ARTIFICIAL INTELLIGENCE AND KNOWLEDGE: IMPLICATIONS FOR KNOWLEDGE CONDITIONS AND PROCESS FROM AQUINAS'S EPISTEMOLOGY

By
Aloysius Uchechukwu Onah
Saint Thomas Aquinas' Major Seminary
Makurdi, Benue State, Nigeria

Abstract
Artificial Intelligence (AI), furnishes knowledge information about what is imputed into the machine so that it becomes a case of garbage in, garbage out. AI is the fruit of the progress of the human tenacious mind that raises epistemological questions about whether the products of AI meet the requirements necessary to equate their function to any theory of knowledge. While the precision of information supplied by AI remains commendable. The principal problem that this paper seeks to address is: What constitutes knowledge from a Thomistic point of view and how can that explain the knowledge-based process of AI? Employing the method of critical analysis, this study examines Aquina's theory of knowledge from its experiential origin, abstract concepts from experience and the use of the intellect to understand and reason about these concepts. This is in direct response to what constitutes knowledge of AI and whether it meets the conditions of knowledge found in sentient beings as espoused by Aquinas in his epistemology.

Keywords: AI, knowledge, Experience, Idea, Mind, Algorithm, Pattern

Introduction

AI and what is now considered "AI Epistemology" have challenged the fundamental traditional theories of knowledge. While the epistemological questions about the certainty of human knowledge remain relevant, the emergence of AI Epistemology or AI linked to robotics has raised pertinent questions concerning the emerging "knowledge industry" and how to describe knowledge formerly. While Kaufmann (2000:203) expresses fear about the radical shift from the important systems (empiricists and rationalists) by which human knowledge is acquired. Younas and Zeng (2024:1) appeal for a broader definition of knowledge that extends beyond human-centric perspectives. The problem is whether or not to affirm an epistemology for AI programmed robots.

What is the best way to qualify the new waves of thinkers/epistemologists that have emerged due to the development of Artificial Intelligence and AI robots? In Kaufmann's (2000) opinion, they should be given a name that is not free from danger because it belongs to the nature of these new waves of thinkers to want to remain riddles at some point. The efforts of these new waves of thinkers may be right or wrong. Contrary to Kaufmann's fear about the danger of AI epistemology, Younas and Zeng (2024:1) "advocate for the establishment of an AI-inclusive epistemology. This concept posits that artificial intelligence may possess its own distinctive epistemological framework, which could fundamentally alter our current understanding of knowledge acquisition and application". The principal question which this paper seeks to examine is "can AI robots know?" Whether Robots can have "knowledge and to attempt to answer this question in a purely *a priori* manner is to enter a blind alley" (Copleston, 1977:49). In other words, it may be difficult to answer this kind of

question. However, the above discussions on emerging new AI epistemology call for recourse to a possible Thomistic response. This work raises pertinent questions that should preoccupy the minds of contemporary Thomists. It is important to note that some of the questions that will be raised were never the preoccupation of Thomas Aquinas but the answers provided in this study indicate how he would have responded to them in his works. This study seems to raise more questions than answers as expressed by Dennett (1996:vii) thus, "I am a philosopher, not a scientist, and we philosophers are better at questions than answers". On the one hand, it is an attempt to draw "inspiration from Aquinas while developing his thought to meet modern intellectual needs. On the other hand, it is the application of the principles of his thought to problems arising in the modern cultural situation to promote a great deal of serious philosophical reflection" (Copleston, 1977:43). This study is an effort to "develop Thomism in the light of modern problems and of modern philosophy" (Copleston, 1977:45).

Conditions of Knowledge

Different philosophical schools of thought have different opinions about the conditions that should be met before there can be knowledge. Many empiricists did extensive work on how the senses perceive the external world, including Henri Bergson in *Matter and Memory*. The condition for knowledge for empiricists would be the optimal functioning of the senses. However, this point of view is opposed to that of rationalists, who insist that knowledge is acquired through reason. The Thomistic view is moderate in its approach because it explains that knowledge is obtained from the senses through abstraction. For Aquinas, the *active intellect* abstracts from the impression received by the senses. This abstraction takes place before the image is interpreted by the intellect (S.T. V1, q. 85, a. 1). Considering the diverse opinions about the condition of knowledge, the major problem of discussing "AI knowledge" consists of demonstrating elements that are required to establish how AI possess knowledge without actual real experiences (sensation/perception, scientific experimentation or even the possession of intellect). What are the prerequisites for "AI knowledge"? If it is admitted that AI cannot gain knowledge through abstraction, then it is not very likely to talk about AI Epistemology.

