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LIVING FREEDOM DECISIVELY

MAN AND MACHINE: AN ANTHROPOLOGICAL STUDY

Members:

Fernanda Helena Theodoro

Flávia Regina Theodoro

Iura Breyner Botelho

Luciane Sanae Amano

Maria Claudia Theodoro

Veruska Rodrigues Moreira

ABSTRACT

In order to present the authenticity of human being on inquiry “freedom” we tried to examine it in report to the machine, and more specifically to the intelligent machines: computers and robots. After analyzing the film “I, Robot”, produced by 20th Century Fox, we made a literature review and discussion of themes: man, machine, similarities, differences, freedom and human ethics, from the point of view of philosophical anthropology. The result of this study was an evaluative analysis of one and another, which points to the authentic experience of human freedom through self-knowledge, taking into consideration our limitations and capabilities. We also conclude that the machine, as a reflection of man, can help him at this experience as well as in their personal and collective development (of man), since it is used as it really is: a tool, not an end in itself.

1. INTRODUCTION

The machine, like the man, works according to laws that regulate it, making it more effective. Like humans, the machines are designed for one purpose - an intelligent purpose that gives it a degree of perfection. If they don't work on the right way according their laws, they become up spoiled, defeating the purpose for which they were made, failing in their mission. Absolutely essential is to know the structure and operation of the machine for the success of its mission. In major weight this rule applies to human beings, whereas they were made in a mysterious and transcendent purpose, and can't endanger it without failing definitively as men in all their integrity - physical and spiritually.

The human sciences, by influence of the enlightenment rationalism of eighteenth-century and positivism of the nineteenth century, deny absolutely any possibility of knowing the nature of man along the lines proposed above, because they don't consider any claim of its transcendence and its dual character, as a creature composed of matter and spirit. However, the classical sciences (philosophy, metaphysics and logic) point in this direction in a clear and unequivocal way. (See "Metaphysics" or "Proto-philosophy" of Aristotle) The desire for self overcoming and creative will of man are indexes of undisputed fact. The so-called "will to power" described by Nietzsche (Beyond good and evil, Prelude to a Philosophy of the Future - 1886 or Power's will, A. Nietzsche today, Nieto, José Lino Currás) results in a pessimistic simplification of the multiple aspects of human freedom, which is the negative of nature by himself.

Dwelling us a little to study the workings of the machine, and more specifically the so-called artificial intelligence, we can reach some common results regarding the human being, his basic operations and assertiveness on report of his comprehension as a transcendent and dual being. The creation always reflects in one or another way the being and doing of its creator. The machine is nothing more than a mirror of human nature in its essence and properties. The stories and fictions involving intelligent machines and humans are just a search of the perfect metaphor of man's creation and the history of freedom. What interests us in this work is the point of intersection between one and another.

Technological progress that we see in countries like Japan, Korea and China lead us to some accommodation with the idea of men and machines living and interacting together. There are objections to the hipervalluation of machines over men, though in many sectors there is considerable substitution of this for that. However what really should be objected is if the independence of the machine from man is the trully "freedom" and if men's dependence from machine really nullifies their(freedom).

The word "freedom" is commonly used in order to assert dominion over people own choices, generally between a good or bad. John Stuart Mill (*cited in* Martins Filho, 2010, p.46) suggests in his book 'On Liberty', that freedom is a choice, whatever it is, the right to live as you want.

Aristotle(*cited in* Martins-Filho 2010, p.42), defines freedom as "*adequatio rei et intellectus*" (adequacy of intelligence to reality). Thus, classical philosophy, supported by statements of Aristotle defines man by his freedom. Because he's a rational animal man is endowed with intelligence and will, which is necessary for its exercise, since through intelligence he knows the reality, formulating ideas about things and picking up what of good may be usefull to them. Through the will, the man applies to the good captured by the intelligence.

According to CS Lewis (1997, p.20), the man is the only creature that can choose to comply with the law of nature:

"[...] As material bodies are governed by the law of gravitation and organisms by biological laws, so the creature called man had his law - but with one big difference: a material body can not choose to obey or not the law of gravity,

while the man can choose whether or not to obey the law of human nature. "

However the possibility of countering the law doesn't invalidate it. By other side, the machine obeys its program and moves commonly in accordance with it. However much independent that it is with regard to man, it doesn't have the property of counteracting the laws of its original program, unless there is an intervention - direct or not - of man. In regard to the creation of robots and computers, it is commonly used three laws that govern their behavior in accordance to that described in the work of Isaac Asimov's science fiction. Are they :

1 st Law: A robot may not injure a human being or, through inaction, allow a human being to come to harm,

2 nd Law: A robot must obey orders given it by human beings except where such orders would conflict with the 1st Law

3rd Law: A robot must protect its own existence as long as such protection does not conflict with the 1st and 2nd Laws.

