

Original Research Article

The Status Quo of José Ortega y Gasset's Supernatural Concepts: From the Perspective of Artificial Intelligence

Antonio Luis Terrones Rodríguez

Escuela de Filosofía, Pontificia Universidad Católica del Ecuador, Ecuador

ABSTRACT

The first text of José Ortega y Gasset thinking about technology was published in 1935. Nearly a century later, this paper attempts to save a concept put forward by Spanish philosophers in *Meditación de la técnica*, that is: supernatural. Today, the biggest challenge facing technology is to maximize artificial intelligence and make it a means to challenge the restrictions imposed by nature. One of the most prominent suggestions in the field of artificial systems is superintelligence and uniqueness, which are the two most desired wishes of thinkers such as Nick Bostrom or Raymond Kurzweil. Therefore, if the field of technology is vigorously developing artificial intelligence, we should ask ourselves whether the motivation behind this momentum is really based on human needs for supernatural phenomena, which Ortega y Gasset have been talking about.

Keywords: *Artificial Intelligence; Vital Project; Singularity; Supernatural; Superintelligence*

ARTICLE INFO

Received: Apr 4, 2021
Accepted: May 30, 2021
Available online: Jun 7, 2021

*CORRESPONDING AUTHOR

Antonio Luis Terrones Rodríguez
antonioluis.terrones@gmail.com;

CITATION

Terrones Rodríguez AL. The status quo of José Ortega y Gasset's supernatural concepts: From the perspective of artificial intelligence. *Journal of Autonomous Intelligence* 2021; 4(1): 50-58. doi: 10.32629/jai.v4i1.494

COPYRIGHT

Copyright © 2021 by author(s) and Frontier Scientific Publishing. This work is licensed under the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0). <https://creativecommons.org/licenses/by-nc/4.0/>

1. Introduction

Therefore, technology is a powerful response to the nature.

Source: Ortega y Gasset^[1]

According to Diéguez^[2], the reflection of the philosopher José Ortega y Gasset on the technique, and specifically on his work *Meditación de la técnica*^[1], source of his philosophy of technology, has been scarcely treated, despite its avant-garde character. In 2000, *Revista de Occidente* and the Ortega-Maragnon Found organized an International Conference on Technology in Ortega, which showed their obvious interest in restoring Ortega's thought in order to explain it in the light of the current situation. Therefore, the main purpose of this work is to save one of the most important concepts, supernatural force, from Spanish mythology, so as to carry out contextual practice from the perspective of artificial intelligence. It is important to pick up baton from thinkers like Ortega who help to better understand the state of human technology and put it into practice from now on.

Ortguiano's narrative contains three anthropological characteristics that are essential to understand the technical aspects of human beings: ingenuity, constructiveness and natural advantage^[3]. These anthropological features help humans upgrade their lives into a project and show their desire for happiness in the world. This happiness is infinitely changing and can meet the needs of the moment. The technology here is understood as a proactive response, which can defy nature and overcome the limitations of nature on human beings.

At present, supernatural phenomena are hidden in the creative

dream of artificial systems, which can surpass the ability to control human intelligence. In this regard, the concept of Ortuiano supernature, which will be elaborated in the first part of the work, is linked to two assumptions in the field of artificial intelligence-superintelligence and uniqueness. The method of this connection is to observe Ortega's thought from the current perspective and emphasize the importance of artificial intelligence to life. Artificial intelligence is understood as a technical project and part of the historical and technical conditions of human beings in their efforts to respond effectively to the restrictions imposed by nature.

