

THE EPISTEMOLOGICAL NEXUS OF ANTHROPOLOGY: HOW ARTIFICIAL INTELLIGENCE (AI)/EPISTEMOLOGY INFLUENCES HUMAN BEINGS

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Abstract

The investigation into the interdisciplinary nature of anthropology with other sciences, such as epistemology, raises serious theoretical questions, particularly when “knowledge” is attributed to Artificial Intelligence (AI) or AI systems, which are products of human invention. The attribution of knowledge to AI and the presumption of an AI epistemology make one ask whether AI machines truly possess knowledge as human beings and how AI epistemology influences human behaviour. These preoccupations should interest two disciplines (epistemology and anthropology). The study of Anthropology reveals that knowledge is one of the qualities that differentiates human beings from other creatures. The science that investigates the certainty of human knowledge is called epistemology. In this study, I argue that “knowledge”, a special quality of human beings, when applied to AI, refers to the functions by which the designer intends it to influence other subjects. One can conceive of AI epistemology as “enabled

knowledge” that influences human conduct. If we hold on to the traditional philosophy of knowing, then we lose sight of how AI epistemology influences human attitudes and comportments. However, openness to formal philosophy of knowing allows us to study and understand AI epistemology. First, I will give theoretical foundations on how AI epistemology controls human behaviour. Second, I will describe AI knowledge as “intention” to control human behaviour. Third, I will present “glitch epistemology”. Finally, I will explain some philosophical implications of using AI to control human behaviour.

Keywords: Encounter, Formal philosophy, Perception, Subjectivity, traditional philosophy.

Introduction

The openness to accept AI epistemology opposes Agapit’s assertion that “the process of knowledge is undoubtedly constitutive of a human being”¹³⁵. Anthropologists have also argued in support of the superiority of human knowledge over that of animals by affirming “that man is the animal specialized in

¹³⁵ Agapit Ngayndam Kakh'unde, “Le Procès Africain des Sciences. Pour une politique scientifique à l'ère de la mondialisation,” *Technoscience, Savoirs Endogènes et Formes de Vie Spirituelle*. Defis et enjeu pour une réinvention de l'Afrique. Mélanges en mémoire du professeur Gérard Buakasa Tulu Kis Mpansu, (juin 2006), 31.

the brain”¹³⁶. This unique characteristic of human beings requires that a special branch of philosophy called “epistemology” be dedicated to the study of human knowledge. This discipline asks what it really means to “know”. What constitutes knowledge? What are the processes of knowledge? What are the conditions for obtaining knowledge? Epistemology, as a branch of philosophy, does not argue that possession of knowledge and certainty of knowledge is an advantage to control other beings by determining their behaviour or by reducing or eliminating their potential capabilities.

The above understanding of epistemology contrasts with another form of epistemology, which attributes human qualities of knowing to machines or AI machines and robots. These new technologies are designed to establish a fixed intention in human beings who use them or come in contact with them, and influence human beings to make decisions that could be transforming. In one of his works titled *The Little Thoughts of Thinking Machines*, John McCarthy declared, “that ascribing little thoughts to machines will be increasingly useful.”¹³⁷. It is evident, therefore,

¹³⁶ Battista Mondin, *Philosophical Anthropology*, (Bangalore: Theological Publications in India, 1998), 53.

¹³⁷ John McCarthy, *The Little Thoughts of Thinking Machines*, (Stanford: Stanford University, 1983), 1. <http://www-formal.stanford.edu/jmc/>.

that those who developed AI devices, machines, and robotics impute qualities of “knowledge” to them to help solve some problems in society and improve human living conditions. Although those who designed these technologies focus on the work they perform, this work will examine some problems associated with ascribing human qualities of knowledge to them, namely, how AI machines dictate to human beings the attitude and behaviours to adopt.

