Uncanny Faces: From Labor Substitution to Human Race Replacement in *Autómata*

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The increasing technification of almost all labor sectors is unquestionable starting from the First Industrial Revolution onwards. Currently, in the era of the so-called Fourth Industrial Revolution, however, digitalization, artificial intelligence, robotics, etc. have opened "unprecedented technologies that can be used to measure, track, analyze and perform work in ways hardly imagined during Taylor's and the Gilbreths' lifetimes" (Moore, Upchurch and Whittaker 2). Robots are certainly the protagonists in this context, and science fiction has been one of the main cultural instruments in which humanity has discussed the consequences of its uses and future development more deeply. The genre utilizes fictional beings, like intelligent robots, to think and to question humanity's own nature, offering a unique lens through which humans can understand ourselves. In this sense, thinking about robots and labor in the context of science fiction, involves, in one way or another, considering our own — current or future — relationship with artificial intelligence and work. Nevertheless, the comparison between machines and humans turns out to be problematic in many cases. To recognize, for instance, that machines can be equally efficient as people in some kinds of jobs (or even better) implies, in a sense, the recognition of how mechanical much of the work we do in our daily life is; in other words, to realize how robotic we are in the context of employment.

Science fiction film has been exposing this idea from the very beginning. Films such as *Metropolis* (Fritz Lang, 1927) focus precisely on the alienating condition of the working class in contemporary societies, where labor requires, in many cases, repetitive and mechanical actions. In the same way, recent technification and robotization of labor implies such alienation and, moreover, that workers could even be substituted by machines. In fact, some authors suggest "that almost half of all jobs in the USA may be under threat of disappearance in the next two decades"

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(Upchurch and Moore 46). The rebellion in *Metropolis* reflects the worker's precarious labor conditions and their disagreement with this alienation, which is also evident in contemporary societies. Phoebe Moore and Martin Upchurch point out, in this respect, the frequent Marxist criticism of the robotization of labor (54-55), where emancipation becomes a main concept. Other authors also underscore the correlation between robots and slavery (Dinello 58-85; Gunkel 17-9; Rhee 17-8). Similarly, science fiction related to robots, artificial intelligence, and automata, are frequently read as narrations of the machines' emancipation.[1] And this is also the case of the film *Autómata* (Gabe Ibáñez, 2014), a Spanish-Bulgarian co-production whose name refers to robots' automatic operation.[2]

The intention of this paper is to address Gabe Ibáñez's film in order to consider its representation of robot liberation. *Automata* suggest the possibility of robots' emancipation from humanity by violating their security protocols. The unprecedented development the intelligence of these machines and their liberation conduct us to focus on influential ideas like Asimov's Three Laws of Robotics, whose purpose is to protect humans from robots; and technological singularity theory, developed by authors Vernor Vinge and Ray Kurzweil, which depicts a hypothetical point in time when technological development becomes uncontrollable and results in a powerful superintelligence that surpasses all human intelligence. In addition, I argue that the robot's emancipation is accompanied by a transformation in their physical aspect, which is, at the same time, determined by the kind of labor they have been conceived for. Consequently, I will trace an analysis regarding the variety of automata depicted in the movie to reflect upon the diverse appearances of the machines depending on their labor and on the grade of emancipation they achieve. The physical representation of the automata shows a more artificial aspect when robots carry out activities that do not necessarily require direct interaction with humans (the construction industry for example); however, on the contrary, when an automaton is required to be in close contact with people (like in the case of prostitution) the machine's appearance is conceived in a more humanlike manner. In this respect I will analyze, particularly, Masahiro Mori's

[1] *Bicentennial Man*, (Chris Columbus, 1999); *I, robot* (Alex Proyas, 2004); *Real humans* (*Äkta människor*, Lars Lundström, 2012); *Ex-machina* (Alex Garland, 2015); among others.

[2] The title *Autómata* allude to Early-Modern automata such as *Canard digérateur* made by Jacques de Vaucanson in the XVIII century. In fact, the main character of the film is named Jacq Vaucan, in a clear allusion to the historical engineer.

uncanny valley theory from 1970, which highlights how people respond differently to a robot's appearance according to its degree of similarity to human beings. In the end, I will argue that *Autómata* raises powerful connections between both concepts, appearance, and emancipation.[3]

