

Human Disconnectedness in a Posthuman Science Fiction film, *Zoe*

Dhita Hapsarani^{1,*}, Devi Nurhayati¹

¹ Literature Department, Faculty of Humanities, Universitas Indonesia

*Corresponding author. Email: dhitahapsarani@gmail.com

ABSTRACT

Posthumanism becomes a central issue featured in the science fiction film *Zoe* that illustrates a human/robot love story. This article will analyze the condition of posthuman displayed in the film through human relations with advanced technology. This study aims to look at the use of artificial intelligence to function as a means and intermediary for socially disconnected humans to connect with their fellow human beings. Using Katherine Hayles's thoughts, this article will explore human engagement with technology in the information age. According to Hayles, posthuman does not mean the end of humans; instead, there is a conceptualization of the extension of human existence in its relation to nature, culture, and technology. Data collection for this research was carried out by collecting textual evidence in quotations and pieces of images in the film. This study findings indicate the lack of confidence and inability in humans to develop interpersonal relationships without machines' help. More in-depth research shows that the film does not provide complete view of the posthuman era's sophistication. By aligning advance technological and human fragility, there is a paradoxical view in the movie that can be seen as a point of criticism conveyed by the text.

Keywords: Posthuman, Relationship, Human, Disconnection, Technology

1. INTRODUCTION

In its development, human life has undergone several stages of evolution. An evolution that is not an extinction as experienced by ancient animals, but an evolution related to changing the paradigm and the way of life. History records that humans started life with a period called society 1.0, which was a hunting society. Then, humans walked a life of farming called society 2.0. Agrarian society indicates that humans had developed cognitively to create agricultural land agribusiness and adapted to new, more sophisticated equipment. The spirit of human evolution was increasingly growing when humans entered life in society 3.0, namely the industrial society. Afterward, humans arrived at society 4.0, which was an internet-based life. Society 4.0 was an information society that realized the increased added value by connecting intangible assets as information networks [1]. In its new development, humans have now arrived at society 5.0, which is a super-smart society. It is called a super-smart society because society 5.0 emphasizes the use of technological sophistication such as the development of artificial intelligence, the Internet of Things (IoT), or big data to improve human life quality.

Society 5.0 is a new paradigm of human life that puts forward the sophistication of digital technology bringing significant changes to society. The concept of human-

centered and technology-based community life makes these digital technologies inseparable from human life and becomes a cultural phenomenon.

One of the posthuman era's cultural phenomena is the creation of robots and artificial intelligence that can help human life. The most famous example is Sophia the Robot. Sophia is an example of a non-human existence that is intended to coexist with humans in life. The presence of robots or cyborgs and artificial intelligence indicates the existence of non-human subjects in life. The joining of human and non-human entities into one in life suggests that humans have arrived at a condition called posthumanism. Posthumanism is an idea that emerged around the 1990s. This idea provides a critical view regarding humans' exclusive position who are considered the only agents in life. Posthumanists see that the future is mediated by technology. Thus, placing humans at the top of the moral hierarchy of life has become an obsolete view. In this case, the creation of advanced technology is a marker of the posthuman condition. Posthumanism approaches the potentials opened by biotechnology, nanotechnology, cybernetics, robotics, and space migration [2]. Apart from being a posthuman artifact, creating a cyborg can also be interpreted as a cultural icon that places humans in the conditions that lead to posthumanism. The creation of cyborgs as a technological artifact and cultural icon and the historically specific construction called 'the human' are

giving way to a different construction called 'the posthuman [3].

Posthuman artifact revolve around humanoid robots that can replace the role of humans in life, and the smart machines that can help humans live their lives. One example is Siri, a smart personal assistant who can help humans solve everything by merely asking. Other innovations in the field of technology also touch the realm of pharmacology. Through the rapid development of science and technology, drugs can be created to fill in for human vulnerability.

Humanoid robots, smart machines, and other technological innovations are the posthuman culture icons that often appear in stories that convey narratives about the future. Many future narratives are shown in science fiction films, and one of the science fiction films with a prominent theme about posthumanism is *Zoe*. The central premise of the film is to put forward a love story between humans and synthetic humans. However, if we examine more deeply, the film's main idea will show a disconnection among fellow human beings when they are no longer able to establish genuine relationships without outside help, namely technology. This paper will focus on exploring human disconnectedness, illustrated by the three elements of posthumanism that are so striking in *Zoe*. The first element is the matching machine which is the epitome of interpersonal disconnection with fellow human beings. The second is synthetic humans who are an incarnation of human intimacy disconnection. The third is stimulant drugs which are the manifestation of emotional disconnection that occurs in human life. Therefore, this study's question is: how is human disconnectedness presented in the posthuman science fiction film, *Zoe*?

