

**UNDERNEATH REALITY**

**THESIS**

**Submitted in Partial Fulfillment of**

**the Requirements for**

**the Degree of**

**MASTER OF SCIENCE (INTEGRATED DIGITAL MEDIA)**

**at the**

**NEW YORK UNIVERSITY  
TANDON SCHOOL OF ENGINEERING**

**by**

**Mateo Hernandez Almeyda**

**May 2018**

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# **ABSTRACT**

## **THESIS**

**by**

**Mateo Hernandez Almeyda**

**Advisor: Prof. Justin Hendrix, MSc.**

**Submitted in Partial Fulfillment of the Requirements for  
the Degree of Master of Science (Integrated Digital Media)**

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This research explores the history of technology and human thoughts and behaviors. The goal is to raise awareness in the way we use technology in the current capitalist society and the consequences (climate change, deforestation, animal extinction, etc.) that it produces. The author collects important historical events and thoughts from renowned philosophers to explain how we ended up in this situation. Although this research could generate change in old technologies, it is focused on new technologies, specifically virtual reality.

# UNDERNEATH REALITY

Thesis Approved by the Guidance Committee

Integrated Digital Media

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Justin Hendrix, Project Advisor  
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## **Vita**

## **Acknowledgements**

For Heidegger, man has an inauthentic existence. For Sartre, you can always make something out of what you've been made into. For Foucault, human beings are subjectified. These three statements are enough to worry about knowing if: Am I me? and the role played by new technologies, specifically virtual reality, in current capitalist society.

## The human condition and technology

The human being stands out among the animal kingdom for its ability to transform resources into technological objects. It is evident that the contemporary society as we know it, is due to all these technological advances making our life easier in some aspects but at the same time, we have to reflect about the ethics behind it. The intentions and the way we implement an idea will generate different outcomes between the range of good and bad. For instance, the research about the laws of physics and the universe could provide us answers that will make our life better. With this knowledge, we created cars, airplanes, and rockets to explore the moon and other planets but we also create guns, bombs, weapons of mass destruction that not only killed millions of human beings but also impact the environment where we live. If we look back to the 20th century the total of human deaths caused by war is greater than 100 million, and World War II was the worst of all with approximately 50 to 85 million fatalities. We also develop technology to extract the finite resources that we need like oil and minerals, but we don't compensate the impact that we create— leaving these places in really bad conditions and uninhabitable. Some of the consequences are the disruption of wildlife; when humans move into this habitats they create noise, water and air pollution, oil spills, landscape changes, toxic chemicals, etc. that affects ecosystem negatively. Another issue related to technology is deforestation. According to Greenpeace “Every two seconds, an area of forest the size of a football pitch is lost due to logging or destructive

practices.”(Greenpeace) If you do the math, everyday deforestation causes an area the size of Brooklyn ( 250 km<sup>2</sup> or 97 square miles ) to disappear, and in most cases there is no investment in forest restoration. All our improvements in resource gathering and machinery has accelerated the destruction of natural life. What is the purpose of technology if we are degrading the only planet where we can live in? I agree that the development of technology can improve our life, but it shouldn't harm the environment in such extreme proportions.

The vast majority of finite and natural resources extracted from earth are in favor of consumerism, therefore the products made with this resources are not necessary. This issue has spread all over the globe because the most developed economies in the world implement globalization to impose this type of economy on all countries, generating a problem with a difficult solution. The economic problems of each country are local problems, but the solutions are of global origin.

We must examine the history and learn from our mistakes so we don't commit them again. As Albert Einstein said before WWII “unconditionally refuse to do war service, direct or indirect... regardless of how the cause of the war should be judged.” (Clark) He didn't want to use his scientific knowledge for war and destruction, but after the pressure of the war, he succumbs to the creation of the atomic bomb- resulting in unprecedented death and destruction. Then he realized what he did, “I made one great mistake in my life... when I signed the letter to President Roosevelt recommending that atom bombs be made; but there was some justification - the danger that the Germans would make them.” (Clark) Another renowned scientist Stephen Hawking also supported the technological developments of lethal weapons with the excuse that they can be used by opponents. This is one of the statements related to the subject “The military has always looked to technology to create an advantage. My hope is for more resources to be put into reducing casualties. With lethal weapons there is always a risk they will fall into the wrong hands.” (Hawking) Apparently, economic power develops new technologies with the objective of improving the life quality of society; however, the goal is subduing people to produce high economic returns.



