Human And Robots: The Impact Of Robots On Human Life

These last few decades have seen significant advances in robotics, and the impacts of this progress on the society are still being evacuated. Over many years, scientists have been working on developing machines that display human intelligence and they called that 'Artificial Intelligence'. According to Jake Frankenfield, an editor specialized in technology, 'Artificial intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions.'(Frankenfield, 2020). Robotics is one of the main branches of AI, and it is dedicated to the design of robots. These machines are used in different areas and provide various services. Even though they are widely used, they have never been so controversial. While some people seem to be satisfied with the abilities of robots, others are more suspicious. Research has proved that approximately 70% of Americans are worrying about the expansion of robots, (Solon, 2017).

The purpose of this study is to argue that it is necessary to moderate the use of robots capable of human performance. Robot density is steadily increasing around the world. The International Federation of Robotics (IFR) recorded a 30% increase in the robot sales in 2017, (International Federation of Robotics, 2018, p. 1). Several countries have invested huge amounts to acquire cutting-edge robots. Moreover, companies and multinationals are also following this trend. More and more people tend to get accustomed to machines and integrate them into their lives.

While it is true that using robots is not without consequences, it is essential to not overlook that robots have been primarily created for helping people. So, their contribution to well-being, especially in the medical area should be taken into consideration. However, their useful abilities do not exempt the society from risks linked to their use.

The following pages will first look at the use of robots in healthcare, before turning to the potential dependence of people on robots. Then, the correlation between unemployment and robots will be explained. Finally, this paper will focus on the dangers of robots to privacy and intimacy.

The use of robots raises concerns and questions, so the effects related to their use should be highlighted. Reducing the robot density could be profitable for society. However, a balanced view must acknowledge the fact that robots are useful in the medical area. Thanks to recent advances in technology, they assist surgeons. There are, indeed, elaborate machines that improve their work and make it easier. Moreover, some robots deliver medicines to patients and even allow communication between the different poles of the hospital. They also have great abilities to help the disabled throughout their recovery process. They can adapt to each patient and provide care that suits them, (Crawford, 2016). They are also used to clean and disinfect rooms and surfaces to limit the spread of bacteria and viruses. Furthermore, they take care of the elderly and keep them company. Nevertheless, accidents can occur while dealing with robots. It remains risky to use them in surgical operations. The slightest misstep or machine failure can be fatal for the patient. It is thus not careful to entrust vulnerable and sick people to inanimate machines, which are unconscious. Disables can get injuries during their rehabilitation. Besides, robots cannot provide the proper attention and care the elderly need, since they have neither feelings nor emotions. Noel Sharkey, professor of computer science at the University of

Sheffield in England, expands this idea by stating that 'The elderly need the human contact that is often only provided by caregivers and people performing day-to-day tasks for them', (Sharkey, 2008, p. 359). It is then notable that robots should be used carefully.

One of the main reasons that explain this point of view is that dealing with robots can result in dependence. Over the last years, the process of creation of robots has evolved and nowadays, they can accomplish various tasks. Some of them are used for domestic services (Show-Garlock, 2009, p. 338), and people seem to appreciate their abilities. In her article, Alone Together: The Robotic Moment, Sherry Turkle, a science professor at the Massachusetts Institute of Technology, discusses the willingness of people to insert robots into their lives, (Turkle, 2011, p. 327). They do not see robots as simple machines, but rather as potential friends, partners, and confidants. It should be noticed that spending too much time with robots could have many consequences. By doing so, people gradually move away from others and reality. By clinging to these machines, they deteriorate their relationships with others, thus exposing themselves to isolation. The point is that human-robot relationships impact people interaction with others, because they are “morally problematic”, (Show-Garlock, 2009, p. 343). Spending too much time with robots will create communication and cohabitation issues. Besides, the authenticity of a real relationship is jeopardized when dealing with humanlike machines. People with emotional issues and insecurities can be tempted to rely on robots, and such a situation is problematic. They will try to find the healing, affection and comfort they are looking for in robots. Nonetheless, their expectations cannot be satisfied because robots cannot give them the attention they need. These machines are different from humans. People seem to forget that, robots have been designed by humans, they cannot act by themselves because they are monitored by an external source. Moreover, they are unable to feel and display human behaviors. Human beings acquire some values and experiences throughout their life. People have face-to-face conversations and share emotions with their peers daily. Despite being very sophisticated, robots are unable to act this way, (Turkle, 2011, p. 324).