The fundamental questions which this study seeks to examine are: how can the possession of, or the certainty of, AI knowledge be essential in controlling human behaviour? What is the role of intentionality in building AI devices, machines, and robots? The descriptive method will be applied in developing this work. This consists of providing arguments that show how the intention of those who develop technologies that are associated with AI influences human actions, decisions, and activities. The gap that this work seeks to fill resides in the fact that epistemology, as a branch of philosophy, does not show how knowledge is a tool to control and influence other subjects and to affirm that those who design AI impute their intention (which is considered knowledge in the form of stored data, program or software) into AI devices, machines or robots. This research thinks that AI-driven technologies determine or give some level of directions to human beings and therefore concludes that most AI are designed to control human beings.

Theoretical foundations of how AI epistemology controls human behaviour

Philosophy appears to penetrate every discipline and is considered a *sine qua non* to human development; its contributions have shown the greater importance of modern epistemology (AI theory of knowledge), especially how knowledge should be conceived, organized, and understood. Following this line of thought, “Philosophy must present itself as the totalization of contemporary knowledge. The philosopher achieves the unification of all branches of knowledge”¹³⁸. Ordinarily, *traditional philosophy* would ask questions to determine “what it really means when ‘we say we know this object or that object’. Are the objects really what we take them to be?”¹³⁹ But *formal philosophy* would be concerned with the conditions under which what is called “knowledge” can dictate human actions. This paper shall not be preoccupied with whether AI robots have a mind, whether they can think, or if they have the capacity for abstraction. But it is important to be inspired by the guideline given by Dennett, namely, to distinguish between “ontological questions (about what exists) with

¹³⁸ Frederick Copleston, *A History of Philosophy. Maine de Biran to Sartre*. Volume 9. Part II. (Garden City-New York: Image Books, 1977), 183.

¹³⁹ Ben Okwu Eboh, *Basic Issues in the Theory of Knowledge*, (Nsukka: University of Nigeria, Nsukka, n.d.),.1.

epistemological questions (about how we know about it)”¹⁴⁰.

The ontological questions concern *formal philosophy*, which affirms the existence of AI epistemology. In contrast, the epistemological questions fall within the confines of *traditional philosophy* (epistemology), which seeks to understand the process of human knowledge or the certainty of human knowledge. The suggestions to study knowledge formally are made mostly by proponents of AI robots. This implies a distinction between the formal philosophy of knowledge (formal study of knowledge), which is preoccupied with AI and AI robots, and the traditional philosophy of knowledge (traditional study of knowledge) in a discipline called epistemology¹⁴¹. The formal study of knowledge consists essentially of designing machines that can be manipulated by a program to affect human behaviour. The need to study knowledge formally arises because of the multiple communications between a human and a robot¹⁴². The relationship

¹⁴⁰ Daniel C. Dennett, *Kinds of Minds: Toward an Understanding of Consciousness*, (New York: BasicBooks, 1996), 13.

¹⁴¹ Stanley J. Rosenchein, “Formal Theories of Knowledge in AI and Robotics,” *SRI International* (September 10, 1985), 3.

¹⁴² Rosenchein, “Formal Theories of Knowledge in AI and Robotics,” 2.

between human beings and AI/AI robots requires an in-depth examination of how the former affects the latter.

This study focuses on the ontological questions because “knowledge lies at the heart of every important area of AI.”¹⁴³ It will be preoccupied with understanding how AI knowledge or AI theory of knowledge is designed to change the attitudes of human beings. People understand this form of knowledge as “external” to human beings; they perceive it as “knowledge” that can be bought, transferred, or sold. How can formal philosophy answer the question, “What is knowledge?” How can knowledge be described formally?

The formal description of knowledge involves the formal branch of philosophy, which proposes formal systems for modelling what agents can know about the world. We call this “Epistemic logic”. A model operator of epistemic logic could be represented thus: $K_i \varphi$.

The above symbol means that “Agent i knows that φ is true”.

Here are the explanations of the symbols:

- K stands for “knows.”