Mitcham^[4] acknowledged that José Ortega y Gasset was the first to deal with technical problems. The most important work of Spanish philosopher where the subject of technique is addressed is *Meditación de la técnica*^[1]. In the preface, Ortega pointed out that the work originated from a summer course offered by Santander university in 1933. However, after the course, the lectures were fragmentedly published on Sunday articles in the newspaper *La Nación* of Buenos Aires in 1935. Finally, in 1939, *Meditación de la técnica* were published together with another article: "Self-awareness and change." There is also another important text that collects the lecture *The Myth of man beyond technique*^[5], published by Ortega in the German city of Darmstadt in 1951. As Esquirol^[6] pointed out, Ortega's reflection on technology is "inserted in the nucleus of his philosophy of life and his understanding of the human condition" (p. 15). There is a very important work in Ortega's ideological history, prior to his *Meditación de la técnica*, and which will mark a before and after in his work, *The Revolt of the Masses*, 1929. In this work, technology is regarded as the creator of the human masses. Although the treatments that technology receives in the last two works mentioned are different, they are consistent in providing basic guidance to understand the impact that technology has on human beings and their lives. Technology is in the relationship with existence, starting from three key concepts: necessity, estrangement and project.

Humans live in the environment and are surrounded by nature. Nature gives humans some needs that must be met, such as protection from the cold

and food. Life is connected with needs, and humans strives to meet these needs because they want to live. In this regard, a series of activities have been launched to meet these needs, thus creating the necessary conditions for meeting these needs, such as planting systems, shelters that can withstand the cold, etc. As the philosopher himself pointed out, these activities mean that the most basic needs can be put aside, "Thus, heating, farming and the manufacture of wheelbarrows or cars are not our actions to meet our needs, but rather, on the contrary, they mean the opposite: to stop the original behavior of our direct pursuit of satisfaction"^[1].

Ortega first considered the necessity in his works:

Therefore, technology is a strong response to nature or the environment, which leads to a new nature and a supernatural phenomenon between man and nature. Therefore, please note: technology is not what human beings do to meet their own needs [...]. Technology is the transformation of nature, which makes us needy and needy. This transformation means that if possible, these needs will be annulled because meeting them is no longer a problem^[1].

Human beings do not adapt to the coming environment, so their response to these environments is good, so he will not listen to fate, because it is not just about "being", but about "being well". Therefore, he skillfully created the supernatural forces on which Spain's philosopher relied. But the real commitment is to being well in this world, so it does its best to ensure this well-being. Therefore, what is objectively superfluous becomes what is regarded as the only necessary^[1]. Ortega's view on biological needs, objectively speaking, is not human needs, but when they are regarded as the conditions in the world of subjective needs in this sense, they become real needs. Ortega believes that they are subjective, because the existence in this world is something that guarantees future happiness and is accepted as super happiness.

Recalling the concept of "estrangement" mentioned earlier, it must be pointed out that man has created a world different from the world previously

given to him, because he feels that he does not belong to this world; He felt strange and uncomfortable. Mankind is facing a world that brings him an environment that he does not agree with, a world that is strange to him; therefore, he had a will, a determination to establish a new world, a new nature and a supernatural phenomenon, in which he was found to be excluded and excluded. The given world is strange, which is why it is another world created by a supernatural technology and impulse. Esquirol^[6] made an important contribution when pointing out that estrangement ideas are similar to Heidegger's "abandoned"^[24].

The concept of need is linked to the concept of well-being, but it is difficult to determine what well-being is because there seems to be no agreement on well-being and technology. Happiness is related to time, space and culture; Therefore, it changes with the passage of time and people's differences, which is why the concept of defining it becomes complex. Therefore, the concept of happiness is variable because it is associated with a concept of how life is understood. This means that according to the life project you decide to pursue, the idea of what happiness is must adapt to demands and needs.

However, it must also be pointed out that changes in the nature of well-being are accompanied by changes in technology, and here is where Ortega's^[1] words need to be saved:

We just need to fundamentally change the happiness shrouded in human beings and experience a certain degree of change in the concept of life. From this, what is all human beings do for? In this way, the traditional technology will collapse, collapse and fall into another dilemma. (p. 32)

In this regard, as pointed out by the Spanish philosopher, technology is also changing because it depends on the concept of well-being.