Furthermore, scientists have designed a range of robots physically similar to humans, and they are called humanoid machines. These robots are programmed to mimic human actions and provide care and assistance for children and the elderly. Some of them got human characteristics. In addition to giving the impression of breathing, they can also speak, blink and create eye contact, (Show-Garlock, 2009, p. 342). This situation can lead people to become more reliant on robots. Indeed, it has been proven that the appearance impacts the way people treat robots, (Ishiguro & Asada, 2006, p. 333). Some people have met humanoid machines, especially Repliee Q2 and Kismet. Their experience with these robots was unexpected. Surprisingly, they felt a connection with them, and treated them as living beings without realizing it, (Show-Garlock, 2009, p. 345). This phenomenon is explained by some authors findings. According to Clifford Nass, Youngme Moon, John Morkes, Eun-Young Kim, Jeffrey Fogg, professors and searchers at Stanford University, the human brain anthropomorphizes machines that simulate human behavior, (Show-Garlock, 2009, p. 345). Otherwise stated, creating human-like robots lead people to have feelings for them, (Mallawaarachchi, 2017, p. 5). A survey conducted on 30 owners of robots reveals that the majority attributes names and gender to their machine, (Woo, 2014, p. 4). An over-attachment to these artificial machines, is then likely to occur.

However, the appearance is not the only factor, that should be taken into account. Even though, they resemble the human body, robots remain robots. Disproportionate reliance on these machines can be detrimental. Admittedly, robots are efficient and effective, however they have

over-facilitated some people lives. They represent a double-edged sword. Before their apparition, people used to move a lot to perform their tasks and fulfill their needs. But today, many people use robots to make their daily lives easier, they count on them to achieve basic tasks. Consequently, they are less and less physically active. Thus, they exposed themselves to laziness, sedentary lifestyle, and other health issues such as obesity, diabetes and stroke. In addition to these physical issues, robots affect humans intellectually by lessening innovation and originality. As previously stated, many factors can lead people to become dependent on robots and this situation results in serious consequences. Unfortunately, further drawbacks arise when using these machines.

Robots represent a springboard for unemployment. The development of research in the artificial field has resulted in the spread of machines that are increasingly replacing human labor around the world. Many studies have measured the effects of this robotization. Data have shown that the number of robots used worldwide has tripled during the last two decades, reaching 2.25 million, (Brown, 2019, p. 1). Besides, forecasts show that the robot's density will increase more significantly, especially in Asian countries such as China and South Korea. Past studies revealed that 1,7 million jobs have been lost since 2000 because of automation, (Lynkova, 2019, p. 1). The BBC News report up to 20 million job cuts due to robots, by 2030 (BBC News, 2019, p. 1). One robot can eliminate approximately two manufacturing jobs. Robotization will be beneficial for some people, but it is important to note that it will generate only 13% of jobs, while 29% will be replaced, (Lynkova, 2019, p. 9). Training the population to face these changes could be an interesting idea; nevertheless, it remains costly and some countries cannot afford it. The above figures demonstrate that, automation has significant economic and social implications. As robots become more sophisticated, people jobs will be wiped out. The losses and the gains are imbalanced. As a result, the labor demand will exceed the labor supply, creating thus mass unemployment. The increase in the unemployment rate will cause damages not only for individuals, but also for the whole society. It is necessary to point out that unemployment is costly. Indeed, it fosters misery and poverty. When they become jobless, people have fewer and fewer resources to cover their needs. Even by reducing their expenditures, they cannot afford the costs they incur. Simultaneously, people purchasing power decreases and they fall back on low-priced goods. Accordingly, the GDP, (Gross Domestic Product), per capita decreases resulting in economic downturns. Under such circumstances, welfare becomes unreachable and development is slowed down.

Moreover, there are other consequences besides those related to consumption. Joblessness can also affect people psychologically, given the pressure they are under. They constantly face stress and anxiety, when struggling to survive. This is very conducive to the development of mental illnesses, especially depression. A study has shown that the risk of suicide has increased in regions facing unemployment, (Cummins, 2015, p. 2). These findings highlight the correlation between joblessness and suicide. Besides, this issue leads to family breakdown and fosters criminality. Since people have nothing to do, they are more likely to engage in illegal activities. Another cost of unemployment is the erosion of skills. The more people remain jobless, the more they lose their abilities and competencies. This scenario will mostly affect workers with lower skills, inasmuch they are more vulnerable to the robot's takeover. Some regions are more impacted than others. This is the case of rural areas, in which inequalities will be strengthened. Thus, the whole economy will be disrupted. Everyone is involved in this wave, and the overall impact is expected to be uneven across countries, (O'Connor, 2018, p. 1).

