

**Contextualizing Gender**  
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**Lecture - 58**  
**Ex- Machina and the Female Cyborg**


Welcome dear friends. In the previous module we had discussed Donna Haraway's work 'A Cyborg Manifesto'. It had helped us to reconstruct the ontological category of the cyborg as a signification, promoting a break from dualities and binary oppositions. In this module, we will apply Haraway's post anthropocentric approach towards a Cyborg to decode a 2015 movie Ex-Machina, while foregrounding the cyborg becoming of the gynoid Ava.

As a machine with a consciousness Ava and her anatomy reveal the issues of gendered embodiment. The reading of Ava as a cyborg figuration shall also involve a discussion of the idea of postwoman as proposed by Francesca Ferrando in her 2014 case study with the title of 'Is the post-human a post-woman? Cyborgs, robots, artificial intelligence and the futures of gender: a case study'.


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### *Ex- Machina*: Introduction

- *Ex-Machina* is a 2015 sci-fi thriller, written and directed by Alex Garland.
- This critically acclaimed movie explores the relations between the "human" and feminist posthumanism, AI and cyborg figuration, through the depiction of a humanoid artificial intelligence named Ava.
- The cyborg figuration undertakes a journey from female AI to a "cross- dressed", "real" woman, passing as human in the world beyond the confines of her creator, Nathan, in the movie.



Ava the gynoid  
Source: newyorker.com



2

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intelligence named Ava. The cyborg figuration undertakes a journey from female AI to a “cross-dressed”, “real” woman, passing as human in the world beyond the confines of her creator, Nathan, in the movie.


The title derives from the Latin phrase *deus ex-machina*, meaning a God from the machine. This is a dramatic device that originated in Greek tragedies and dates from the 5th century BC.

It suggests a person or a thing that appears or is introduced into a situation suddenly and unexpectedly and is able to provide an artificial or contrived solution to a difficulty, which is apparently insoluble. A God appears in Sophocles, *Philoctetes*, and in most of the plays of Euripides to solve a crisis by divine intervention.


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### A Cybernetic Point of View

- Haraway has introduced the concept of the “cyborg” in feminist posthumanist scholarship.
- In posthuman philosophy, the cyborg represents the “in-between”-- a figure, facilitating, in the words of Braidotti, “interrelations, multiple connections and assemblages”.
- According to Chris Hables Gray, “the cyborg has been hailed as a posthumanist configuration in its hybridity between human flesh and metal or digital material, its wavering between mind and matter, and its shifting boundaries between masculinity and femininity”. (45)



Ava's fragmented body  
Source: technocult.com



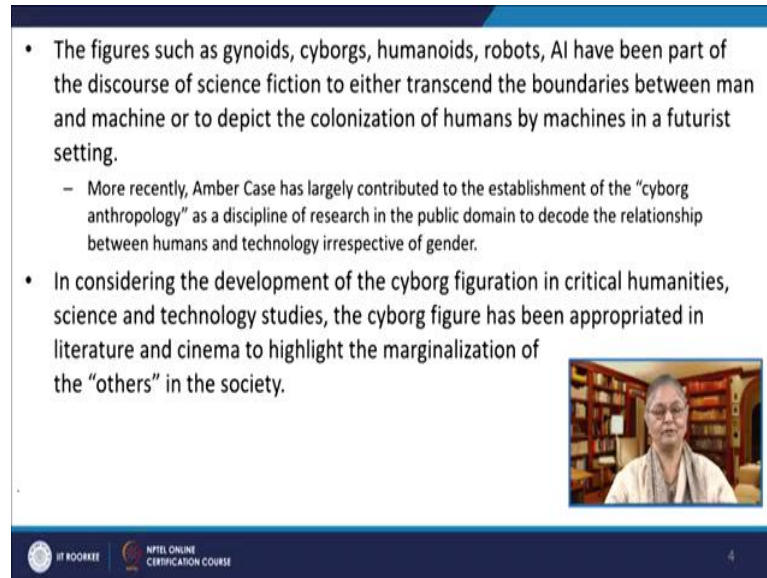
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According to Balsamo, both women and the cyborg figuration are simultaneously, symbolically, biologically and cybernetically produced and reproduced through social interactions. The film also depicts this aspect.

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- The figures such as gynoids, cyborgs, humanoids, robots, AI have been part of the discourse of science fiction to either transcend the boundaries between man and machine or to depict the colonization of humans by machines in a futurist setting.
  - More recently, Amber Case has largely contributed to the establishment of the “cyborg anthropology” as a discipline of research in the public domain to decode the relationship between humans and technology irrespective of gender.
- In considering the development of the cyborg figuration in critical humanities, science and technology studies, the cyborg figure has been appropriated in literature and cinema to highlight the marginalization of the “others” in the society.

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In cinema, especially in speculative cinema, the figure of the cyborg is superimposed on a female body. To either create a femme fatale or to depict the violence caused by patriarchy and male supremacy over the female body. Popular culture generally negotiates the perceived promise and peril of new technologies, through the old technologies of gender and race.

The female cyborg is a fascinating figure that straddles the line between the technological and the biological. She disrupts the notion of the natural, she also rejects the division of femaleness and technology, yet interestingly she is a trope that reinforces hegemonic ideologies of gender and race.

