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**THE ETHICAL FOUNDATION IN INFORMATION SOCIETY:
INTERPRETATION OF ARTIFICIAL AGENTS POSITION
IN AN ONTOCENTRIC PERSPECTIVE**

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ABSTRACT

This article discusses the importance of ethical guidance and regulation on the change of world research climate supported by information and communication technology (ICT). The research has resulted in artificial intelligence and 'super' human entities which are predicted to potentially cause damage and destruction of humans. In this context, human is placed as an information organism parallel to other information entity. Human is no longer a single entity as a center of reflection on a moral action. This research aimed to reflect on the ontology of Floridian information based on ontocentrism as the axiological footing of its information ethical theory. The method used was hermeneutics. The research findings showed that the reduction of human position creates human nervousness as a knowing subject. Therefore, ethical regulation is required on artificial agent construction effort as moral agent within the constellation of ethical actions in the information ecosystem.

KEYWORDS: *Artificial Agents, Information Ethics, Infosphere, Ontocentrism*

INTRODUCTION

Recently, our awareness as human being is disturbed by a series of phenomenal events and tends to disrupt the work of our common sense. A 'female' robot named Sophia designed by American scientist, David Hanson, for the first time officially become a citizen. The Government of Saudi Arabia Kingdom becomes the first country in the world to grant a citizenship on a robot. Obviously, this is surprising and triggers our reason to work and ask, whether the progress in the field of artificial intelligence has indeed been able to create robot that has a capacity which resembles human capacity so that a country needs to appoint it as a citizen? Do robots will have the same position of rights and obligations with our rights and obligations as human being when they are made as a citizen? Are our growing numbers which then bringing the thought to look for other planet as the next living place because of it is estimated that in the Earth that we live in for millions of years and no longer accommodate to our existence in the future, still needs to bring in millions of other robots?

The second incident is a straightforward statement by Russian President, Vladimir Putin, some time ago that reminds us that the super-human era is already in front of us. In his opinion, when this super human is used as a super soldier who has undergoes gene modification, it will create soldiers that fight without fear, compassion, regret or pain. Therefore, this type of soldier obviously will uncontrollable and destroy the human life.

The third incident is when a major social media company, Facebook, through Facebook Artificial Intelligence Research was developing their artificial intelligence robot with the purpose to mimicking human negotiation process in selling, buying and barter process, eventually shut down the robots named Bob and Alice because it turned out that these two robots were able to communicate with them of language creation.

Those phenomenon's above of course raises our awareness and concern for the future of human being which begin to be eroded by the presence of other entity, the results of scientific world advancement of NBIC (Nano technology, Biotechnology, Information technology and Cognitive science). The advancement in scientific fields deeply alters the meaning of human excellence. This means that the presence of the advancement of scientific world and ICT can be considered as a threat when we cannot control or understand the technology presented. We should represent again the fundamental questions about our existence as human beings that we have echoed for thousand years ago, such as: 'who we are', 'where are we going', 'how do we relate to the world' and other questions that disturb our tranquility as human beings. Of course, these questions remind us of our true self as human being mandated by God as the ruler of the world.

Seeing the signs above, it is understandable that we are cautious and try to think seriously about the potential damage and destruction of human beings. Perhaps this view is far-fetched a tends to be exaggerated, but the same thing is also delivered by the CEO of Tesla and SpaceX, Elon Musk that we should be wary of the development of the artificial intelligence world which he analogized as an effort to 'summon the devil' and should focus more on the development of AI (artificial intelligence) rather than North Korea's nuclear conflict. According to him, global competition in the development of artificial intelligence has the potential to cause Third World War. The same thing is also expressed by one of the greatest physicists of this century, Stephen Hawking, which once stated that artificial intelligence will bring disaster to mankind.