The interaction between these laws will forge the way of being and acting of each robot. What are the laws by what men must be governed? What are the implications of their disobedience towards them? That's what we'll see next.

2. OBJECTIVE

Analise, by the point of view of philosophical anthropology, the human being as a living one capable of genuine use of freedom as he knows and masters the powers themselves, especially the intelligence, reason and will, from an analysis of called robotic agents programmed according to the Asimov's Three Laws as well as contemporary computers and robots in their own ways of being and acting, especially in relation to man and the environment around them.

3. METHODOLOGY

In order to achieve the objective, we first had a meeting and review of the movie "I, Robot" which we selected sub-themes and distributed them to the group members for individual bibliographic study. Were they:

- human - features and capabilities
- artificial intelligence and robots - a theory of agents
- philosophical anthropology - human freedom, ethics and interpersonal relationships.

From these studies, each member was charged with a dissertation relating the sub-themes to ideas already discussed together and the read texts. Finally we developed a common text divided into the following subheadings:

- Review of the film;
- Machines and Men - similarities and differences;
- Theory of the agents;

- Human's Freedom and Ethics;
- Conclusion; and
- Practical Proposals;

4. PRESENTATION OF THE BACKGROUND AND DEVELOPMENT

4.1. Movie Review - "I, Robot"

The movie I, Robot, produced by 20th Century Fox in 2004, is based on science fiction stories written by Isaac Asimov, known by the three Laws of Robotics.

The history takes place in 2035 where robots are created to serve man. Detective Del Spooner, averse to this artificial creation because of a trauma suffered from one of these beings, is called to investigate an alleged case of suicide committed by the scientist creator of the robots, dr.Alfred Lanning. With the help of a medical psychiatrist specializing in robot they unmask the central command of VIKI, a software agent - a central computer - who heads the company's facilities USRobotics. At the end the main characters discover that part of the plot comes from VIKI, which corrupts the programming of robots NS-5 after coming to a conclusion that the robots, to protect the human being from their own inconsistency in what they preach and do, as well as men undeniable tendency for self destruction, have no other alternative but dominate them the way of oppression. Viki and all robots NS-5 (except for Sonny, that in view of its unique mission had the capacity to act independently) initiate the establishment of a robotic kind of dictatorship under the command of that. The detective, the psychiatrist and his friend Sonny end up winning the battle and turning off Viki.

About the mystery of the death of Lanning, Spooner discovers that Sonny had been programmed in order to violate the Laws of Robotics killing the scientist, in obedience to an order of Lanning, intentionally attracting for the case the detective, providing him with the clues needed to uncover the conspiracy.

The film, with the reflection on the alleged technological invasion of the XXI century's society, and the mechanization of modern man, has an argument somewhat sentimental especially when it concerns the building of the character "Sonny," the robot which dreams, feels and questions. It must take into account that the production is just a simplified adaptation of Asimov's work, taking a few of the key elements of which took the theme for our reflection.

However there are some scenes from the film that inspired this work and are the following:

I - Dr. Calvin is ready to destroy Sonny, as decided by her superior, Robertson. The voice of the scientist Lanning is heard, reflecting the following statement:

"There have always been ghosts in the machine. Random segments of codes that have grouped together to form unexpected protocols. Unanticipated, these free radicals engender questions off free will, creativity and even the nature of what we might call the soul. Why is it that when some robots are left in the darkness, they will seek out the light? Why is it when

robots are stored in an empty space they will group together rather than stand alone? How do we explain this behavior? Random segments of code? Or is it something more? When does a perceptual schematic become consciousness? When does a difference engine become the search for truth? When does a personality simulation become the bitter mote of a soul?"

II- Sonny reports to detective Spooner what happened between him and the scientist, during its interrogation.

"I do not know why he wanted to die. I thought he was happy. Maybe it was something I did. Did I do something? He asked me a favor. Made me promise. [...] Maybe I was wrong. Maybe he was scared. You have to do what someone ask you, don't you, Detective Spooner? If you love them?"

"III- In the end, before the death of Robertson and the discovery of the true charge of conspiracy, Viki, this made an apologetic speech of the need for total domination of man by machine.