This technology creates a vacuum as it tries to save effort. For example, think about today's world, where there are technical devices for releasing tasks, such as smart slippers, garden sensors, smart garage doors, dog clothes, dimmers, smart dustbins, etc. They want to meet their needs with minimal effort and keep good. In short, technical behavior is not an

effort to directly meet objective or subjective needs, but an action to respond to situations requiring efforts, first to invent and then implement previously proposed plans or projects. According to Ortega^[1], the plan or project referred to shall allow: (1). Ensure that basic needs are met. (2). Achieve this satisfaction with minimal effort. (3) Create our new possibilities by making things that are not in human nature. Therefore, sail, fly, talk to each other by telegraph or radio communication.

Human beings have successfully confronted the environment and defied them through the reforms provided by technology, thus reducing the efforts brought by this environment, which is dominant in creating supernatural forces. In addition, in this kind of technical action characterized by saving efforts, there is also the pursuit of security, because the environment leads to an uncertain and unsafe space that hinders complete development and causes estrangement.

Ortega^[1] warned that progressivism based on blind and undeniable belief in technology led to cultural decline. Lack of flexibility can lead to human confusion, because supernatural phenomena are the same as nature and completely lose awareness of the technology used. The continuous predominance of technology in life have generated a difficulty when it comes to live materially without it.

2. Life as a project

The concepts of necessity and estrangement have been addressed in order to clearly approach Ortega's ideas on technology, but there is still a need to redefine the project concept, which is linked to his proposals on life and historical causes. The labor saving brought by this technology creates the possibility of using time and imagining projects. With the liberation of technology from efforts, what is spare time used for? According to the Spanish philosopher", this is where human beings must invent their own life and create their own life, as if he were "the craftsman of their own life", which is used by Cortina^[7]. In this way, man must create his own life story, and he must project himself. In this sense, this

technology will be associated with the concept of human meaning, because it will have the nature of Anthropology and ontology. Ortega's philosophy of technology is based on his concept of human life, which is understood as a phenomenon that shapes its significance in the active relationship with the environment, that is, as the active creator of these environments. It is a life project, which shapes its own existential rationality in the interaction between man and environment.

Human life is not something given by nature, something that is completely determined by nature; therefore, it is not given by existence. Instead, one must create oneself by designing a life project. Human beings slide their existence from an activity of self-interpretation and self-creation, emphasizing themselves, but also emphasizing the environment that urges him to respond through projection. In this positive existence, there is a creative imagination that provides its own strength to the personal projects it wants to achieve. Once human beings decide what projects to assume and undertake, they need material and technological resources to complete such a project. In this sense, for Ortega, this technology means the opening of a new possibility, which aims to create life, to create that life in which human writes his own story because he is a project, whether he is a gentleman, Bodhisattva or Hidalgo. Human life is not defined by nature. It is destined to be an upcoming project and the product of their creative imagination.

From those suggestions on human self-realization, Ortega's ideological line can be regarded as a Faber, not a Faber limited to material production, but a Faber responsible for self-projection and writing the story of his own existence. Spanish philosopher is implementing a technical scheme to understand people as a project and emphasize the architectural concept; for this reason, it uses the word "self-made" and "therefore, our life is a pure task and an unstoppable task"^[1].

Ortega's understanding of life is based on his understanding of rationality. Rationality is deeply related to life experience, because it is nourished from life. His view of life was elaborated in his speech at the 1906 Valladolid Floral Games, in which he understood life as "more life" as self-improvement or

"henchmento", as Conill^[8] said. Ortega's outlook on life was inspired by Nietzsche's thought. In this sense, just as life is an adaptation to the environment, it is also the creation, courage and will of life.

As mentioned above, Ortega's understanding of life is developed from his new philosophy of life rationality, which reflects all aspects of Nietzsche's thought to a certain extent. In addition, Ortega's contribution mainly focuses on his reflection on the desire crisis and the necessity he put forward in cultivating and shaping life projects, because technological desire marginalizes human's real desire, that is, the desire for self, and shifts the attention to personal projects. Therefore, the Ortega desire crisis emphasizes that superfluous desire feeds the inner emptiness. Humans find themselves bewildered and saturated in the face of so much technology, and in a sense feeds his artificial desires. However, he was disturbed by the awareness of his main limitation, that is, the limitation in the face of the excess of possibilities inherent in technology.