Perhaps, this is what drives Italian information Philosopher, Luciano Floridi, to suggest a universal and impartial ethical concept based on the principle of ontological equality in which every information organism (inforg) must treat other information organisms equally and allow it to exist and evolve in a way that according to its nature. It means that Floridi seeks to provide ethical foundation for the occurrence of moral matters that may arise in the future. In this position, human has lost their privileged place in anthropocentric world, and slowly realizes and accepts that we are part of the information object. Being an information being means we are not too different from other information objects which we have one thing in common, that is living in informative environment, or what Floridi referred to as infosphere. An environment that is almost comparable to cyberspace, but this cyberspace is only one of the sub-regions, while the infospheres includes both offline and analog information space. In the ontological perspective, the infosphere is a concept that can be equated to Beings (reality). Infosphere is a global space of

information, which includes cyberspace as well as classic mass media such as libraries and archives. Thus, infosphere is the whole space that encompasses all available information, including nature that can be said to be part of infosphere. Therefore, recognizing that human beings with intelligence are in the same position as artificial intelligence artifacts the need to reinterpret the human position in the reality arises, that is human position in the infosphere.

Thus, it is clear that the changes that occur in society that fully tied to information technology, encourages us to think of a new ontology unique of the information society, an ethical guide that can serve as theoretical framework in developing and establishing an ethical foundation leading to the creation of appropriate and adequate regulations.

RESEARCH PROBLEM

Humans who were originally the only respected agent who had the highest moral status in their lives in the universe, were rivaled by the emergence of other information organisms/inforg inhabiting the same environment. This fundamental change causes us as humans to lose a privileged place in the anthropocentric world, and slowly realizing and accepting that we are inforg. Being an inforg means we are not too different from other artificial intelligence artifacts, as Turing claims that machines are objects or artefacts that can think and have intelligence. In fact, these artificial intelligence artifacts have one thing in common with us, both living in an informative environment, or what Floridi calls as the infosphere. Infosphere is a global space of information, which includes cyberspace as well as classic mass media such as libraries and archives. Thus, the infosphere is the whole space that encompasses all available information, including nature that can be said to be part of the infosphere. Therefore, by recognizing that intelligent human beings are in the same position as artificial intelligence artifacts, the need arises to reinterpret the human position in reality, namely the human position in the infosphere.

Therefore, it takes a new theoretical approach to overcome the moral problems caused by ICT. Since ICT according to Floridi builds new information habitat that is filled with all information entities, such as: information agent, characters, interactions, processes and its mutual relations; it is an abstract equivalent to the ecosystem, a theory that makes information ethics an e-nvironmental ethic, or synthetic ethic, or infosphere ethics, for inforg like us.

Floridi then suggested his view which later became the foundation of the theory of information ethics he developed namely his understanding of the information object in the infosphere that has “intrinsic value” so that subject to moral respect. This thinking foundation seems to be embraced by Floridi from his understanding that the fundamentality of moral status is the informational state of an entity. As long as all entities, whether animate or not, can be considered to have informational state, it will be given a moral status, an intrinsic moral value. The inalienable moral values of the entity and therefore deserve to receive moral judgment and respect. These moral values may be minimal and trivial, therefore they can be considered as moral recipients, and directed to some degree of minimum moral respect. So, according to Floridi there seems to be not enough reason to not adopt a higher, more inclusive and more ontocentric perspective. Thus, every information object has the minimal right to survive and thrive by improving and enriching itself.

In this article, the focus of research is directed on questioning the understanding of the

concept of intrinsic value of information objects that is directly related to Floridian information metaphysics concepts that serve as the ontological basis of their information ethics, a metaphysical concept which views the infosphere as ontologically Being. This view then raises the thesis that all entities that inhabit the infosphere are information objects that have intrinsic value. Therefore, each entity is worthy of moral respect and is therefore instructed not to be damaged, eliminated and abolished. Because then the action will cause and increase the entropy in the infosphere.