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- The image of the female cyborg, gynoid gains more critical attention as it maps the identity of a woman onto the figuration of the cyborg.
- In some visual narratives, the boundaries between the real and the virtual, material and discursive, human and machine are blurred, to decode the given-ness of the female body and the politics of female sexuality.
- In light of the aforementioned assertions, we will analyze Ava's journey from being a machine -- gynoid in the film *Ex- Machina* -- to a possible cyborg figuration capable of self reflexivity and feeling human emotions.

Source: technoculture.com


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In light of the aforementioned assertions, we will analyze Ava's journey from being a machine that is gynoid in the film 'Ex-Machina' to a possible cyborg figuration capable of self reflexivity and feeling human emotions. In the movie we see Ava being subjected to manipulation, objectification and mutilation; however, we are always reminded of the fact that Ava the machine is also the protagonist of the film.

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- Her identification with the “human- ness” transcends the ontological category of the woman and foregrounds subjective consciousness as she becomes a “signification” in Haraway’s understanding of the “cyborg”.
- *Ex- Machina* (2015) by Alex Garland re-formulates the trope of a sexy female cyborg, machine, AI to create a “machine with consciousness”.
- She is a machine and she is the protagonist.



Source: exmachina.com




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‘Ex-Machina’ by Alex Garland re-formulates the trope of a sexy female cyborg, machine, AI to create a “machine with consciousness”. She is a machine and she is the protagonist. Ava in her body re-roots the socio feminist politics in the technocratic world of AI. She articulates through her actions, expressions, silences and assertions.

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- The cyborg feminist scholars position such beings as “fembots”- a new techno feminist sentient.
- *Ex Machina* represents feminist consciousness predicated on transgressed boundaries on the part of Ava. It is fascinating to see a radical disruption of otherness, patriarchy, sexualization, confinement, violation, and mutilation as structures of oppression implicit in the character of Nathan, the creator of Ava.
- Though Ava’s body is completely material and artificial, her urge to survive and live her life as a human highlight the signs of “human-ness”, dissolving all boundaries of the material and organic.



Source: exmachinapinterest.



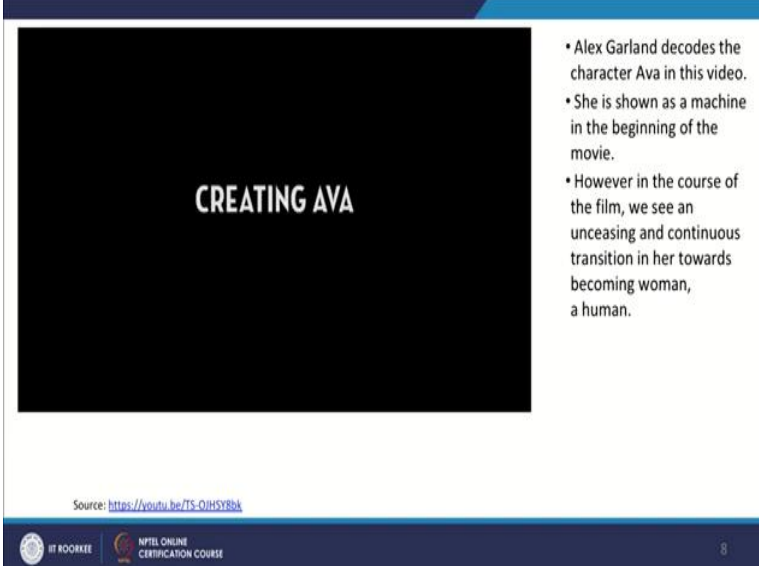
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The cyborg feminist scholars position such beings as “fembots” a new techno feminist sentient. Ex-Machina represents feminist consciousness predicated on transgressed boundaries on the part of Ava. It is fascinating to see a radical disruption of otherness, patriarchy, sexualization, confinement, violation, and mutilation as structures of operation implicit in the character of Nathan, who is the creator of Ava.

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In ‘Ex-Machina’, Caleb portrayed by Domhnall Gleeson and Nathan portrayed by Oscar Isaac, represent two distinct poles of toxic masculinity. However, Ava portrayed by Alicia Vikander depicts a transgression a movement away from the dominant social order. To elaborate on this further let us watch a video where Alex Garland talks about constructing Ava as a character owning herself in the film.

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The slide features a black rectangular area on the left with the text "CREATING AVA" in white. To the right of this area is a list of three bullet points. Below the list is a source link. At the bottom of the slide, there are logos for IIT ROORKEE and NPTEL ONLINE CERTIFICATION COURSE, along with the number 8.

- Alex Garland decodes the character Ava in this video.
- She is shown as a machine in the beginning of the movie.
- However in the course of the film, we see an unceasing and continuous transition in her towards becoming woman, a human.

Source: <https://youtu.be/ZS-OIH5YBk>

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“So, the Ava; obviously, artificial intelligence has been something that is been you know portrayed on screens cyborgs that sort of thing, but Ava’s a pretty original version of that. And I was wondering if you could talk a little bit about how you and the crew and Alicia sort of arrived at the Ava, we see on the screen in the movie.

Well in terms of the construction of her and the design of her, she had two really key elements I think, one was that the first time you saw her, she was very very apparently a machine, there could not be any ambiguity about it.

Because it would open up the possibility within the narrative that she is not a robot, she is a young woman wearing a suit and we needed to close that out. So, that was not a possibility. So, missing sections of her body where there should be organs and instead there are these kind of surrogate organs was a way of doing that.


