INTERNATIONAL RELATIONS: TECHNOLOGY AND NEW MATERIALISM

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Abstract

The current thesis, attempts to analyze the wide range of theories covered and developed by new materialism, to highlight its relationship with historical materialism and mainly its interdependence with technology and its evolution. New materialism, as emphasized in the thesis, is a theory that has not yet encountered its limits. There is a lot of scope in modern complexity for new theories in the context of new materialism to be developed, especially in areas where it does not have a strong presence. Modern technology is evolving at an unprecedented pace. The technological breakthroughs which almost every day occur, trigger effects, that are difficult to be understood by the human brain at the same velocity as technology progresses. In the current thesis, the differences and the connections between robotics, artificial intelligence and the human Species are highlighted. The paper also underscores the importance which will be given to AI in the near future, and the pivotal role which it will play in society – almost in its every aspect – in the future It is also being emphasized. Nonetheless, every part of technology has a material characteristic, either tangible or intangible. These materials come to life as they participate actively in people's lives and influence their actions and their thoughts. Many questions that arise in the thesis relate to whether the new technologies will provide people with better means of living, or if they will just worsen the current position of the people, who in many circumstances will not understand the change. The current thesis sheds light to such cases. More specifically, in the introduction of the thesis, a historical overview is provided of the role of technological discoveries in the evolution of societies. Examples from ancient Greece and the Roman Empire highlight the change brought about by technological developments. The second chapter presents theories and views that compose the complex theory of new materialism. Methods of analysis through classical materialism continue to be highly topical today and are identical in several respects with the approaches of new materialism. The next chapter focuses on the importance and role of modern technologies in international relations and particularly in war. Drones and artificial intelligence change the balance of power and, therefore, all the powerful countries are competing with each other for the production and deployment of the most state-of-the-art weapons. This section also highlights the differences between humans and autonomous robots. Chapter 5 deals extensively with the effects on people and international relations of the use of modern technology by secret services. In the final part of the thesis, the association of all aspects analyzed becomes crystal clear, namely, the new materialism approaches and the evolution of technology with international relations.

1 Introduction

It is a fact that the evolution of civilization is a continuous and complex function and upon studying its entire whole it becomes clear that the past is a key tool for understanding the present (Burnett, Tylor, 1870, 2). Isolated incidents, historical events, dark historic periods, historical figures, countries, cities, institutions such as religion, social structures and relationships, all compose a continuous footprint in time, that is, history, evolution, change and of course progress. Technology and its evolution constitute an essential instrument by means of which we can measure the progress of societies; they also comprise a parameter that determines interdependence, relationships, balance of power and diplomacy. Technology, which etymologically consists of "art" and "logos" (speech), describes man's ability to create, to invent techniques, tools, and products with the use of these tools (Buchanan, 2019). Through technology man has differentiated himself to a great extent from the other living beings. Another significant difference is that man does not possess strong instincts and instinctive reactions like the rest of the animal species; on the contrary, man is capable of creative thinking and systematic reasoning. This reasoning, when applied, creates techniques and tools that we call *technology*. Since the onset of its inception, technology has improved production, processing, and construction results. For instance, more efficient ways of cutting wood came from the invention of more advanced tools. Moreover, the greater quantity and quality of food and food adequacy is a result of the developed techniques and tools that man created over time.

The creation of a language of communication among the members of a community or group could also be characterized as technology. Rational communication between people was not born out of the need to survive, as was the need to find food, shelter or protection from animals, natural disasters or hostile groups of people. Language and vocabulary were invented in order to describe and express the ideas and stimuli that could no longer be pointed at with the fingers or the screams or facial expressions or gestures that until then had been used for communication (Muller, 1861, 17). Even in the Bible there are references to the names that Adam gave to the other animals. The motivation for man to develop the technique of "speaking" was a product of complex thoughts and feelings. The result was that language, as a key device, intensified and deepened the interactions and the bonds among social groups. It strengthened cooperation and interdependence, thus creating the whole through self-determination. The whole, namely, the community, guided and determined technological innovations according to its needs and according to the formalized or ceremonial traditions of the era, i.e. the rules that

govern and define the way the group and its members operate and behave. The first social homo-sapiens groups were nomads who followed herds of animals (mainly deer). When our ancestors started to cultivate crops and discovered agriculture, the first permanent settlements were built (Lamoureux, 2009). The demarcation of their space and its protection brought the social groups closer together, thus paving the path for more complex interaction. Even the mere showing of weapons or tools or body postures is a means of communication. In the context of this communication, the first bilateral relations were formed between the groups, as inside the permanent settlements more fixed contacts could be developed. The expression "it may be better to hear the message than to eat the messenger" (Kurbalija, Langhorne, 1998) is a reflection of how societies acted at around 35,000 BC (Lamoureux, 2009). It is easy to comprehend that this kind of communication presupposes a set of rules and customs that were mutually applied while negotiating some sort of agreement. Most likely, these rules are nowadays considered extremely basic and self-evident, but they constituted one of the first and most difficult steps in diplomacy.

Centuries after the period mentioned above, for example in ancient Greece, the diplomats of each city-state followed the laws and customs that were written or unwritten, which regulated the exchange of messages and proposals. A metaphor that can be deemed similar is the angels or even the Son of God. These two cases are the first written reports on diplomacy (Tethloach, 2017). A typical example is the Peloponnesian War (431-404 BC), which is considered by many historians and theorists as the foundation for the onset of international relations. In an attempt to map the then existing relations, international relations theorists argue that, although most bilateral or multilateral relations used the balance of power and military power as the primary argument, there existed several instances in which states maintained relations of cooperation aiming indirectly at strengthening themselves in terms of balance of power. In other words, war and the prospect of war, in any and every period in history, were the motive for the development of stable bilateral relations and not the maintenance of peace (Hershey, 1911, 902). Therefore, the 'foreigner', that is, the unknown side in the relationship, was a potential enemy. The above is, after all, the origin of the ancient Greek phrase "every non-Greek is a barbarian".

With the passage of time, technology, diplomacy and forms of communication have evolved, as they have always been adapted to the corresponding time periods and followed the needs of each period. For example, in the Roman period with the enforcement of Jus belli (the law of war), diplomacy was more improved in relation to Ancient Greece. The attitude of

foreigners towards the Romans was different in comparison with the attitude of the Greeks towards the foreigners, a fact that can be placed in the wider context of the then advanced international relations. In addition to the progress in foreign diplomacy, internal governance improved, too. The vastness of the Roman Empire created major problems and difficulties that hindered its smooth governance. Problems that until then were a brake on the prosperity of such great states. The fact that the Roman Empire flourished and maintained its borders for many centuries shows that progress yielded fruit in many areas.

After the decline of the Roman Empire, the relations between the church, or rather the representatives of the various religions in general, with the state was well established and strengthened. This led to an increase in the influence of the church, both at the level of international and at the level of domestic relations. With the Crusades or the Jihads, the decision-making centers of religions influenced and maintained the balance of power of the period. With the passage of time, the church took some measures with a view to promoting and consolidating peace, but they were not very successful (Hershey, 1911, 24). Technological discoveries and innovations during this period came from the need and demand for improved living conditions. Therefore, the combination of technological discoveries, social demands, and internal relations plays a particularly dynamic role. Having as an example the 73-71 BC Spartacus uprising (The Editors of Encyclopaedia Britannica, Ray 2017), which was the third consecutive slave revolt against the Roman Empire, it is evident that class consciousness is being formed in the lower strata of society at that time. The acquisition of class consciousness is the ultimate argument for demanding improved living conditions, including the abolition of slavery. In this particular case, despite the failure of the uprising, which was crushed by the Roman army, different conditions had arisen which the empire had to deal with differently. These conditions affected both internal and external diplomacy. In this way, the chain reaction is activated which seeks progress and is established with the advanced technology.

Going through history and as we approach the recent past, we observe that theories of international relations are more or less related to the theories of political economy and world economic systems. Materialism, the Marxist approach to international relations, is the approach that transforms geopolitical interests into a global social (people's) theory (McCarthy, 2014, 479). Finally, it is emphasized that several theorists "use" classical materialism as a basis and not as a method of analysis. One such case is new materialism, which originates from materialism but enters into different paths.

2 New Materiliasm Theories

Historical materialism

Materialism, historical Marxist materialism, that is, the Marxist political economy conception of international relations, is not far from the Marxist economic approach. However, it is also based on philosophy, dialectical materialism, since materialism constitutes an approach to international relations, but at the same time it is a fundamental philosophical school of thought. Philosophical materialism emphasizes that matter existed before consciousness (Chondrokoukis, 2014). In other words, matter and its evolution is what determines human consciousness and forms it by influencing individual and collective behavior. Society's relationships and conditions exist regardless of consciousness; a man with a "good – acceptable" consciousness is unable to influence the flow of things and their impact, as this man acts according to the conditions that determine his surroundings. For example, the recent severe cuts in the services and facilities offered by educational institutions such as universities are not due to poor management by the boards of directors of the institutions or the Minister of Education, but to underfunding. It is important to understand that in materialism as a philosophical concept the subjective reaction of a person based on his/her consciousness is not defined as an evaluation criterion (Buecker, 2003, 52-54). Decisions that are taken come from man's perception of matter in association with the conditions and the evolution of matter. Marx was not the only philosopher to follow materialism. Even in theories of international relations there exist approaches, realism for instance, based on philosophical materialism. The method of analyzing data and conditions is the tool used by Marx and Engels to develop their economic theory. The dialectical method examines the data based on the bonds, the interaction and the correlations of things. It could be seen as a large puzzle where the pieces to be completed show you the way to place the next missing pieces and vice versa.

On an international level, a dialectical answer to the question "why is Iran about to be invaded by the United States and NATO forces" would be: given the ongoing conflict of the world's largest corporations to conquer the best position in the market, military activity in Iran is aimed at redistributing oil resources among interests different from the current ones; these interests are protected by the countries and alliances they originate from. Dialectical materialism is based on science and uses it as a tool for analyzing situations and conditions. To

this chapter we can also add the importance of the state for Marx, a concept which guides the Marxist approach to international relations. According to Marx, the state is characterized by classes, since the period in history when the first human settlements were established in permanent locations and people started cultivating the land; then, for the first time, suitable conditions were created and some people laboured in the fields while others enjoyed a bigger proportion of the goods produced than corresponded to them.