THEORETICAL FRAMEWORK

Floridi's effort in building his 'throne' of information ethics theory began when he presented his ideas and thoughts as outlined in an article entitled "Information Ethics: On the Theoretical Foundations of Computer Ethics" at an international discussion in 1999. This article highlights the relationship between information and computer ethics. Floridi's shift from computer ethic to information ethic is based on his observation that the ethical question arises is not only discussing about the issues of to which extent the computer challenges the morality of our actions, but also the question of how far we are, not just computer professionals but the whole party of policy holders, challenged by what he called as infosphere. This shift then obscures our view, through ICT mediation, to the meaning of online life in which we have conceptualized it as a two-sided life, one side being analog, carbon-based, offline and the other is digital, silicon-based, online. Thus, the mix between evolutionary adaptation of human agents with the digital environment, and as a form of postmodern life becomes increasingly unclear. Floridi (2013, 8) then called it as an experience in online life (onlife).

Therefore, it takes a new theoretical approach to overcome the moral problems that arise caused by ICT. Since ICT according to Floridi (2013, 86) builds a new information habitat filled with all information entities, such as: information agent, characters, interactions, processes and their mutual relations; is an abstract equivalent to the ecosystem. This section relies on the method described above to outline the interpretation of information ethics as an e-nvironmental ethic, or synthetic ethics, or infosphere ethics, to our inforg.

The fundamental moral claim about information ethics is that all entities that inhabit the infosphere are the objects of information. Because of their status as an information object, all entities are entitled to intrinsic moral values, meaning that they have an inalienable moral value of themselves and therefore deserve moral judgment and respect. This moral value may be quite minimal, but it can be coupled with other moral considerations. This minimal moral value is then used as the basis for his argument that every information object must develop itself and no other entity should inhibit and eliminate any object. So, in accordance with the minimal rights attached to the agent, then agents should respect the information object as a destination on themselves. In this context, agents have a stewardship responsibility for the overall infosphere, to contribute to growth and maintain its sustainability by reducing entropy and not improving it. Floridi proposed a series of structured tasks to the infosphere, including tasks that should not cause, prevent and remove entropy from the infosphere and to promote the development of information entities and the overall infosphere.

RESEARCH METHODS

In order to reveal the basis of Floridi's conception of intrinsic value, the author performed the reading, meaning, and interpretation activity on the conception text. Therefore, writer used the hermeneutics method. A method used as an analysis in an effort to reveal the meaning contained in various discursive action. The goal is not to seek the objective meaning of a text but the meaning of a text interpreted by the interpreter in certain situations. How the interpreter understands the text in a social, political and cultural context.

ANALYSIS

The Floridian information ethic, which based on an information ecosystem, is intended to go beyond an anthropocentric perspective and view all 'being' as ethical. This ontological view is much criticized because it blatantly ignores the human subject which is the origin of the ethical theory. So far our understanding is shaped by the belief that ethical issues are exclusively human (anthropocentric). However, this certainly does not mean that we do not recognize the moral rights of animals, artificial agents, or even inanimate objects. The point is that the recognition is still human-centered and as the only entity with intrinsic ethical values.

Floridi (2001) developed the concept of information ecology as an appropriate type of information ethics to handle the world of data, information, knowledge, and communication as a 'new environment' which he called the infosphere. However, it seems that Floridi does not limit *prima facie* concepts about the infosphere and its information ethics. We can conclude that the infosphere is understood differently ontologically from the physical world. This means that in Floridi's viewpoint, this infosphere is a metaphysical concept. Infosphere is understood as an environment formed by the totality of information entity processes, including all agents, traits and mutual relationships among them (Floridi, 1999: 44). The infosphere is considered as an alternative, non-natural environment or can be called as the atopic space of mental life. This assumption clearly shows that the infosphere is understood to be metaphysical or idealistic. This view is shared by Floridi who said that the infosphere is not a virtual environment filled with the 'material' nature of the world. Even Floridi (2013, 10) predicted that someday the physical world we inhabit becomes one part of the infosphere.