3. Artificial intelligence and its current situation

Since the object of reflection of these pages is oriented to the reflection on the current supernatural concept of Ortega from artificial intelligence, it is important to briefly introduce this amazing new technology artillery. First of all, efforts must be made to define the concept and significance of artificial intelligence in order to promote the understanding of the phenomenon of artificial intelligence.

As has happened in many areas of conceptualization, there are many definitions around AI, each from a different perspective, although they all seem to have one thing in common. This common ground is a basic idea, and various suggestions revolve around the idea of creating and shaping computer programs or machines that can develop a behavior that, if implemented by humans, will be considered intelligent. This definition is open ended and consensus can be reached, because various definitions provided by some field experts are often closed and different from each other. Therefore, at least in this case, it is best not to close it. This method based on human brain simulation is similar to the proposal

made by John McCarthy, Marvin L. Minsky, Nathaniel Rochester and Claude Shannon in 1955^[9]. In addition, with regard to the definition of AI, the British Boden^[10] also pointed out the following:

The purpose of artificial intelligence (AI) is to let computers do the same things as the brain.

Some (such as reasoning) are often described as “intelligent”. Others (such as vision) are not. But they all involve psychological abilities (such as perception, association, prediction, planning, motion control) that enable humans and other animals to achieve their goals.

Intelligence is not a single dimension, but a structured space composed of various information processing capabilities. Similarly, AI uses many different technologies to solve a variety of tasks. [...] Artificial intelligence has two main goals. One is technological: using computers to do useful things (sometimes using methods very different from those of the brain). The other is science: using artificial intelligence concepts and models to help solve human and other biological problems^[10].

The above paragraph does not exclude the possibility of reaching a consensus on certain intellectual markers in many specific texts. Doubt arises when you try to apply these markers to the machine. For example, if we consider the arduous task of ancient Egyptian scribes in copying texts and imparting knowledge, and compare it with today’s textbook printing press, the machine will be “smarter” because it copies texts faster than humans; in this case, the speed marker has been taken into account. As you can see, marker speed is not an effective indicator to consider a machine smarter than humans.

It may be a problem to regard human ability as an effective standard for evaluating artificial intelligence. A machine can complete a task in milliseconds, while a person cannot complete similar tasks in a short time; this is why we might think that this machine seems to show wisdom. Such events will occur in hundreds of fields in the coming decades, and in many fields they have already occurred. Therefore, using the comparison method between human intelligence and artificial intelligence may

lead to absurdity, because human intelligence is always lost in all cases. This shows once again that it is not easy to try to provide a specific AI definition.

In recent years, people have been talking about the fourth industrial revolution. For example, in one of his works, Schwab^[11] focuses on analyzing how artificial intelligence plays an important role in the new technological revolution that changes mankind through the integration of digital, physical and biological systems. Since artificial intelligence, the most advanced new technologies are promoting great changes in the way people establish relationships with the world, work and life organizations. Rouhiainen^[12] believes that AI is the most important element in the fourth revolution because it represents an important hinge and bonding axis of other components (p. 38). The challenge of the fourth industrial revolution lies in knowing how to deal with a series of changes resulting from exponential growth for which citizens are not prepared. In today’s artificial intelligence, human beings are facing double challenges, that is, how to correctly understand and use these technologies.

After exposing some main characteristics of artificial intelligence and its current applications, it is important to summarize some of the most prominent suggestions on the future and development of synthetic intelligence in recent years. These suggestions can focus on the renewal of Ortega y Gasset’s concept of supernatural force: superintelligence and uniqueness.

4 Superintelligence and uniqueness

Bostrom^[13] defined superintelligence as “any intellect that significantly exceeds human cognitive ability in almost all areas of interest” (p. 22). Swedish philosopher is a firm supporter of the cross humanistic movement, therefore puts forward the idea that it is easier to develop intelligence on an artificial basis than on a biological basis, because machines have many advantages that biological entities do not have.