Even though the manufacturing area is the most exposed to automation, the other sectors are

not spared. The army, for example, faces the advent of soldier and killer robots. These robots are designed to, detect, track and eliminate targets. They can function on land, in the air and at sea. Some of them are automatic and able to take action without human interventions. They can engage in real combat with people and be harmful. The applications of robots in the military system raise ethical issues. Sharkey observed that machines and weapons are unable to distinguish innocents from targets, (Sharkey, 2008, p. 359). Therefore, people can be injured accidentally. This demonstrates that the use of robots as autonomous weapons endangers populations and civilians. It should also be noted that a dramatic situation has already arisen because of these weapons. Indeed, military robots have once caused deaths of several innocents, including children, in their operations, (Sharkey, 2008, p359). These facts bring to light the drawbacks of the use of robots in the workplace.

When using robots, people jeopardize their privacy and intimacy. Privacy refers to all data related to people personal lives, and this includes activities considered intimate. According to law, information related to privacy should not be disclosed. Privacy has always been a topic of great interest because it is very important. Indeed, it is one of the main human rights, because it is a great way to protect people. Technology, through artificial intelligence and machines, have fostered privacy violations, and exposed people inappropriately. Personal information can be used to assault individuals physically and psychologically.

Moreover, their financial information can be disclosed, exposing thus them to theft. Respecting privacy requirements protect people these misdeeds. With the wide range of robots available worldwide, privacy is threatened than ever. Patrick Lin, George Bekey, and Keith Abney, experts from science and the humanities, claim that the different impacts of robots on privacy can be regrouped into 3 categories, namely 'direct surveillance, increased access and social meaning', (Lin, Bekey, & Abney, 2010, p. 1). Made of complex algorithms and several processors, a robot capacity to observe is much better than that of humans. Therefore, they can be used for espionage and extorsion of private data. Besides, external users such as hackers, criminals, and government, are now able to find data that were inaccessible in the past, thanks to robots. A study has proven the vulnerability of machines against these intruders, (Lin, Bekey, & Abney, 2010, p. 2). As mentioned above, humans are sensitive to humanoid machines, and this connection emphasizes the potential dangers that robots represent for privacy. When social robots get closer to people, they are aware of all their activities and collect data from their daily lives. In this way, people's routines are memorized and stored. Such information can be used against them.

Furthermore, the line between surveillance and invasion of privacy becomes increasingly blurred. The different security systems got a wide range of machines that can easily spy on people, without being noticed. The phenomenon of automation discussed above is also facilitating data collection. Lin, Bekey and Abney illustrate this idea by giving the example of robots shopping assistants in Japan that conduct sales and communications with customers, (Lin, Bekey and Abney, 2010, p. 4). By doing so, they record people preferences and tastes and recognize them thanks to the face identification feature. It remains important to note that using robots for collecting data or surveilling excessively, is unethical. Privacy should be respected for an individual's dignity. The widespread applications of robots threaten intimacy and private life.

Robots are becoming commonplace as they are widely used today. Society faces real challenges, given that these machines have significant implications on human's life. The purpose of the current study was to warn against the potential dangers that arise when dealing

with robots and demonstrate the necessity of moderating or even reducing the use of robots capable of human performances worldwide. This paper began by acknowledging the contribution of these machines to well-being especially their usefulness in the medical field. Then, it has highlighted the limitations of this use, and advocated the careful use of robots with vulnerable persons. Afterward, the paper addressed the potential dependence that results from human-robot interactions. As people willingness to insert robots into their life increase, inappropriate relationships and attachment are then probable than ever. The paper claims that such relationships and disproportionate reliance on robots are detrimental for individuals and their loved ones. Moreover, it has revealed the dangers associated with the use of robots in the workplace. The advent of automation is fostering unemployment and hindering social and economic welfare. The several job losses induced by the applications of robots are costly for individuals and society. As mentioned above, replacing labor by machines has also serious ethical implications, especially in the army where autonomous weapons become more and more popular. Robots should not replace humans, but rather complete them. Finally, this study discussed the impacts of these machines on privacy and intimacy. This important human right is more than ever jeopardized with the rapid spread of robots. They have invaded people private lives. Individuals are exposed and their privacy can be violated on any occasion, because robots represent a great way for intruders to access sensitive data. The main conclusion that may be drawn for this study is that dealing with robots is not without impacts, so they should be used wisely and only if needed.