According to Floridi, we are not allowed to reduce the amount of information in the world because it is not ethical and can harm the information itself as something that has intrinsic value. Thus, the fundamental thought is we should not reduce or eliminate something that has intrinsic value. This assumption can be seen that Floridi seeks to return to an ancient tradition that adapts nature and environment to value and thus they deserve respect. Floridi (1999, 47) then reinforces this argument by proclaiming the abstract "basic principal/norm" or *prima principia moralia*:

1. Entropy should not occur in the infosphere (zero law)
2. Entropi should be prevented in the infosphere
3. Entropi should be removed in the *infosphere*
4. Information welfare should be supported by expanding (information quantity),

improving (information quality) and enriching (information diversity) of infosphere.

The idea of ethical norms is intended as an anticipation of any event of destruction, which is not only happening to living beings and its good life skills, but includes all entities. Since all beings are part of the global environment and according to Floridi they are formed through information, meaning that their existence consists of any amount of information whatever their entity is so that they are ordered not to cause harm or danger that can reduce the amount of information available in the world. "Let all things flourish" is the motto of Floridi's ethics.

One of Floridi's ideas that caused controversy related to information ethics theory he developed was his understanding on information object in the infosphere that have "intrinsic value" so that it is subject to moral respect. This thinking foundation seems to be embraced by Floridi from his understanding that moral status fundamentality is the informational stated of an entity. In addition, in an effort to strengthen his thinking foundation, Floridi (2002, 290) developed two theses which became the main support of his Information Ethics theory, namely: the first thesis stated that qua information object can become a moral agent; the second thesis stated that qua information object can have intrinsic moral value, although minimum, so that they can become the recipient of moral, subject to some minimum moral respect. As long as all entities, whether animate or not, can be deemed to have an information status, it will be given a moral status, an intrinsic moral value. The inalienable moral values of the entity and therefore deserve moral judgment and respect. These moral values may be minimal and trivial, so they can be considered as moral recipients, and directed to some degree of minimum moral respect. Thus, according to Floridi there seems to be not enough reason not to adopt a higher, more inclusive and more ontocentric perspective. Thus, every information object has the minimal right to survive and thrive by improving and enriching itself.

In addition, it seems that Floridi's view of this intrinsic value has been heavily influenced by ecological and environmental ethical views especially biocentric thought that considers life has intrinsic value, so the advice is taking life is unethical because it endangers life itself. In the same way, Floridi argues that reducing the amount of information in the world is unethical because it endangers the information itself as something that has intrinsic value. It means that an action which harms the infosphere, namely causes the infosphere to be reduced or poor, is a negative action. Because the quantity and quality of information must be enhanced, among others, by enriching the infosphere, any action that impoverishes it is unenforceable action. Therefore, actions that may be good or bad is morally irrespective of the consequences, motives, universality, or virtues, but because they affect the infosphere in a positive or negative way. So, the basic premise is "we must not reduce or eliminate something that has intrinsic value". Here, seen the return of Floridi to the ancient tradition that adapts nature and environment to value and thus they deserve respect and undisturbed status. The opposite ethical attitude is shown in utilitarian ethics, which view that everything can develop, provided it is useful for improving some of the more important purpose. Thus, it can be concluded that Floridi's attempt that seems to force himself to take ontocentrism as its ontological basis is driven more by environmental ethical motivation. The same thing is corroborated by Callicott (1995), an environmental philosopher, that if we should begin to assess things that intrinsically valuable that we ourselves do not have such values, we need good reasons to do so. Thus, the agency's moral behavior must be guided by the fact that his actions create a negative or positive impact on the environment. As

we have seen, not only life forms deserve respect and bring moral interests, but also things in the environment.

In addition, we can also see the “harmonization” of Floridi's thinking with Kant, which he criticized a lot. We can see implicitly that Floridi's argument above that the information object or what he called as the infosphere should be given an intrinsic ethical value, looks like the Kantian argument. Kant said that humans should be treated as goals and never as vehicles. Therefore, humans must be placed at the highest ethical value, any action that endangers humans and causes them to lose their dignity as human beings is not ethical because as autonomous and rational beings, human beings deserve respect and moral values. By the same token, Floridi broadened this picture so that what deserves respect and has moral value is not only animate entity, but everything that exists, namely the infosphere itself. Thus, in this context, Floridi seems to have the same idea with Kant that moral value is the intrinsic nature of the entity.