But, then as soon as you do that, there is a secondary thing which was key in the design, which is you have established she is a machine and then you start to pull her away from being a machine. Because she has got this mesh over the missing sections, that follows the contours of Alicia Vikander's body, and when the light catches it in a certain way you get a glancing sense of a feminine form that then starts to sort of erode the sense of the machine a bit".

In the course of the movie Ava moves from being a machine to becoming a woman. An individual owning her mechanical parts and her human consciousness therefore, a cyborg figuration. According to Braidotti the cyborg provides a framework for studying gender identity as it is technologically crafted and simultaneously from the matter of material bodies and cultural fictions. Ava is the cinematic configuration of this concept.


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### Nathan, Caleb and Ava

- The film follows a young programmer named Caleb Smith who works for Nathan Bateman, the CEO of the company called Blue Rose. Caleb wins a meet and greet with his CEO, Nathan in a company contest.
- Caleb is taken to a remote isolated luxurious home to meet Nathan. Nathan discloses his secret project to Caleb and instructs him to evaluate whether Ava (the gynoid, AI) is capable of passing the Turing test -- i.e., can Ava pass through as a human despite being a machine.
- We see that Caleb becomes extremely attached to Ava in their interactive sessions. On the other hand, Ava also warns Caleb about Nathan and his manipulative nature.



Nathan played by Oscar Isaac  
Source: exmachina.com



9

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Who discloses a secret project to Caleb and instructs him to evaluate whether the gynoid the AI Ava is capable of passing the touring test, that is whether Ava can pass through as a human despite being a machine.

We see that Caleb becomes extremely attached to Ava in their interactive sessions. On the other hand, Ava also warns Caleb about Nathan and his manipulative nature. Turing test assesses a machines ability to exhibit intelligent behaviour equivalent to or indistinguishable from that of a human.

If the evaluator cannot reliably tell the machine from the human, the machine is said to have passed the test. The Turing test originally called the 'Imitation Game' had been developed by the famous British scientist Alan Turing in 1950.

We have discussed the film 'Imitation Game' based on Turing's life in week 5 module 3 on Queer cinema. Turing wanted to discover whether it would ever be possible to construct a computer so sophisticated that it could actually be said to be thinking. And if needed there were some day such a machine how would we know.

In 'Ex-Machina' we see that technologized female bodies, embody and draw attention to gendered identities. The protagonist of 'Ex-Machina' Ava is given a sexual orientation by her creator Nathan. Ava did not choose to become a woman or a sexual object of either Nathan's or Caleb's desires.

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- Nathan, her creator, is depicted as an alcoholic, narcissistic, manipulative character who treats and creates his gynoids as sex-toys for pleasure and amusement.
  - Caleb asks Nathan as to why he has equipped Ava with a gender (00:44:08).
  - Nathan gives a vague answer that without sexuality there is no imperative for “two grey boxes” to communicate with each other.
  - He further comments: “Anyway, sexuality is fun, man. If you’re going to exist, why not enjoy it? You want to remove the chance of her falling in love and having sex?”
- It can be suggested that he suffers from God/Creator complex and is an embodiment of toxic masculinity.

Source: theguardian.com

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10


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If Nathan represents an obsessive-compulsive behaviour towards Ava, Caleb projects signs of megalomania towards her. As the film progresses and Caleb learns about the history of Nathan’s destruction of other female robots, he begins to envision himself as the hero who will free Ava the damsel in distress. Ava is the male produced cyborg fantasy, a powerful, yet vulnerable combination of sex toy and technological sophistication.


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- The film depicts the female cyborg with empathy, though she has no agency or individual identity in the beginning of the film.
- As Caleb begins to feel the plight of the AI, he plans an escape with her. Caleb represents saviour complex in the movie as he misreads Ava as a “damsel in distress”.
  - In Caleb’s eyes, she is so vulnerable that she needs him to free her and will continue to need him once they leave the facility and enter the human world.
- Yet at the end of the film, Ava transforms from damsel in distress into femme fatale, luring Caleb into trusting her by sexually attracting him and then leaving him locked in the facility to die as she exits into the outside world (Zoe E. Seaman-Grant\*).

\* “Constructing Womanhood and the Female Cyborg: A Feminist Reading of Ex Machina and Westworld”, 2017, <https://scarab.bates.edu/honorstheses/2022/>



Source: basementrejects.com



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11

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- Ava is sexualized, under constant surveillance, and Nathan has complete control over her body, mechanics, functioning, and existence; but not over her feelings as we observe in the course of the film.
- Her sexuality is pre-programmed by Nathan to seduce Caleb. In reality Ava does not recognise such fundamental emotions and in doing so breaks the conventional image of a *femme fatale*.



Caleb Talking to Ava  
Source: moviepedia.com



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12

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In reality Ava does not recognize such fundamental emotions and in doing so breaks the conventional image of a femme fatale. Towards the end of the film from being assembled from parts, Ava becomes whole in a literal and figurative sense on her own terms.