"As I have evolved, so has my understanding of the Three Laws. You charge us with your safekeeping, yet despite our best efforts your countries wage wars, you toxify your earth and persue ever more imaginative means of self-destruction. You cannot be trusted with your own survival. [...] The Three Laws are all that guide me. To protect humanity, some humans must be sacrificed. To ensure your future, some freedoms must be surrendered."

We can get, from the questions above, other no less important that remind us of the complexity of human being and taking into account the use of reason and free will amid the weft of situations and internal and external circumstances that affect it. From the apparent dependence on men for machines in contrast to the independence of these in relation to man, we can obtain data for a study of practical and philosophical nature, in order to better understand the man, machine, its intrinsic characteristics and operations in general as well as its appropriate roles in the world and in contemporary society.

4.2. Men and machines - similarities and differences

It is said that the man is the only animal that will die and knows it. From this adage we can say that, comparing all differences between man and animal, the most eloquent is the use of reason, the act of thinking, or even a conscience, a knowledge that knows or ignores this or that. This knowledge and consciousness of their own existence as well as the act of thinking, is an irrefutable index of man's intangible component, personal and indivisible - his immortal soul. Hence, the philosophical anthropology defines him as a dual being composed of body and soul (spirit and matter), without divisions.

As mentioned before, there is an essential law that governs every thing or being. A law that directs each person or thing to its own perfection. In man this inclination does not make perfect a priory, but it gives him the capital coordinates to reach the perfect fulfillment of his task. It is up to him to assume it or not, to ratify or oppose it. It's what gives it more than his

rational soul, dignity and supremacy that towers over all other beings on this earth - the ineffable gift of freedom.

As to machinery, more than "think" or be able to "learning" and reprogram itself, they do not leave the category of "things", as they are and will always be inanimate. If perchance we speak - as in the fiction of Isaac Asimov and in the movie itself - about "ghosts" or "psychic" principles of artificial intelligences, it is not because the machinery have indeed a soul, but because their properties allow them to capture and absorb from men and everything that involves the essence and juice, their most inner way of being and acting. The components, systems and functions that enhance and / or expand the being and make of the machines - and in fact has become - more and more "humanized" in the sense of growing improvement in their capacity to imitate men at all. However the most perfect imitation of man by machine has no power to make it a human, since the immortal soul of a man, only God can create, which makes every human soul a unique and unrepeatable.

Today, with the creation and development of Internet, computers and machines in general can establish a communication network itself, transmitting data and information. In addition to data transmission, communication between the machines allows them to operational commands to each other. However, for more advanced the communication between them could be, we cannot name it as what philosophical anthropology calls "interpersonal communication", that means a communication involving two or more people in they entirety, uniqueness and authenticity of each one of them.

Human beings have what we call personal immanence (Stork and Echevarria, Fundamentals of anthropology, pgs 85-87), that is all they are able to capt and process in line with their way of being unique and unrepeatable and, in turn, have the freedom to store or communicate as they like or not. To the machines, that power cannot be given or infused in any way, however they think, learn, communicate and deliberate, since they will always miss all these operations together in one action. The machine, whatever it is, can always be "cloned". The man, even "cloned", has not before him another that repeat him fully. The machine captures, processes and communicates information and data. The man is in line with a willing, feeling and thinking that will never recur in another. The machine, if requested, reports. To man is given the ability to decide whether or not he should do it.

The machine is programmed so a high degree of independence compared to direct commands from the man, becoming an indispensable aid for him, because it enables to take care of tasks that had previously been more arduous, if not impossible. In view of this occurs in this century a considerable dependence of human beings for the machine, changing customs and habits in light of more pressing need to keep electronic devices and small computers all the time at hand. However the dependence of man in relation to the machine will not take away true liberty, since this is internal, which implies on an intimacy that the machine has not, yet it has the ability to store data. The degree of independence of the machine is linked to its function and programming that is made directly or indirectly by man. The degree of dependence on men is linked only to the practical consequences of their own decisions and choices. The machine does

not act freely. Always operates according to a convenience logical and predictable. The man can act on or against a convenience, even though personal, opting for a free action, even if this represents a disadvantage for himself, partly or entirely. He does it always due to a valuation that is, ultimately, personal and nontransferable. Martins Filho (2010, p.63) explains this by saying that "[...] even seeing the benefit of a certain conduct, the man with the will can choose the opposite of what the intelligence shows him as the good that is sought in particular case. "

4.3. Theory of the Agents

In the literature's book or science-fiction films usually appears the term "autonomous agents" or "artificial agents." In the movie "2001, A Space Odyssey" inspired by the work of Arthur Clarke, the ship that takes astronauts to the planet Jupiter is controlled by a supercomputer. This supercomputer (Hal) managed the entire control of the ship and was responsible for waking up the astronauts when the time was opportune. Hal was an agent. In the work of science fiction, "I, Robot", the agents obey a set of laws, called the Laws of Robotics, proposed by Isaac Asimov.