For empiricists, possessing five external senses (touch, ears, eyes, tongue, nose) is indispensable for human knowledge. It is important to add that the senses should be free from any form of defect. Therefore, when any of the senses come in contact with an object, the sensory nerves (afferent nerves) are adapted to transmit information to the Central Nervous System (brain) while the motor nerves (efferent nerves) bring back such information to enable the subject to make proper decisions. This mechanism suggests possible complementarity between empiricists' and rationalists' positions but raises the question of whether AI have such a mechanism of perceiving/sensation and analysis of data in the brain before a possible response. Do sensors through which AI recognizes and responds to situations the same as the nerves? What is the difference in the degree of error between the human nervous system and the sensor in AI? Just like the human senses, any defect of the sensor affects the possibility of knowledge. The possession of intellect is a prior condition of all knowing beings. Even though some philosophers distinguish between active and passive intellect this study is more preoccupied with establishing that AI robots do not have intellect, not even whether it is active or passive. It will seem that intellectual powers in AI robots are programmed. This is evident from the claims of Searl (1980:417) that in "[strong AI] … the appropriately programmed computer really is a mind, in the sense that

computers given the right programs can be literally said to *understand* and have other cognitive states". If it is programmed, what is the mode through which AI understands things? Do they understand things through sensation, abstraction, infused power or external help? As Aquinas will say, "the object of knowledge is proportionate to the power of knowledge" (S.T. V. 1. q. 85, a. 1). From the preceding paragraph, it is important to state that while talking about the condition of knowledge in AI , there is a need to recognize that there are three grades of cognitive powers as follows:

Sensitive Power: "the objects of every sensitive power is a form as existing in corporeal matter (...) every form of the sensitive part can only have knowledge of the individual" (S.T. V. 1. q. 85, a. 1). Here, the corporeal organ plays a vital role in knowing particular object. For instance, a goat views or assimilates the form of things as individual; that is, it can perceive a particular individual being of the object.

Angelic Intellect: "Though Angels know material things, yet they do not know them save in something immaterial, namely either in themselves or in God" (S.T. V. 1. q. 85, a. 1). In other words, their knowing power is that which is neither that of corporeal organ nor in any way associated with corporeal matter. The organ of the knowing power of angels subsists apart from matter.

Human Intellect: This occupies a middle position; it is not the act of any organ, yet it is the power of the soul which is the form of the body. It is appropriate for the human intellect to know a form that exists individually in corporeal matter, yet not in the way such form is in such matter. By implication, it is capable of knowing abstract things and metaphysical beings. However, AI do not have any of the above grades of cognitive powers; this raises the question about the possibility of AI epistemology.

Aquinas' argument that there cannot be active and passive intellect in Angels except equivocally (S.T. V.1. q. 54, a. 4) appears to be fundamental in discussing the presence of active and passive intellect in AI. His reason was that "knowledge is not generated in the angels but is present naturally. Hence there is no need for admitting an active and a passive intellect in them" (S.T. V. 1. q. 54, a. 4). Can such be said about AI s which are the results of human creative ability? We know from Aristotle and Thomas Aquinas that human beings have an active and passive intellect. The Stagiarite and Aquinas distinguished the function of the intellect in human beings and angels thus:

> It is the function of the active intellect to enlighten, not another intellect, but things which are intelligible importantiality, in so far as by abstraction it makes them to be actually intelligible. It belongs to the passive intellect to be in potentiality with regard to things which are naturally capable of being known, and sometimes to apprehend them actually. Hence for one angel to enlighten another does not belong to the notion of active intellect: neither does it belong to the passive intellect for the Angel to be enlightened with regard to supernatural mysteries (S.T. V. 1. q. 54, a. 4).

Moreover, the discussion concerning the condition of knowledge requires an examination of sensitive knowledge or intellective knowledge in a subject which has body and soul. The body is used to feel and the soul is used for abstraction. The body and the soul are important elements in forming material and rational knowledge. The body plays an

important role in what is known as material knowledge and the soul/spirit/mind is indispensable in the formation of ideas. However, philosophers differ on how ideas are formed. Locke underscores the ambiguous use of the term "idea"; sometimes, he speaks of our ideas of sensible qualities and again sensible qualities are spoken of as ideas. He also uses the term "idea" to refer to concepts and universal ideas. Irrespective of the multiple applications of the term "idea", "Locke is convinced that experience is a fountain of all ideas. The human being's attention is primarily directed outwards, and sensation is thus the chief source of ideas" (Copleston, 1964:86).