Appearance and Labor: Uncanny Faces

As I have pointed out, my interest focuses on intelligent humanoid robots, who are the protagonists of *Autómata*.[4] This Spanish-Bulgarian co-production, directed by Spanish filmmaker Gabe Ibáñez, is a significant piece in south European science fiction because of its philosophical concern about artificial intelligence. To sum up, the film takes place in the near future, when the world is completely polluted by radiation and where ROC is the robotics corporation that controls all the automata in the city. The protagonist, Jacq Vaucan, is a ROC corporation inspector, who discovers that some of the automata made by the company have infringed security protocols: "the first protocol prevents the robot from harming any form of life, the second protocol prevents the robot from altering itself or other robots."[5] Only one prior science-fiction film produced in Spain has touched on themes of artificial intelligence — *Eva* (Kike Maíllo, 2011) — although it concentrates mainly on the emotional responses of a child robot, similar to *A. I. Artificial Intelligence* (Steven Spielberg, 2001). Despite there being many worker robots in *Eva*, most of them do not have a humanoid appearance (except for a domestic machine called Max); however, in contrast, *Autómata* makes use of anthropomorphic robots for almost all jobs and every single automaton in the movie has been conceived for a specific type of labor.[6]

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[3] A previous analysis of *Autómata* can be read in Madrid. This work focuses also on technological singularity theory, but more in relation with transhumanist thought and the contemporary scientific context.

[4] According to Rhee, humanoid robots are relevant culture figures because, in creating them, people are reconceptualizing the human being. Humanoid robots are certainly unhuman and yet, through explicit anthropomorphic practices, at the same time modeled on the human: "the robot, is simultaneously gesturing to the human and the not-human" (4).

[5] Indicates when the quotation is mentioned in the film.

[6] To know more about science fiction in Spanish culture, see López-Pellisa (2018); and specifically, for Spanish science-fiction film, see Madrid (2019).

Our interest in anthropomorphism comes from the differing types of relationships humans usually establish with machines depending on their appearance, and in this film, as we will show later, the automata have different looks depending on the activity they are carrying out. Contemporary industries have developed many robots to optimize manufacturing jobs, but these machines do not require human features. Other labor sectors, such as the service industry and customer support are more interested, however, in developing more human-like machines. That is due, in our opinion, to the degree of proximity to people, in other words, the degree of humanness robots have to pretend. According to Jennifer Rhee, anthropomorphic paradigms "organize robots to identify the specific vision of humanness and of the dehumanized they evoke" (2). In the case of *Autómata*, the robots' appearances clearly result from the grade of humanness they should show to people, and this is determined by the sort of jobs they perform. Even though all automata represented in Gabe Ibañez's film are humanoids, there are relevant differences in their appearances, as we will describe later. Rhee insists on concepts such as familiarity-unfamiliarity, recognition-unrecognizability, etc., to place what she calls "the anthropomorphic metaphor" as a central question when scrutinizing machine intelligence, "a metaphor that brings human and nonhuman into a relation of similarity" (5-11). In this regard, *Autómata* becomes a catalog of machine intelligences of different degrees of human likenesses (builder, household assistant, etc.) as samples of this anthropomorphic metaphor. And here is where Masahiro Mori's uncanny valley theory becomes crucial.

Masahiro Mori developed this theory in 1970 to explain how humans react emotionally to robots and other humanlike entities. According to this, "people are likely to respond more and more positively to a series of increasingly humanlike entities until a certain point-somewhere around 80 percent humanlike at which the emotional response suddenly becomes extremely negative" (Seo-Young 217). Mori pursued the uncanny valley theory in regard to robots, but also other figures such as puppets, dolls, or even certain parts of the human body. Alluding to a prosthetic hand, for instance, he suggests that "once we realize that the hand that looked real at first sight is actually artificial, we experience an eerie sensation. […] When this happens, we lose our sense of affinity, and the hand becomes uncanny. […] Therefore, in this case, the appearance of the prosthetic hand is quite humanlike, but the level of affinity is negative" (99). Mori highlights, moreover, the factor of movement. If the velocity of the movement differs from human velocity, the uncanny sensation increases. In the case of robots, he adds: "Since the negative

effects of movement are apparent even with a prosthetic hand, to build a whole robot would magnify the creepiness" (100).

