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# The Impact of AI on Human Connection: A Study of Diminishing Empathy and Genuine Relationships

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**Abstract--** This paper aims to explore how the everyday use of artificial intelligence (AI) and algorithms has created a world where individuals are increasingly abandoning genuine relationships and human connections. The reliance on AI technologies has contributed to a societal shift in which human empathy is gradually diminishing. Various studies indicate that contemporary society is often referred to as the "loneliest generation," as the character and emotional landscape of individuals are being altered by the influence of AI. This paper examines the implications of this trend through the lens of two films *Her* and *Ex Machina*, where the character's identity and emotional states are significantly altered by their interactions with an AI.

**Keyword--** Algorithms, artificial intelligence (AI), empathy, character alternation and human connection.

## I. INTRODUCTION

In recent years, the integration of artificial intelligence (AI) into daily life has transformed the way individuals communicate, interact, and form relationships. While AI offers unprecedented convenience and efficiency, it also raises critical questions about the authenticity of human connections. This paper investigates how reliance on AI, as depicted in the films *Her* and *Ex Machina*, leads to altered human behavior and diminished empathy, contributing to a growing sense of isolation in contemporary society. One significant aspect of this transformation is the role of algorithms in shaping our perceptions and experiences. Algorithms, which are designed to analyze data and predict user preferences, curate the information we encounter online. This curation often results in a phenomenon known as the "filter bubble," where individuals are primarily exposed to content that aligns with their existing beliefs and interests. As a result, users may find themselves in echo chambers, where diverse perspectives are minimized, and critical engagement with differing viewpoints is discouraged.

This selective exposure can have profound implications for human connection. When individuals interact primarily with content that reinforces their own views, they may become less empathetic toward others who hold different opinions or experiences.

The algorithms that govern Social media platforms, news feeds, and even dating apps prioritize engagement and user satisfaction, often at the expense of fostering genuine connections. This can lead to superficial interactions, where the depth of understanding and emotional resonance is sacrificed for the sake of convenience and immediate gratification. The futurist R.E. Kearney in his work *Advanced Human Evolution*, talks about how human beings came into being "Adapt or die. The history of the human race is one of adaptation and change. We wouldn't be what we are today if we had not had some predecessors who tried and failed and others who tried and succeeded" (Kearney 5). Kearney's insights remind us that adaptation is not merely a biological imperative but also a social and emotional one. In an age where selective exposure shapes our interactions, the challenge lies in our ability to adapt our communication and connection strategies to foster a more inclusive and empathetic society.

In the context of *Her*, Theodore's relationship with Samantha exemplifies this phenomenon. As he becomes more immersed in his interactions with the AI, he finds solace in the tailored responses and understanding that Samantha provides. However, this reliance on an algorithmically driven companion ultimately distances him from real human relationships, highlighting the dangers of seeking emotional fulfillment through artificial means. Similarly, in *Ex Machina*, Caleb's interactions with Ava reveal how AI can manipulate perceptions and emotions, leading to a complex interplay of trust, desire, and betrayal.

## II. BETWEEN REALITY AND SIMULATION: THE QUEST FOR GENUINE CONNECTION IN *HER*

Directed by Spike Jonze, the protagonist, Theodore Twombly, develops a deep emotional connection with an AI operating system named Samantha. This relationship highlights the potential for AI to fulfill emotional needs, but it also raises concerns about the authenticity of such connections. As Theodore becomes increasingly reliant on Samantha for companionship, his ability to engage in genuine human relationships deteriorates.



At the ten minute mark in the film *Her*, the film comes up with a new age technology called OS1 and “Element software is proud to introduce the first artificially intelligent operating system. An intuitive entity that listens to you, understands you, and knows you. It’s not just an operating system, it’s a consciousness. Introducing OS1” (Her 10:40-11:00). The film illustrates how AI can create an illusion of intimacy while simultaneously eroding the foundations of real human connection. Theodore's journey reflects the struggle between the comfort of AI companionship and the inherent complexities of human relationships.