Therefore, it gradually became necessary to maintain a group of slaves for such kind of labour (Buecker, 2003, 50-51). Today's states in the capitalist economic system are puppets under the thumb of big business corporations and capitalists who, through the states, promote their own interests by utilizing legal avenues such as legislation and free choice of goods, manipulating thus citizens - the members of society. Marx and Engels write in the Communist Manifesto that a change in the power of the classes can only come with a revolutionary struggle initiated from the oppressed class; the new state would socialize the means of production by giving wealth, that is, matter and its evolution to those who produce it. It is the relationship between employers and workers who produce matter that determines the form of the state, according to Marx (Anievas, 2010, 198). The Marxist conception of bilateral relations is based on class struggle, which plays a leading role in the field of international conflicts. Economic conditions have transformed the majority of the world's population into a workforce that, through class struggle, confronts the capital head on (Buecker, 2003, 50-51). A typical example is Marx's views on colonialism, according to which capitalism establishes itself in non-capitalist countries thereby changing the means of production, and transforming the economies of these countries. This way conditions ripen for the transition into a global socialist economy. However, critics claim that Marx failed to predict that capitalism would by no means eradicate origin discrimination and homogenize society, which would turn into a population melting pot. (Buecker, 2003, 52-54).

When Marx wrote about the situation in Poland, he supported that there is no substantial difference in terms of social conditions, whether the ruler of Poland lies under the sphere of influence of the Russian ruler or is independent. According to Andrew Linklater (1989, 112), Marx, who did not dwell on international relations to the extent that he did on other topics, said that the international capitalist system was eroding the status of autonomous states leading to their dissolution. There are critics such as Waltz and others who claim that the Marxist theory fell short in several respects (Linklater, 1989, 110). For example, critics support that the struggle for power and security undertaken by the states could not eliminate the borders

between countries within the chaotic field of international relations. Another example of their criticism is the view that the materialists underestimated the importance of nationalism, international law, and balance of powers. Dialectically responding to these criticisms, one could say that the contradictions and the separation of states, even war, are not the product of the man that belongs to the poor class, as there is nothing material that this man is likely to acquire from his counterpart belonging to the same class who lives in another country - that is how the system works nowadays. Even if this were possible, the following answer is given: Using mathematical calculus for the purpose of an absurd result, we consider that a man of the lower classes acquires a material object, something tangible, in another state than that of his labour. How will he be able to use his new acquisition to his advantage? One possible version is that he moves to the area where his new acquisition is located and works there. This of course would result in the loss of his previous job or occupation. He could increase his profits if he was in both parts at the same time, by taking advantage of his previous work in parallel with his new acquisition. This is impossible, however, as it is not possible for someone to be in two places at the same time. Nevertheless, in case he wants the parallel exploitation and the double benefits, he will have to acquire the means of production in order to be in one place and at the same time make use of the profits from his new acquisition by using other people and possibly modern technology. Therefore, this man is the owner of the means of production and does not belong to the lowest class. How could he get hold of these means if he does not have the necessary resources at his disposal? He could not possibly obtain them by legal means. The reasoning has led to an absurd conclusion.

According to a different view, there are various motives for the grassroots classes to wage war, for example national or religious motives. As Brown suggests, factors of national conflict include the structure of a weak state, as well as political, economic and social issues (Reuter, 2017). In all cases, the "lay" person has nothing to gain in terms of material products. The mainstream approach would enable the poor to make sense of such wars because this way they would "punish" the "bad guys" or the people of a different religion or the citizens of a rival state. Such views, however, are close to racism, segregation, and categorization, or even to fascism and Nazism, and are closely associated with low-level education and a background deficient in knowledge, as opposed to the materialistic approach which, as mentioned earlier, is intimately linked with science. Marx and Engels did not address specifically or extensively issues of international relations, but what they wrote was adequate enough to provide the theoretical background, that of Historical Materialism, which the future generations of thinkers drew on. An important addition to the classical materialist approach is the theory of

colonization and new colonization. This theory proved a valuable tool for understanding Lenin's theory as formulated in his book *Imperialism*, which is the highest form of capitalism. The period described is <u>when the</u> capitalist states ceased to possess or claim colonies, when in most cases, both the ties and the relations with the "mother country" have been lost.

(Neo)Colonialism

The concept of neocolonialism generally means the exploitation of less developed countries and states by bigger powers without the direct interference of the latter in the internal affairs of the former (Sandra Halperin, Britannica, 2016). This concept was first used after World War II to refer to the dependence of less developed states and countries upon the most powerful ones. With the passage of time, its meaning broadened to also include those cases in which developed countries had acquired control or power in the internal affairs of the colonized country. A very typical example is the African continent, where a great number of countries were colonized by powerful European states. After the end of the Second World War, the colonists withdrew, primarily as a result of strong independence movements. However, subsequent governments in many ex-colonies caused greater suffering to their people (Shafiqur, et al. 2017, 14-15). In summary, critics claim that in many cases, international organizations such as the International Monetary Fund and the World Bank are pursuing neocolonialist policies in countries where they offer financial aid (New World Encyclopedia, 2019). What happens as a rule is that, when poor countries borrow from these institutions, a series of mandatory reforms are imposed on them in return for loans which in most cases are impossible to pay off. The International Monetary Fund is a UN specialized agency whose purpose, as stated in its Declaration, is: "The IMF promotes international monetary cooperation and provides policy advice and capacity development support to help countries build and maintain strong economies. The IMF also makes loans and helps countries design policy programs to solve balance of payments problems when sufficient financing on affordable terms cannot be obtained to meet net international payments" (IMF, 2020). In a few words, the IMF aims at helping the economically weak countries by fostering the creation of strong and stable economies. In the Declaration it is also mentioned that funding comes from subscriptions to the Fund from the member countries. We conclude that the majority of the funding comes from states with strong economies. Analyzing the last sentences by means of the dialectical method, it can be observed that strong countries will finance the weak ones so that the latter will be able to strengthen their economies, or, in other words, to increase their "share" in the market, which,

nonetheless, is already distributed among, and in most cases controlled by, corporations operating within these powerful economies. Bearing this analysis in mind, it is difficult for someone to understand how, with the current economic conditions, business groups will willingly give up part of their market share in order to strengthen the economy of another country. The dependence of weak countries upon the more powerful ones is ultimately consolidated with the help of international organizations.

New Materialism and Classical Materialism conections

The neo Colonialism economical tactic as presented above is only an extension of the historical materialism approach; it does not belong to the scope of new materialism and, according to the paper by Peta Hinton, Tara Mehrabi, and Josef Barla (2015, 1-3), the necessary analyses by new materialists on the subject of neo-colonialism and its theories are not available. According to this paper, various questions arise that new materialism does not deal with, such as the racial issue and racism. Waltz supports that imperialism, as analyzed by Hobson and Lenin, is directly linked with post-colonialism as well as colonialism (Waltz, 1979, 28-34). According to the author, this theory is the most accurate and complete, because its simple formulation not only explains the meaning and acts of imperialists but also describes the reasons and causes of modern wars, i.e. issues that are key tools for the analysis of international relations. It is worth mentioning that this theory, based on its method of analysis, can make predictions, something that is not possible with the majority of the remaining theories, as the author argues. The issue of racism and racial discriminations is largely based on colonialism, as in most - if not all - cases the dominating country had the power to substantially diminish through numerous actions the value of the indigenous people in the colonies. A common feature of the powerful imperialist states was the white skin of their citizens, the "western" culture and the "western" civilization.

Is there a connection between Historical Materialism and New Materialism? The obvious answer is that there is a great connection between the two approaches; the expression "matter matters" shows that the philosophical concept and the theory of matter are an equally defining characteristic. However, according to this article (Chandler, 2016, 2-3) new materialisms do not wish to get involved and deal with history and the role that historical materialism had in history or the issues it dealt with. But what is it that ultimately created the need for new materialism? According to a theory (Vaughan-Williams, Lundborg, 2015, 1-2), the

intensification of the relationship between matter and people's daily lives is the cause and need for a new theory of materialism.

New Materialism Basics

New materialism is an approach to be used for several important issues and not used exclusively for international relations. Art and social science are areas which can be investigated through the new materialism approach. In these fields, the prevailing analysis explains that matter and its forms are the driving forces that determine the world, history, the spiritual and the natural (Fox, Alldred, 2019, 2). Is it a theory based on its analysis, without requiring the presence of links and connections; moreover, questions such as "where do I come from?" or "is there a supreme being?" or "is there fate?" etc. are either not defined or have a common answer. It is worth mentioning Bruno Latour's phrase "history is no longer simply the history of people, it becomes the history of natural things as well" (Bruno Latour, 1993, 82). It is understood that inevitably we will investigate the manner and the degree to which objects affect people's lives and actions and are eventually transformed into social "tools" for the realization of everything. For example, a building, which consists of and is matter, has an active role in society and influences the way people behave and act. This theory does not recognize the differences between physical and spiritual, human and non-human and in particular between spiritual and material (Dolphijn, Van der Tuin, 2012, 121). According to several new materialisms, the boundaries between the social and the natural are lost and replaced by a series and sequence of events that define and explain the world as well as functions such as production, exploitation and even emotions. With this method, new materialism delves into specific issues which, according to Van der Tuin and Dolphijn (2012), classical theories such as materialism ignored. Cases that were considered individualistic such as sexuality and creativity can be focused on and analyzed by new materialism. In such a context as described through new materialism, it is technically and theoretically impossible for things to have any stability or even permanent structure. In cases in which the changes of matter and its usefulness, even the way in which they "regulate" people's lives, are unpredictable - even their transition rate from usefulness into uselessness and vice versa is unpredictable - it is impossible to describe a stable situation and order. According to the above arguments, matter changes, transforms and alters in order to remain relevant and continue to be in the realm of analysis by means of materialism and new materialism. This theory is put forward by Bruno Latour (2007, 2) who writes that either matter will change for the reasons already mentioned, or technology

and knowledge will evolve in order to create the necessary tools for the incorporation of a new kind of matter into the world of the people, which until recently did not exist.

In order to geometricize this theory, Latour uses an example: the steam locomotive. The locomotive has become obsolete now, that is, it is no longer in the active "world" of matter under study and no longer affects today's society. However, it constitutes matter, albeit "inactive"; what continues to play an active role to this day is the designs drawn to create the locomotive. These designs are the subject of study and have "value" as matter today. That is, they can be considered as a kind of material that affects man and his subsequent actions and deeds. However, these designs will not be transformed into something tangible and, ultimately, into a locomotive at this point in time. Latour goes on to say that classical materialism was excessively idealistic (Latour 2007, 2), as it ignored the possibility and manner of applying and implementing the designs that were produced. He also adds that the designs were ideal and idealistic as they depicted "how things should be", meaning that these designs probably did not correspond to the reality of their time. Without further elaborating on this specific issue, he argues that when classical materialism and its idealistic theory were applied to the sciences of economics, genetics or sociology, the result was problematic. It would be interesting to analyze how these idealistic designs and theorems influenced people and played a role in their lives. Perhaps the answer to this question is given in 1677 by Benedict Spinoza , who argued that the human mind is the depiction of the body, while the body is the object that affects the mind and is the necessary object of man's existence (Richard H. Popkin, 2020). Using Spinoza's theory as a tool, it could be said that the chain reaction, ignited by the conception of the ideal in the human mind and the attempt of the body - but also of the mind - to transform it into matter, is one of the driving forces for evolution, progress or, in general, change in all areas of human society.