The idea of surpassing human standards is not new. For example, cats have a much more sensitive sense of smell than humans, and calculators do math

exercises much faster than math teachers. However, when we talk about artificial intelligence, it is the basis of a series of additional entities whose intelligence is so large that they can replace human beings in any field. Therefore, Bostrom^[13] proposed the following classification to distinguish superintelligence: speed superintelligence, collective superintelligence and quality superintelligence.

Bostrom^[13] believes that any of these three types of super intelligence may develop other types of super intelligence. In this regard, it can be assumed that there is a reason for this, and once artificial intelligence reaches the level of human intelligence, there is likely to be a superintelligence explosion, which means that synthetic intelligence is independent outside the programmer and can form and shape other intelligence. Therefore, the phenomenon of superintelligence has triggered a profound ethical reflection, because we are not talking about a folk theme, but a theme committed to humanity in an important way.

Bostrom's^[13] so-called "kinetics" of an intelligent explosion shows how synchronization and take-off speed could occur when artificial intelligence reaches the level of human cognition. When AI reaches the same cognitive level as human beings, different paths can be seen on the horizon. However, considering the requirements put forward in this article by Bostrom^[13], it is important to consider the transition phenomenon, because there is a high probability of the so-called superintelligence explosion. Although this is part of a predictive study, the importance of the study conducted by Müller and Bostrom^[14] should not be underestimated.

Table 1 shows the results of four different surveys and their combinations. Survey participants are presented in the documents of Müller and Bostrom^[14]. Despite the predictability of the survey, Bostrom almost believes that superintelligence is possible soon after artificial intelligence reaches human level. Bostrom^[13] is not the only one who supports this idea, as there are other recognized figures, such as Barrat^[15] or Tegmark^[16], followed.

Singularity is another term used in the field of artificial intelligence, which refers to super intelligent system. It can improve itself and create other

systems, even smarter than itself, following exponential growth. Here we can simply mention the kinetics problem or singularity of super intelligent explosion, because it is closely related to the growth rate. The advocates of the singularity believe that when in the future the best developers are not flesh-and-blood people, but artificial intelligence itself, the performance of artificial intelligence, which initially attributed to hardware, and later through revisionism, to software, will be greatly doubled, and the speed of artificial intelligence will be the usual norm. Therefore, if the self-designed speed of artificial intelligence is infinite in the future, higher-level intelligence is very likely and almost self-evident, which may make people think that the explosion of superintelligence is possible.

The biggest representative of singularity is American Raymond Kurzweil^[17]. He believes that singularity can be self-improvement, taking the composition of the whole universe based on an intelligent global entity as the horizon. Americans believe that when a synthetic intelligence exceeds human intelligence, progress will be much faster. Kurzweil^[17] and Moravec^[18] believe that machines will surpass human intelligence in the first half of the 21st century. According to the AI expert, the growth of AI will be exponential:

It represents an almost vertical phase of exponential growth. When the speed is very high, technology seems to expand at a very fast speed. Although from a mathematical point of view, there is no interruption or rupture, the growth rate remains low, albeit very large. However, from our current limited framework, this imminent event seems to be a sharp and sudden breakthrough in the continuity of the progress^[17].

As Kurzweil's book^[17] said, the singularity is at hand, which will mean a paradigm shift in several areas mentioned by the American expert in his book. By the end of this century, most intelligence is expected to be nonbiological; however, this does not mean the finish of biological intelligence. Kurzweil^[17] is a firm defender of singularity+. In this regard, he is very optimistic because he believes that superhuman intelligence will meet our needs and desires. His suggestion to avoid the ineffectiveness of

humans, because humans are likely to be manipulated by machines, or as Carl^[19] said, “trapped”, is the integration with machines, although he calls this “intimate connection”^[17].