2. LITERATURE REVIEW

Some research has discussed the idea of posthumanism. Hartono [4], Lan [5], Henderson [6], Movridou [7] emphasized the gender ideology contained in science fiction films. The research looked at artificial intelligence representation to show the hidden assumptions or ideologies about gender inequality. The next theme that has been widely discussed in the study of a posthuman science fiction film is the body's concept. Ornella [8] and Murphy [9] both took the film *Her* to see the relationship between humans and machines. *Her* is a manifestation of romance in the posthuman era that portrays the love relationships between humans and machines. Research reveals that a digital affair is something unavoidable in the posthuman era. Human/machine relationships are possible to occur, even though the machine does not have a body. Another research related to digital romance in the age of posthuman was aimed to deconstruct traditional relationship patterns. Wenersheid [10] used the "New Network of Desire" concept to see the relationship that could take place between humans and machines. The studies discussed more on gender, embodiment, and the

intimacy between humans and machines. This article will focus on the film's ideological position towards the ideas and beliefs that technology is the answer to all human fragilities.

3. RESEARCH METHOD

This research uses the film theory from Bordwell, Thompson, and Smith to see how narration in the text is displayed through mise en scene. This study also uses a qualitative method, by collecting evidence of quotes and images in the film, which are used to conduct the analysis. Katherine Hayles' posthumanism thinking is used to dissect the posthuman characteristics that appear in the film.

To gain a better insight into the possibilities for the improvement of the research, secondary documents have been collected from supporting journals and books to strengthen the arguments for the posthuman issue contained in the film.

4. FINDINGS AND DISCUSSION

4.1. *The Role of Technology as a Human Facilitator for Creating Stability and Connectivity in Relationships*

Zoe presents the idea that humans can have a more secure relationship if facilitated by technology. In the film, humans are depicted as experiencing emotional degradation and losing their humanist side. This can be seen through the character of humans who have surrendered their lives to technological sophistication that they can no longer make decisions based on what they feel and believe in. Instead, they need the justification from a machine to determine things that are so crucial in life, such as getting married or deciding to get divorced.

The posthuman discourse is so dominant in *Zoe* because it provides an exclusive view of the creation of artificial or synthetic humans. Synthetic humans are non-human entities that have human like characteristics, such as emotions and sensitivity. They are presented in the film as a substitute for human entities and intended to be the best partners of humans in establishing stable relationships.

The creations of technology also give rise to pharmacological products in stimulant drugs, which function as a trigger for the euphoria of love that can no longer be accessed generally by humans. Love is again presented in the form of a pill that can manipulate the sensation of falling in love so that humans can access the love that has been lost from within them. The three elements, namely matching machines, synthetic humans, and stimulant drugs are the posthuman era products that prioritizes technology as a solution to the problems of human disconnection in life.

4.1.1. Matching Machine as an Epitome of the Disconnection of Interpersonal Relationship

A settled relationship is the main idea in *Zoe*. Efforts to build an established relationship are then manifested in a match machine that will justify the success rate of a person's relationship based on a percentage. This is inseparable from the post-human condition in *Zoe*, which presents an artificial intelligence instrument in the form of a matching machine used to find the best match or a match based on numbers. In *Zoe* humans have divinized numbers, so they have to subvert interpersonal feelings and give in to machine justification, which is considered a new belief to create stable and established relationships. Cole Ainsley is a technology genius whose life is so closely tied to advanced technology. Cole is one of film characters who uses a matching machine to calculate his relationship with his wife and then takes a farewell when he scores low on the engine program.

The Machine Program is the epitome of the crisis of trust that occurs between humans. There is disconnectedness that happens with fellow humans when they trust machines more than they trust each other. There is a paradigm shift when humans see the life that today's technology has facilitated. Humans see technology as something that can provide comfort and certainty. This is because humans can get a sense of security when they are in a stable adjustment.

The matching machine is an information pattern consisting of a line component of algorithms in computers. The posthuman condition allows the machine to act like a human being who can speak, think, and count. Hayles considers the human body to be a set of information. This information pattern can then be transmitted to artificial intelligence technology to produce an entity that resembles a human being but has no subtraction of form. The matching machine in *Zoe* is a representation of information that has lost its substrate.