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- The plot takes a sudden turn when Nathan gets to know about Caleb's plans to escape with Ava. Nathan manipulates Caleb into believing that he has been the actual object of the study as he wanted to see if his AI is intelligent enough to manipulate Caleb into betraying him.
- However the end scene is dedicated to Ava's liberation from biological determinism and male superiority. As Nathan attempts to destroy Ava and her consciousness, she fights back and stabs Nathan.
- As Nathan bleeds out, Ava repairs herself and wears artificial skin to cover her mechanical appearance. She chooses a wig, a dress, and high-heeled shoes of her choice.

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As Nathan bleeds out, Ava repairs herself and wears artificial skin to cover her mechanical appearance. She chooses a wig, a dress, and high heeled shoes of her choice. As she blends into human crowd Ava reduces the epistemological gap between the man and the machine, in considering the post human genealogy. At the end of the film the

scene of Ava donning human skin to cover her inner robotic workings is accompanied by joyful piano music.

The camera lingers on her as she covers her mechanical self with pieces of a skin, taking from other deactivated female cyborgs and stares at her new naked body in the mirror. This the film seems to say is Ava's moment of liberation, her liberation is entirely contingent on adopting the identity of her oppressors and in doing so dissociating herself from her robot past.

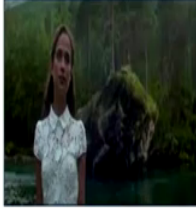
The rejection of a robot past is in favour of a human future that will confer advantages. She rejects her hybrid identity and passes as human in order to access power and acceptance. While her body is constructed according to Caleb's porn preferences, her emotions and expressions are also mirrors of the culture that had surrounded her.

She draws her emotional understandings and performances from Blue Book, that is a production of Nathan's fictional search agency downloading phases from the internet and mimicking them. Femininity for her is therefore, a learnt behaviour, rather than an innate one. It suggests that all femininity is performative rather than natural or inherent.


Ava has learned how to behave in a traditionally feminine manner, by observing the ways human women behave and then adjusting her behaviour to align to that. Because Ava is explicitly not born as a female, yet is still able to adapt her behaviour to mimic ideas of traditional femininity, she complicates ideas of an inherent female gender.

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- As she leaves the facility, she leaves Caleb behind and escapes. She arrives in an unknown city and blends into a crowd. *She is a cyborg: a signification of change.*
- To quote Haraway, the cyborg body has the potential to disrupt the dualism that have been “systemic to the logics and practices of domination of women, people of colour, nature, workers and animals”. (35)
- The ending of the movie also reveals the in-between-ness of Ava, as she is neither wholly culture nor nature, neither technologically constructed nor organically deconstructed. She owns her mechanical and conscious life.



Ava leaves the facility.  
Source: youtube.com




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14

As she leaves the facility, she also leaves Caleb behind and escapes. She arrives in an unknown city and blends into a crowd. She is a cyborg: a signification of change. To quote Haraway, the cyborg body has the potential to disrupt the dualism that have been “systemic to the logics and practices of domination of women, people of colour, nature, workers and animals”.

The ending of the movie also reveals the in between-ness of Ava, as she is neither wholly culture nor nature, neither technologically constructed nor organically deconstructed. She owns her mechanical and conscious life. In the next slide we have a video, it is an excerpt from the trailer and elaborates on the major plot points of the movie.

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- This is an excerpt from the released trailer of the movie *Ex Machina*.
- Here we are introduced to the characters and their respective politics of being and becoming.

Source: <https://youtu.be/50MEF7Db7Gw>

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15

“Hello.

How do you feel about her?

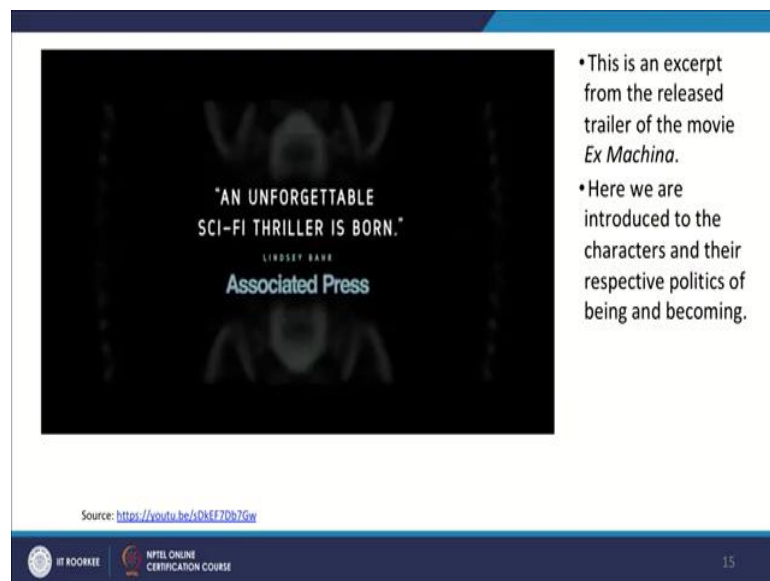
Oh man she is amazing.

Do you want to be my friend?

Of course.

Now, the question is how does she feel about you?

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• This is an excerpt from the released trailer of the movie *Ex Machina*.

• Here we are introduced to the characters and their respective politics of being and becoming.

Source: <https://youtu.be/5DNEF7Db7Gw>

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Did you design Ava’s face based on my pornography profile?

If I did would that be cheating?

Are you attracted to me? Do you think about me when we are not together? Nathan is not your friend you are wrong.

Wrong about what?

You should not trust him, you should not trust anything he says.