Contrary to Locke's position, Berkeley emphasized that the mind forms whatever constitutes knowledge. According to him, "besides all that endless variety of Ideas or Objects of Knowledge, there is likewise something which knows or perceives them, and exercises divers operations, as Willing, Imagining, Remembering about them. This perceiving, active Being is what I call Mind, Spirit, Soul or my Self" (Berkeley, 2002:12). In other words, the mind is a necessary condition for knowledge; and if this is true, "sensible things have no absolute existence independent of mind" (Copleston, 1964:51). Concerning this subject matter, Dennett argued in support of "other minds". According to Dennett (1996:12): "Surely our ability to discuss with others what is going on in our minds is just a peripheral talent, in the sense in which one speaks of a computer's laser printer as a peripheral device (the computer can go right on computing without a printer attached)". Dennett's comparison may be misleading because irrespective of the independent existence of life in peripheral devices a computer and a printer cannot be classified into the same class; their functions are different, and one is dependent on the other. Besides, the difficulty of affirming and attributing intellectual knowledge to AI affects the form of behaviour that should characterize an "intelligent being". For instance, the "goal-directed" behaviour of every being which possesses a mind should be *intrinsic* (that is, internally generated) rather than *extrinsic* (that is, externally imposed) (Morioka, 2023:37). In other words, AI robots cannot form knowledge. The emphasis on the possession of the mind as a condition of knowledge is further strengthened by Morioka's (2023:38-39) argument according to which "if metabolism is the necessary condition for the mind, strong AI should be impossible because metabolism can be *modeled* by computers, but not *instantiated* by them". The ability to *instantiate* AI does not produce knowledge. This implies that thinking is a fundamental condition for talking about knowledge.

Bearing in mind the polemic about the formation of ideas, Aquinas would say that "there are certain powers whose operations are exercised by corporeal organs; such powers are acts of sundry parts of the body, as the sight of the eye, and hearing of the ear. There are some other powers of the soul whose operations are not performed through bodily organs, as intellect and will: these are not acts of any parts of the body" (S.T. V.1, q. 54, a. 5). In other words, it is difficult to disassociate knowledge with mental power or the state of the mind. In fact, "human knowledge must have some connection with mental powers. Knowledge must be a state of mind or a mental disposition of some kind" (Teichman & Evans, 1995). This Thomistic distinction does not satisfy the quest to know how AI robotic knowledge is formed. Nevertheless, if it is admitted that "robotic mind" is a "logical construction" out of psychic events (Copleston, 1964:109), this would mean that such minds are derived from the association of "incomplete symbols" (or algorithmic symbols) to respond to a particular need. This gives room to speculate about "configured knowledge" as a condition for talking about AI knowledge. It is necessary to state that "configured knowledge" cannot be put at the same level as acquired knowledge. Acquired knowledge is properly human and could be

shared by animals. It is characterized by trial and error. The importance of this knowledge in theology reveals not just the limitation of human beings, but also the possibility of being assisted by divine grace for the salvation of mankind. Through grace, human beings can hope to see God and to know God as he truly is; whether "configured knowledge" or "robotic knowledge" can be helped by grace is not within the limits of this study. Christian believers may not consider AI as a breakthrough to the reality that human beings who cannot know God by natural reason (S.T. V.1, q. 13, a. 12), may now know God through AI.

What Constitutes Knowledge?

The question of what constitutes knowledge has been at the core of the arguments since Plato to Kant. Concerning AI knowledge, the debates open diverse questions: Do AI have future knowledge? Is the nature of robotic knowledge acquired (material), infused (immaterial/mixed) or beatific (purely immaterial/spiritual)? To be precise, one can ask what AI knows. Can they know God and angels? The above questions essentially intend to establish "that all abstract ideas are human inventions. Only human beings are aware of abstract ideas as far as we know" (Teichman & Evans, 1995:72). In other words, AI robots do not have the ability for abstraction. The discussions focus on whether knowledge is innate or not. Admitted knowledge is composed of ideas, impressions, and reason, depending on one's school of thought, such composition permits one to talk about what the knower (subject) knows or the object of knowledge. The empiricists and the rationalists may agree that "ideas" constitute human knowledge but differ concerning their origin. The former (also known as the sensationalists and materialists) hold that ideas are representations coming to the mind through the senses. Hume, one of its advocates thinks that "abstract ideas are individual or particular in themselves if the idea is an image or copy, it must be particular" (Copleston, 1964:77). The latter (also known as the rationalists, idealists and spiritualists) claim that ideas are innate and are imprinted in the human mind by a supreme being (Copleston, 1977:25). Those who defend this position reject the claims of the empiricists.