The machine is designed in such a way as to have the intelligence and awareness similar to those of humans, and this is evidenced by machines that can provide assessments and suggestions for couples who want to have a relationship. Humans consume patterns of information generated by machine programs, which are the factors that are external to humans. Meanwhile, humans have ignored the internal feelings that involve their hearts, emotions, and rationality in a relationship to replace all of them with something external.

The machine can provide definite answers and data accuracy to be used as a benchmark in establishing a relationship. In the context of posthumanism, the articulation of numbers becomes so significant. Numbers become something that can be trusted because they show the accuracy of data, one thing that humans who have experienced disconnection and have lost trust in others are looking for.

There is despair depicted in humans in *Zoe*, namely when humans give in to the machine's decisions rather

than promote their interpersonal feelings. This despair can also be seen through the symbolic meaning contained in the film. One of the symbolic meanings can be seen through the tone and colors. Bordwell, Thompson, and Smith revealed that narrative development could be associated with a pattern [11]. Colors can also be used as a reference to identify specific meanings. The black color that appears in the opening of the film and often appears in machine laboratories gives significance to *Zoe*, namely human despair and technology which is present as a solution to every human problem.

The machine laboratory is a frequent location in *Zoe*. In the first 20 minutes of the laboratory, the machine is a relatively intense location setting in *Zoe*. The film opens with a black screen, there are no scenes, and only the sound of a machine interviewing someone is heard. With a dark screen displayed in black and only the engine's sound, this scene can give significance that places technology as the main premise in the storyline. Unlike novels with a series of languages that the reader can read, films have a language that is represented through scenes and visualizations captured on camera. The engine room has an almost stagnant appearance in its image, which has a dark and gloomy feel. The machine laboratory has a static visual appearance in each appearance, which is dark in tone and has minimal lighting (appendix 1). The only light emitted to illuminate the engine room comes from a computer screen that is on.

The color black can be associated with the meaning of despair [12] (appendix 2), and the contrasting light color emanating from the computer screen also has its meaning. The light emanating from the computer screen indicates that computers can provide the light of life for people. The bright light emanating from this machine can be interpreted as a solution to every human problem. The presence of advanced technology can be a way out of the humankind's sad state and their disconnection from life. Human disconnection in life can be reconnected through technological sophistication, and this is a necessity in *Zoe*.

4.1.2. Synthetic Humans as an Incarnation of Human Intimacy Disconnection

There is a disconnection in achieving intimacy in human relationships in *Zoe*. Intimacy cannot be obtained easily because there is a fear in humans to establish a relationship. Humans will always be biologically and emotionally tied to a relationship and expect intimacy. However, when humans cannot find this in other humans, they turn to synthetic humans who are programmed to understand them.

In *Zoe*, synthetic humans are robotic entities that are flowed with information patterns and activated through a computational system. Synthetic humans are entities created to overcome human vulnerabilities since most real humans can no longer synergize with fellow humans in life. In *Zoe*, humans are described as being an entity that is so insecure in a relationship that they can no longer

feel comfortable in a relationship and no longer get intimacy in a relationship. Humans are filled with fear and anxiety, creating a human-like entity programmed to have a safe and long-lasting relationship.

Presenting a significant narrative about posthumanism, *Zoe* presents a new paradigm about the creation of humanoid robots. The humanoid robot is one of the many posthumanism cultural artifacts that have now been developed. In *Zoe*, a humanoid robot in the form of a synthetic human is developed at a level that goes far beyond the level of human rationality, where a robot looks so human-like that it has more real emotions than humans themselves. The new discourse put forward by the Relationist Lab in the creation of humanoid robots is to make humanoid robots in the form of synthetic humans as the best partners for humans. The transfer social robots' function from having a role in society, such as servants, to becoming a companion for human life is one of the characteristics of posthumans who often experiment with advanced technology. *Zoe* presents a provocative narrative about the creation of artificial humans through advanced biotechnology. This can be seen in the film *Zoe* when Cole and the Relationist Lab-created Ash from computer programming are combined with a prosthetic body. Human creation through biotechnology is a provocative discourse in posthuman terminology. Technology that is developing fast enough can present an artificial human creation that can imitate something so essential from humans, emotions. Hayles explained that there is no longer an absolute demarcation that can distinguish between biological and mechanical organisms in posthuman, nor are there any essential differences regarding body modification and computer simulations. This could be an implication of the posthuman future, emphasizing that humans evolved not through something biological (birth) but evolved through digital creation.