Bostrom^[13] and Kurzweil^[17] have a lot in common: the former speaks of superintelligence and the latter speaks of singularity. Both thinkers believe that artificial superintelligence will dominate many human fields in this century unless they take the measures they propose. Therefore, for Kurzweil^[17], it is recommended to closely integrate with machines, and for Bostrom^[13], it is recommended to insert ethical behaviors with axiological content.

Table 1. AI experts’ findings on when human intelligence appears

When will we get the level of artificial intelligence?	10%	50%	90%
Pt-ai	2023	2048	2080
Aji	2022	2040	2065
Eetn	2020	2050	2093
Top 100	2024	2050	2070
Combined	2022	2040	2075

Source: Adapted from Bostrom^[13].

Synthetic intellects as a means of overcoming limits.

For Ortega y Gasset^[1], technique represents a conditional means by which human beings shape and control themselves so that they can break the restrictions imposed by nature. The technical conditions that the Spanish philosopher confirms to the humans can establish a close link, by way of clarification, with the concept of “homo Faber” proposed by Arendt^[20]. It is well known the distinction that Arendt^[20] establishes in *The Human Condition* between labor, work and action, as those activities in which the human beings has deployed his life: .labor, related to human biological processes, having life itself as a condition; work, related to the production of handmade objects; and action, which is the activity of human beings without the intermediary of things, having plurality as the condition. Although labor and work are carried out in the private sphere, action belongs to the public sphere. Arendt^[20] distinguishes work from labor, taking into account the difference that Locke^[21] establishes between both concepts: “The labor of our bodies and the labor of

our hands” (p. 226). The author points out that:

Labor is an activity corresponding to the biological process of human body. Its spontaneous growth, metabolism and decline are related to the life needs generated and nourished by labor in the process of life. The human condition of labor is life itself. Labor is an activity corresponding to the unnatural needs of human beings. It is neither immersed in the repeated life cycle of species, nor dies due to this cycle. This work provides an “artificial” world that is significantly different from all of the natural environments. Within its boundaries, every individual’s life is sheltered, while the world survives and transcends all life. Human working conditions are secular^[20]. Through this work, Arendt^[20] pointed out that human products reflect their culture and have a certain durability. Therefore, it distinguishes between working animals committed to survival and Farber people who create a world in which human beings live together. Human factories develop their production by evaluating, selecting and using appropriate means to achieve certain goals. In addition, the relationship between Faber people and media is the possession and utilization of nature; therefore, it has the ability to create and destroy its own consumer goods.

For the Orteguian anthropology, man is a project in himself, who focuses on writing his own life story. In this sense, artificial intelligence is a technical means, which can eliminate the restrictions of nature on human beings, so as to realize the projection of dreams. Artificial intelligence is a technical mechanism to challenge the limitations of nature. It is to build the ability on the machine to do things that human beings cannot do due to the limitations of nature. Men project what he cannot become into synthetic intelligence and artificially creates the ability to surpass nature and enter the supernatural. The construction of this artificial ability is because it imposes a human welfare model, which is ever-changing. It is the power of creation that grants him the possibility of walking into to the infinite supernature.

Artificial intelligence is the highest expression of human spirit. This spirit is the variability that constantly challenges the limits of nature. This is the re-

sult of an Android dream that began with Alan Turing^[22] and Toby Walsh^[23]. Although people sometimes have doubts and fears about artificial intelligence, this is a major trend of our times. The purpose of synthetic intelligence is to let computers do what human beings can do through the intelligent ability generated by the brain system; they put themselves on the horizon of possibility, which is only the theme of science stories so far. Artificial intelligence can imagine many aspects of reality that human brain cannot imagine because of its natural cognitive limitations. In addition, it can transcend the biological boundary of memory, accumulate more information than the human brain, and process more data at a speed that human beings cannot imagine. These are examples that go beyond the above limitations imposed by nature on human beings and the methods to eliminate these limitations through technology. In this case, artificial intelligence is the representative.