Contrary to the perspectives of the different schools of thought just mentioned, Saint Augustine described knowledge in terms of immutable ideas (Book 7, chapter 17). This form of knowledge is more spiritual than physical and marks a shift from the Manichean's definition of knowledge which was based on knowledge of material substance and material truth of this world. The spiritual form of knowledge permits human beings to know God as the only Substance that cannot change and to know other forms of spiritual realities. While the knowledge of oneself is by intuition, that of God is by demonstration. However, it can be said that it is not enough to explain that human beings know or have the idea of the existence of other things by sensation, those things should be capable of operating upon human beings (Copleston, 1964). The ability of other things to operate in human faculties is known as "intelligibility". But how do things become intelligible in a divine and human mind? Do things differ, or are they the same in the form in which they exist in the mind of God and created minds (human mind)? If for instance, "sensible things, have an 'archetypal and eternal' existence in the divine mind and an 'ectypal or natural' existence in created minds" (Copleston, 1964), in what form do they exist in AI? There are implications of claiming that AI know things by their very substance or by species. Essentially, this would equate them to angels because "Angels know things according to His own nature, the words 'according to' do not determine the medium of such knowledge, since the medium is the similitude of the thing known; but they denote the knowing power, which belongs to the angel of his own nature" (S.T. V.1. q. 55, a. 1). On the one hand, it is good to state that divine and created

minds differ in the forms in which they know things. On the other hand, it is easier to admit that "stored data" is the form of robotic knowledge. But by what medium is the data stored, and in what element is it stored?

Going back to the idea of innate knowledge, Plato thought that human beings were born with certain pre-existing forms of knowledge. Although Locke, Hume, Kant and Chomsky differ in their explanation of innate knowledge/idea their description of God, infinity and substance may be accepted as convergent. But on what basis can innate knowledge or ideas be compared to "stored data?" Can "stored data" know immaterial things and spiritual realities like God and Angels? For Angels to know immaterial things presupposes that they have souls and spirits. Studies are yet to demonstrate that AI have souls and spirits; by implication, they cannot know themselves and spiritual realities. This also means that AI is not capable of reflexive knowledge. The above observations are relevant in establishing that the composition of human beings as body and spirit disposes them to enjoy mystical knowledge, spiritual knowledge and beatific knowledge/experience. The structural composition of AI does not show that they have a mind, spirit or soul. Therefore, the only knowledge of God and other spiritual realities that could be attributed to AI is in the form of "stored data" or written algorithms. From the preceding paragraph, it is possible to say that AI robots do not have real knowledge/consciousness of God and other spiritual realities; they do not have reflexive knowledge and may not possibly know themselves. Consequently, the Socratic dictum "man know they self" cannot be applied to the being or functionality of AI. Even if AI knows spiritual beings, the medium by which they possess such knowledge cannot be natural but artificial. If it is admitted that there can be no error in the way God knows things and that spiritual beings like angels and Saints possess a high degree of perfection lower to God, such cannot be said about human knowledge. Some factors cause human knowledge to fall into error. These factors could be biological and psychological. St Thomas Aquinas subjected the senses and intellect to the test of truth and gave examples of how the senses and intellect could fail. In the case of AI, should falsehood be attributed to the functionality of the sensor / "hard disc", or to the operation or manufacturer of the AI?

Meanwhile, this study is of the view that what constitutes robotic knowledge should not be understood or interpreted as knowledge in the same way we can talk about divine and human knowledge. The distinction between divine knowledge, human knowledge and angelic knowledge has set precedence on how to distinguish the differences in what constitutes knowledge. Memory is an integral constituent of human knowledge. The content of human knowledge is stored in the memory. For David Hume, "memory preserves not only simple ideas but also their order and position" (Copleston, 1964:73). However, human memory cannot be equated to "stored data" or memory devices in a digital system like a computer. This is because the process of storing data is different. This makes it pertinent to examine the process by which we arrive at knowledge in general and AI knowledge in particular. What is the traditional means of acquiring knowledge? What is the process by which AI acquires knowledge?