The creation of synthetic humans cannot be separated from humans' vulnerability who feel insecure in building relationships. Human vulnerability is shown by their fear of commitment to seek solutions through synthetic humans to achieve safe relationships. However, a synthetic human is the result of programming, to be created based on human will.

The loss of intimacy towards fellow humans can be proven by Cole, who prefers to have a relationship with *Zoe*, a synthetic, rather than improving his relationship with his wife. There is a tendency for someone to place more trust in machines in today's digital life than in fellow humans. In *Zoe*, the paradigm presented is about the belief in technology that has exceeded trust in partners. This indicates that a new complexity exists in the posthuman era, namely challenging the digital life that threatens human interaction. It results in the loss of human intimacy, which is replaced by technological intimacy.

Human vulnerability facilitated by technology creates a sensation of dependence on technology. The connection

offered by technology makes humans feel safe in establishing technology-based relationships because there is stable connectivity. However, a parallel picture appears, which shows that the connections offered by technology also increase the disconnection among people. This can be seen in the film when a synthetic prostitute is intended to be a human talking partner. As a synthetic prostitute, Jewels revealed that humans who come to synthetic prostitutes sometimes do not want something physical; they want to tell stories, ask for forgiveness, and want to be understood.

Jewels: You'd be surprised how many men come to me and don't want anything physical. Some just talk. Some just want forgiveness. What I've learned about men is that sometimes they don't really desire you. They desire the way you make them feel. [*Zoe* 00:46:06 - 00:46:21]

This quote indicates that something has been lost in human relationships, namely trust. Human interaction is becoming increasingly passive, and humans are looking for solutions to cover up their vulnerabilities with something that can be adjusted to their desires. Humans become selfish. They want to be heard. Humans do not want to be involved in anything physical. However, they look for solutions in humanoid robots that promise submission and have a serving attitude resulting from programming. It means that something is specific in humanoid robots.

The lack of trust causes the lack of intimacy. Then, the sophistication of technology comes to offer solutions so that people are lulled into a sense of security and trust obtained through synthetic humans programmed as perfect partners. Digital networks facilitate human vulnerability through the creation of conscious posthuman subjectivity. The new paradigm that has been formed is a manifestation of that. In the digital era, the creations such as synthetic humans can provide a calm and uninterrupted connectivity. This becomes a necessity because of the program's existence, which is designed to read complex human problems. Therefore, the synthetic humans born from this programming results can be made full of certainties that humans seek in a relationship. The birth of a new intimacy between humans and cybernetics subjects raises the terminology of evocative robotic moments. Synthetic humans as cybernetics subjects are presented as subjects who can inspire human feelings to have a safe relationship with humanoid robots. The cybernetics subject in the form of a humanoid robot featured in *Zoe* has a reflective self-awareness that makes it similar to humans and has an existence in life.

4.1.3. Degradation of Human Emotions and Artificial Love in a Stimulant Drug

In *Zoe*, human disconnection in life is also marked by humans' inability to produce natural and normal feelings of love. Benysol is a stimulant drug that generates a provocative idea about the emergence of the first feeling

of love. The Relationist Lab’s mission as a technology development company is to facilitate human needs and problems by offering the technology as a solution.

In a society that is shown has experienced emotional degradation, stimulant drugs are an innovation that can restore the sensation of the first love that has been lost in humans. Love is an emotion that comes from within humans. However, humans can no longer access these emotions, so they need external stimulation that can cause the sensation of falling in love created through technological innovation.

There is an exciting juxtaposition depicted between humans and synthetic humans in response to the sensation of love. Synthetic humans are described as being able to feel love naturally compared to humans who are no longer able to naturally access the feelings of love. Ash is one of the synthetic humans created by the Relationist Lab who can feel love for Zoe. This is shown by Ash when he is watching the clinical trial for Benysol. Ash consciously expresses his intention to use Zoe’s drug with Zoe because he has feelings of love for Zoe. As a synthetic human, Zoe can experience a love that is so real and without manipulation. He can feel love for his creator, Cole, without stimulant drugs to get the ideal feeling of love.

In a scene, it is also seen that humans end up using stimulant drugs only to get a moment of pleasure in achieving sexuality. Benysol, originally intended to create a feeling of love, turns into a discovery that creates catharsis when humans only use it for sexual activity.