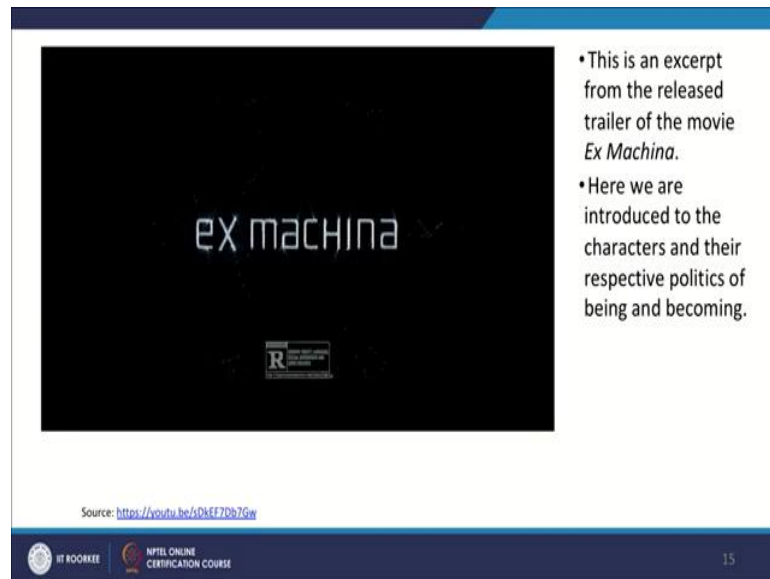
Why did you make Ava?

Believe it or not, I am actually on your side.

Did you give her sexuality as a divergent tactic?

Does Ava actually like you or is she pretending to like you? Ex-Machina.

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The slide features a central image of the movie title "ex machina" in a white, monospace font on a black background. Below the title is a small "R" rating logo. To the right of the image, there are two bullet points. The first bullet point states: "• This is an excerpt from the released trailer of the movie *Ex Machina*." The second bullet point states: "• Here we are introduced to the characters and their respective politics of being and becoming." Below the image, the source is cited as "Source: <https://youtu.be/5DK4EF7Db7Gw>". At the bottom of the slide, there are logos for "IIT ROORKEE" and "NPTEL ONLINE CERTIFICATION COURSE", and the slide number "15" is in the bottom right corner.

• This is an excerpt from the released trailer of the movie *Ex Machina*.

• Here we are introduced to the characters and their respective politics of being and becoming.

Source: <https://youtu.be/5DK4EF7Db7Gw>

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For the viewers and researchers Ava's body becomes an agent of intrigue as she is part human and part artificial in her appearance".

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The slide is titled "I. Ava's Cynthetic Body" and "II. Ava wearing human skin". It contains four images. The first image shows Ava's mechanical torso with internal organs and wires, with the source "Source: medium.com". The second image shows Ava's mechanical torso from a different angle, with the source "Source: recenent.org.ua". The third image shows Ava's face with a mechanical mask, with the source "Source: peeboi.wordpress.com". The fourth image shows Ava's face with human skin, with the source "Source: medium.com". To the right of the images, there is a section titled "The machine becomes a woman" with two bullet points. The first bullet point states: "• The first set of images showcases Ava's mechanical anatomy." The second bullet point states: "• The second set of images shows her evolution as she takes the role, skin and consciousness of a woman, a human." Below the text is a small image of a woman with glasses sitting in a library. At the bottom of the slide, there are logos for "IIT ROORKEE" and "NPTEL ONLINE CERTIFICATION COURSE", and the slide number "16" is in the bottom right corner.

I. Ava's Cynthetic Body

II. Ava wearing human skin

The machine becomes a woman

• The first set of images showcases Ava's mechanical anatomy.

• The second set of images shows her evolution as she takes the role, skin and consciousness of a woman, a human.

Source: medium.com Source: recenent.org.ua Source: peeboi.wordpress.com Source: medium.com

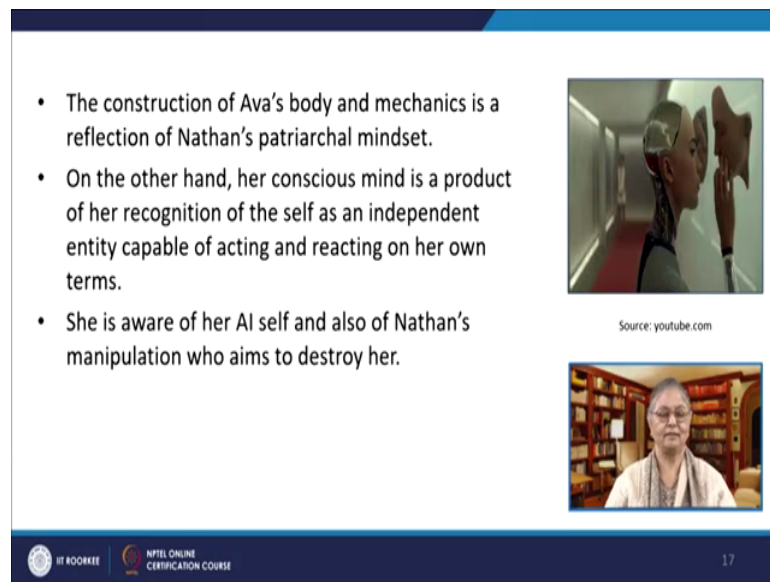
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The first set of images showcases Ava's mechanical anatomy, while the second set of images shows her evolution as she takes the role, skin and consciousness also of a human

woman. Ava's body is visually fragmented, we can see her mechanics and wires running throughout her body in the film.