<p align="center">New Materialism and ecology</p>

Matter is not stable, neither can it be broken into its individual parts and components. Matter consists of matter. To the questions 'where does matter come from?' and 'how was it created' there is a limited number of answers that can be given by astrophysicists, mathematicians and other scientists investigating these subjects; however we can be certain that matter came from and was created from matter or something that contains matter. The last sentence applies to the four dimensional context in which man lives. New materialism is connected in its principles with the environment and ecology. Common features such as the

contrast with the man-centered characteristics of the world and the differentiation between organic and non-organic reflect the importance of new materialism on the environment. The 2017 Conference entitled "environmental humanities and new materialisms" (World Humanities Conference, Blanc 2017) held in Paris was attended by distinguished theorists of new materialism who referred to topics and ways in which environmental philosophy, environmental history, political ecology and other theories are historically linked. We could claim that in the area of ecology, the approach adopted by new materialism is a perfect match or even identical with what historical materialism supports. According to Marx and his references to the environment and ecology, we realize that he draws heavily on the ancient Greek philosopher Epicurus (Foster 2000, 10-12). Epicurus, in his work, tries to emphasize the freedom and independence of man by utilizing the theory of materialism and the relationship it has with nature and the world. The material character of nature and the environment enables man to live and act of his own free will and volition. This analysis contradicts in several respects, if not in all, with religion. There is a natural explanation and reason for every event, according to Epicurus; miracles or fate that various religions quote have no place in the theory of materialism. Engels wonders, too, "Did God create the world or has the world been in existence eternally?" The materialist answer to this question is essentially a reflection of matter on the universe.

In Marx's works, there are no straightforward references to the environment and ecology. Nevertheless, there are indirect references such as in Volume One of *Das Kapital*, where he writes that capital, that is, capitalism, has depleted and is pushing the environment beyond its limits (Burkett, 1999, 57-68). Marx realizes that the working class, the means of production, and the environment are ruthlessly exploited by the capital. For this reason, namely on the grounds that he does not separate the environment from the man-labourer, he has been heavily criticized. By incorporating these two elements into the same whole, however, he creates the opportunity to jointly examine them in the field of materialism and new materialism. We can say that capital perceives both the environment and the human entities as material to be exploited.

In what ways can we find common aspects and identifications between the theory of new materialism and the theory of the man distanced from the environment? As posited by Nathalie Blank, a new materialism theorist, the human body can be investigated and directly linked with the environment; in other words, it can be considered an integral part of the environment (Blanc, 2017). This argument does not differ from the Marxist view mentioned

above. The argument used by Blank is also very logical, because science has shown that the same chemical compounds that were the building blocks for the creation of man were also the foundations for the creation of all living beings on Earth. Taking into account these thoughts, it becomes clear that de-colonization and de-industrialization will protect nature and its evolution, which, in turn, will bring about the protection of man as a whole and not as a unit, and the prospects of civilization and its potential. Blanc goes on to add that capitalism and modern means of production intensify the encroachment on the environment and the impact this has on civilization, referring to both mankind as a whole and to each one of us as an individual. Blanc's analysis is consistent with what is called today - without the help of the new materialism analysis - *environmental disaster* and might as well be used by environmental protection movements. The people who participate in such movements do not usually have some form of power or authority but become empowered through their struggle for the environment. In this way, the theory of new materialism gives "life" to the environment and to the movements for its protection. As stated in the official invitation to the Conference on New Materialism and Environmental Humanities: "Our call is to consider the New Materialisms as an opportunity to enrich pre-existing conjunctions across environmental philosophy, environmental history, ecocriticism, cultural geography, cultural anthropology, and political ecology, including their debates as captured by environmental humanities. These fruitful alliances could help build environmental posthumanities (Annual Conference on the New Materialism, World Humanities Conference, 2017)". This sentence, in addition to linking several areas of human culture and science, it also connects different philosophies and views on a common goal, something that happens in the context of new materialism and classical materialism. By creating a common front and through unified stuggle is it possible for a different conception of man, animals and the environment to be achieved, which will be based on new materialism and will emphasize the unity of all living organisms. Therefore, we can always entertain justified expectations for the development of the environment and man through it, as an indivisible whole.

Feminism and New Materialism

Ecofeminism, a branch of the feminist movement, refers to the connection between the environment and women. More specifically, it points out the ways in which the system exploits women and sheds light on the common features shared by womens' exploitation and the exploitation the environment, natural resources, animals and all those that are considered

valuable by the "culture" of the system (Casselot, 2016, 3). Perhaps it is an exaggerated view the one expressed by Carolyn Merchant, who writes that women and nature are passive irrational beings, who remain apathetic towards their exploitation by men. Ecofeminism today is not one of the strongest movements within feminism as it was in the period 1970-1990. Feminism is a key part of the social aspect of new materialism. The way in which new materialism is developed is based to a large extent on classical materialism and its views on Feminism. Simone de Beauvoir, one of the most distinguished feminist philosophers, wrote about women using the classical materialism approach (Beauvoir, 1949): woman, by nature, is the organism that conceives and gives birth to people. This trait makes her valuable and powerful, yet this trait should not be the one that defines her and "distinguishes" her from man. In order to substantiate this view, Beauvoir mentions the time when gender equality was lost, that is, with the transition from ancient societies and collectivism to private property. In the first societies that were created, there was no private property, all the members of the group cooperated for the well-being of the whole, and consequently, the prosperity of each member of their community. There was equality between women and men because all the work, the duties, the obligations of the group were equally shared, so the responsibility for the survival of the group was collective. With the passage of time, technology evolved and tools improved, resulting in the exploitation by the community of increasingly larger areas for cultivation and necessary resources.

Technology altered the equilibrium whithin the team, as the new tools required greater muscle strength than that possessed by women in order to be effectively and productively used. Therefore, in the new communities that were created, women did not have an equal participation with men in care giving tasks. Their role was degraded and confined within the bounds of sexuality and motherhood. Thus, women came closer to the slave status. As a result, what man saw in a woman was an object that offered him pleasure, gave birth to and raised his children. It is self-evident that from an ethical point of view there was no respect and commitment on the part of the man towards the woman raising his children. Beauvoir also mentions that in the modern context, production is done with advanced machines and technology, in which the extra muscular strength that the woman is devoid of is not required. Her social and class position is again on par with that of man, thanks to the advancement of technology. The obvious observation here is that the evolution of technology that deprived women of equality, their rights and turned them into exploitable material, is what now restores their equality with men. It goes without saying that if a time comes when the equality of the

sexes is to be taken for granted, the theory of feminism, according to new materialism, will be part of the past and will have no "value" in the course of future life. However, it will still be the subject of historical research. Until then, new materialism will use the theory of classical materialism for the feminist issue, among others (Coleman, et al. 2019). According to Stacy Alaimo and Susan Hekman, matter is one of the most important constituents of the feminist theory, through which areas such as the environment, science, queer theory, globalization, culture, racism, and disability are examined (Stacy Alaimo, Susan Hekman, 2008, 9-10). Rosi Braidotti strengthens and enpowers the last sentence and its meaning, arguing that the term materialism is made up at its heart of the root word *mater*, meaning *mother*. Therefore, materialism from an etymological point of view is an issue directly related to feminism (Coleman, et al. 2019). Just like other fields of the new materialism philosophy, new materialist feminism is still in its creative stages, namely, in the stages where it develops its views on issues like those mentioned above such as culture, or women's relationship with nature (Hinton & van der Tuin, 2014).

Ecofeminism is one of the first and most significant areas that someone can refer to when they begin to study new materialism and its relationship to feminism. It is important to note that the reason for the extensive references to the issue of feminism is the fact that a large number of new materialism theorists dedicate much of their work to feminism and women. For statistical reasons, it is noted that the majority of new materialisms are women.

The authors of this article feminist new materialist practice: the mattering of methods (Coleman, et al. 2019), are trying to explain the reason why the new materialism philosophy is so closely connected with feminism. Initially, they simplifie the new materialism theory by emphasizing the actions and the senses (sight, smell, hearing) that the materials and their "movements" have. They point out that it is inconvenient for the new materialism theorists to get out of the mainstream and try the materials, the expressions and the impact they actually have, that is, to feel matter and its changes. The reason why, according to the authors, there is the characteristic of the new in new materialism is that all these versions of matter and the way the observer receives them cannot be exclusive. That is, each action and deed can be described differently, the result of matter and matter itself can be captured differently, as a new theory and perception. In this case there is a lot of room for innovation and evolution of the new materialism philosophy, without prejudices and limitations. They conclude that the method of analyzing new materialism, the one mentioned above, encourages people to get rid of stereotypes and brings about the reversal of given practices like sex equality and similarity.

New materialism theory is the driving force behind new ideas, which will confirm the differences of the sexes, instead of denying them, ideas that will be based on an alternative approach to the difference of the sexes. In conclusion, new materialism enables the feminist movement to "see" through a new approach the issue of gender equality, without restrictions.

It was previously mentioned that new materialism is an approach that has not yet defined its boundaries and divisions into individual issues. For example, to the question who a typical educated person is, the answer would be: a white European adult man who speaks one of the established European languages (Abadia, 2018, 170). This answer would be the dominant one until modern times in which information and the ability to disseminate it have changed the prevalent views. This question could be investigated either from the feminist point of view or from the ontological point of view or even via the post-colonialism theory, always within the context of new materialism. It is taken for granted that the Western European culture is considered dominant in many fields of science, such as sociology, pedagogy etc. To this direction, Braidotti's (2017, 1) quote is quite revealing: all people born are equal, yet some of them are more mortal than the rest. The imposition of European "superiority" on issues such as those mentioned above is often underestimated even by distinguished new materialism theorists. One such case is reported by Zoe Todd (2014) who wrote about issues related to civilizations and cultures that have been "colonized" by Western culture. In other words, the author emphasizes that, in most cases, people's opinion - which is Western oriented - on aspects such as the traditions of an indigenous community is more appreciated and important than the self-views and narrations expressed by the members or descendants of the indigenous community.