The Relationist Lab calls Benysol a drug, not a medicine. There is a significant difference between drugs and medicine. Medicine is both healing and helpful, while drugs can be both helpful and harmful. This is in line with the creation of Benysol, which is trying to bring back the lost feeling of love in humans, but in the end, it becomes abuse when humans consume it to manipulate sexuality.

Stimulant drugs function to induce a feeling of love euphoria, causing addiction to those who use them. Consequently, humans are willing to do anything to get the stimulant drugs. At 01:05:47 minutes, there is a metaphorical look when a man is seen looking for Benysol in a trash can, and Ash is looking at him from the Relationist Lab building from a distance and height.

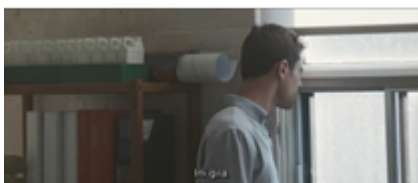


Figure 1 Ash looked at the person who was being affected by the Benysol. (*Zoe*, 2018, mins: 01:05:46.)



Figure 2 The person who was looking for Benysol in the trash (*Zoe*, 2018, mins: 01:06:05.)

Ash is lowering his gaze down to stare at humans, and this can be interpreted that synthetic human could look down on humans whose lives are no longer meaningful. Furthermore, love is no longer meaningful, it has been wasted, and humans are becoming insane in the progress of the era which is filled with today's sophisticated technology.

4.2. Juxtaposition View and Film as a Critic

In *Zoe*, there is a view of the juxtapositions seen between humans and synthetic humans. Human vulnerability and disconnection have led people to give in to the sophistication of technology presented as a solution. In synthetic humans, synthetic humans are non-human entities capable of accessing real emotions and feelings, when humans have experienced emotional degradation.

Zoe brings the narrative about creating artificial humans or humanoid robots that are one level ahead of just primitive entities. This can be seen with the creation of synthetic humans projected as real humans with human figures and characteristics. There are parallels between humans and artificial humans that can be identified through physical and emotional characteristics. Emotion becomes the most apparent demarcation to see the difference between humans and other non-human entities such as robots. Emotion comes from humans that can cause feelings of anger, joy, fear, sadness, or love. Emotion is attached to consciousness, which is also an essential human element. However, in *Zoe*, emotion and consciousness can be imitated into synthetic human figures, ultimately removing the barrier between humans and synthetic humans. This can be seen when Ash is showing his social skills at a technology exhibition entitled Somatech. Ash gives a short speech explaining that he is a synthetic human who looks amazed by Ash's almost perfect ability as an artificial human.



Figure 3 Ash while being demonstrated and giving a speech at the technology exhibition (*Zoe*, 2018, mins: 00:37:52.)



Figure 4 Ash is describing himself as a synthetic individual that designed to understand and love humans. (*Zoe*, 2018, mins: 00:37:26.)

In Figures 3 and 4, Ash is shown giving a short speech to introduce himself to the public. In Figure 3, Ash is shown facing the audience. The shooting angle uses a medium close up and over the shoulder (OTS) technique by pointing the camera from behind Ash, facing the audience. Quoted in the nofilmschool website, [12]

“OTS shots establish an eye line for the audience and can drop us into an intimate point of view”

The over the shoulder shooting technique shown in Figure 3 has the meaning of showing the reactions in a conversation. The camera's eyes that are directed at the viewers who look serious listening to Ash's speech, show a point of intimacy that is awakened between humans and artificial humans. The medium close-up technique used in Figure 3 also shows two connected objects, thereby building up the intensity between humans and synthetic humans. The camera eye that points to the audience implies a sense of curiosity that awakens in humans when Ash tells his experience of being a synthetic human. Bordwell, Thompson, and Smith [10] explained that the editing process in a film could shape the audience's focus on a character. In Figures 3 and 4, the scene's focus is on the character Ash as a synthetic human being introduced to the general public. The high angle shot puts Ash in the center of attention, surrounded by humans staring at him. Shooting with a high angle can give the impression of power and helplessness towards the subject in a scene. Presenting a narrative about human vulnerability in a relationship, *Zoe* places synthetic humans in the middle of a vortex of human problems. Synthetic humans appear as a solution presented to overcome the human inability to establish relationships with others and overcome human problems that have experienced emotional degradation.