A question that disturbs our awareness in axiological perspective as one of the impacts of today's ICT development is can morality be delegated to an artificial agent or should it remain particular to human domain? This question is put forward as part of the reaction of Floridian idea of an artificial agent that can be qualified as a moral agent. According to Floridi (2013: 110), not all artificial agents are moral agents, but some are moral agents. Floridi's argument against the concept of artificial agent morality is based on the responsibility concept, namely responsibility and accountability. A designer, for example, has a responsibility for designing an artificial agent he or she creates, but may not have accountability for the agency's operations. The question then is whether it is able to create an artificial agent that is morally responsible for their behavior?

This condition is influenced by the development of ICT and genetic biology that leads to methodological reductionism and praxis because of the anthropomorphic concept used to see humans that are similar to other species. Moreover, when the genetic code has been discovered with the help of ICTs, it provides the thinking foundation for a naturalistic and technocratic view of man from the position of personal relationships (personhood) and their capacity for free and responsible action.

One important feature of Floridian's information ethics is its attempt to analyze what is included as a moral agent. According to him, moral agents don't always have to be human. This shift of the moral agent center from human marks a major distinction between information ethics and major ethical theories, especially Kantian ethics that are strongly focused on the rationality of human actors. Actually, if we look more deeply, the information ethics do not fully show the separation with the concentration in humans. However, it is indeed seen the human erosion as the center of moral action. This process of erosion actually begins when biocentric ethics emphasizes the value of life and misery in which the moral recipient in this ethic is not necessarily human. The ethics of the land even further develops the concept of the moral recipient to the environment, so that non living things, and how we treat them, should be considered in our moral framework. We should also note the variations in human culture to consider which objects are animate (thus requiring special moral treatment) and those that are not.

Floridian information ethic extends the classification of its information entity by involving the inanimate entity in its moral considerations. This is possible if the treatment of all objects, whether animate or inanimate is performed by infocentric. Inanimate objects show more than machines that become the focus of philosophical debates on artificial intelligence. Thus, the

argument is not focused on classical artificial intelligence problems involving intelligence, intentionality, and even morality in artificially produced machinery, although back to the argument, especially in terms of intentionality. The argument delivered is that we must judge objects as moral recipients, and in certain circumstances, as moral agents at a minimum level. This is because the inanimate object is an information object, like humans and animals, and it is appropriate to sit side by side with animate objects in a moral framework.

The classical philosophical view sees that a non-human entity can not be the subject of responsibility. However, can we give little space to consider new technical artifacts, especially computers and their derivatives, which have displayed properties that make us doubt the existing views, even though this is certainly ethically inconvenient? (Bloomfield and Vurdubakis, 2003: 27). The argument is that because they are adaptable, able to learn, autonomous, and perhaps even intelligent. Because of that nature, computers can be described as artificial agents and may also be artificial moral agents.

The rejection of this exotic idea by Floridi came insistently like floods that could roll his thought. At least, Rafael Capurro commented quite spicy. In his opinion, why should we create artificial agents that we impose to share moral responsibility of moral events. Capurro considers that we have about 6 billion moral agents on earth. Why should we create millions or even billions of artificial agents? He reminded again the Ockham knife's analogy, *entia non sunt multiplicanda sine necessitate*. Thus, he argues, to think of the possibility of artificial moral agents is not a realistic or rational alternative, at least in terms of what to do and think about first. Capurro (2008, 167-73) noticed that most of the issues raised today related to the epistemological and moral status of digital agents is simply the repetition of arguments occurred in the 1970s with regard to artificial intelligence. The assertion that any agent who generates good or evil will be morally responsible for his actions is simply to dilute the concept of morality.