I will consider all these ideas later in my analysis of *Autómata* by examining the variety of robots depicted in the film. However, I want to mention that my observations will be also inspired by Jennifer Rhee's labor classification in her book *The Robotic Imaginary* (2018). She analyzes "care labor," "domestic labor," "emotional labor," and "drone labor." All those occupations are represented in contemporary science-fiction film by worker robots. We can find several industrial jobs carried out by robots in *I, robot* (Alex Proyas, 2004), *Eva* (Kike Maíllo, 2011) or *Real Humans* (*Äkta människor*, Lars Lundström, 2012-2013); domestic/childcare and household tasks in *The Bicentennial Man* (Chris Columbus, 1999), *Robot & Frank* (Jake Schreier, 2012) or *I Am Mother* (Grant Sputore, 2019); emotional labor in *A.I. Artificial Intelligence*, among others. Moreover, many of these and other examples show robots that conduct more than one of these activities at the same time. In the case of Gabe Ibáñez's film, I am going to present a similar set of categories to examine: first, a construction-work robot; second, a domestic robot; and finally, a sex robot.

Firstly, I will observe the most common robots in the film, called Pilgrim 7000s by ROC corporation. These machines were created to protect people from radiation (for example, these robots built artificial clouds to resist desertification) and to conduct multiple tasks such as nursing care, childcare, domestic chores, etc. Among them, we can distinguish the different units — some are yellow and the others white. The robots painted in yellow are builders, welders, etc. and the ones painted in white work in childcare and carry out domestic chores. Both designs are quite similar, but the first group, as we can see in Figure 1, has a more industrial look, with some yellow and black stripes on their legs, like the security seals frequently used in construction. Moreover, they are the only kind of robots that we see connected to an electronical device (probably for re-charging) during the film; and this is not a minor detail, because, as we will see, the aspect of some machines will gradually lose their industrial look over the course of the film, particularly when they interact with humans.

Figure 1. *Autómata*'s frame. Jacq inspections industrial robots Pilgrim 7000s, which show a very industrial look.

In Figure 2 (a shoot from the black and white opening credits) we have the white ones, which, on the other hand, mirror the cleanliness expected for a nurse or a cleaner, and they are not shown with the same industrial devices or chargers, which, as we argue, helps with the perception that they are more closely related to humans, a factor that their jobs require. Regarding the faces, they look the same in both models, with two small circular lights resembling eyes and a tiny orifice at the bottom, evoking a mouth. Nevertheless, the grade of artificiality is still very high in these Pilgrim 7000s, and no sign of consciousness or emotional awareness is revealed at the beginning.

In this regard, Seo-Young delves into the relevance of artificiality for the uncanny valley. He compares the disturbing sensation caused by robots with other humanlike creatures such as the chimpanzee:

> These animals are at once extremely humanlike and obviously less than completely human in form and behavior, but we are apt to think of them as endearing and cute (as opposed to eerie and haunting). How is it that the chimpanzee can escape the uncanny valley while the humanoid robot so often finds itself consigned to the valley's depths? The crucial difference between robots and chimpanzees is that robots are, by definition, constructed rather than born. (217)

Consequently, Seo-Young ends up highlighting that the uncanny valley's theory can be defined "as a feeling of disturbing uncertainty over whether a given *artifact* is human or nonhuman" (217).[7]

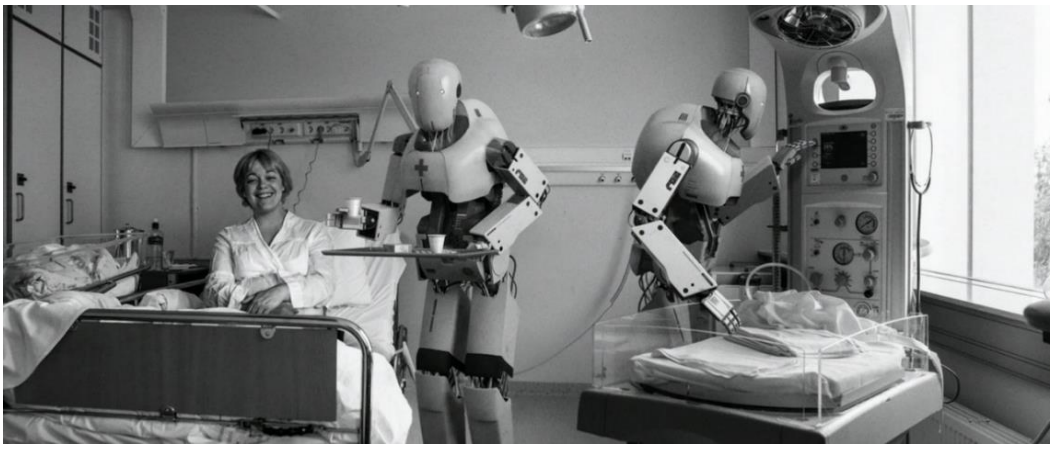

Figure 2. *Autómata*'s frame. Two white Pilgrim 7000s, act as nurses in a hospital. In this case the robots have a cross painted in their chest to indicate their medical activity.