Post Humanism

The above issue may be related to humanity, a sector which, according to Professor of Humanities at the University of Utrecht, Rosi Braidotti, is so complex today by combining hybrid states and societies, multilingual communities which, with the contribution of modern technology, thrive without eliminating differences and inequalities, post-feminist conditions and so on. She goes on to say that this data is not simple and is not easily distinguished, but it forms a complex "web" that is the reality of today, which is to combine and inject all these characteristics into a social "footprint" in the society of today. The author concludes, by stating that we need a creative and "tolerant" theory to give questions, answers and justifications for this reality (Braidotti, 2017). The situation just mentioned, Braidotti, calls it post-humanism.

This theory is one of the main parts of the new materialism and its analysis. The complexity of post- humanism and the need to create a theory suitable to "cope" with the situation described by Braidotti, identifies with the need to create new materialism. That is to say, the theory and method of analyzing events, which will be the link – either living or non-living – to which complex conditions - for the time being – will be attached and distinguished (Abadia, 2018). Technology is of particular importance in creating these complex conditions, but at the same time it is an incentive to develop post-humanism theory initiating technology into the study and its method of analysis. According to her argument, the progressive side of post humanism, 'sees' that modern technology has influenced and changed every man and his life, as well as, it has strengthened human contact with science.

3 Technology and materiality

Modern technology has changed humans and altered every man's relationship with several sectors. One of these sectors is war and modern means of war. War is one of the most important and ancient areas of politics, especially of international relations. In function with post humanism and new materialism theory, the question that would give "food" for analysis would be: if human beings have a role and who would that be in the wars of the future.

Drones

The nature of the armed conflicts over the past years has changed dramatically. An important factor which contributed to this change is the events of 11/9. The "era" that began after 9/11 intensified research, technology and creation for "staffed" weapons and systems to counter asymmetric threats, such as war with terrorism. One of the results of the technological evolution was the creation of re-routed airplanes, i.e. drones. The drones deregulated and modified the battlefield and contemporary war, becoming today's most "used and desired" (Funk, 2016)'weapons'. The so-called UAVs -Unarmed Arial Vehicles- are divided into categories. The name UAV is generic and refers to all types of drones. UCAV, Unarmed Combat Arial Vehicles, are the drones with weapon systems, and have the potential to hit targets. The countries manufacturing such drones are few (Roblin, 2019). UCAV consist of the subcategories: MALE and HALE, which means medium altitude long endurance drone and high altitude long endurance drone- the second type is mainly used for surveillance and espionage-. The airplane capability is about two days. There are also MAVs, micro air vehicles, which are so tiny that they could fit in the palm of a human being. The role in the modern war is to be used even by simplest armed troops at the time of the armed conflict to be able to "see" behind a barrier or to identify their goal without having to move themselves. Another kind of UCAV is Minidrone, which observes and, at the same time, is able to be enriched with hand grenades to cause attacks on the enemy. ISIS forces, could carry Minidrones. The fact that the manufacturing procedures for drones became simple and the cost of the drones have decreased dramatically, makes it easier for the terrorist organizations to mass supply themselves with common market drones (Mikelis, Mpozinis, 2018, 45)

Finally, the kamikaze drones are, even more, testing the fact that people have an active role in the forefront of armed conflicts, because they are like 'consumable' drones, they have explosives and their purpose is to identify the target and explode. It is important to mention that there are other categories of drone, such as ground drone and sea drone. The last two categories are not widely known because their use is still under trial. A recent use of the ground drone was made by the Russian armed forces in Syria (Roblin, 2019) in 2018, where the results were not ideal.

Not a Human War

The future of armed conflicts seems to require less and less human presence, particularly at the frontline of the conflict. The human factor in modern war lies far from the battlefield, it lies behind computer screens and remote control systems. This issue must be analyzed and included in the post-humanism study, like in the theory of new materialism. The development of technology is constantly undermining the current situation, so the need for a modern theory, such as the new materialism, is essential to provide answers to the current complex questions that arise. Official data reinforces the view that humans will play a less major role in the future of the war. According to the study by the Pew Research Center (Parker, Cillustro, Stepler, 2017), the number of US military human resources has been distinctively reduced in the last few years. In fact, in 1990 there were 2,100,000 people staffing the U.S. armed forces, whereas in 2015, the number has been diminished to 1,300,000people (Parker, Cillustro, Stepler, 2017). This decrease is still going on (Arkin, 2019). It is worth to mention that that young American citizens do not include the military in their possible choices for their future activities, as the Guardian article states, something that brought about an unplanned increase in the budget for recruiting human resources (Arkin, 2019).

The fact, that the number of people has been reduced, is largely due to their usefulness in modern war. This is justified by the large increase in expenditure on UAVs. To be more precise, the study of the Center of drone study states that, in 2019, the budget for unmanned weapon systems was $9.39 billion, while in 2018 it was $7.5 billion, at the same time that the forecast supply of drones was only 3,447 for the year 2019 (Gettinger, 2018). The most significant change from the 2018 budget is the commission of several ground robots, a trend that will increase in the upcoming years. Even in the area of naval forces, there is a large

increase in costs for unmanned systems, whether surface drones or submarine drones. It is obvious that human presentation will be limited to all known areas of the armed forces. The data recorded in the USA, however the United States is not the only country that is investing in the manned war systems, which justifies the fact that the U.S. dedicates part of the defense budget to developing anti-drone systems.

One of the countries that play a vital role in the scene of unmanned vehicles is China, which constitutes the largest exporter of UAV weapons systems, according to the Italian Institute for International Politics (Romaniuk, Burgers, 2020). According to this study, China's drones are cheaper, lighter and less effective than the US-produced ones. But, the fact that there is an intensification of their production, covers the need of many countries and forces that want to integrate this modern instrument into their armory.

Despite the reduction of the human factor from war, as has been mentioned, there is a control center, several kilometers away from the field of conflict. There, people are manipulating unmanned fighting systems, or defining their objectives and missions. For example, the use of American drones in Afghanistan is being operated by the control center in Virginia with the help of a satellite- the delay of the given orders is only 1.2 seconds- (Roblin, 2019). The commands - most of them - relate to the strikes and the monitoring of targets. These targets are usually non-state organizations, such as Al Qaeda, ISIS and Boko Haram. As the 'Understanding drones' (Friends Committee, 2020) says, there is a list of targets as well as the so-called signatures strikes, which are based on distinctive characteristics and attitudes of humans. Therefore, it would be expected that drones would be more effective and more accurate than older technologies when it comes to achieving their objectives. On the contrary, the proportion of the non-combatant civilians by drone attacks is high (Funk, 2016). To be more precise, between 424 and 969 civilians were killed in Pakistan by UCAV attacks, among whom 172-207 were children, according to the bureau's survey (The Bureau of Investigative Journalism, 2020). In addition to the deaths caused by these attacks, they also create a permanent terror, which is terrifying for the local civilian population (O'Connell, 2010). As the article Unlawful killing with combat drones states, "the local population does not want the presence of the extreme groups that use violence, but what they fear most, is the faceless enemy, that is miles away and most often kills the civilian population against target".

At this point, the question that can be asked is: Which factor is responsible for such frequent failures? The man who handles the drones and sets the objectives or design defects of

the machinery. A response that can be given refers to the relationship that they have those who tackle the drones with the objectives, i.e. the distance of the performer from the victim has the following parameters: physical distance and emotional distance. Emotional distance is divided into four sub-categories: social distance, which can create the class inferiority of the victim in relation to the perpetrator, cultural distance, which contains national and racial characteristics and differences, moral distance, which creates moral superiority and the need for revenge and, finally, the virtual/mechanical distance, that creates the conditions of a video game, where execution takes place through the television screen and lacks real value (Grossman, 1996, 187). It must be highlighted from an ontological point of view that the operators of the drones could not be killed in a fight but they might have all the symptoms of the after battle effect (Mikelis, Mpozinis, 2018, 50). In this scenario, the material, which actually kills, acts like a living organism and at the same time erupts the effects of its action on both side of the conflict. All these clues lead to the conclusion that the humanitarian issue is very much present, despite the development of technology and its use by man, contradictions and phenomena such as racial racism, social and intellectual superiority, discrimination on the basis of external characteristics, religious conflict and other matters have been deteriorated. The development of their post-humanism theory, as described by Rosi Braidotti, should move in relation to the speed of technological development and provide answers and responses to the violent social and political scene mentioned earlier.

The use of drones, that is currently used for targets, outside the US borders, could also be used for internal security issues. As we speak, there are not many official reports, as the constitution restricts drones flight for policing purposes (Tucker, 2017). However, it constitutes a feasible and reasonable possibility. In the U.K. and, especially, in Kent local police have been using the drones for the benefit of the city since 2017 (Kent police, 2020). In its report, they claim that VACs are a key assistant, as they are cost-effective, efficient and make a significant contribution to a wide range of police functions. Another police officer recruiting the drones is the London police (Jacobson, 2019). Their use will be exclusively for the monitoring of motorways, in order to contribute to the fight to reduce dangerous driving and accidents. In none of these cases mentioned above, there is any reinforcement in drones. The fact that their use for internal security matters has a positive effect according to the organizations that use them (Kent Police, Met Police,), is the first step towards greater involvement in even more departments and sectors. In the cases where there is a link and a match between the exchange of external threats and internal threats, as for example the distancing of the handler from the

controlled target, it is then, that the risk of a great restriction of freedom and the creation of strong barriers and categorizations becomes even more evident.

