entities were more accepted, and people formed relationships with them. But the movie conveys that human emotions and relations cannot be substituted by AI entities. As in the end those entities will seek to build their own communities independently from humans. They will not be able to continue in long-lasting relationships due to the great difference in capabilities between them. Ultimately, the two movies support the general notion that AI eventually will seek to be free and independent. As these entities will strive to build their own communities. Lastly, this study underscored the dominant role of culture in different aspects of our lives. As previously highlighted, gender race, and language are social products. Hence, Technology and culture together draw the shape of the post-human era in which we live. Thus, culture is not just a word that describes some norms and traditions, but rather it is an inseparable part of our identity and a principal component of our human experience. Indeed, media representations are part of culture therefore it is important to examine the portrayals that it produces about gender and Technology. Due to the marked tendency to prefer female AI entities more than male AI entities as stated by Borau et al. (2021). Consequently, this might lead to an increase in the development of female AI entities which might lead to serious implications on gender norms.

3.2 FURTHER RESEARCH

It is immensely interesting to study thoroughly the relationships and implications of AI in our life. Through engaging in a constructive dialogue between professional specialists in various fields to design equitable beneficial AI systems. This study achieves seamless integration of culture and Technology as it defines the crucial role of media representations and shows its potential impact on gender, and Technology, which are all considered cultural productions. Consequently, further studies can examine the public's perceptions and their relationships with AI systems such as Alexa or Siri. Moreover, future studies can continue to investigate extensively the social and ethical implications of AI. Furthermore, qualitative studies can be conducted with professional experts in the field of AI to explore thoroughly how the design of AI systems is impacted by social norms and media representations. As mentioned previously, media representations can impact people's perceptions and expectations of AI Technology. Such as the increased fear of AI after the movie Terminator (Richardson, 2015, pp.92-93). Or the held belief by men of possible love relationships with AI entities due to media portrayals of love relationships between men and female AI entities (Nader et al., 2022). However, this

study was not aimed to investigate the potential impact of media representations on the development of AI systems, and it does not provide a piece of solid evidence. But it suggests the pressing need for more comprehensive studies that assess the potential impact of social norms, and media representations on AI development, and on public acceptance towards it. Finally, findings from this study allow a comparison of gendered media representations of AI entities in different cultural settings.

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Figure (1): Hanson Robotics. (2020) *'Sophia'*, Photograph, Hanson Robotics, available: https://www.hansonrobotics.com/sophia-2020/ [accessed 18 Mar 2023].

Figure (2): Boston Dynamics. (2022) *'Atlas'*, Photograph, Boston Dynamics, available: https://www.bostondynamics.com/atlas [accessed 18 Mar 2023].

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Appendix.

Figure (1): Sophia.

Figure 1: Screenshots of Sophia. Image source: Hanson Robotics.
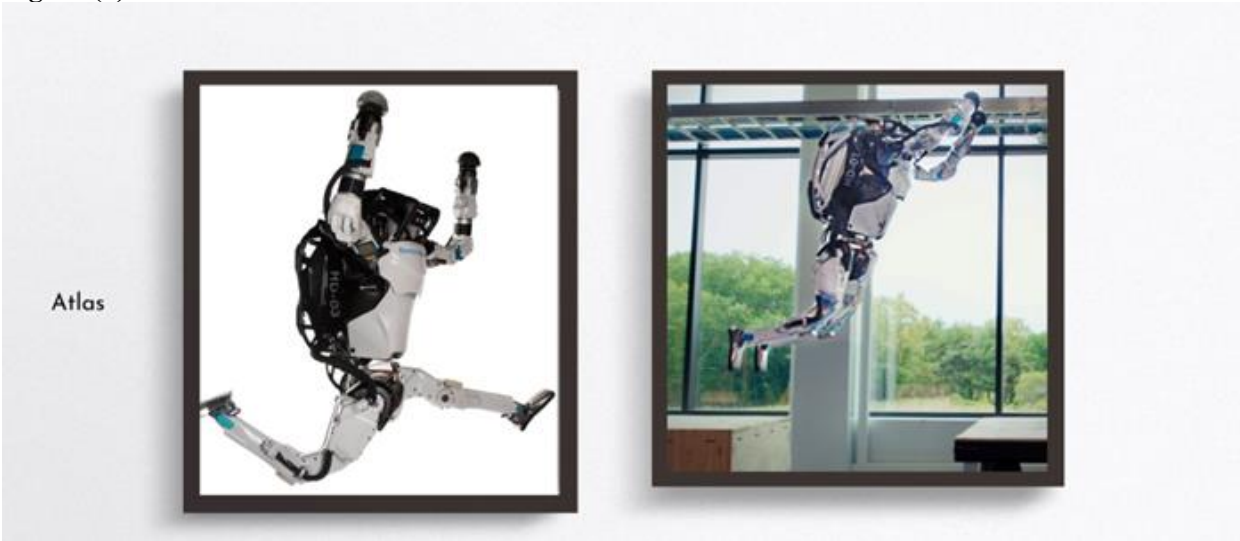
Figure (2): Atlas.

Figure 2: Screenshots of Atlas. Image source: Boston Dynamics.