In discussing artificial agents using the lens of abstraction level, we can at least describe them in two ways: first, artificial agents whose behavior is fully defined by the designer, and agents capable of learning and adapting and altering their own programs autonomously. Floridi defined moral agents as all interactive, autonomous, and adaptable transition systems capable of performing morally qualified actions (Floridi, 2004). Floridi further explained what is meant by an interactive transitional system is if the system and its environment (can) act with each other. It means there is a mutual attachment of one action by the agent and the recipient. Meanwhile, the autonomous transition system is seen as a system capable of changing the state without direct response to the interaction, which can perform an internal transition to change its state. Finally, the transition system can adapt if the system interaction can change the transition rules which in turn can change the state.

This Floridi's conception is clearly controversial. How can an artificial agent bear responsibility for its actions even though it is a system that autonomous, interactive and adaptable to change? Of course, we see that a system that become artificial agent, its moral responsibilities are still charged to the designer and other stakeholders, no matter how autonomous the system is. In this context, Grodzinsky, Miller, and Wolf once asked whether an artificial agent capable of altering its own programming system so that it can be said to be so autonomous that it can dispose of the original designer's responsibility for his creation? Of

course, although artificial agents can be said to be very autonomous and perhaps this autonomy can be equated with human free will, it can not become more autonomous than humans. Thus, the idea of moral accountability into an artificial agent does not mean leaving the agent outside the control of techno-sociology.

Now we try to describe the conception of artificial agents as moral agents as supported by Floridi through three characters, namely: interactive, autonomous and adaptability. Floridi interpreted interactivity as an agent and the environment act with each other. This description seems too simple and needs to be elaborated more deeply. To reinforce this view, Floridi referred to an example of “the force of gravity between the body”, in which there is simultaneous interaction. This Floridian analogy hardly seems not in harmony with the shift from agency to moral agency. Our common sense would surely reject the analogy of gravity as an analogue associated with moral issues.

The second character is autonomous, defined as an agent capable of changing circumstances without direct response to interaction, can make an internal transition to change circumstances. The statement of “without direct response to interaction,” means that this system not only responds to input or creates output, but has several mechanisms to determine when to change from one state to another, meaning free of input and output. Obviously the statement contains a problem, so far we know that a computer system change its situation caused by the stimulus. Nothing changes the situation for no apparent reason. The stimulus can be external or internal.

The last character is adaptable, which is interpreted as an agent interaction that can change the transition rules that lead to changing conditions. Thus, the moral artificial agent has the capacity to make changes to the system. Lucas (2008, 54) describes this problem as internal conditions represent transitional changes which rules can be seen in two ways, whether this rules of transitions-change are at the same conceptual level as all other transitional rules, or they are at a higher conceptual level. If they are not on the same conceptual level as the transition with normal rule, then they set the rules to change the rules. If they are at the same time the conceptual level as a normal transition rule, then they only set the conditions for the existing changes. If the ways in which the system can change the transition rules should be treated as special cases, then the definition of the regression problem should be considered.

CONCLUSION

The urgency to create an ethical foundation to address the problems arising as a result of the information and communications technology (ICT) revolution and its accompanying fields (nanotechnology, biotechnology and cognitive science), seems to have found its momentum. Various events and incidents present before us recently, have disturbed our awareness and rationality about what is truly present in our midst. The phenomenon of Sophia's robot, super soldier, Tesla's ‘smart’ car and various latest developments in the field of artificial intelligence and biotechnology seem to arise our subconsciousness that the world we live in is moving toward life that forces us to rethink our existence as the only wonderful and noble being commanded by God to be the world's leader.

Thus, the Floridian theory of information ethics is necessary especially in anticipating

and overcoming the radical changes that touch our space of morality as one of the inhabitants of the information environment (infosphere). However, the existence of this theory as a conceptual foundation for the development of ethical and legal regulation still requires stronger arguments and justifications so that the argument of this theory is not easy to break. There is still a need for the contributions of other experts to make the information ethics as a universally and impartially applicable macro theory.

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