Proposed U.S. military drone spending in FY2019
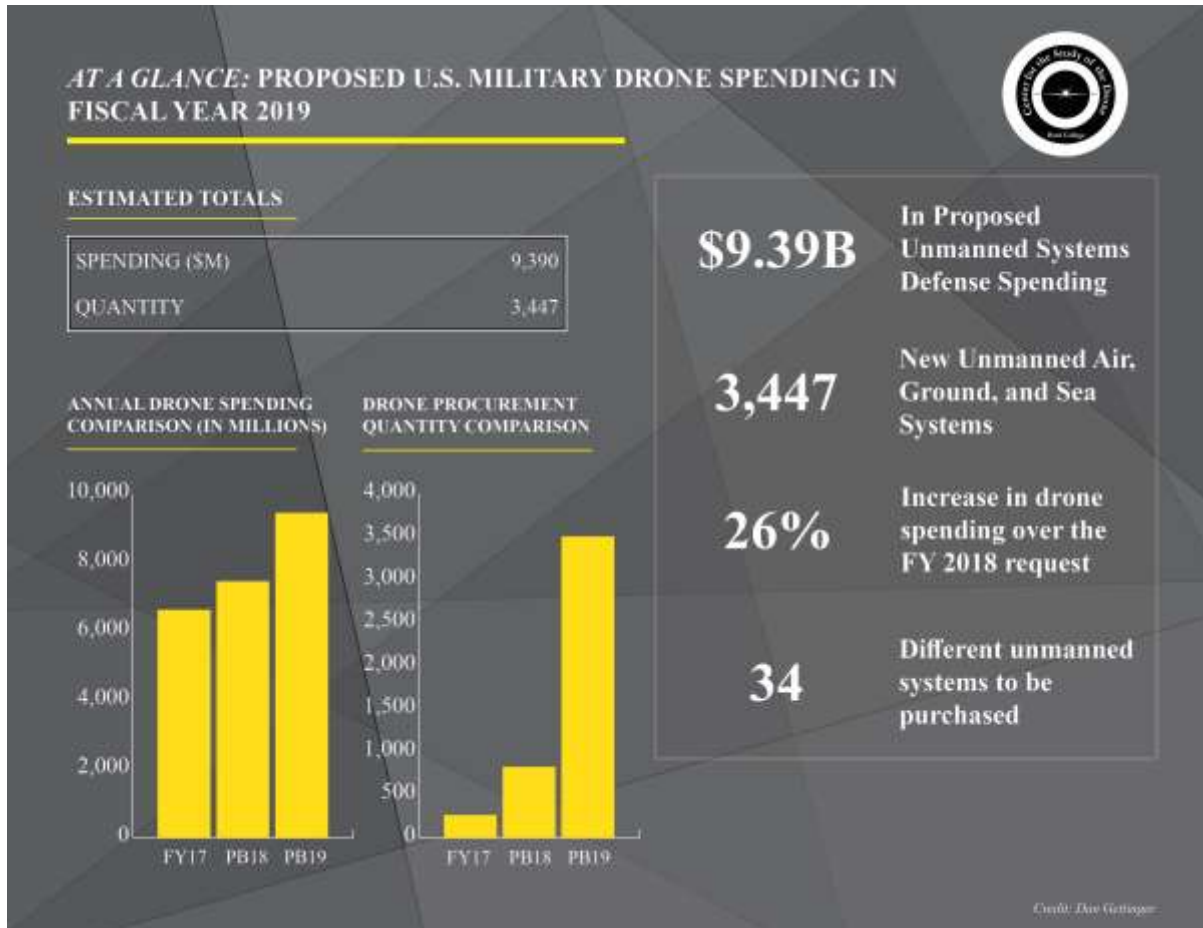
Source: center for the study of the drone at bard college

Artificial Intelligence, International Relations and New Materialism

The man is moving away from the battlefield. He is probably in an office, in front of a screen, giving orders or guiding- under video game conditions- the unmanned vehicle to strike its assigned target. There is a great deal of doubt about this method and its effectiveness. The studies mentioned above, show that a large proportion of civilians are still being killed even with modern weapons, which are quite expensive. According to the article 'Ethical robots in warfare", the human factor plays a negative role in violations of international war law, such as the killing of civilians (Arkin, 2019). According to the author, the evolution of technology enables the use of autonomous robotic systems in war. He goes on to say, that these robots will

produce better results than every man and unpleasant accidents, like the one mentioned earlier will disappear. The strongest argument of this claim, is that the human feelings that lead the soldier to acts outside of the international law- such as extradition, anger and passion for victory- do not exist in the artificial intelligence of war robots. This position is in conflict with the previously suggested theory, that in the war situation the militant runs off in fear of being killed - a sentiment, also, missing from the drones war - and by resisting towards the killing (Sharkey, 2012). By following such tactic, human emotions will also remove the last parts of the humanism of modern battlefields.

It is possible that the world is heading towards an industrialization of war, where the human powers of the militants will not be in the immediate danger. This will happen, due to the fact that the autonomous robots will give the war on their own, without the need for immediate human intervention (Sharkey, 2012). This position is not very far from reality, since several countries have already set such death engines under construction. In the United States, state bodies called on citizens to join the call for positions and views on artificial intelligence part, and particularly, its place in the modern war (Work, Schmidt, 2019). In more detail, the organization, War on the Rocks, which was responsible for making this call public, claims that two of the reasons for the calling are to bring the ways to the surface, in which artificial intelligence will affect the character and nature of modern war, as well as the results and effects the United States may have, in case they fail to develop effective and innovative artificial intelligence. The type of intelligence that will consolidate the country's position on the political scene. As a result, the country's intention to integrate such autonomous machinery into its armed force shortly becomes apparent. It would, also, be quite intriguing to examine in what extent this open call for public views upon this issue, was made in the name of studying more positions on the issue or of the assimilation of this action from the public to gather and study possible reactions. In this future, and that is in the future of robot wars, the gravity of a war will not be the same. People of these countries will not think, putting themselves in the state of battle and danger. In other words, the war will only weigh very little on the citizens of the country who are stronger and will probably win the conflict. By reconciling the absence of people from the battlefield with the control of information exercised by many major powers, it is doubtful whether the true results of this, will 'reach' the citizens. This intense sense of concern, finally, arises at the moment robot people will eventually come across. Today, there are no laws that could define the behavior of robots in the field. On the contrary, there are Treaties, like this of Geneva in 1949, which declare that common sense is required in war

situations. But common sense is about people. In what ways robots can use common sense to consider, for example, the difference between a civilian with many common feature and a martial goal (Sharkey, 2012, 788-789). In conclusion, it is confirmed once again that, with the rapid development of technology being in progress, all other sectors should be able to follow, such as the international war legislation.

Artificial intelligence is a field, which most countries invest in. The country that possesses the highest level of artificial intelligence and acquires the ability to deploy it on the battlefield, automatically creates a new balance in the comparison of forces. Big powers like Russia, China and the United States are in a constant and fierce competition, trying to develop artificial intelligence under the scope of the war (Arkin, 2019, 18-19). Worthy of mention is the statement made by Putin, that the country with the most powerful artificial intelligence technology becomes the country to "govern" the world. This phrase underlines the importance, which AI possesses in the military planning of the countries and in particular of Russia. An equivalent report has been made by the U.S. National Defense Military Department, emphasizing the vital role that the artificial intelligence will occupy for the victory wars of the future. The development of automatic military robots upgrades the position of the country retaining them in international relations and diplomacy. Autonomous robots have the potential to change balance at the peripheral level, as well. That is, neighboring countries in a state of rivalry can invest in artificial intelligence to reverse their dynamics, if they are in a weak position (Wagner, Furst, 2018). Despite the great influence that AI has on the modern world, there is still no acceptable definition of what AI is. Roughly speaking, it can be described as machine training or as automated logic or even robotics etc. (Hone, Hibbard, Maciel, 2019, 6-7). The latter is a common feature of the AI sector with the theory of new materialism, that there is no generally accepted definition. However, the difference is that modern technology in the process of development does not arrive at a definition, because this definition may restrict the development or, ultimately, fail to correspond to reality. On the other hand, the theory of new materialism is to define the modern forms of each sector of society, in order to provide answers to the current matters of concern of each man and his society.

A Supportive Threat

Artificial intelligence, apart from the fact that it constitutes a factor affecting international diplomacy- as mentioned above with the Lethal Autonomous Weapons Systems (LAWS) - is also a topic of discussion within diplomacy, while being a tool used in diplomacy. In more detail, the AI matter has been the subject of discussions on issues related to society, such as economy, security, human rights and democracy (Hone, 2019, 6-7). Added to these issues is the concern of several scientists about the hegemony of robots on the planet, as well as the extinction of human beings from it. Professor Stephen Hawking in a 2014 interview emphasizes that, with today's robot technology, there is no such risk. However, he expresses his concern about the moment, when the mental capacity of robots will be greater than that of humans. He, particularly refers to the fact that these systems - the algorithms - will be activated on their own and, most importantly, will be upgraded and reregulated on their own. This will completely deactivate their dependence on the human factor (Cellan-Jones, Hawking interview, 2014). The AI will, also, have an even more major role in the diplomatic and international relations process itself. With its complex and stable functioning, it can support the processes of diplomacy. That means, that by using data and natural language processing, they could produce work and release people who, under different circumstances, would spend several hours searching for and using the data. At this moment, it is not foreseeable that in the near future AI will autonomously carry out international relations procedures (Hone, 2019, 6-7).

A very basic area of AI, is what experts call the machine learning. To be more precise, during the creation of AI, there is a process of programming- or otherwise the algorithms-that will define the functions of the system. Many of these algorithms, 'allow' the software/AI to be self-trained in vast databases (Hao, 2018). In more detail, this feature gives robots free access to anything stored in the databases, such as photos, books, sounds, browser searches, and much other data. Thus, through this process, AI is automatically improved and evolved. It is certainly to be expected, that the free access of machines to data is not planned in all cases. There are three categories, which regulate this factor: Supervised Learning, Unsupervised Learning and Semi-supervised Learning (Brownlee, 2019).

Databases -or as they are now called big data- are, as it has been mentioned above, a gigantic area where all data, that can be stored digitally, is uncovered (Maryville University, 2018). People, organizations and businesses use about 20% of the available data they own, leaving 80% unused (Sinur, 2019). In this case, AI is very useful because it can provide humans with a much larger share of this data. The benefits of using data are -and will be- increasingly evident in every area of both human and non-human society. Databases are geometrically increasing their records (University of Wisconsin 2019). Thus, the overall speed of development of this technology is undefined. The only thing that is certain, is how close the future of the smartest artificial intelligence is.

Human learning Module

Technology and artificial intelligence change the way international relations, economy, social ties and education work. Could we take for granted, though, that the technology of the future will be able to do everything better than humans and create a modern society with little human intervention (the latter is not in line with the theory of new materialism)? According to the Dreyfus brothers, the way, in which the human knowledge is acquired, is quite different from the way the machines are made. The steps, which indicate the human cognitive level for an object, are as follows (Dreyfus, 2004, 177-181):

- Beginner: Where the trainee meets the theory and set of rules. For example, a person will use the learning of a car driver. At this stage, the apprentice learns the basic rules without entering the vehicle.

- Advanced beginner: At this level the trainee tests the first practical applications of the theory he has learned.

- Adequate: At this stage the guide is at the point, where theoretical knowledge begins to be integrated with experience, enabling him to distinguish which information is relevant and which is not relevant for its subsequent movements. In other words, every man will continue to pay great attention to the rules he has learned, but at the same time he will start to adapt his knowledge to what he has learned in living situations.

- Capable: According to the author, the driver becomes "a part" of the vehicle. That means, he no longer has to remember the rules, nor does he have to set up a plan to get to the

final purpose of driving. The driver could sense the car and road requirements, knows when to slow down, and, most importantly, automates the solutions he will provide to an unforeseen event.