# Philosophical Foundation

Humanity has experienced the world through different ideas that shape the mind of people around the globe. In the Neolithic era, the monarchy was the main form of government. This is important because the monarchs were considered to have divine ancestry, therefore the truth about the reality came from God through the monarchs. No one questioned the divine reason and consequently, no one questioned the decisions of royalty that were considered the representation of God on Earth.

During the long period of the monarchies, supported by the divine reason to exercise their political power over the population, there were some thinkers who were concerned about the way of knowing things by human beings. In the field of knowledge, despite the imposition of divine reason, the Greek philosophers began to analyze the problem of how to achieve the truth of reality. This is how Aristotelian theories about the categories arise as properties contained in the object, which allow access to the knowledge of the observed object. Under this postulate the objective knowledge prospers, in other words, the necessary elements to know something are in the object.

Aristotle determines that the categories (substance, quantity, quality, place, time, etc.) are in the object. This theory served as the basis for future development of science, whose method begins with observation, postulation of a hypothesis, experimentation, verification, and promulgation of the thesis. Therefore, the knowledge was objective.

In more recent times (1637), Descartes launches the first attack against the monarchy, with the quote "I think , therefore I am". From this moment, the divine reason is questioned and importance is given to human reason. It is no longer God who thinks for us, but ourselves. The 18th century was considered the century of Lights in France or Enlightenment. It is the intellectual movement that supports reason as a necessary tool to find the truth of things. This approach questioned the divine reason as the bearer of the truth and consequently became the beginning of the collapse of the monarchy that materialized in 1789. When the merchants (bourgeoisie) promote what is called the French Revolution, and from that moment begins to govern human reason.

Simultaneously with the French Revolution new theories appear; Kant develops the proposals of Aristotle and Descartes but he moves the categories to the subject. These are no longer in the object but in the subject, who is the one who constitutes the object. Based on this proposal, Kant produces a revolution in the study of knowledge. He stated that in order to know the truth of reality, the subject's pure intuitions ( a priori forms of sensibility such as space and time) together with pure concepts (categories of understanding: Quantity of Judgements, Quality, Relation, Modality) constitute the object. In spite of this, it is not possible to know the "thing-in-itself" (essence of things). One could say that for Kant, there is no object without a subject.

The partial knowledge of the things, that can be deduced from Kant's theories, is solved when Hegel makes possible the knowledge of the "thing-in-itself" through dialectics. He proposes that a thesis would cause an antithesis and of these two results a synthesis, which is actually a thesis. Repeating this process will gradually get us closer to the knowledge of reality.

The great boom taken by the scientific method, affected the philosophical methods of knowledge by postulating that only what is observable, measurable, quantifiable, etc. is possible to know it. These movements were given the name of psychologism and naturalism, which place the subject and the object of knowledge in the same world as the one called nature and study their relationship as a causal relationship. Facing the threat of the scientific method as the only way to find the truth of things, ignoring the value of methods based on intuition, the proposal of the Phenomenology led by Husserl originated.

Husserl considers that in order to reach the knowledge of reality in its essence it is necessary to carry out the phenomenological reduction which consists in eliminating all kinds of acquired knowledge leaving the mind blank. Thus in this way, consciousness can be directed towards the object itself in order to receive from it the intuitions that are vague forms that allow immediate and direct knowledge. Husserl in raising the phenomenological reduction predisposes us to reach the truth of reality.