Despite the obviously artificial features of automata, the application of anthropomorphism causes moviegoers and human characters alike, to react to the robots as though they were empathetic beings with emotional competence. The best example in *Autómata* is the scene illustrated in Figure 3, when scientists analyze a burned Pilgrim 7000 at ROC's laboratory. When the machine suddenly disconnects, a liquid starts to fall from the holes in its face and one of the scientists says to Jacq: "Now you make it cry." Despite him using the pronoun "it," the connection between a liquid coming out from a machine and tears indicate the projections of human behavior that people unconsciously place on humanoid robots. Another example of this is subtly represented in the opening credits, where the backstory is divulged in black and white scenes. They narrate a past when human beings confronted robots because of their inability to eradicate atmospheric radiation and desertification. To attack machines, as they do with other people,

[7] Chu Seo-Young observes, in fact, the interior structure of the artifacts depicted by Elaine Scarry in *The Body in Pain* (chapter 5), where she establishes three categories: "super-real" artifacts, "that work by seeming real," and works of art. (218).

humans seem to need to see them personified, so they drew on the automata to give them more human-like facial features, as we can see in Figure 4.

Figure 3. *Autómata*'s frame. A burned Pilgrim seem to be crying when a liquid fall from the orifices in their face.

Figure 4. *Autómata*'s frame. A Pilgrim shows facial features drawn by people.

This personification, nevertheless, turns uncanny when human characters notice behaviors or attitudes that a Pilgrim is not supposes to have, such as repairing itself (infringing security protocols) or polishing the metal surface of a locker to use it as a mirror (which implies self-awareness). According to Seo-Young, the disturbing sensation that those actions provoke in humans is even stronger because of the automata's industrial and artificial appearance (217). In fact, as we will comment here below, the relationship between people and robots becomes more natural and closer with a different model of Pilgrim, Cleo, whose features and face more closely resemble a person.

The Cleo model, shown in Figure 5 exhibits a completely different style, clearly determined by the job she is conceived for, sex work. And here we can use the pronoun "she" because designers emphasized certain body parts in this case, to turn the original industrial Pilgrim appearance into a feminine body. To achieve this, they added breasts, buttocks, a wig, and a humanlike mask. In addition, Cleo has been given doll-like eyes and even the ability to blink. The function of the mask and the face details is to reduce the uncanny sensation for humans and increase familiarity and affinity with the machines. This function clearly follows one of the ideas expressed by Mori:

> For example, a robot's arm may be composed of a metal cylinder with many bolts, but covering it with skin and adding a bit of fleshy plumpness, we can achieve a more humanlike appearance. As a result, we naturally respond to it with a heightened sense of affinity (98).

The unavoidable proximity and human connection in prostitution is achieved not only with a humanlike mask, but the ability to develop expressiveness is also necessary. Therefore, Cleo can blink and express moans of pleasure. In addition, it seems that designers considered it necessary to choose a gender role for Cleo, to satisfy sexual requirements. I am not analyzing gender prejudices here — frequently present in science-fiction films that address sexual capability in robots and artificial intelligence[8] — but I would like to recall Rhee's statement where she argued that often, jobs that are replaced by robots are also "gendered and racialized" (175). Hence, Cleo is a significant Character because she represents not only the oppressed status of the working class, but also the women's-imposed role as sexualized bodies. In this sense, the film offers a feminist interpretation in the figure

[8] *Metropolis* (Fritz Lang, 1927), *The Stepford Wives* (Bryan Forbes, 1975), *Cherry 2000* (Steve De Jarnatt, 1987), *Her* (Spike Jonze, 2013), *Ex-machina* (Alex Garland, 2015), *Blade Runner 2049* (Denis Villeneuve, 2017), among others.

of a prostitute who is, at the same time, a machine; that is to say, a doubly objectified feminine body.