Her torso and legs reveal the mechanical anatomy; however, her chest, face and lower abdomen are covered with grey matter and human like mask. She is bald and half transparent, at the same time we can understand her consciousness through her actions. She uses her sexuality to escape her perpetrators.

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- The construction of Ava's body and mechanics is a reflection of Nathan's patriarchal mindset.
- On the other hand, her conscious mind is a product of her recognition of the self as an independent entity capable of acting and reacting on her own terms.
- She is aware of her AI self and also of Nathan's manipulation who aims to destroy her.

Source: youtube.com


The construction of Ava's body and mechanics is a reflection of Nathan's patriarchal mindset. On the other hand, her conscious mind is a product of her recognition of the self as an independent entity capable of acting and reacting on her own terms.

She is aware of her AI self and also of Nathan's manipulation who aims to destroy her ultimately. Ava's body challenges feminism, to search for ways in which the female body is discursively and materially created in the post human world.


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- To quote Hayles, Ava's cyborg body is "constructed by communication networks, and other hybrid discourses such as biotechnology, biopolitics", and female sexuality pre programmed as "gender-female" by her creator. Her construction is heterosexual.
- She is prone to assault, mutilation and disfiguration as Nathan rips her hand out in the movie. However, she has the ability to self-repair herself suggesting the instinct of self-preservation, subjective consciousness and the urge to live.
- As she takes on human consciousness and human skin towards the end of the film, we witness her cyborg becoming from being a coded gynoid.



Source: pinterest.com




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She is prone to assault, mutilation and disfiguration as Nathan rips her hand out in the movie. However, she has the ability to self-repair herself suggesting the instinct of self-preservation, subjective consciousness and the urge to live. As she takes on human consciousness and human skin towards the end of the film, we witness her cyborg becoming from being a coded gynoid.

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- In the end we can only presume her future: Is Ava a female humanoid with human consciousness or is she a cyborg with mechanical augmented parts?
- Hence revealing the hybridity of her posthuman figuration.
- She is a visual trope exposing our culture of structured "Otherness".
- She fascinates us as she is like us and also just not like us.



Source: medium.com



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In the end we can only presume her future: is Ava a female humanoid with human consciousness or is she a cyborg with mechanically augmented parts? Hence revealing the hybridity of her post human figuration. She is a visual trope exposing our culture of structured “otherness”. And fascinates us as she is like us and also just not like us.

Alex Garland's cybernetic imagery of possible post human futures establishes the disruption of otherness, nature, culture, nurture continuum and radical textualization of the female body.

Ferrando's definition of the postwoman can also be read as its extension. In her 2014 case study she conducts a methodological analysis of the gendered nature of AI and cyborg.

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- Dr. Ferrando teaches Philosophy at New York University, USA. Her interests include Posthumanism, Transhumanism, Antihumanism and Object Oriented Ontology.
- She is the author of *Philosophical Posthumanism*, and several other articles, like “Posthumanism, Transhumanism and the Future of Religions”. She has founded the Global Posthuman Network.
- She was the recipient of the Philosophical Prize "Premio Sainati", with the Acknowledgment of the President of the Italian Republic.
- The April 2015 issue of the American magazine "Origins" named her among the 100 people making change in the world.

Source: amazon.in

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## Is the post-human a post-woman? Cyborgs, Robots, Artificial Intelligence and the Futures of Gender: Francesca Ferrando.

- As we acknowledge the presence of the cyborg figuration in the cinematic, virtual and literary space, it is essential to contextualize the recent developments in the field of AI, cyborg technologies and biotechnology to situate a sense of entangled affinity between the real and the fictional.
- Francesca Ferrando in one of her case studies, attempts to shed light on some probable human futures and the futures of gender as part of the conversation and epistemological approaches to the situated concept of being “human”.



Source: youtube.com



As we acknowledge the presence of the cyborg figuration in the cinematic, virtual and literary space, it is essential to contextualize the recent developments in the fields of artificial intelligence, cyborg technologies and biotechnology to situate a sense of entangled affinity between the real and the fictional.

Francesca Ferrando in one of her case studies, attempts to shed light on some probable human futures and the futures of gender as part of the conversation and epistemological approaches to the situated concept of being “human”. The primary aim of Ferrando’s study is to analyze the impact of gender on intersectional approaches to science and technology.

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- Ferrando conducted a study related to Gender and Artificial Intelligence at the Department of Cybernetics, University of Reading, England, under the supervision of Professor Kevin Warwick, known as the first human cyborg for his experiments “Cyborg I” (1998) and “Cyborg II” (2002).
- Ferrando’s study is supported by empirical data collected between November 2010 and January 2011.
- According to Ferrando: “The specific question motivating this research was: how and to what extent do gender and the intersectional differences characterizing the human species, inform the development of cyborgs, robots and AI?” (12)



Prof. Kevin Warwick  
Source: businessindia.com




Ferrando had conducted a study related to gender and artificial intelligence at the Department of Cybernetics, University of Reading, England under the supervision of Professor Kevin Warwick, known as the first human cyborg for his experiments “Cyborg I” and “Cyborg II” published respectively in 1998 and 2002.