¹⁴³ Rosenchein, “Formal Theories of Knowledge in AI and Robotics,” 3.

- φ is a proposition (a statement that can be true or false)
- i is the agent.

Below is a concrete example:

- $\varphi = \text{"Aloy is reading"}$
- $K_A \varphi = \text{"Agent A knows that Aloy is reading"}$

It is possible to make the following expressions:

- ✓ $K_A \varphi \rightarrow \varphi$ (If A knows that Aloy is reading, then Aloy is actually reading — this captures the idea of *truthful knowledge*)
- ✓ $K_A K_B \varphi$ (A knows that B knows that Aloy is reading)
- ✓ $\neg K_A \varphi$ (A does not know that Aloy is reading)

There is also “dynamic logic”, which investigates how one might reason about the actions of programs. Stanley discussed many other aspects of formal logic, which constitute the formal philosophy of knowledge¹⁴⁴. On the other hand, the traditional starting point in modelling knowledge acknowledges the relationship between a subject and an object “by using the notion *kzp*, which means that agent x knows fact p (we omit the subscript when the agent is

¹⁴⁴ Rosenchein, “Formal Theories of Knowledge in AI and Robotics,”3.

understood from the context”¹⁴⁵. This means the circumstances, context, or situations can provide certain knowledge.

Sherry Turkle’s consideration of AI machines and robots as “evocative objects” is fundamental in understanding how AI shapes and orients human actions¹⁴⁶. It is difficult to deny how AI in all its ramifications affects human development, shapes identity, and provokes determined emotions and sentiments. There seems to be something unnatural in the way human beings relate to technological products associated with AI. Turkle called the unusual state of being connected to technological elements *dépaysement*. This simply means “de-countrifying or immersing oneself in something foreign so that upon returning home, the familiar has become strange.”¹⁴⁷. This does not require moving outside one’s environment; it simply means an attitude that changes a normal human structure or system of existence. The formal description of knowledge or formal philosophy opens the horizon to investigate

¹⁴⁵Rosenchein, “Formal Theories of Knowledge in AI and Robotics,” 3.

¹⁴⁶ Sherry Turkle, *The Second Self: Computers and the Human Spirit*, (Massachusetts-London-England: The MIT Press Cambridge, 2005), 3.

¹⁴⁷ Turkle, *The Second Self*, 3.

how those who create AI machines impart specific intentions to control human behaviour.

AI Knowledge as “Intention” to control Human Behaviour

The understanding of AI knowledge as “intention” is fundamental in comprehending how it could control human behaviour. The anthropological problem of AI knowledge centers around the following questions: Are AI machines capable of rationality that can control human actions, choices, and decisions? With regards to epistemology, questions such as: does possession of knowledge affect the attitudes of other subjects? In other words, when a knowing subject (for instance AI machine) knows, does its knowledge affect human behaviours? We begin on the assumption that AI machines possess “enabled knowledge”. It is precisely the intention of enabling AI machines with knowledge that this technology can control human beings.

By implication, the person who designs an AI machine imparts not only the relevant physical form,¹⁴⁸ But most importantly, the “intelligible form”. Here, the use of “intelligible form” refers first to what can be apprehended by the human intellect as the purpose for manufacturing the robot before me. Again, the designer imparts functions and services robots will

¹⁴⁸Andrew Murray, “Intentionale in Thomas Aquinas,” A Paper delivered to the Plato and Aristotle Conference, St Patrick’s College, Manly, January 1993, p. 1.

perform. But if the intention of bringing an AI machine into being is to control human beings, where then can one situate the power of control, in the machine itself or in the person who designed it? There are AI machines which give people directions, information, and suggestions on what to do when they are at a crossroads at airports or public places. In this sense, they serve as instruments to control the movements of human beings to reach their destinations.