Process of Knowledge

An important question concerning the process of the acquisition of knowledge is whether knowledge is gained through reason or the senses. These are two extreme positions concerning the process of knowing a subject or a thing. In any case, the formation of "idea" is central to both rationalists' and empiricists' epistemology. For rationalists like Descartes,

Spinoza and Leibniz, ideas are formed through the use of human reason and intellect. They believe that "ideas" are formed by the mind independent of any experience, and that innate ideas and mathematical truths are only discovered and harmonized by human intellect. While empiricists like Locke, Berkley and Hume think that "ideas" are formed through sense experience. The empiricists argue that ideas result from the impression of things in the human mind. "An idea is considered to be the principle of knowledge and action by ideas are understood the forms of things, existing apart from the things themselves" (S.T. V.1. q. 15, a. 1). The question of how ideas are formed raises pertinent questions concerning the ability of AI robots to form ideas. Does AI have minds capable of forming ideas? Is AI capable of retaining the forms of things that are not previously written algorithms? Moreover, the capacity to form ideas (general ideas, complex ideas, abstract ideas) varies in adults and children. Berkeley (2002:2-3) focuses on how the mind forms "ideas" by observing and perceiving in particular extensions by the sense. Contrary to Berkeley's point of view, a Thomistic attempt to respond to the preoccupation of how ideas are formed would likely reconcile the extreme views of the rationalists and empiricists on the one hand, and also open a discussion on how to understand the process of robotic knowledge on the other hand.

Accordingly, the process of knowledge in Aquinas's theory of knowledge could be properly understood based on the analysis of the relationship between the subject and object. For him, bare-sense knowledge of things cannot give intellectual knowledge. One can arrive at intellectual knowledge when there is the union of the knowing subject with some known object other than itself. Besides the knower and the object known, the mental act of knowing (cognition) plays a significant role in the process of knowledge. When a human being comes in contact with a table, for instance, the active intellect removes the colour, the weight, and the density of gold, from the image received from the senses. Abstraction in this sense involves isolating elements that characterize a table so as to arrive at a knowledge of something hard, that has a flat surface and other essentials that qualify the object to be called a table. This is a means of determination or truly arriving at a proper knowledge of an object. According to Aquinas, "to know what is in individual matter, not as existing in such matter, is to abstract the form from individual matter, which is represented by the phantasm" (S.T. V1. q. 85, a. 1). This is a form of acquiring immaterial knowledge of things. But how does one know whether the faculty of abstracting ideas can be found in AI? Whether abstraction is considered as "composition and division, as when we understand that one thing does not exist in some other, or that it is separate from it" or "by way of simple and absolute consideration, as when we understand one thing without considering the other" (S.T. V1. q. 85, a. 1), it is difficult to ascertain the ability of AI robots to gain knowledge by abstraction. Is AI endowed with a "mind"? This question may sound unreasonable because the mind is important in forming ideas. Copleston's (1964:39) position concerning the role of the mind was very affirmative; according to his point of view, the mind "is a 'congeries of perceptions'. Take away perceptions and you take away the mind; put the perceptions and you put the mind". Hume and Berkeley may disagree on how ideas are formed; even Locke's idea, which appears to be similar to that of Aquinas' theory of truth, has some limitations, especially when "experiential knowledge" is considered. Experiential knowledge does not stand in any form of relevant relation of agreement or disagreement with other ideas we have (Lowe, 2005:53-54). It is important to understand in what form an idea (image) of a thing/object exists in the knowing subject. This could furnish good information on how to understand robotic knowledge.