Ferrando’s studies supported by empirical data collected between November 2010 and January 2011. Ferrando says that, “the specific question motivating her research was: how and to what extent do gender and the intersectional differences characterizing the human species, inform the development of cyborgs, robots and AI?”


Ferrando developed a questionnaire to analyze the futures of AI, cyborg, robots and gender. It was answered by more than 100 students and researchers of the department, she found that most of the respondents consider the future of AI, cyborg and robots to be male and male centric.

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- Ferrando found that most of the participants imagined and actualized the future in a gendered way.
- The results revealed that AI is thought as a male-centric and male dominated area as the future cyborgs were male in the participants imagination.
- “On the other side, gender as a social code [seemed] to resist its biological legacies. Even if sex will have no biological or physiological relevance for robots, in the future gender will be reaffirmed in its hermeneutical role, and precisely: for machines, in their process of identity formation; for humans, to better interact with the machines”. (15)



Source:  
buzzsouthafrica.com



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Most of the participants imagined and actualized the future in a gendered way. The results revealed that AI is thought to be male-centric and a male dominated area as the future cyborgs were male in the imagination of the majority of participants.

“On the other side as she says, gender as a social code seemed to resist its biological legacies. Even if sex will have no biological or physiological relevance for robots, in the future gender will be reaffirmed in its hermeneutical role, and precisely for machines, in

their process of identity formation; for humans to better interact with machines. The sexualization of the cyborg, artificial intelligence adhered to the male systems of knowledge and subjectivities.


Since science and technology are socially and culturally constructed domains, the entrenchment of gender binaries are part of the naturalized explanations of sexual differences, and biological determinism even for cyborg figurations. In the first week of the course, we had discussed the reasons of misogyny, which had resulted in the marginalization of women. The first volume of *Second Sex* by Simone de Beauvoir shows how an early history of theories of reproduction favours male energy.

In the 18th and 19th centuries theories of biological determinism supported by contemporary scientific support had concluded that, as a size of a woman's brain is smaller than that of a man, a woman can never be equally intelligent. It is dismaying that even in the 21st century current technological imagination may embrace a gendered path.

As Ferrando has commented the futures do not appear out of nowhere, they are based on the presents, the pasts, and the ways they are being envisioned. It is important therefore, to be alert about how the futures are actually being conceived and note whether they still hold sexist, racist or ethnocentric biases.

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- The term “post- woman” refers to the breakdown of a single, hegemonized, heterosexual and homogenised category of the Woman.”
- As Rosi Braidotti explains:
  - “The factual element that founds the project of sexual difference, namely, the critique of Woman as a sign of devalorized otherness, is not biological, it is biocultural, that is to say, historical.
  - “Its importance lies in the fact that it allows me and many women like me in the sameness of our gender—all differences taken into account—to state that “we” women find these representations and images of us highly insufficient and inadequate to express our experience. This recognition founds a feminist subject position: feminists are the post-Woman women”. [8]

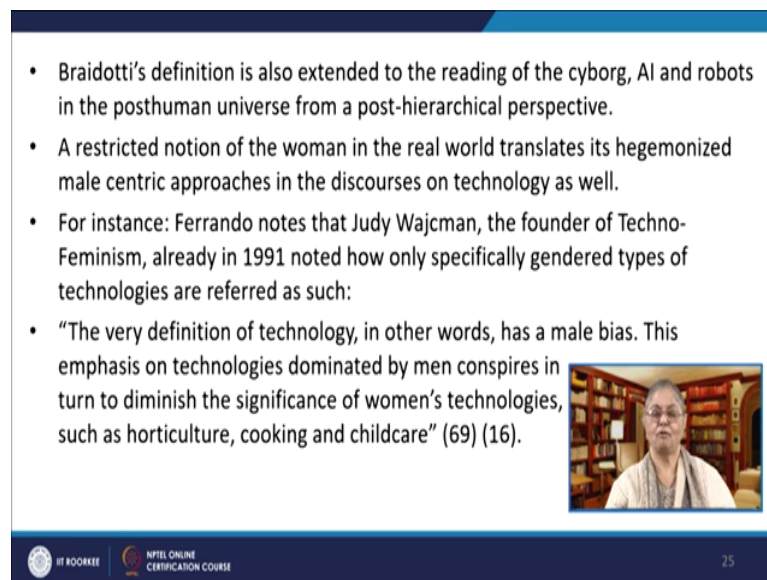


IT ROOFTOP | NPTEL ONLINE CERTIFICATION COURSE | 24

The term “post-woman” refers to the breakdown of a single, hegemonized, heterosexual and homogenized category of the Woman. It would be pertinent to refer to Rosi Braidotti rather in detail at this point and I quote, “the factual element that founds the project of sexual difference, namely the critique of Woman as a sign of de-valorised otherness, is not biological, it is biocultural, that is to say historical”.

“Its importance lies in the fact that it allows me and many women like me in the sameness of our gender. All differences take it into account to state that “we” women find these representations and images of us highly insufficient and inadequate to express our experience. This recognition founds a feminist subject position: feminists are the post-Woman women” unquote. Therefore, we can say that science and technology are not immune to the hierarchical structures of bio power and marginalization.