But can “stored-data” or input-output behaviour in an embodied element exert an action on the conduct, thoughts, and decisions of human beings in the proper sense of the word? It is important to consider that a robot exists based on the specific “intelligible form” (or intention) imparted on it. But the intention transmitted to it is weak in degree compared to human beings, who can adapt to all kinds of circumstances and situations. That is why it could be said that the intentional being of AI robots does not admit of contraries¹⁴⁹ Therefore, one would have to determine the circumstances under which “stored data” or input-output behaviour in an embodied element can affect human beings' conduct and decisions.

The anthropological and epistemological questions appear to admit that “knowledge” can be attributed

¹⁴⁹Murray, “Intentionale in Thomas Aquinas,” 4.

to AI and that “enabled knowledge”, which characterizes the operation of AI machines, influences human behaviour. The intention to manufacture AI machines would have been provoked by some experiences. This line of thought necessitates an examination of “glitch epistemology”.

“Glitch epistemology”

There is a glitch when the normal functioning of a system is affected or disrupted unexpectedly. “Glitch epistemology” is, therefore, the awareness of a possible malfunctioning of a system. In relation to the theme on AI, such awareness is a form of intelligence and requires that the term “intelligence” be used within a certain context¹⁵⁰. Hence, it is proper to describe what “robotic epistemology,” “robotic theory of knowledge,” or “AI epistemology” means, and how they control human comportment. The advocacy for “glitch epistemology” allowed Lynch to propose a vocabulary to describe the “evolving cognitive capacities of digital agents”. Fundamentally, “glitch epistemology” transfers attention from knowledge itself to *perceptions* of knowledge; it emphasizes the unique moments of *encounter* with digital systems, which in turn helps to change our perception of knowledge; finally, it

¹⁵⁰ Casey R Lynch, “Glitch Epistemology and the Question of (Artificial) Intelligence: Perceptions, Encounters, Subjectivities,” *Dialogues in Human Geography* (2022), 1.DOI: 10.1177/20438206221102952.

recognizes the emergence of various *subjectivities* of human actors (operators) in relation to this system of knowledge and how they are situated within the computational city¹⁵¹. This shows that there are three important moments in understanding “glitch epistemology”. They are: “perception,” “encounter,” and “subjectiveness”. The exploration of these terms intends to reveal how lived experiences inspire the emergence of digital technology, which directs the way human beings live.

Lynch tried to explain *perception* by referring to how a system functions. The idea of “robotic knowledge,” or “AI theory of knowledge,” presupposes moments of disorientation in the systems of traditional epistemologies; the bewilderment raises concerns about the design of a new knowledge to resolve a problem, the success of the new epistemology, expectations, norms, and how it can be reproduced¹⁵². The search for and use of AI knowledge to resolve systems of traditional epistemologies will no longer be viewed as a quest for certainty for true knowledge, but a tool that controls the organization of human society, the actions of human beings, how people should think, and what they should believe.

¹⁵¹ Lynch, *Glitch Epistemology*, 2..

¹⁵² Lynch, *Glitch Epistemology*, 2.

When discussing “glitch epistemology,” the concept of “perception” reveals the moment when experts in AI take advantage of the rupture in the functioning of a system to create new knowledge. It is a way of saying that errors spark questions about the effectiveness of the old system and also motivate transformation. Here, the idea of perception is different from the explanation of this concept by Aquinas and Locke¹⁵³. Basically, “glitch epistemology” wants people to focus on how particular systems are perceived, the conditions under which they are perceived, and from whose perspective, rather than how intelligent and efficient they are. Agapit would consider “glitch epistemology” (and by extension, AI Epistemology) the cause of “profound upheavals in the traditional conception of science.”¹⁵⁴. It is a sudden, violent upset because the effort to correct or transform any glitch goes with the intention to control.