Thomistic attempt to respond to this preoccupation would likely affirm that "in some agents, the form of the thing to be made pre-exists according to its natural being, as in those that act by their nature; as a man generates a man, or fire generates fire" (S.T. V.1. q. 15, a. 1). The ability of AI to possess pre-existing form is limited and artificial. This is because it is dependent on how it is programmed. Moreover, can it be admitted that the nature of pre-existing forms of things in AI is in accordance with their nature? Here is an approach that could guide our response to this question: AI technologies like facial recognition systems, voice recognition systems, and fingerprint image acquisition are all categorized as "biometrics". The effectiveness of biometrics depends on an already existing database. It functions by matching a fingerprint against a database of fingerprints. This pre-existing form is limited and only effective in the "artificial space". This applies to all "self-checkouts," or "assisted checkouts," or even "self-service checkouts" machines in supermarkets. The analysis made about how knowing subjects possess pre-existing forms raises a concern, namely, can AI know God who is infinite? This question is crucial because of the claim that "created intellect knows only existing things" (S.T. V1. q. 12, a. 1). There is no denying that AI are manufactured by human beings who are imperfect, the being of these technologies which claim to function like human beings is composed of algorithms and cannot know God like normal human beings would know God. Irrespective of the configuration and exaltation of AI, they cannot know the essence of God. But if any scientist insists that "fabricated intellect" like the AI could see God, "it would either never attain to beatitude, or its beatitude would consist in something else besides God; which is opposed to faith" (S.T. V.1. q. 12, a. 1). For Aquinas, knowledge is an important characteristic of human beings, but this does not prevent any discussion concerning how spiritual realities are known. For instance, "God knoweth all things as pure mind or intellect" (Copleston, 1964:53). Speaking about the truth and falsity of things, "the philosopher says that the true and the false reside not in things, but in the intellect" (S.T. V.1. q. 16, a. 1). Surely, this concerns the created intellect and not the divine intellect. But a curious mind would ask where the truth and falsity reside in AI. One may be quick to say that by being programmed, "robotic intellect" (artificial intelligence) is different from human and divine intellect.

Conclusion

Having examined the condition of human knowledge, what constitutes it and the process of human knowledge, this study concluded that the possession of five external senses, the intellect and certain cognitive powers are the conditions of knowledge. The knowing subject should be composed of body and soul and should be capable of forming ideas. The lack or inadequate possession of these qualities in AI systems suggests that they do not meet the requirements necessary to talk about AI epistemology, even though AI epistemology in a loose sense can mean the process by which AI knows. This study recognized that "stored data" or written algorithms constitute AI knowledge. The very composition of AI excludes any possibility of infused knowledge and beatific knowledge. The debate concerning the ability of AI to have immutable ideas or knowledge of immutable realities should be put in parenthesis. Even when scientists attribute "acquired knowledge" to AI, it is not without limitations. Another result of this study shows that the process of knowledge in human beings and AI differs. The concept of *pre-existing* form was fundamental in understanding the process of knowledge in AI. However, it is limited, artificial and seems to depend on automation which does not correspond to the natural processes of knowledge that involve thinking and could be situated under the empiricists' or rationalists' views. This study

established that thinking is an essential part of epistemology. This study does not exhaust all the epistemological problems related to AI and knowledge. It has rather opened the possibility for further epistemological and anthropological research which could be concerned with the following questions: what are the approaches to understanding traditional epistemological questions (traditional philosophy) and formal epistemological questions (formal philosophy)? Can we have super AI in the future that can perform more complex and advanced tasks than humans? Can AI ever take over the world and man's place in it?

References

Augustine, Saint. (1966). *The Confessions* (Translated by Bourke, Vernon J. Washington). Catholic University of America Press.

Berkeley, G. (2002). *A Treatise Concerning the Principles of Human Knowledge* (Edited by David R. Wilkins). Dublin.

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

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

Dennett, D. C. (1996). *Kinds of Minds: Toward an Understanding of Consciousness*, New York: Basic Books.

Hyman, A. & Walsh, J. J. (eds). (1973). *Philosophy in the Middle Ages: The Christian, Islamic, and Jewish Traditions*, Indianapolis, Hackett.

Kaufmann, W. (2000). *Basic Writings of Nietzsche* (Translated and edited by Walter Kaufmann). New York, The Modern Library.

Lowe, E.J. (2005). *Locke,* London-New York, Routledge.

Meyer, H. (1944). *The Philosophy of St. Thomas Aquinas* (Translated by Rev. Frederic Clement Eckhoff). New York: B. Herder Books.

Morioka, M. (ed.). (2023). *Artificial Intelligence, Robots, and Philosophy*, Sinjuku-Ku, Tokyo, Journal of Philosophy of Life.

Searle, J. R. (1980). Minds, brains, and programs. *Behavioral and Brain Sciences, 3*(3), 417–424. https://doi.org/10.1017/S0140525X00005756

Teichman, J. & Evans, K.C. (1995). *Philosophy: A Beginner's Guide* (2nd edition). Oxford-Cambridge, Blackwell.

Thomas, Aquinas, Saint. (1948). *Summa Theologica* (Volume *1*. Translated by Fathers of the English Dominican Province), New York: Benziger Bros.

Younas, A & Zeng, Y. (2024). A Philosophical Inquiry into AI-Inclusive Epistemology. *Proceedings of IEEE AICON*: 1-5.