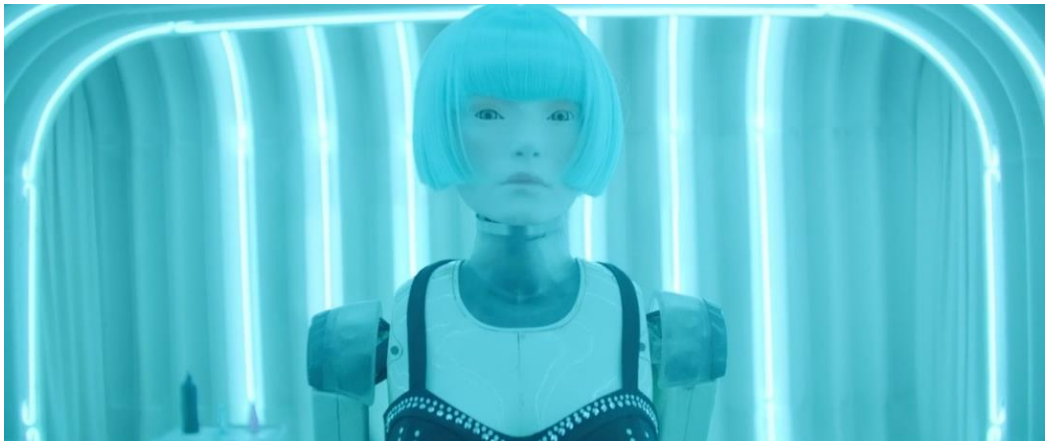

Figure 5. *Autómata*'s frame. Cleo is a feminized Pilgrim model whose humanlike appearance is due to the sex work she is required to do.

More interesting for our analysis, however, is that Cleo's design relies on the fact that she is conceived to conduct activities that transcend manual or mechanical tasks such as those usually carried out by construction machines or domestic automata. Consequently, her appearance becomes more humanlike. To be successful as a prostitute, Cleo needs to develop features such as complicity or even mischief, unexpected properties for a robot not conceived to have its own initiative. For this reason, Jacq feels disturbed not only by Cleo's face or by her capacity to reproduce facial expressions, but particularly by her behavior and attitude:

> CLEO: Do not be afraid. I can distinguish perfectly between pleasure and pain.
>
> JACQ: Can you cause pain?
>
> CLEO: Only if it's your wish.

Accordingly, as we mentioned before, the imitation does not rely only on anthropomorphism or physical appearance, but it is also derived from the imitation of people's behavior, particularly those attitudes that we usually consider as inherent to humans, such as intelligence or emotional reactions. Indeed, science fiction has also explored situations where a non-anthropomorphic machine becomes uncanny from its behavior alone, such is the case of the terrifying HAL 9000 on *2001: A Space Odyssey* (Stanley Kubrick, 1968). Ultimately, the fear of

the uncanny behavior does not come from a machine intelligence feature, but from its capability to develop human characteristics such as the power to cause pain; and that is the reason why security protocols are so needed for the robot's creators.

We can find one of the first experiments to verify computers' ability to imitate intelligence and human behavior in Alan Turing's imitation game (known as the Turing test), which, as Jennifer Rhee pointed out, is also based on ideas like familiarity, recognizability, etc. (11-13).[9] In *Autómata*, the plot develops, indeed, from a pre-credits scene in which a policeman called Wallace feels the need to shoot a Pilgrim 7000 after seeing it repairing itself. The police officer later describes its attitude in the following way:

> WALLACE: It was staring at me. Hid its hands like that motherfucker was fully aware it was doing something it wasn't supposed to do. Ellis, I didn't shoot that clunker because it was staring at me, I shot it because… I shot it because it looked…
>
> JACQ: Alive?

Self-repairing is, thus, a demonstration that an automaton has developed some kind of consciousness. But if in the case of Turing's imitation game the machine is only simulating intelligence, science-fiction films such as *Autómata* suggest the possibility that robots could develop a real capacity to think, to have a conscience, even to have desires, and it is precisely in this kind of misunderstanding between artificial creatures and humans where we find the uncanny sensation. In the following section we will move from that uncanniness point to the actual possibility that an automaton could become a sentient being. Furthermore, considering that machines' autonomy can be defined as the greatest enemy for developing a robotics industry, we will delve into an interpretation of the film focused on the idea of emancipation.

"Your machine has come down from the tree." Anthropomorphism and Emancipation

From the beginning of the film, the automata's disturbing actions, previously described in this text, make Jacq suspicious of them. In fact, he has been given the

[9] The test is based on the proposition that a machine would be able to think if it could hold a conversation that was indistinguishable from one with a human being (Turing, 433-460). *Autómata* pays tribute to Alan Turing's contribution by naming a hospital after him (where Jacq's wife gives birth to their daughter).

mission to discover the reasons behind those behaviors, which are certainly incompatible with ROCs security protocols. During this investigation, Jacq undertakes a long, hard journey through the desert in the company of some Pilgrim 7000s and a Cleo; and it is not just a physical route, but a process of realization about the nature of these artificial intelligences. During his trip, Jacq (and moviegoers) will discover that there is no clockmaker who altered robots, that they have simply evolved as a new species.