About stimulant drugs, synthetic humans are also shown to be the entities capable of producing normal love feelings. Conversely, humans are shown to be detached and become slaves to these stimulant drugs. The juxtaposition view that synthetic humans look more human than humans themselves makes this film appear as a critical text against humans who are increasingly losing their minds when many people use their intellect and intelligence to create sophisticated innovations in the middle of time life

5. CONCLUSION

Based on the explanation above, it can be concluded that the main finding obtained in the study is the presence of artificial intelligence technology that has been created to meet human vulnerability. There is a disconnection that occurs among fellow humans. The disconnection can be seen from the use of technology to cover all human's problem. Then there is a paradoxical view in *Zoe*, which can be interpreted as a point of criticism. Namely, the sophistication of technology initially intended to help humans then becomes a catharsis for humans who seem increasingly paused and disconnected in their lives. The connectivity that technology offers goes hand in hand with the increasing disconnection that occurs in human life.

The film does not provide an exclusive view of the sophistication of the posthuman era. By aligning advanced technology and human fragility, a paradoxical view in a film can be seen as a point of criticism conveyed by the text when humans are portrayed to lose their humanist side. In contrast, artificial humans are shown to be more human. This article reveals that the film criticizes the belief that technology is the answer to compensate for human vulnerabilities and needs in the posthuman era.

AUTHORS' CONTRIBUTIONS

All authors contributed to the study conception and design. Material preparation, data collection, and analysis were performed by Devi Nurhayati. The first draft of the manuscript was written by Devi Nurhayati. Conceptualization, supervision and review, and language editing was performed by Dhita Hapsarani.

ACKNOWLEDGMENTS

This work was supported by PUTI Proceeding Grant provided by the Directorate of Research and Community Service Universitas Indonesia.

REFERENCES

- [1] Ferrando, F. (2014). POSTHUMANISM. *Tidsskrift for kønnforskning*, 38(02), pp. 68-172. <https://doi.org/10.18261/ISSN1891-1781-2014-02-05>
- [2] Hayles, N. K. (1999). *How we became posthuman: virtual bodies in cybernetics, literature, and informatics*. The University of Chicago Press, Ltd.
- [3] Hartanto, D, D. (2006). Peranan Cyborg dalam Film “I, Robot” (Cyborg's Role in the Movie "I, Robot"). *Nirmana*, 8(2), pp. 99-106. <https://doi.org/10.9744/nirmana.8.2.pp.%2099-106>
- [4] Lan, K-W. (2013). Apocalyptic posthuman and techno-religious transcendence in *Casshern*. *Journal of Japanese and Korean Cinema*, 5(1-2), pp. 77-97. DOI: 10.1080/17564905.2013.10820073.

- [5] Henderson, P. (2014). "Queering the Posthuman: Representation of Technology, Gender, and Sexuality in Her".
https://www.academia.edu/9522252/Queering_the_Posthuman_Representations_of_Technology_Gender_and_Sexuality_in_Her
- [6] Movridou, I. (2016). Gender, (Dis)Embodiment, and the Image of A.I. and Robot in Spike Jonze's Her and Alex Garland's Ex Machina. [Unpublished Dissertation]. Aristotle University of Thessaloniki.
<http://ikee.lib.auth.gr/record/292636/files/GRI-2017-19827.pdf>
- [7] Ornella, A. (2009). Posthuman Pleasures: Transcending the Human-Machine Boundary, *Theology & Sexuality*, 15(3), pp. 311-328. DOI: 10.1558/tse.v 15i3.311.
- [8] Murphy, Paula (2017). "You feel real to me, Samantha": the matter of technology in Spike Jonze's Her. *Technoculture: An Online Journal of Technology in Society*, 7. <https://tcjournal.org/vol7/murphy>
- [9] Wennerscheid S. (2018) Posthuman Desire in Robotics and Science Fiction. In: Cheok A., Levy D. (eds) *Love and Sex with Robots*. LSR 2017. Lecture Notes in Computer Science, vol 10715. Springer, Cham.
https://doi.org/10.1007/978-3-319-76369-9_4
- [10] Bordwell, D. Thompson, K. & Smith, J. (2017). *Film Art: an Introduction*, Eleventh Edition. McGraw-Hill Education.
- [11] Kim, J. H., Jun, Y. S., & Kim, Y. S. (2014). Costume color design as a symbolic expression in the independent film (Bittersweet Life)-Images in situations of movie location. *The Research Journal of the Costume Culture*, 22(1), pp. 167-182. <https://doi.org/10.7741/rjcc.2014.22.1.167>
- [12] Hellerman, J. (2019, June 26). What is an Over the Shoulder Shoot (OTS) & How Do You Use It? No Film School. <https://nofilmschool.com/over-the-shoulder-shot-examples-definition>