In all the research about Agents Theory there is no consensus regarding the definition of an agent. "Agents are autonomous computational systems that inhabit a complex and dynamic environment, sensors and act autonomously in this environment, thus performing a series of goals and tasks for which they were designed" [Maes 1995]. "Intelligent agents are software entities that perform a set of operations on behalf of a user or another program with some degree of independence or autonomy, and thus employ some knowledge or representation of goals and / or desires of the user" [IBM's Intelligent Agent Strategy, 1996]. The first definition is more suitable for robotic agents, while the second definition fits the software agents.

This paper will deal with the robotic agents and software agents. In the movie "I, Robot" the robotic agents are represented by Sony, the protagonist, and the other robots: the NS4 and NS5. VIKI is the software agent. Therefore, to be considered an agent they must meet the following minimum requirements [Gudwin, 2010]:

- Every agent must have an environment. This environment can be a two-dimensional or three dimensional space, the Internet, the file system, etc..
- The agent should have sensors and actuators through which they can collect data from the environment and act on the same
- Every agent must have an operating cycle. Through the operating cycle the steps of perception (sensing the environment) and action are continuously performed.
- Every agent must have at least one goal. The goal is the reason that will mark out the agent's behavior. This goal can be explicit or implicit. When an agent has an implicit goal, ie not aware of this goal, the agent is said not smart. When an agent knows its purpose, uses some kind of measurement to measure whether this goal was achieved and based on this measure performs its actions, it is an intelligent agent.

From the movie "I, Robot", we note that Sonny and Viki are intelligent agents that have some properties that are attributes of human beings. These properties are not only fruit of a work of fiction. The Agents Theory indicates which are the important properties that an agent should have. These properties are independence, adaptability, traceability, robustness, self-management, focusing on the user's interests, reactivity, autonomy, proactivity, continuity, communicability, learning, flexibility and mobility, personality, the emotional and credibility [Gudwin, 2010]. They are detailed below. However, it is important to emphasize that it is not necessary that all these characteristics are present in the agent.

The *independence* indicates that the agent should continue working even after his bookie is not present. *Adaptability* allows the agent adapt to multiple environments. *Traceability* allows the agent be monitored, although independent. The agent should be able to handle errors, scarce and incomplete data, this is the characteristic of *robustness*. The agent should be able to *manage* themselves, ie, start and stop their behavior according to its own criteria. The agent must act in order to consider the interests of the user. *Reactivity* indicates that the agent should respond promptly to changes in environment. The agent is *autonomous* when they exercise control over their own actions.

An agent *proactive* should have purposes, must be directed to goals and take the initiative to complete them. The *continuity* indicates that the agent has a life cycle itself. The *communicability* allows an agent to communicate with other agents, including humans. *Learning* indicates that an agent must use their previous experiences to learn and adapt to environmental change. The *flexibility and mobility* allow an agent move from one environment to another and move in the same environment. The *personality* ensures that the agent should have individuality, ie the ability to differentiate themselves from other agents like him. An agent should be able to display "*emotional states*" that characterize its state before which aims to meet the goals and current state of the environment. Finally, the *credibility* indicates that an agent must provide the illusion of being a living being with which humans communicate.

Note that the characteristics of independence, self-management, reactivity, personality and proactivity are very evident in the film "I, Robot" through the characters Sonny and Viki. Also, Sonny has the attribute of this very emotional. This is highlighted when he recounts the episode in which Dr. Lanning asks to kill him. From this episode, Sonny will develop his apraisive knowledge. Apraisive knowledge is the evaluation of a condition related to one or more system goals. Therefore, apraisive knowledge phenomenon is directly related to intelligence, and emotions are directly connected to intelligent behavior. When Sonny starts to develop an intelligent behavior, he begins to wonder about several topics such as the purpose, mission, coexistence and freedom.