Moreover, *encounter* examines what happens when there is a meeting between a subject and a digital system that is not functioning optimally. The subject in this case could be a human being or a machine. Lynch explained that interests are always focused on how such meetings take place, the expectations, and

¹⁵³ Frederick Copleston, *A History of Philosophy*. Modern Philosophy: The British Philosophers. Hobbes to Palais. Volume 5, Part 1. (New York: Image Books, 1964), 118-119.

¹⁵⁴ Agapit, *Le Procès Africain des Sciences*, 33.

the feelings/emotions that are manifested when a black person comes in contact with a “human-like” computer program that is supposed to open a door, and it refuses to open the door because it has been programmed to open only to people who have white skin. Such an *encounter* is capable of provoking negative sentiments and reactions in the person who is affected. The machine, which cannot function contrary to how it has been programmed, has succeeded in affecting the attitude and disposition of human beings. But can this change of behaviour be attributed to the machine itself or to the intention, policy that governs the production of the machine?

It is good to note that the organization of the *encounter*, as well as how it takes place in social spaces which are guided by rules, matters a lot. The example of the black person just mentioned implies that societal spaces give people opportunities to express their desires, expectations, and possible improvement after an *encounter*¹⁵⁵. Lynch’s analysis of “glitch epistemology” suggests that cultural contexts, social spaces, and interactions are fundamental in acquiring knowledge. Thus, the robotic theory of knowledge is “dependent on the socio-spatial context of that interaction.”¹⁵⁶. It is from

¹⁵⁵ Lynch, *Glitch Epistemology*, 3.

¹⁵⁶ Lynch, *Glitch Epistemology*, 3.

this perspective that one can understand how AI epistemology controls human conduct and decisions.

Furthermore, Lynch underscored the aspect of perspectivity as a characteristic of knowledge while explaining *subjectivity*. Mondin, who prefers to use the term “perspectivity” instead of “subjectivity”, describes “perspectivity” as “the incapacity to gather the entire object in only one impression since it has many aspects, and since whoever observes the object must situate himself in a peculiar perspective.”¹⁵⁷. From this line of thought, it is easy to outline the implications of what human beings experience as “disorientation”, their roles in the process of (re)production of the computational city, or even as “observer” who ascribes intelligence to an agent or system¹⁵⁸. Judgment, which usually comes after perception and encounter, is guided by norms.

The three terminologies used by Lynch to explain “glitch epistemology” appear to present an inverse form of knowledge. Rather than describe knowledge in the way one would say that the brain is an apparatus that allows human beings to have a distinctly superior life¹⁵⁹, It presents knowledge as

¹⁵⁷ Mondin, *Philosophical Anthropology*, 72.

¹⁵⁸ Lynch, *Glitch Epistemology*, 4.

¹⁵⁹ Mondin, *Philosophical Anthropology*, 53.

the effect of *perception* and *encounter* of human beings with AI machines and technologies. This new epistemology risks making natural human knowledge *resistance against* rather than a *reinvention with* digital systems¹⁶⁰. To avoid any such occurrence, epistemology as a branch of philosophy has to elucidate the specific conditions that must be satisfied before any genuine claim to AI knowledge or AI epistemology. The consideration of what should be called “epistemology” necessitates an examination of the philosophical implications of using AI to influence human conduct.

Philosophical implications of using AI to control human behaviour

The argument that some AI machines are capable of suggesting directions to human beings, influencing certain decisions and choices, leads to the attribution of some human qualities to AI machines. Considering that many questions have been raised and discussed by authors on the moral concerns and questions regarding the autonomy of the human person, this study shall focus only on the attribution of human qualities to AI machines.

John McCarthy thinks that epistemological words and terms should be attributed to AI and the operations of machines¹⁶¹. This is strictly based on “the principle

¹⁶⁰ Lynch, *Glitch Epistemology*, 2.