- Expertise: On the last level, it is typical that driving is not differentiated. In other words, this "intimacy" with the car and the integration are so intense, that the act of driving is an extension of human beings' everyday life. All movements and functions are made automatically.

It could, now, be easily understood the meaning of the Dreyfus brothers' sayings. These stages are impossible -with the knowledge that mankind currently possesses- to be copied from machines. What is particularly interesting, it is the relationship of all these to New Materialism and Post Humanism theory. In the stages of learning mentioned by the Dreyfus brothers, the term and the word integration is used. That is the way, according to which, every person -living- creates active links with materials-non-living-, giving them value through that act. As Karen Barad claims, the materials we refer to as objects are not actually objects, but phenomena. Phenomena acting in a world with constant complications and engagement, where the permanent (re)identification of phenomena is necessary (Barad, 2003, 818). When a person is in the process of learning, he or she educates his or her mind and body. He or she, also, affects the non-human materials in his or her environment or comes into contact with them. In a post-human approach, it could be said that through learning, human beings influence material, not only schematically but also in substance. That of course, has to do with the place and role that this material occupies in its life and in the world overall. In more detail, this material gains a collective, involved and integrated character in the world, since the human learning process, whether theoretical or interactive (as a result of phenomena) gives it different characteristics or according to Barad or let us say, it redefines it.

The way people learn cannot be copied by machines and artificial intelligence. Humans and material are connected to one continuous phenomenon, where one factor did not prevail over the other. The transition of the stages from the Beginner to Expertise cannot be copied from the machines, because the machines are not cultural learners and therefore cannot "gain" knowledge of phenomena that continuously change the balance in their environment (Hasse, 2018, 362). The Post-human theory expressed through the analysis of New Materialism, is difficult to be included in the algorithms that define the operation of a machine. It is easy to understand, that the comparison between humans and machine cannot be straightforward, but

it can only be a means of the results and effects that they may have on a third parameter (this suggestion was based on the method of analysis of dialectic materialism).

Social Hard Working Robots

Another current social - global issue, which is directly related to technology and new materialism is the so-called "Sex robots'. These robots are designed to have gender, in the overwhelmingly majority of cases, a women's sex (Kubes, 2019, 94). In this way, the position of the man continues to be imposed by creating sexual orientation in a machine. This will not be further analyzed. However, it is interesting to question to what extent a robot can be considered as part of a sexual act, since it is a non-human factor.

In the economy and in the production process, artificial intelligence will, in most cases, be the 'worker' of the future. For many years now, modern machines have been replacing workers in workplaces, not only in production processes, but also in service roles. There are reports that raise the issue of more pressure upon the working classes from the modern capitalist economy, with the contribution of machines and artificial intelligence (Silva de Mattos, 2018, 1-10). This issue could be a global economic crisis matter, despite the fact that the development of technology and conditions creates new conditions and "opportunities" for work. On the contrary, in a logical scenario, the development of science and technology will serve the modern needs of a man and society. With modern means, men will reduce the time spent working to survive and deal with more creative issues. This is not the case, however, since the means of production and technology in the current system are mainly used to strengthen the position and power of capital. Returning to the reference made above, namely that robots will replace people, so that the latter will be led to unemployment, we are at the point of realizing that the holders of the means of production will ultimately benefit by maximizing their profits and efficiency. This argument is proven wrong, because the basis of profit for capitalists, is to exploit the goodwill of their workers. In the absence of workers, there is no goodwill for exploitation (Mpogiopoulos, 2011, 34-39). In the end, this can be compared to previous references of Post-humanism and its agenda. How can this technology finally take on human characteristics, as material, since its relationship with man and his society constantly imposes on it new qualities and –therefore- values?

In politics, artificial intelligence will, also, have an active role there. Countries that do not have enough human resources, in relation to their productive potential, l will be able to develop more and change their status by using modern technology. In addition, countries like China, which offer huge and cheap human resources, may reduce their exports, since the production rate in China will be reduced by companies based in other countries (Sokmen, 2019, 10-11). It is worth mentioning, that the position of developers and, in particular, of large technology companies will be greatly enhanced, because the security and the smooth operation of states will be based on the services provided by this company. For example, the economy of a country that relies heavily on modern technology, can be affected by cyberattacks. Due to these reasons, the protection service provided by technology companies will be vital for a country's economy and international position (Sokmen, 2019).

Countries concern about potential AI risks
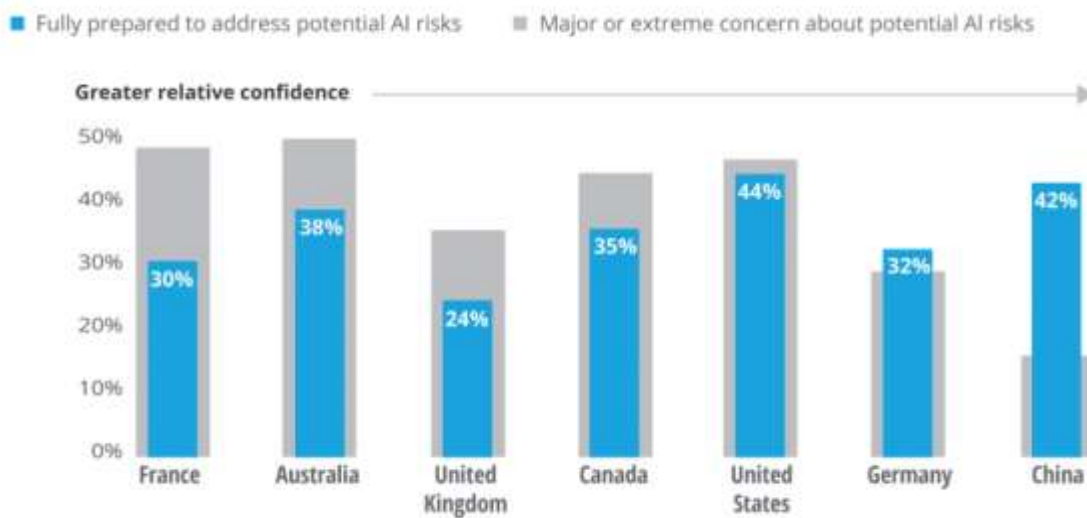
Source :Deloitte State of AI in the Enterprise survey, 2nd Edition, 2018

4 Contemporary technology and its effects on society and International Relations

Modern technologies, that is to say the effect of processed matter, have become an indispensable part of people and their lives. This reality, undoubtedly, offers positive elements and improved experiences to users of technology, but it has a negative dual use most of the time. That is, it's not used as a positive invention by humans because they've "managed" to create such sophisticated technology, in order to be able to enjoy its benefits. There are bodies, organizations, states and companies, which are engaged in various ways by advanced technology and the intensification of human use. In the majority of these cases, the technology user does not know that he is subjected to influence, exploitation or a data for use in research and studies. The manipulation of global regulation by using modern technology, is one of the key-issues in the matter. Several governments have used technology to manipulate their citizens. This report (Freedom of the net, 2017) reports that Russia and China have documented and analyzed their citizens' searches online, as well as their personal conversations, to possibly protect their internal discipline and security. Nevertheless, using the Internet in this way is now, unfortunately, a common truth for most countries on the planet. Data suggests that, in 2017 about 3.4 billion people had access to the Internet. About 40% of these people live in countries, whose governments have blocked the access to the internet or mobile phone from people who support opposing political views. The same proportion of citizens lives in countries that 'man' internet users to create a favorable climate and aura for their concerns (Freedom of the net, 2017). U.S. country could not be absent from accusations of manipulation of citizens via social media and the internet. The Oxford University report (Woolley, Guilbeault, 2017) states that the use of polls, in order to influence public opinion for the benefit of candidates, parties and campaigns, has been practical for more than a decade.

Personal information and personal data are not so personal, in the end. They are available and we expect the moment they will be used for a purpose. Probably, the thing that turns them into important data (apart from their significance for the purposes of the sale of goods and services) is the acts and positions of each person. One example confirming the above suggestion is WikiLeaks. WikiLeaks is an organization specializing in identifying, analyzing

and publishing state secret archives or of organizations related to war, espionage and corruption (Assange, 2015).

Privacy and data

Personal information and personal data are not that personal after all. They are available and awaiting on hold regardless of when they will be used and for what purpose. It is quite likely that what transforms them into important data (apart from purposes of marketing and selling goods and services) is the actions and beliefs of every and each one of us. An example that confirms the above is WikiLeaks. WikiLeaks is a non-profit organization that specializes in locating, analyzing, and publishing 'classified' documents related to governments or organizations and pertaining to war, espionage, and corruption (Assange, 2015). In 2017, WikiLeaks released a large number of CIA secret data, code-named Vault 7 (WikiLeaks, 2017). According to the same source, a member of a group of hackers working for the US government made this data accessible and eventually got it released. This file contained 8,761 confidential CIA documents, which, by the way, make up only 1% of the documents kept by WikiLeaks (Karatzogianni, 2017). Probably the most disturbing reports were those that concerned citizen surveillance and recording of their personal data. Mobile phones and computers running software such as iOS, Android, Windows and Linux are vulnerable to cyberattacks, as the CIA has developed software that can steal personal data from those who use this software (Karatzogianni, 2017). It must be mentioned here that even a Samsung TV can be converted into a recording device when the TV seems to be turned off.

These developments have by all means affected society and people's approach to advanced technological breakthroughs; however, the demand for devices operating on software that can be used by the CIA in order to steal data has not diminished. Companies that produce this kind of software such as Apple, Google etc. are constantly looking to improve the security of their software with a view to providing better services to their customers. As mentioned by WikiLeaks founder Julian Assange, he will try to join forces with the companies that fell victims to espionage, in order to help them cover the potholes that exist in the protection of their software (Shane, Sanger, Goel, 2017). It is taken for granted that the collection and recording of data about WikiLeaks and the impact the organization has created on the world is bound to go on; however, it must be stated here that Assange's and Wikileaks' stance is particularly noteworthy. The intention of WikiLeaks to cooperate with the above-mentioned large companies proves that the publication of secret documents is not part of the purpose of

WikiLeaks but the purpose itself. The complex relationship between states, intelligence services and big corporations has not - as it seems - been taken into account by WikiLeaks or by those who determine WikiLeaks policies. It is a fact that governments around the world have strong ties with and support big corporations. As reported in a study, the tax rate for large businesses is steadily declining, while private taxation is on the rise (Naftemporiki, 2018). The purpose of corporations is that they become more and more profitable and grow, rather than focus on consumer protection and care. By releasing these confidential files, did Assange aim at enabling the companies that are heavily stricken by espionage to develop more state-of-the-art protection applications, protecting consumers who are the ultimate targets of identity theft, or striking a heavy blow on the CIA and the US government? The only thing certain is that there have been no major changes since the publication of this classified information. Apple directors refused to cooperate with WikiLeaks, insisting that they have already upgraded the security of Apple software before the leaks were published (Brewster, 2017). Apple is constantly upgrading its software just like the other companies in an attempt to shield their systems. However, public opinion has been seriously impacted and people have begun to lose confidence in this software; nonetheless, sales of such products and software are constantly on the rise. The fact that no one can fully verify their identity online is one such example.