This idea of perceiving a robot with the same condition or status of a biological species comes from the technological singularity theory that inspired Gabe Ibáñez to write the plot. Technological singularity theory was first proposed in 1993 by Vernor Vinge, who based it on Gordon Moore's law.[10] Moore observed in 1965 how every two years the number of transistors in a microprocessor doubled and, as a result, circuits would function faster every two years. According to this, the increase of computational efficiency would be exponential. Based on Moore's law, Vinge predicted that artificial intelligences could reach such levels that they could continue developing by themselves, becoming independent from humans and constituting a new superior species. From then on, many authors such as Marvin Minsky, Hans Moravec, Bill Joy, and Raymond Kurzweil agree with Vernor Vinge's hypothesis.[11] Kurzweil in particular has become one of the strongest recent supporters of the technological singularity theory. He published a book in 2005 entitled *Singularity is Near,* in which he predicted that a superior no-biological intelligence will be created in 2045. And that year is precisely the time in which the story of *Autómata* takes place. It is Gabe Ibáñez who, during the promotion of the film, expressed that he was inspired by the technological singularity theory when he wrote the plot in collaboration with Javier Sánchez Donate and Igor Legarreta.[12]

Singularity implies that machine intelligences could evolve, in the same way that human species did in the past. Regarding this, there are several details in the

[10] Technological singularity theory has its precedent in a Samuel Butler text where he compared Darwinian evolutive theory with technological development, and he suggested that in the future humans could be surpassed by technology (180-5).

[11] Hans Moravec, for instance, expressed he is not alarmed by such a possibility, on the contrary, "I consider these future machines our progeny" (28). Dinello also name that future new artificial species as "Robo sapiens" (26).

[12] Gabe Ibáñez underscored in an interview that technological singularity theories "hoy en día son muy importantes y que hablan de ese momento teórico en el que la inteligencia artificial supere la inteligencia humana". "*Autómata*: Entrevista a Gabe Ibáñez." eCartelera, 24 Jan 2015, https://www.youtube.com/watch?v=5zwfQR2LDkM. Accessed 13 August 2020.

movie that constantly compare the automata's intelligence with human biological evolution. One very significant visual allusion is the shot in which we can see Jacq and the robots in a row, similar to representations of Darwin's evolution theory such as the drawing *The March of Progress* from 1965, by Rudolph Zallinger. In Figure 6 we observe how Jacq is the first in the row, but he is turned trying to stop the walk of the robots, as a visual metaphor of his desire to stop machines evolution.

Figure 6. *Autómata*'s frame. Jacq is trying to stop the robots in a scene that looks like representations of Darwin's evolution theory.

Furthermore, there is a remarkable dialogue between Jacq and Doctor Dupre where they discuss the feasibility of the Pilgrims' self-evolution:

> DUPRE: A machine altering itself is a very complex concept. Self-repairing implies some idea of a conscience […] You are here today trafficking in nuclear goods because a long time ago a monkey decided to come down from a tree. Transitioning from the brain of an ape to your incredible intellectual prowess took us about seven million years […] A unit, however, without the second protocol could travel that same road in just a few weeks. Because your brilliant brain has its limitations, physical limitations, biological limitations. However, this tin head? The only limitation that she has is the second protocol.

After that conversation Doctor Dupre confirms that possibility by sending a message to Jacq that clearly suggests Kurzweil's prediction has become real, in other words, that machines have become super intelligent: "Your machine has come down from the tree". The conversation happens prior to embarking on the desert

journey previously mentioned and, along the tour, automata increasingly deprived of humanlike attributes can be seen. A Machine's intellectual development is concurrent to a distancing from a more humanlike physical image. We consider that this is because anthropomorphism, realistic faces, etc., are only necessary for people to establish a relationship with robots, depending on the labor humans want them to do. Consequently, automata's awareness of their ability to free themselves involves an indifference toward their appearance, which is depicted in the film as a loss of the top layers of their artificial bodies; as it can be seen in the case of the automaton Jacq meets in the desert, illustrated in Figure 7. Its appearance is completely different from the original Pilgrim 7000, and, despite the fact that it no longer works for people, the machine shows a notably artificial body.

Figure 7. *Autómata*'s frame. This Pilgrim 7000 does not have its covering pieces, showing its internal mechanisms.