5. Conclusion

Strengthening closer contact with human technology is crucial to gaining more anthropological knowledge. Concepts like the supernatural have positive contribution for human to cultivate understanding of humans and their limitations. Therefore, the reflection of technical conditions by Ortega y Gasset^[1] provides quite rich content for this task.

As we can see, this Spanish philosopher's hypothesis is of great significance because it clearly recognizes the technical dimension of human existence. This existence is understood as a project, which is closely related to the technical conditions. This means that life is understood as a project, starting from the possibilities provided by technology. In this regard, the direction of action is to overcome the restrictions imposed by nature as part of the decided project.

The various manifestations of artificial intelligence (species-improving technology, nano-robots, autonomous vehicles drones, etc.) clearly show that people have been eager to go beyond the limitations of nature on its various manifestations. This advanced technology has opened up a series of unprecedented possibilities for mankind. This openness requires more understanding of mankind. The question

about the hidden supernatural phenomena in artificial intelligence is also a question about who human beings are and the ongoing project. In addition, it helps to have a deeper understanding of the meaning reflected in the existential narrative, and also helps to provide broader understanding of restrictions. Supernatural phenomena are the result of good wishes for the world, which requires thinking about what kind of happiness concept promotes the design of today's technology.

Conflict of interest

The authors declare that they have no conflict of interest.

References

1. Ortega y Gasset J. Meditation on techniques. Madrid: Editorial Espasa-Calpe; 1965b
2. Diéguez A. Cross humanism: Technological pursuit of human progress. Barcelona: Herder; 2017.
3. Gehlen A. Philosophical anthropology: From the encounter and discovery of man by himself. Barcelona: Paidós; 1993.
4. Mitcham C. What is philosophy of technology? Barcelona: Editorial Antrophos; 1989.
5. Ortega y Gasset J. The myth of man beyond technology. In: Complete works. Madrid: Revista de Occidente.; 1965a. p. 617–624.
6. Esquirol J. Contemporary art and technology: From Ortega to Sloterdijk. Barcelona: Gedisa; 2011
7. Cortina A. What is ethics really for? Barcelona: Paidós; 2013.
8. Conill J. From pure rationality to life rationality through Nietzsche. *Revista de Hispanismo Filosófico* 2016 21: 71–92.
9. Copeland J. Artificial intelligence. Madrid: Alianza Editorial; 1996.
10. Boden MA. Artificial intelligence. Madrid: Turner Norma; 2017.
11. Schwab K. The fourth industrial revolution. Barcelona: Debate; 2016.
12. Rouhiainen L. Artificial intelligence. You should know 101 things about our future today. Barcelona: Editorial Planeta.; 2018
13. Bostrom N. Super intelligence, road, danger, strategy. Madrid: Teell Editorial; 2016.

14. Müller VC. Bostrom N. Future progress in artificial intelligence: A survey of expert opinion. In Müller VC (editor). *Fundamental issues of artificial intelligence*. Berlin: Springer; 2014. p. 555–572.
15. Barrat J. *Our final version: Artificial intelligence and the end of the human era*. New York: Tomas Dunne Books; 2015.
16. Tegmark M. (2017). *Life 3.0: Being human in the age of artificial intelligence*. Britain: Penguin Random House; 2017.
17. Kurzweil R. *The singularity is near: When humans transcend biology*. Berlin: Lola Books; 2017.
18. Moravec H. *Machinist: Robotics and the future of human intelligence*. Madrid: Ediciones Temas de Hoy; 1988.
19. Carl N. *Trapped by the machine: How machines take over our lives*. Madrid: Alphaguara; 2014.
20. Arendt H. *The human condition*. Barcelona: Paidós; 2012.
21. Locke J. *Second treatises on civil government*. Madrid: Tecnos; 2006
22. Turing AM. Computational machinery and intelligence. *Mind* 1950; 59(236):433–460.
23. Walsh T. *Android dreams: The past, present and future of artificial intelligence*. London: C Hearst & Co. Publishers Ltd.; 2017.p. 225–254.
24. Heidegger M. *Philosophy, science and technology*. Santiago: Editorial Universitaria; 1997.