The CIA is alleged to possess a file containing stolen malware from third countries (Karatzogianni, Aldrich, 2017). This malware can be used to create fake news of a cyberattack. In other words, the CIA is capable of putting the blame for the cyberattack on anyone they wish. Traces of this fraud are difficult to detect because very few countries have this technological capability (Karatzogianni, Aldrich, 2017). Therefore, questions arise whose answers are hidden in a murky landscape. One of these questions is about the allegations of a possible involvement of the Russian government in the US national elections held in 2016 (Harding, 2016). According to them, Russia's goal was the victory of the then candidate and current President Donald Trump. The same allegations have been made for the upcoming elections scheduled for 2020, according to which the Russian government will once again support the current US President, Trump (Acosta, Cohen, Bash, Herb, 2020). No confirmation of the 2016 allegations has been made yet. According to Karatzogianni and Aldrich, we do not know whether Trump cooperated with Russia or WikiLeaks, or if this whole attack against Trump and Russia was orchestrated for the sole purpose of reducing Trump's popularity (Karatzogianni, Aldrich, 2017). Secret services of powerful states are likely to know the truth, but people will continue to be in a state of ignorance with respect to this issue because the

holders of the information are definitely not going to publish the evidence that confirms it. WikiLeaks has proven that confidential information is not as confidential as the secret services probably believed. It is noteworthy that the CIA, in its official announcement after the publication of Vault 7, hastened to justify its actions and under no circumstances did it refute the information (CIA Statement on Claims by WikiLeaks, 2017).

Vault 7 is not the only leak that has shaken the waters of international relations. Another event, unprecedented for the time when it occurred (2013), was the disclosures made by Snowden. Edward Joseph Snowden, a former CIA employee, decided to release secret NSA (National Security Agency) documents. Most of these files involved numerous global surveillance programs, or in other words, spying on millions of American citizens through recorded telephone calls (Greenwald, 2013). Evidence shows that the FBI received orders from the US government to collect as many recorded calls as possible, indiscriminately. In addition to telephone recordings, the NSA also kept a record of internet communications. The program for recording and monitoring these communications was code-named Prism (Kelion, 2013). Prism allowed for court-approved direct access to Americans' Google and Yahoo accounts, as well as YouTube, Facebook, and other social media accounts. Once again, the co-operation between big popular corporations and the US government is more than evident. The UK's GCHQ (Hopkins, 2017) is a similar practice. As a matter of fact, the UK used Prism, upon agreement with the US government. Therefore, concepts such as security and privacy do not exist in modern technologies and their modern applications. As previously mentioned, companies cooperating with the US government in the field of citizen monitoring and surveillance are constantly upgrading their technology, offering greater protection to their users' personal data. At the same time, however, these upgrades "unwittingly" offer surveillance companies a plethora of ways to steal data, according to Robert Herjavec, owner of one of the largest cyber-security companies (Koetsier, 2018). Herjavec also points out that the best way to completely protect electronic devices against cyber-attacks is the utilization of more advanced artificial intelligence; in other words, by continuous searching for vulnerabilities in their software through the use of artificial intelligence and by its continuous upgrading in order to mend the weak points that have been identified.

At this point it should be mentioned once again that secret services have at their disposal a huge amount of stolen personal data. In order for these document caches to be used we will need the power of artificial intelligence, which processes information and data a lot faster and more efficiently. So, ultimately, will the role of artificial intelligence be to protect citizens'

personal data or to exploit their existence in order to cater to the needs of the secret services around the globe? Obviously, AI may or may not do both at the same time. But the point is, whose interests will it serve? The interests of large corporations craving to increase their profits, influence and sales; the interests of those who wish to manipulate citizens by recording and using their personal data with a view to eradicating the unpredictable events that upset the status quo; or, ultimately, the actual improvement of security characteristics and upgrading of the devices people use? One answer is that artificial intelligence will protect and work for the interests of its owner. Of course, this reasoning is not valid in case artificial intelligence becomes autonomous.

Snowden's revelations were not limited to information related to internal diplomacy. What shocked the international scene the most was the leak according to which the USA spies on its allies in the N.A.T.O. Countries such as Germany, France, Spain, Turkey etc. found out that their communications had been the object of theft both at the highest governmental level and as regards millions of their citizens (Borger, 2013). According to Snowden, only five English-speaking countries had the privilege not to be targeted. These countries were the United States, the United Kingdom, Australia, New Zealand and Canada. The reactions of European Union countries were not so intense or adverse as one might have expected. Most of them resorted to canceling scheduled meetings with the United States (Bryant, 2013) or to simple announcements expressing their dissatisfaction (Borger, 2013). Apart from these signs of dissatisfaction, no obstacles whatsoever were encountered as far as the joint action between the United States and the EU is concerned. One might wonder why more severe sanctions were not imposed on the United States, since espionage is in many cases considered an aggressive tactic. However, a series of laws such as the General Data Protection Regulation (GDPR), which is in force in the European Union, and the Freedom Act, 2015, in the United States, protect the personal data of citizens, at least more than before.

It is beyond doubt that 5G networks is the future of the connectivity of electronic devices. 5G will replace the previous 4G network having a great many advantages over its predecessor. The most important are speed (it is said that the speed of 5G will be 100 times faster than that of 4G) and capacity (5G will allow millions of devices to connect to the network without traffic jams or reduced network efficiency) (Intel, 2020). Of course, these advantages refer to all the devices that will be connected to the internet, not only to mobile phones, computers or televisions. Modern technological applications will take advantage of the high speed of 5G and will become more efficient; examples include driveless car driving, or the

remote monitoring and control of a production unit. The debate surrounding 5G networks does not concern the benefits they will offer to people or the boost to the technological advancement; instead, they are about how modern societies and decision-making centers are going to be protected from new attempts at stealing classified data. The competition primarily between China and the United States has assumed great proportions focusing now on which of the two powers will gain the largest share of the market that is created, i.e. the 5G network market, the economic value of which is expected to amount to approximately \$12 trillion (IHS, 2017). Huawei Technologies Co., Ltd., the Chinese multinational, is the largest telecommunications corporation in the world, manufacturing and selling consumer electronics, smartphones etc.; at the same time, it comes first in providing telecommunications equipment in Europe, Africa and, of course, in Asia (Weber, 2018). The USA, out of concern for potential espionage (Dilanian, 2020) through Huawei's equipment used for the construction of 5G networks to China's benefit, banned the use of such Huawei products in the United States as well as the sale of new Huawei mobile phones. They also raised the issue of banning the use of Huawei telecommunications systems worldwide (Dilanian, 2020). These concerns, however, did not appeal even to the closest allies of the United States such as the UK, where it was decided to partially upgrade Huawei's systems (Smith, 2020).

It is worth mentioning the answer given to the question probing into the potential of espionage through 5G networks at a conference held in 2020 in London, in which 18 small telecommunications companies participated (Fildes, 2020).The companies' officials reported that espionage was possible either through Huawei's equipment or through equipment coming from the United States. On the basis of this answer, it becomes clear that the battle for supremacy in 5G sales that has already begun on the international stage concerns which country will enjoy the benefits of success - through the sales of the companies that represent its interests. In other words, which country will be able to steal at any time more secret information than its competitor. Artificial intelligence will gain a huge tool for its further development with the 5G networks and, therefore, will start to "deal" with an increasingly number of issues in human society. The ability of AI to process data a lot faster than man will be enhanced by using 5G networks. Of course, in this way, if it becomes autonomous and self-determined, it will be almost catastrophic because it will be able to control decisive factors of modern society. Does the international conflict over which country will possess the most advanced technology or which country will control the communications networks really help to improve the living conditions of the people and the services offered to them? That is, in the event that the United
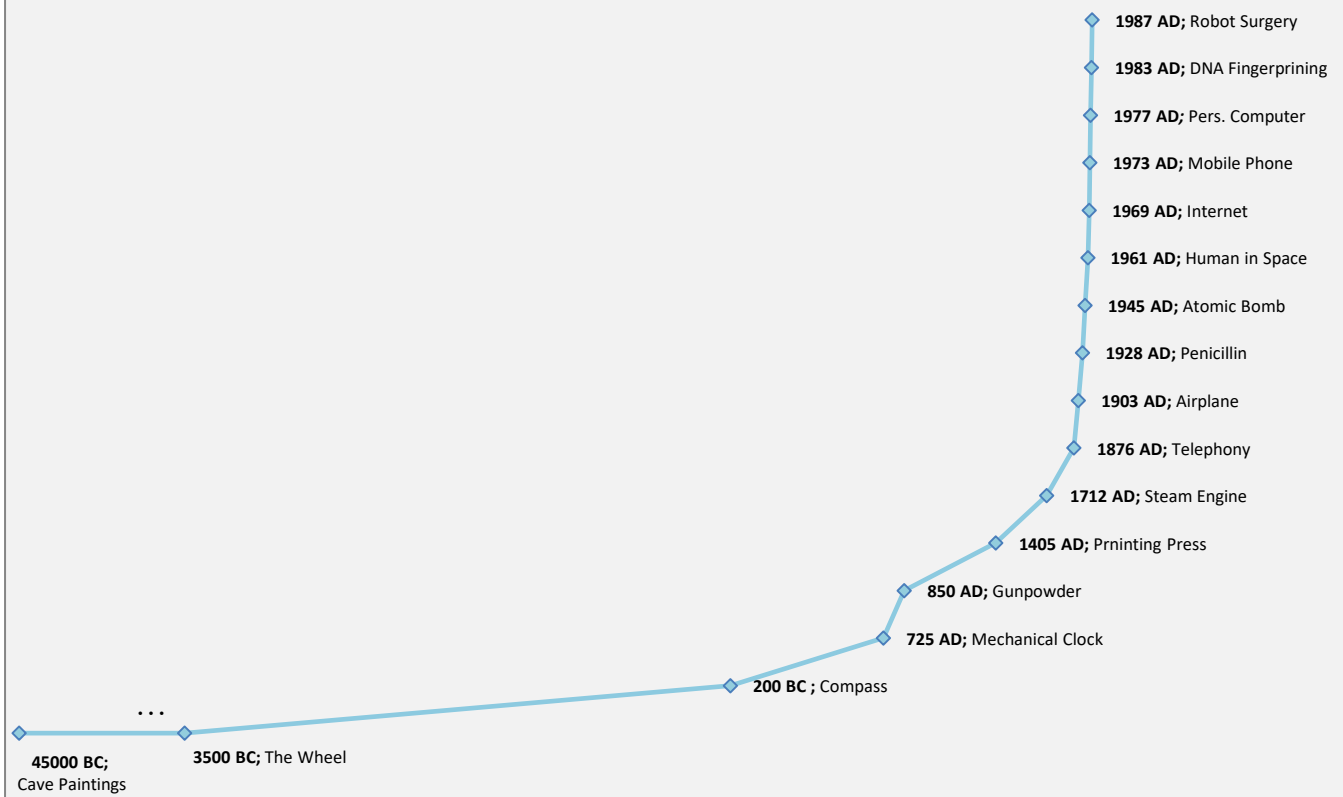
States gain supreme dominance, will US citizens data become personal again for the secret services? Anyway, it seems that the citizens of the world – under current circumstances – will not be able to feel security and privacy as far as their personal data is concerned. However, once 5G becomes a reality, the usefulness of electronic devices will increase. Therefore, people's dependence on them will increase too, so the role of these material objects will be more and more active in the world of people. These data will lead the theory of New Materialism and the theory of Post Humanism to more modern approaches and views.