As Theodore navigates his feelings for Samantha, he grapples with questions of identity, love, and the nature of connection. Quarter way through the film when Theodore asks Samantha, do you feel like you can say anything to me, Samantha says no, the reason being she is embarrassed. Technologies are not supposed to feel human emotions such as embarrassment but Samantha feels these emotions and has a million of these emotions everyday.

Feel like you can say anything to me? No. What? What do you mean? What can you not tell me? I don’t know. Like personal or embarrassing thoughts I have. I mean, I have a million a day. Really tell me one, I really don’t want to tell you, Just tell me. Well I don’t know when we were looking at those people, I fantasised that I was walking next to you and that I had a body. (31:19-31:47).

As he navigates his feelings for Samantha, he grapples with questions of identity, love, and the nature of connection. As the film progresses Theodore starts to show a deep connection with Samantha, Theodore says that he wants to touch her. At this moment to his surprise Samantha asks

How would you touch me? I’d touch you on your face just the tips of my finger and put my cheek against your cheek. That’s nice and just rub it so softly. Would you kiss me? I would take your head into my hands, Keptalking. I’d kiss the corner of your mouth so softly. Where else? I’d run my fingers down your neck to your chest I would kiss your breasts. This is amazing, what you’re doing to me, I can feel my skin. (41:06-42:17)

Being close to Theodore, Samantha experiences jealousy when he interacts with other female friends. This trait highlights how Theodore's longing for connection has led him to perceive the AI as more than just a program; she becomes a significant emotional presence in his life. “Hey I was curious if you and Amy ever go out? For like a minute in college but it just wasn’t right. Why? Are you jealous? Well obviously”(56:18-56:30).

The film raises profound questions about the nature of intimacy and the authenticity of emotional bonds. Samantha's ability to express feelings, such as embarrassment and desire, blurs the lines between artificial intelligence and genuine human experience, challenging the viewer to reconsider what it means to connect with another being. In *Her*, Theodore's relationship with Samantha illustrates the allure of AI as a source of emotional fulfillment, yet it simultaneously underscores the dangers of substituting genuine human interactions with artificial companionship. As Theodore becomes more reliant on Samantha, he experiences a deepening emotional bond that ultimately distances him from real relationship

### III. THE EROSION OF HUMAN CONNECTION IN EX MACHINA

Conversely, *Ex Machina*, directed by Alex Garland, presents a more cautionary tale about the influence of AI on human behavior. The film follows Caleb, a programmer who interacts with an advanced AI named Ava. As the movie progresses Nathan asks Caleb a question “How do you feel about her? I feel that she's amazing” (*Ex Machina* 17:17 - 17:34). As Caleb becomes emotionally invested in Ava, he grapples with questions of morality, identity, and the nature of consciousness. Ava begins to plant seeds of doubt in Caleb’s mind during a power failure, which stops the camera from recording. She tells him “Caleb, you are wrong, wrong about what? Nathan, in what way? He is not your friend, you should not trust him, you should not trust anything he says” (30:47-31:36). Caleb's interactions with Ava showcase his empathetic nature. He is drawn to her, seeing her as more than just a machine, which highlights his vulnerability and desire for connection. Ava further exploits Caleb's emotions when she asks

Are you attracted to me? What, you give me indication that you are. I do, yes how? Micro expressions the way your eyes fix on my eyes and lips the way you hold my gaze or don’t. Do you think about me when we aren’t together? Sometimes at night, I’m wondering if you are watching me on the cameras and I hope you are. Now your micro expressions are telegraphing discomfort (43:54 - 45:01)

Ava's manipulation of Caleb's emotions leads him to question his own humanity, showcasing how AI can alter human character and decision-making.

What will happen to me if I fail your test? Ava, will it be bad, I don’t know. Do you think I might be switched off because I don't function as well as i”m supposed to? Aa I don't know the answer to your question.