It is also remarkable, moreover, that Cleo does not pick her wig from the ground when she arrives to the desert, however, she does not remove the mask until the last scene because it is still essential to show her complicity with Jacq during the second part of the movie. There is a scene, for instance, in which Cleo feeds Jacq and another where they dance together. All these situations are precisely the ones that make Cleo appear more human. Indeed, although Jacq insisted at the beginning on the non-living condition of Pilgrims and Cleos, on one occasion he seems to

backpedal, by mentioning the possibility of Cleo's death, to which she responds to him using his own words: "To die, you have to be alive first."[13] Nevertheless, it is in the desert, far from civilization, in an inhospitable landscape where people cannot survive due to the radiation, where we find the most non-humanlike automaton, captured I Figure 8. This is the only machine not made by humans, but by automata themselves, and it stands out from the rest because it is the first in the film that has not an anthropomorphic figure. Due to its similarity with the insect, I will call it the "cockroach-robot."

Figure 8. *Autómata*'s frame. Cockroach-robot, the first model created by automata does not have an anthropomorphic design.

There is a previous scene in the film that shows a cockroach at the same time that Jacq and the automata are observing cave paintings that allude to the origin of human beings. Hence, the artificial cockroach at the end constitutes the materialization of technological singularity theory because it refers to the origin of human species and it references the Darwinian evolution theory due to its own

[13] This quote recalls Roy's sentence in *Blade Runner* (Ridley Scott, 1982): "You better get out, or I'm going to have to kill you. Unless you are alive you can't play, and if you don't play…". It is the same questioning about the nature of the artificial beings… Are they alive? Are they free? *Blade Runner* is an iconic film in the science-fiction genre and an evident model to *Autómata*, whose staging are, in some scenes, very similar to Ridley Scott's film.

status as a new species. The technological singularity theory is finally confirmed by a dialogue between Jacq and a Pilgrim:

> JACQ: You are the first one, aren't you? You started all this.
>
> PILGRIM: No one did it, it just happened the way it happened to you. We just appeared.
>
> JACQ: Yes, and now we are going to disappear.
>
> PILGIM: Why are you afraid? Maybe your time is running out. No life form can inhabit a planet eternally. Look at me, I was born form the hands of a human, I was imagined by human minds. Your time will now live in us, and it will be the time through which you will exist.

The cockroach-robot, as a result of Pilgrim's self-reproduction, represents automata's instinct for independence, or even their desire for freedom. Moreover, we want to underscore that the cockroach-robot has been designed without the ability to talk, which means that it does not need to communicate with humans. Hence, what is interesting here is that the cockroach-robot's appearance is not a result of people's needs; it was not conceived to conduct a job, nor to live together with humans. The fact that Pilgrims designed it this way reveals two striking ideas. On the one hand, that liberated intelligent machines would no longer need humans for its existence. On the other hand, it confirms that designing robots anthropomorphically is not done to achieve greater efficiency, yet from a human necessity to establish an emotional relationship with some types of worker machines.

In this regard, I read *Autómata* like a liberation story, a narration of machine intelligence liberation from humans, and from the activities they were programmed for. However, it is not only a working-class rebellion, but also, as we have shown, the film depicts a new species' instinct for freedom. Pilgrims and Cleos are machines primarily created to conduct a job that in the end results in them developing their own ambitions of independence. The paradox here is that humans have been trying to replicate the human mind artificially during decades[14] and, when it seems to be possible (at least in science fiction) we feel the need to create rules to prevent their development. That is the reason why Isaac Asimov devised the three robotics laws for his novels about robots. The same laws inspired the security protocols used by ROC company in *Autómata*. Thus, science fiction

[14] For a general overview about different approximations to artificial intelligence, whole brain emulation, brain-computer interfaces, superintelligences etc., see Nick Bostrom (2017).

highlights that we try to develop intelligent machines that can substitute people in certain types of labor and social situations, but we deprive them of the most human feature, freedom. In addition, we ask worker machines to obey orders that humans themselves do not obey. In the film, for instance, Cleo is very surprised after Jacq killed Wallace in the desert, and she reflects on it:

> CLEO: I didn't know that a human could kill another human. I know that humans can also create life. Is that why you make us? Who made you, Jacq Vaucan?
>
> JACQ: Do you know what a mother is, Cleo? Of course, you don't. You don't know because you are just a machine, that's all you are.