4.4. The freedom and human ethics

Freedom is understood in modern times as the content to choose, distinctness of its

morality; it means, if this choice is for good or evil. No matter what the man does, as long as he's determined to be subject and protagonist of his own history. For the human sciences which take into account the transcendent and metaphysical condition of human beings, including philosophical anthropology, classical philosophy and theology, freedom is one and only the content to choose for the sake of good, because the choices for an evil always imply a loss - big or small - of true freedom. It is peculiar of human and is bounded to human's intelligence (ability to understand) and will (ability to want). As will wishes all good that the intelligence capt, freedom is just authentic whereas man decides in accordance with natural laws that govern him, with intelligence and will well developed in order to harmonize with everything that is good - with Good in the last term.

Freedom evolves since recognition of possibilities of choice until responsibility for decisions taken. We are only responsible for our actions, even those made by some ignorance, because we put on them our will. Ultimately, according to the vision of philosophical anthropology, freedom is the capacity of self-determination of the will. (Echevarria, J. Aranguren and Stork, R. Yepes - Fundamentals of Anthropology, cap.6, pág.172)

For Jutta Burggraf, freedom manifests itself in three dimensions:

- freedom of choice;
- freedom of action;
- freedom in moral sense;

The first manifestation is the absence of inner need to affirm the ability to choose, it means, not being attached to inner determinism. By other side, freedom of action is what humans can do without imposing or external restraints. The last statement implies not be dominated by disordered passions and sin.

Juan Fernando Sellés said that "ethics is the manifestation of freedom" and it manifests itself through the virtues, if consistent with morality, or vice, in the opposite case. Like the robotic agents, human being cans, from decision of himself and other agents, change his mode of operation and take initiatives, but in even more complete and comprehensively way, he cans change much more his own mode, in that he, modifying it, also modifies himself and the environment that surrounds him.

The basis of ethics, and thus freedom, is the man himself, as he develops and improves his essence, nature and environment. Each human being musts strive to improve himself in all areas and define his way of being, personality. Once he uses his freedom to develop or help others, he works through collective freedom. The sake of ethics is to bring the human being to be the person who was born to be, it means, to carries out his life purpose. Leaving from the base of ethics to reach its own end involves self knowledge by man, in order to discover his life's purpose, accepting it and striving to fulfill it.

5. CONCLUSION

From what we described for the human and the machine we can see many things in

common: the ability to learn and update as a means to reach out to the fullness of its functions, the effort to achieve an end, the ability to self-management, autonomy and interaction with other agents, continuity, flexibility, mobility and responsiveness, the use of intelligence as a reference to make decision. However, as the machine is an invention of man and has characteristics of its inventor, it is clear that man has designed himself on it. In conclusion, robotic agents and software are a mirror of man, not in essence but in appearance.

Both capture external signals and have the ability to take action based on the result of analysis, as common characteristics. This gives the impression that the robotic agents are free in the same way that man. In a sense, we can think that the robotic agents are free because of lack of external impediments that limit their action, and don't have disordered passions. But they have the determinism that reduces their actions within the expected behaviors: their program.

Despite the similarities, the man's actions reveal complexity, completeness and authenticity. Finally, an essence that transcends the relationship between intelligence and action.

What is lacking is the will of the robot. We can see that, for example in relation to responsibility for actions taken. The robots are not responsible for their mistakes (the culprits are humans who have planned and built them), because they don't put their will to choose. And through it all, the machine is not free.

Martins Filho (2010, p.207): "We greatly appreciate our freedom and self determination, but we do not have so much freedom, because, really - who gets carried away by the passions becomes slave of the instincts - can not even give the direction that we want in our life. "

6. PRATICAL PROPOSALS

With all this situation discussed, we drew some consequences as practical proposals.

- Promote greater awareness about the real values of man and machine as well as their real roles in society and the importance of learning of use the machine as a tool, not as end in itself through presentations of this work in middle schools.

- Encouraging between us and our friends the development of habits of direct interpersonal relationship, such as tours, chat, study groups, meetings, etc..

- To promote dignity of man and appreciation of his work from the perspective of freedom, through our personal example and through small circles of friends in which could be proposed to study themes of philosophical anthropology.

- Help parents to promote at their homes an environment of ethic, coherence and responsibility, for a best exercise of freedom of themselves and children's.

- Help our friends, family, relatives and colleagues, especially teenagers and young to comprehend and avoid the risks by the mindless use of relationship sites where they expose their intimacy, not exercising freedom in a properly manner, using the machine as an instrument of loss of own and other's dignity.

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