## Technology and Power

All this historical journey about the different philosophical movements that studied the knowledge of reality, which in its beginnings came from divine reason and then evolved towards human reason, prove that there has been a constant interest to reach the light of the truth. On the contrary, very powerful forces are developed to manipulate these investigations and to put them at the service of particular interests. This generate the detriment of the welfare of society and natural resources. It is here where the studies carried out by some members of the Frankfurt school, such as Theodor Adorno, Max Horkheimer and Herbert Marcuse, become important and necessary.

On this subject Horkheimer and Theodor Adorno reveal: “The enslavement to nature of people today cannot be separated from social progress. The increase in economic productivity which creates the conditions for a more just world also affords the technical apparatus and the social groups controlling it a disproportionate advantage over the rest of the population. The individual is entirely nullified in face of the economic powers.” (Adorno and Horkheimer). This quote depicts the reality of society and the relation with technology. It is clear that the main objective is in favor of the power-holders and not the individual. Horkheimer and Theodor Adorno discuss the instrumentalization of reason for the benefit of power-holders. Their perspective is from the philosophical-cultural analysis of society. On the other hand, Herbert Marcuse have a more practical-political analysis in which he talks about the advancements in technology and its instrumentalization, all of these causing a homogeneity in society that he called “One-dimensional society”.

For Marcuse, it is no longer the forces of terror that are used to dominate society, but a seemingly harmless mechanism. Which initial objective is to create new technologies for the vital development of man, but in the course of modernity lost its horizon, and it is currently being used to satisfied the desire for enrichment of a very small sector of society. As mentioned in One Dimensional Man book, “Our society distinguishes itself by conquering the centrifugal social forces with Technology rather than Terror”. (Marcuse). The obvious domination that technology exert over the majority of current society is always accompanied by systems of alienation proper to advertising. The technology came

to be qualified as responsible for an atomic catastrophe that could lead to the destruction of the human race.

The development of new technologies for noble purposes should not be stopped, but due to the danger of the perverse use of it, a social and political rejection must be awakened to avoid this disaster. My proposal through virtual reality tries to expose the use of this technology for harmful purposes in society. Therefore, the new technology must create the antidote against its own enemies.

The hope of the use of technological advances in the humanization of society seems to vanish. Everything indicates that every time a new technological proposal is born, it is accompanied by dehumanizing and dark forces that destroy any attempt to achieve the prosperity of human beings. These dark forces are what constitute the instrumentalization of reason and as a consequence the objectification of human beings is strengthened, meaning, they must be treated as objects. The instrumentalization of reason is intimately related to the mechanisms of alienation that we will analyze in the coming section

## Alienation

According to Darwin's theory in which the existence of an Alpha Male that dominates the rest of the herd is considered, we can transfer it to human society. This condition of domination of some over the entire population can be seen through history from the monarchy through capitalism and communist regimes in which a minority, that emulates the alpha male, subdues the majority of the population. In the monarchy the kings dominated over the rest of the population, in capitalism the bourgeoisie. This domination can be exerted through alienation.

Alienation has had different meanings throughout time and disciplines. The etymology of this word comes from Latin *alienatio*: estrangement and *alienus*: belonging to another person. Basically it means that we lose something from ourselves and it is replaced by something administered that dominates us. For theology *alienatio* translated to greek κένωσις that means emptying. Emptying of one's will to receive the will of God. For psychoanalysis, the subject replaces the reality lived by the discourse of another.

According to philosophy, the concept of alienation came from The Social Contract by Jean-Jacques Rousseau, in which he describes the problem that humans face when they live in a society instead of the natural form, in the forest. He thinks that in order to live in a society, each individual has to become alienated to the general will, only then you will have freedom in a political form. He describes freedom as nature and society as a contract. The concept of alienation was developed by different philosophers like Hegel and Marx. For Hegel, alienation exists when the idea becomes totally different from itself, it becomes an object. In other words, the subject gets out of itself and becomes an object. It's important to know that Hegel approach this concept from an absolute idealist position therefore he doesn't take into account society in his theories, he focuses on the individual. On the other hand, Marx based on Hegel theories take a different perspective that includes society in the equation, analyzing the concepts from a pragmatic point of view. For Marx the subject is alienated when unnecessary needs are added to its vital needs. Anything that doesn't belong to this vital needs (nourishment, clothing, and lodging) is considered unnecessary needs for him.