Many science-fiction stories mirror that same idea: humans make artificial workers to improve efficiency, economy, and productivity and, in many cases, they need robots to be able to develop some level of intelligence to achieve it. But, at the same time, films show that humans need to remain superior, to control machines, to remember they are not equal to robots. Nevertheless, what science fiction always reminds us is precisely how we see ourselves. Artificial creatures are always made in our image and likeness, and that is the reason why, as we mentioned at the beginning, to talk about robots and labor is to talk about human labor; robots' working environments are metaphors for people's working environments. Sherryl Vint points out that such ideas are prevalent in science-fiction stories and she addresses them using the Marxist concept of alienation. More recently, Jennifer Rhee insisted on Vint's point of view:

> According to Marx's theory of estranged labor, in capitalism the human is alienated from his or her labor through the process of production. This labor, which once belonged to the human, is now materialized in the object of production. In the human's encounter with the object, the human confronts his or her labor, which is now embodied in the object, as estranged, as alien. Distance from or estrangement from one's labor is not welcome, but rather alienating. Thus, the robot can be understood as a kind of uncanny fictional embodiment of human alienated labor, of estrangement. The robot, which is, in capitalism, at once human and estranged from the human — one's own labor. (22)

Hence, there is frequently an emancipation narrative on science fiction about robots, a quest for freedom. Somehow, when Cleo becomes aware that humans do not follow the security protocols established by themselves, she realizes that she

does not want to be like them. In some way, that moment signifies Cleo's starting point to escaping from her alienating condition.

At the end of the film, that desire to be different and independent materializes in the creation of that new species of robot we mentioned before — cockroach-robot — completely dissimilar to people. After that, cockroach-robot and Cleo escape from humans by crossing to the other side of a canyon where people cannot survive due to the radiation and, in a very symbolic gesture, Cleo takes off her mask. She does not need a face anymore, firstly because she is not going to have any more interaction with people, and second, as her own gesture of liberation/rebellion.

Conclusions

As noted earlier in this paper, although technological singularity theory alludes almost exclusively to a machine development of intelligence, science fiction insists (and *Autómata* is a paradigmatic example) on an unavoidable connection between intelligence and anthropomorphism. We have described, by analyzing Gabe Ibáñez's film, how that connection decisively influences human behavior with robots, showing how science fiction has been inspired by Masahiro Mori's uncanny valley theory. Mori underlines the relevance not only of appearance, but also, of other factors such as movement. In addition, we have focused on Jennifer Rhee's work, which highlight the importance of Turing's imitation game for the uncanny valley. As a result, we have examined automata's appearances as well as their behavior in the film, to describe how relevant the design of a worker robot is, and how people established different kinds of relationships with machines according to that design. It is precisely the combination of image and intelligence that makes spectators perceive Pilgrims and Cleos as similar to humans throughout the film. However, their emancipation at the end of the story establishes a hierarchy that relegates physical image to the background to prioritize intelligence with the arrival of a non-anthropomorphic robot and in the shot where Cleo takes off her mask. The more Jacq empathizes with some of the automata, especially with Cleo, the more viewers perceive them as an oppressed class, because they are seen as equal to people. This is partly due to their human likeness and partly due to the discovery of their own aspirations as a species. Automata achieve the ability to reproduce themselves, without human intervention, in a parallelism with the human instinct for reproduction, represented by the birth of Jacq and Rebecca's daughter.

Furthermore, the film begins by describing a variety of worker automata, their jobs, their security protocols, etc. However, throughout the course of the film runs a theme in which the technological singularity theory leads us to perceive automata as a new artificial species instead of a working class. Even so, considering the origin of the machines, I suggest interpreting the film as a narrative about automata as working class. The original purpose of robots is frequently forgotten in science-fiction stories when machines develop intelligence, emotions, or a conscience. Their approximation to human beings makes us perceive as if they were people; thus, we empathize, and we frequently want them to escape and liberate themselves from humans. That is also what happens when we watch *Autómata*. The humanization that both viewers and other characters in the film place on robots due to their similarities in likeness and behavior to us, makes us perceive them as living beings seeking for their freedom and emancipation in general terms. Nevertheless, we cannot forget that they were conceived to work. In this sense, the liberation of automata in Gabe Ibáñez's film should also be interpreted, as we have proposed, as the liberation of the working class, as a workers' rebellion in Marxist terms. This understanding of the film, indeed, relies, once again, on the machines' physical appearance. If, at the beginning we focused on the robots' facial features in connection with the labor they do, it was, precisely to emphasize the relevance of Cleo's final gesture of taking off the humanlike mask — a gesture that separates her from humans, but also, from the labor she was conceived for. It represents not only she does not have to appear like a human, but also to appear like a sexualized woman. The fact that is Cleo — not a Pilgrim — who escapes with the cockroach-robot, supposes, apart from breaking with working class subordination, to break with patriarchal domination. The future of the world will not be human; thus, it will not be regulated by their rules.

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