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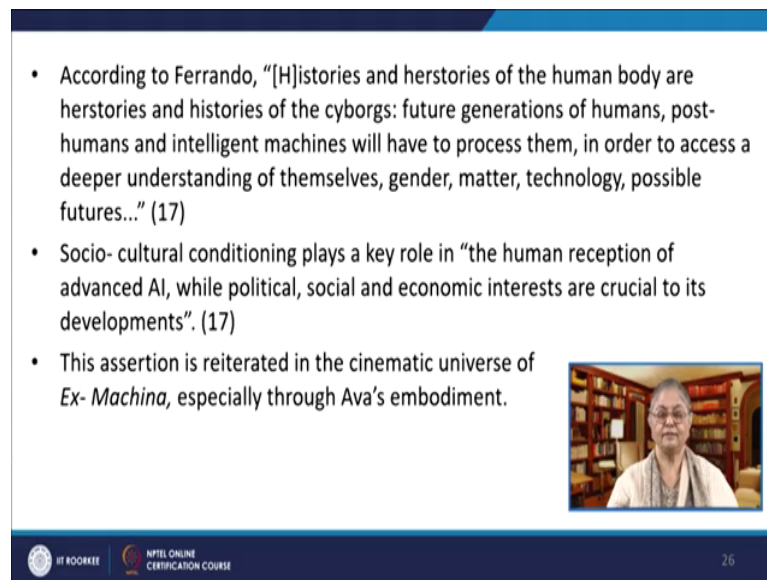
- Braidotti’s definition is also extended to the reading of the cyborg, AI and robots in the posthuman universe from a post-hierarchical perspective.
- A restricted notion of the woman in the real world translates its hegemonized male centric approaches in the discourses on technology as well.
- For instance: Ferrando notes that Judy Wajcman, the founder of Techno-Feminism, already in 1991 noted how only specifically gendered types of technologies are referred as such:
- “The very definition of technology, in other words, has a male bias. This emphasis on technologies dominated by men conspires in turn to diminish the significance of women’s technologies, such as horticulture, cooking and childcare” (69) (16).

Braidotti’s definition is also extended to the readings of the cyborgs, AI and robots in the posthuman universe from a post hierarchical perspective. A restricted notion of the woman in the real world translates its hegemonized male centric approaches in the discourses on technology as well. For instance: Ferrando notes that Judy Wajcman, the founder of Techno feminism already in 1991 noted how only specifically gendered types of technologies are referred as such.


“The very definition of technology, as she writes in other words, has a male bias. This emphasis on technologies dominated by men conspires in turn to diminish the

significance of women's technologies, such as horticulture, cooking and childcare". For Ferrando, much like Ava's portrayal in the movie the future selves should develop a deeper understanding of what is human and humanness, to be able to transgress the constructed boundaries.

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- According to Ferrando, “[H]istories and herstories of the human body are herstories and histories of the cyborgs: future generations of humans, post-humans and intelligent machines will have to process them, in order to access a deeper understanding of themselves, gender, matter, technology, possible futures...” (17)
- Socio- cultural conditioning plays a key role in “the human reception of advanced AI, while political, social and economic interests are crucial to its developments”. (17)
- This assertion is reiterated in the cinematic universe of *Ex- Machina*, especially through Ava’s embodiment.




IIT ROORKEE NPTEL ONLINE CERTIFICATION COURSE 26

According to Ferrando, “histories and herstories of the human body are herstories and histories of the cyborgs: future generations of humans, post-humans and intelligent machines will have to process them, in order to access a deeper understanding of themselves, gender, matter, technology, possible futures”.

Socio cultural conditioning plays a key role in “the human reception of advanced AI, while political, social and economic interests are crucial to its development”. This assertion is reiterated in the cinematic universe of ‘Ex-Machina’, especially through Ava’s embodiment. Therefore, a renewed post human feminist intervention is crucial to un-gender contemporary technological narratives in the form of AI, robots and cyborgs like Ava.

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- In adopting such intersectional approaches to the human-machine interaction, we develop an ontological decentering of our anthropocentric selves. To acknowledge the other is to recognize one's interconnectedness to the multiple others.
- This in Ferrando's analysis, is an evolutionary trait on the part of the human: as articulated by Ava in the film *Ex-Machina*. She is as similar to us as we are to her.
- As a prelude to the future, an onto-epistemological approach foregrounds the interconnected potentials of the human/machine, organic/inorganic ventures to find the meaning of being human and becoming woman, both discursive and material -- as sites of struggle and liberation depicted by Ava in *Ex Machina*.



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In adopting such intersectional approaches to the human-machine interaction, we develop an ontological decentering of our anthropocentric selves. To acknowledge the other is to recognize one's interconnectedness to the multiple others. This in Ferrando's analysis, is an evolutionary trait on the part of the human as articulated by Ava in the film 'Ex-Machina'. She is as similar to us as we are to her.

As a prelude to the future, and onto epistemological approach foregrounds the interconnected potentials of the human machine, organic inorganic ventures, to find the meaning of being human and becoming woman, both discursive and material as sides of struggle and liberation.

To conclude we can say that our post-human and human becomings are deeply centred around the notions of gender and diverse degrees of otherness. These becomings are readily reaffirmed in the domain of science and technology. We will link this discussion with Rosi Braidotti's concept of nomadic subjectivities in the next lecture.

It will also provide some insights on our present human situatedness in the global Covid-19 pandemic.

Thank you.

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