¹⁶¹ McCarthy, *The Little Thoughts of Thinking Machines*, 1.

of rationality: *It will do what it thinks will achieve its goals.*"¹⁶². In the light of the claims that "machines have and will have varied little minds," or "be given more and more intellectual qualities,"¹⁶³My view is that these are a "set of technical possibilities" that is realizable when a specific aspect of human behaviour has to be controlled. Because a series of experiments have resulted in the production of artificial equipment, gadgets, machines, and robots that are reshaping the mood of human life, it seems that the emergence of these new technologies is essential to human growth."¹⁶⁴.

Even though the above argument about the ability of AI machines to control human behaviour is contentious, I think that they are designed to achieve specific goals and perform only those activities that they are programmed to do. The tasks undertaken by AI machines do not originate from the exercise of the "intellect" or the "will", but are essentially based on "data," or artificially designed systems called "software". The exclusion of the "intellect" or the "will" in initiating functions that are performed by AI machines implies that they do not play any practical

¹⁶² McCarthy, *The Little Thoughts of Thinking Machines*,2.

¹⁶³ McCarthy, *The Little Thoughts of Thinking Machines*,2-3.

¹⁶⁴ Agapit *Le Procès Africain des Sciences*, 33.

role concerning the freedom to control and regulate all inherent mental or physical powers.

The attribution of human qualities to AI machines can also be viewed from the point of view of Erich Präm's concept of "Elements of an Epistemology of Embodied AI". Prem tried to establish the connection between human rationality and language. The significance of language in developing mental capacities occupies a central place in linguistics, the philosophy of language, psychology, and other disciplines. However, it is complicated to explain how the creation of artificial language used to program a computer expresses rationality in AI machines. Perhaps, the way forward would be to hold "that logic is but a set of simplified abstractions over natural language which have originally been described to unmask the arguments of sophists."¹⁶⁵

Considering the role of the physical world in the development and functionality of language, it is expected that Prem should have illustrated or given details about how AI robots' perception and interaction with the environment develop and increase knowledge. It is not enough to mention how epistemic logic and algorithms texts express reasoning; it is important to show the independence,

¹⁶⁵ Erich Prem, "Elements of an Epistemology of Embodied AI," *AAAI Technical Report FS-96-02* (1996), www.aaai.org, 97.

desire, and passion of AI robots in acquiring knowledge. Another shortcoming of Prem's epistemology could be the inability of AI robots to know metaphors and spatial representations, especially if they have not been furnished in the form of stored data. These are shortcomings that inhibit the ability of AI machines to control or influence human behaviour.

Conclusion

The subtitle of this work reads "How Artificial Intelligence (AI)/Epistemology Influences Human beings". In that expression, the concept "AI Epistemology" does not signify that AI machines and robots are endowed with "knowledge" in the traditional way people understand human beings to know. On the contrary, it means the diverse ways by which AI machines and robots have revolutionized epistemology as a branch of philosophy.

Concerned by the emergence of the idea of "AI Epistemology", this work explained the epistemological connections of this new epistemology to human beings (anthropology). The distinction between traditional philosophy and formal philosophy did not separate human beings from what sciences and technology have produced; rather, scientific progress expressed the creativity of the human spirit.

“The epistemological nexus of anthropology” revealed the intentionality of developing AI machines. The attribution of epistemological terms to AI machines and the discussion on “glitch epistemology” express the mental ability of AI machines to act or are used to represent their capabilities to influence human behaviour.

I would have preferred other propositions or the use of another term instead of “AI Epistemology”, which is complicated and complex since the beginning of the series of studies on AI Epistemology. I think that the proponents of the use of the term “AI epistemology: need to do separate research to explain whether they used this term univocally, equivocally, or if they used it as an analogy. It is important to understand the distinction between the attribution of “epistemology,” or “knowledge,” to AI as an intentional system designed to control human behaviour and “knowledge” as a distinctive appendage of human beings.

There is no doubt that the philosophical effort to understand what it means to say that AI machines “know” has influenced my behaviour and human beings in general in a manner that explains AI epistemology. However, further research needs to be done in order to determine the limits of the applications of AI technologies.

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