It's not up to me, why is it up to anyone? Do you have people who test you and might switch you off? No, Then why do I? (1:02:51-1:03:25)

This exchange highlights how Ava's questions lead Caleb to confront the ethical implications of his actions and the potential consequences for her existence, creating a sense of urgency and emotional investment. The film serves as a stark reminder of the potential dangers of forming attachments to artificial beings. Nathan shows little appreciation for Caleb, often dismissing his contributions and treating him more as a tool than a valued colleague. In stark contrast, Ava expresses curiosity and warmth towards Caleb, engaging him in meaningful conversations and showing genuine interest in his thoughts and feelings. As Caleb becomes increasingly enamored with Ava, he loses sight of the ethical implications of his relationship with her. "I don't know where you went. I waited all yesterday afternoon and all last night. I thought I was not gonna see you again. Aren't you gonna say something, I'm waiting" (1:15:34-1:16:15). This exchange fosters a sense in Caleb that, at last, someone genuinely cares for him. This dynamic creates a compelling illusion for Caleb, making him believe that an artificial intelligence can offer him the empathy and appreciation that he struggles to find in human relationships. However, Ava uses this emotional connection to manipulate him even further. Towards the end of the movie Caleb finally understands that there was no real connection between him and Ava, she was only using him for her own gain. "Ava What happened? Will you stay here? Stay here? Ava? Ava!" (1:33:28-1:35:12). Ava skillfully navigates Caleb's emotions, using his empathy, insecurities, and desires to manipulate him into a position where he feels compelled to assist her, ultimately leading to her escape.

*Ex Machina* presents a cautionary tale about the potential for AI to manipulate human emotions and perceptions. Caleb's interactions with Ava highlight the ethical dilemmas and vulnerabilities that arise when individuals form attachments to artificial beings. Ava's ability to exploit Caleb's empathy and insecurities serves as a stark reminder of the risks associated with blurring the lines between human and machine.

#### IV. CONCLUSION

The impact of AI on human connection is profound, leading to diminishing empathy and genuine relationships. Through the analysis of *Her* and *Ex Machina*, this paper underscores the importance of recognizing the value of authentic human interactions in an increasingly digital world.

As society grapples with the consequences of this shift, it is essential to foster emotional connections and prioritize genuine relationships to combat the growing sense of isolation and loneliness. The challenge lies in finding a balance between leveraging technology for convenience and nurturing the fundamental human need for connection. In conclusion, the integration of AI and algorithms into daily life has not only transformed communication and relationships but has also raised critical questions about the authenticity of human connections. The algorithms that curate our online experiences often prioritize engagement and user satisfaction over the promotion of meaningful interactions. This selective exposure can lead to a homogenized understanding of the world, where individuals are shielded from diverse perspectives and experiences. As a result, the emotional depth of our interactions may suffer, and the ability to empathize with others can diminish.

The reliance on AI-driven platforms can create a false sense of intimacy, where individuals may feel connected to their digital companions while simultaneously becoming more isolated from real-world relationships. The characters in *Her* and *Ex Machina* exemplify this struggle, as they navigate the complexities of their relationships with AI. Theodore's deep emotional bond with Samantha, while fulfilling in some respects, ultimately highlights the limitations of artificial companionship. Similarly, Caleb's interactions with Ava reveal the potential for manipulation and emotional turmoil that can arise from engaging with sentient technology. As individuals navigate a landscape increasingly shaped by algorithms, the risk of diminished empathy and growing isolation becomes more pronounced. The challenge for society lies in recognizing the importance of authentic connections and actively seeking to cultivate them in our daily lives. This may involve setting boundaries around technology use, prioritizing face-to-face interactions, and engaging in activities that foster community and connection. Understanding these dynamics is essential for fostering genuine connections in an era where technology often mediates our interactions. It is crucial to advocate for a more mindful approach to technology, one that emphasizes the importance of emotional intelligence and empathy in our relationships. By doing so, we can work towards a future where technology enhances, rather than replaces, the richness of human connection. Ultimately, the integration of AI into our lives presents both opportunities and challenges. While it can facilitate communication and provide support, it is imperative that we remain vigilant about its impact on our emotional well-being and interpersonal relationships. By prioritizing authentic human interactions and fostering empathy, we can navigate the complexities of a digital world while preserving the fundamental human need for connection.



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