Based on these two important positions about alienation Herbert Marcuse wrote the book One-Dimensional Man, which is about the thought and behavior of society and its relations with technological advancements, this creates a state of alienation using new modes of domination and social control. For Marcuse, alienation is the lack of identity and authentic self-activity, when you lose control of one's own destiny and you follow the path that is administered to you. As we know, the problem of alienation has the future of the human race in suspense. At this time many scientists are developing the potentialities of virtual reality, augmented reality and artificial intelligence. These technologies will fall into the hands of power holders who use them to refine and make more effective alienation in order to obtain the greatest economic benefits without taking into account the damage they will cause to nature and society in general.

## Virtual Reality (VR)

Now that alienation is defined, what is the relation between alienation and technology in capitalism? Apparently technology will solve the problems that humanity faces and this is kind of true. But it also produce a decrease in freedom, individuality, happiness, and social change. This also produces a homogenous behavior and thought in society. Technology is being used as an instrument of domination that is disguised as an instrument of welfare, happiness and success. This happened to all the mainstream technologies that we use every- day like TVs, and the internet. When these technologies were created the main purpose was to deliver meaningful information to society, for instance, educational content and informa- tion about the geographical, social and cultural situation for the individual but it quickly mutated and became the instrument of domination that is today. Both on television and on the internet we deal with an absurd amount of advertisement and low quality content. What is the future of new technologies? In the last couple of years the advancement of technology has been exponential and now we have access to augmented reality, artificial intelligence and virtual reality (VR), all of them are new for most people, specifically VR. This technology has the power to immerse you in a completely different world that you have never experi- ence but it also require special hardware. Despite this limitations, Mark Zuckerberg said at the keynote of the Oculus Connect conference in october 2017, “We want to get a billion people in virtual reality”. Analyzing this statement and reviewing the history of technology it’s obvious that they can not take advantage of VR if there are just few people using it. Companies like Facebook and Google already have future plans for this technology but they still have to wait until it becomes part of mass media, it means that the vast majority of general public uses this technology. They are experimenting with advertisement for VR and immersive experiences for brands to sell more products to people. It’s important that everyone reflects about the use of technology and support a proper use of it. Currently there is a serious situation with the internet in the US, the internet service providers want to end Net Neutrality for their own benefits. This could mean the end of internet as we know it. This is the perfect example of how the purpose of

technology is changed by the power holders, in other words, how they instrumentalized technology to dominate people.

## Solution

You might be thinking what is the solution to this problem? There's not an immediate solution but there could be a change in society over time. I want to create a VR film where you are presented a select history of technological advancements that clearly shows how the purpose of technology changed in favor of the power-holders and against society and the environment. Then you will experience something similar with VR and what could happen in the near future. After that, you will see some videos of the consequences followed by a symbolic document that you can choose to sign or not to support some law that would limit the use of technology to alienate and dominate people. This film is intended to raise awareness about this topics and eventually lead to influencing people to adopt different behaviors and thoughts in their daily life based on a critical attitude towards alienation. This is articulated in a quote by Robert Reich, "All social change occurs when people become aware of a tension between the ideal that they carry around in their heads about how the system really ought to work, and the reality they see around. And when that tension becomes too great, that dissonance becomes too intense, they are willing to take action."(Reich). I also propose a way to solve the problem, if we become aware of legislating before and not after there are consequences. Technology must be regulated at the moment it is developed and not later.

Would the natural balance be restored if the power-holders stopped instrumentalizing reason?

Notes:

Define: Capitalist Society , Advertising

Humanity's Best Interest: Man and Nature (Take and give)

Advertising+ tech: Impact on society (Selling humanity) How does it work today?

For the greater good: Regulating tech

New Vision: (Art for humanity: A reaction against Advertising)

Regulation

Awareness

Project description

Why now? For who?

what is it? Awakening

User testing (Emotion)



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