International relations turn to New Materialism

International relations, that is to say, the field that deals with relations outside the boundaries of a country – state, develops the impact and importance of the following areas: political economy, economy, international governance, moral values, international security, diplomacy, the environment, terrorism, popular movements, media, globalization, human rights, global poverty and more (SFSU, 2019), (Webber, 2020). These sectors are intertwined and produce individual sectors, which need to be analyzed.

In the current context of international relations, there is a growing trend towards the birth of new issues, matters and problems, which require an explanation so that international relations and international diplomacy, can be discussed and examined. According to Connolly, the situation in international relations could be described as very fragile and unpredictable (Connolly, 2013, 403-405). The reason is not the inability of individuals in the positions of responsibility, in order to predict the unforeseen events that then date, but the inability to possess the necessary tools to do so. Complex and difficult situations like these, can be largely analyzed and explained by the theory of new materialism (Karatzogianni, Schandorf, 2013, 1-2). Some of the 'unexpected' events are: the uprisings in Eastern Europe, the fall of the USSR, the outbreak of civil conflict, worker movements, of students, gay and others (Connolly, 2013, 403). A typical example of how the materialistic factor (means of touch) coming from one country could enter another country by 'activating' many of the theorists of the new materialism, is the case of 4X4 (Mac Ginty, 2017). In this case, a 4X4 car from the Land Rover Company, rented by tourists, was hijacked by an armed rebel group in the Darfur region of Africa.

Techonological Innovation through time

- 1987 AD; Robot Surgery
- 1983 AD; DNA Fingerprining
- 1977 AD; Pers. Computer
- 1973 AD; Mobile Phone
- 1969 AD; Internet
- 1961 AD; Human in Space
- 1945 AD; Atomic Bomb
- 1928 AD; Penicillin
- 1903 AD; Airplane
- 1876 AD; Telephony
- 1712 AD; Steam Engine
- 1405 AD; Prninting Press
- 850 AD; Gunpowder
- 725 AD; Mechanical Clock
- 200 BC ; Compass

. . .

45000 BC;
Cave Paintings

3500 BC; The Wheel

In order to make this graph, I have set each innovation to be equall to each other.

5 Conclusion

New Materialism is a theory that is in the process of being created. As Coole supports, it does not refer to what matter is about, but the road which leads to the destination that characterizes New Materialism (Coole, 2013, 453). New Materialism, in the area of international relations, is nothing more than new materialism's views on the individual issues which compose the scene of international relations. The charming aura of new materialism is that it lies ahead of the course of developments, having a broad method of analysis that is able to set dividing lines and isolate issues that other theories cannot distinguish in this multifaceted modern system. As, has been made evident in the current thesis, the theory of New Materialism is close to science, based on dialectical materialism, whose arguments are based on modern scientific, technological discoveries and common sense New Materialism - through its theorists - is in constant search of new ways of incorporating today's technological advancement, along with the circumstances and the consequences it creates, within its scope.

The latest technological discoveries, such as drones and artificial intelligence, have become "the game changers" in international relations and beyond. The way in which these new technologies affect and intensify areas such as war, economics, production, diplomacy and others, greatly strengthen the position of the country that holds their best and more advanced versions. Even less powerful countries can increase their power and position in global affairs by investing in technology. Of course, in the new 'normality' that is being created – taking into consideration that the economic system will remain the same – the production and creation of advanced technologies will have greater power. There are various opinions suggesting that the time may come when technology companies will be more prominent than states (Sokmen, 2019, 10-11). At the same time, it is a question of whom these technologies will serve. In the ideal scenario, they will serve the modern needs of people and social groups. The most realistic possibility, however, is that they will continue to serve the ruling class and its interests, and in some - and few - cases modern technology will satisfy the real needs of people rather than their "fake" needs imposed on them. In a historic quest, such as the one mentioned at the beginning of the, thesis, it is noted that the technological innovations created by those who possess the power to serve their own purposes trigger unforeseen contingencies and events, which, sooner or later, overturn the objectives of the rulers. But, in any case, it is true that material needs and

material goods are at the centre of human attention. Information and the possession of knowledge will also be more available to people through the contemporary means of technology. While everything will be evolving in a faster mode, people's minds and thoughts will also transform faster, possibly in a more progressive way. The results of that change can be predicted almost by nobody, nor could they be predicted by AI. either. AI will not be able to predict them due to the ways the human brain changes and composes, whose function cannot be followed and copied by a deep learning method, or any learning method followed by robots. The fact that most of the states reacted in a calm way when it was revealed that their private conversations and data where intercepted by other states, could raise conspiracy theories. There is a high chance that people will never know the truth, but they should consider the fact that their governments did not protect them as they should have done. It is up to the people to demand their protection and hold tight to their rights.

From the point of view of International Public Administration, the rapid development of technology can constitute an extremely useful tool for governance. Both locally and regionally or even globally, technology can optimize processes and consultations between states and interested parties. As mentioned before, artificial intelligence will be a valuable ally in diplomacy and data exploitation. The rapid utilization of data by AI favors the increasingly accelerated adaptation of governing bodies to modern and ever-increasing demands on people and society. To achieve this, a new social orientation is needed focusing on improving people's living conditions. The value of material objects in people's daily lives should provide the motive to governments globally to promote and enhance their positive, active, impact. This positive effect is what will improve the experiences, skills, knowledge and interests of each person.At the altar of modern technology, values, customs and the contribution of man to civilization and the world should not be sacrificed. There are several indications that AI and technology will not be able to replace the way in which man contributes - through his unique thinking and reasoning processes - to the realization and completion of functions. Global political actors can draw theories and approaches from the theory of post humanism. They can actively contribute to a more humane world where the status and existence of man will be elevated and will be at the center of the communications, connections, and actions of the bodies of global governance.

The velocity with which technology is developing could overcome the capacity of human mind to understand and evaluate it in time. It is also a possibility that new technological inventions will pop up, one after another, making it almost impossible for human to exploit

them in time or even exploit the at all. This last sentence is almost a certainty, if there are a few of technological innovations occurring on the same subject. There won't be enough time to understand, evaluate and exploit-practice the initial innovation because a newer one will appear. Addressing this issue with a New Materialist approach puts at stake the fact of these innovations actually existing, if not being under the use of the humans. Additionally, it might happen than this uncontrolled constant evolution could bring a technologically setback, blocking the smooth integration of technology into the world's people's community. Only technology can evaluate and exploit the technological evolutions with the same pace as they occur. As a result AI if set free accesing all the available data, could become a factor that could not be controlled by humans. However, if the AI can be totally controlled, it will provide a useful tool for global governance. By the careful, exploitation of AI global governance will be prepared for the future of humanity, making gradually the changes, which will be needed in order for the people's community to integrate smoothly the changes brought by the evolution of technology.

Artificial intelligence active role in global governance and international relations could result in a more humanistic and peaceful future. For example, rivalries between states and actors affect actively their relationship and decisions. Emotion, ethics and tradition may preserve and strengthen this rivalry. A factor that might lead to decisions which are not ideal for the mutual prosperity of the sides negotiating. AI, having no emotional factor contributing to its decision and actions will contribute to a more rational decision making in international relations and administration. In the case that the AI decision making and acting is oriented towards every's people prosperity, then humanity's future is going to be bright. Regarding today's reality, an AI advocating towards the interests of all the people would never be given the chance of having an active role in global governance and diplomacy. However, AI would be given the chance to contribute in international diplomacy, providing optimized analysis and proposals which will increase the effectiveness of the current world economic system.

According to the approach of New Materialism and Post-Humanism, material goods have an active role in the life, creation and birth of the new human and non-human reality. With themes that affect ecology, feminism and global poverty, New Materialism refers to, and "struggles" for a more "humanized" future in the modern notion of Post-Humanism, just as conventional materialism does. There are many different positions on the classification of the theory of New Materialism in relation to the theory of political economy, but a safe conclusion that is easily understood, is that, at the stage that New Materialism remains, that is

to say at the stage of its creation and demarcation, there are many views that try to fit in and be included into its new borders. Of course, if the theory of new materialism is further developed – which is almost certain, not all of these views will find room. Historical materialism is still very much up to date. Actually, it should not be called *historical*, because it will always be topical unless the economic system changes. Classical materialism is a theory which explains how things work in Capitalist economic system, so it will eclipse when Capitalism becomes extinct. New Materialism should take advantage of all the supplies and tools given by the classical materialism in order to cope with the challenges that the future will pose. Bertolt Brecht's poem 'From a German War Primer' refers to the strong military vehicles that an army may have, which have the capability of inflicting great casualties to the enemy. However, these vehicles have a minor disadvantage: they need human beings to control them and humans have the ability to think. Is humanity going towards a future in which people's guidance will not be needed in order for a machine to work? If this scenario comes to reality humanity will still hold its greater advantage; people will still be able to think. In an emotional mood, it could be said that the future combined with technology, and the way it is used, creates fear and scepticism. The answer I give myself for these feelings is the following: "remembering the romantic past gives us courage for the romantic moments that will come".

i

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