

# Artificial Intelligent Persons: A Case for Philosophical Anthropology

Philip Chika Omenukwa, PhD

Department of Philosophy, Catholic Institute of West Africa

DOI: <https://doi.org/10.47772/IJRISS.2026.100500302>

Received: 06 May 2026; Accepted: 11 May 2026; Published: 29 May 2026

## ABSTRACT

Laudable accomplishments have been made in the recent past in the biological sciences. One of such breakthroughs common to our visual conceptual imaginations revolve around issues bordering on genetic engineering. Particularly important here is the issue of creating a better and even more efficient human beings endowed with unimaginable versatility and thereby creating/producing/manufacturing higher quality human beings by tinkering their genetic constitution and so improve their biological system. However, still with a deeper thirst for higher and more dramatic aspirations, the human mind conceives and brings into fruition a certain intention of a post-biological life, whereby robots or similar objects are infused with artificial intelligence. The goal here is an inauguration of a post-biological life, a spatio-cosmic population of seemingly intelligent creatures without corporeality with an emphatic note of depopulation of natural intelligence, that is, a depopulation of the human beings which some people wrongly consider to be less intelligent than these manufactured robotic creatures. One therefore wonders that even with the apparent exhibition of multivariant supersonic qualities of efficiency and terrific manifestation of intelligence in the execution of tasks, whether these robotic intelligent creatures can be conceived and even be addressed as persons or whether they are still deficient in the possession of the defining qualities characteristic of the human person and attributable to him. It is the intention of this paper to delve into this anthropological concern and so lend a voice in resolving the tensions in-between.

**Keywords:** Human Person, Intelligence, Artificial Intelligence, Self-transcendence, Relationality

## INTRODUCTION

Quite recently, the human created machines have taken over some if not most of the activities of humans thereby redefining a lot in our interpersonal relationships, inaugurating novelties in our work industry, striking new deals in our economic plannings, and tending to dominate attention in things like transportation, healthcare, education, politics. These machines have even been judged by some as contributing immensely in the state of the art technological advancement. However, even with all of this, one wonders whether it could be judged proper to consider this artificially intelligent human creation as persons, especially as they undertake functions and roles specifically unique to the constitution of the human persons and surprisingly may even be more effective than the human persons in some circumstances. Any answer in the negative or positive has consequences for philosophical anthropology.

Considering therefore the defining characteristics of the AI as well as the constitutive embodiment of the word “person”, effort will be made in this paper to lend a voice in resolving the tension in-between. To do this, the paper will first consider what it would be when the artificial intelligence is talked about, and what is meant by the adoption of the term person. The qualities that make up the ascription of a being as a person will be discussed with an eye to discovering whether the robotic artificial intelligence duly qualify to be classified as such. And if the answer is in the negative, then the description of a machine as artificial intelligent person will not be acceptable within the confines of philosophical anthropology. The methods to be adopted in this study will be majorly expository, descriptive and analytic.

## Understanding the term “Artificial Intelligence”

Issues bordering on “artificial intelligence has become a normal household name in many circles today. It was at the Dartmouth Summer Research Project on Artificial Intelligence that John McCarthy is alluded to have

originally coined the expression Artificial Intelligence (AI) and consequent upon this, he is considered as the father of artificial intelligence.<sup>1</sup> Then in 1957, an introduction of the “Perceptron” model was made by an American psychologist, Frank Rosenblatt.<sup>2</sup> At the earliest beginning of AI research, attention was basically directed at computers with a notable concentration of striking an emphatic comparative analysis between the computing operational systems of the machine and the constitutive functional operations of the human mind.<sup>3</sup> Particularly interesting within this period is the undertaking of laudable projects ambitiously informed on breaking new scientific grounds in the AI project, but unfortunately without the attainment of their ambitious projections or the declared goals and intents. Some of these ambitious projections in the AI project include; “General Problem Solver”<sup>4</sup>, “the Fifth-Generation Computer Systems”<sup>5</sup>, and “the Strategic Computing Program”<sup>6</sup>. The failure to realize their declared ambitious projections was not without its consequence, since the failure according to Wang Pei “led to widespread doubt about the feasibility of the ‘grand dream of AI,’ and contributed to the following ‘AI Winter.’”<sup>7</sup> However, the passion never died, but necessitated a change in approach and method. Thus “driven by motivations including to avoid the impossible missions, to obtain the necessary resources, and to improve its public image, the AI community shifted its aim to more realistic tasks, like solving practical problems and carrying out individual cognitive functions.”<sup>8</sup>

Every scientific and technological breakthrough has a direct impact on the human social structure, moral constraints, laws, and education. This is always discoverable in the historical study of such scientific and technological developments.<sup>9</sup> The Artificial Intelligence being one of such modern developmental breakthroughs is found within the ambient of this reality. The passion for either higher productivity or curiosity may have been the underground motivation for the birth of Artificial Intelligence and a research in this direction according to Jian Yuchen has been ongoing for over 65 years with laudable achievements especially on the theoretical and consequent applications on real-world praxis and engagement.<sup>10</sup>

Simply put, “artificial intelligence (AI) is, therefore, the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project

<sup>1</sup> The emergence of the question of the possibility of creating a machine that could mimic a human being stirred up the inception of the idea of the AI. The Turing Test provided a platform in which scientists across globe to brainstorm on this particular issue, in what is today called the “Dartmouth Workshop” in 1956, which made them to be considered as the frontrunners and founders of AI. Some of these scientists of renowned pedigree include: John McCarthy, Marvin Minsky, Allen Newel, and Herbert Simon, etc. The nomenclatural designation AI is reputedly indebted to this conference. The participants to this conference were of the opinion that “every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can be made to simulate it.” Cf. Russell, Stuart J., and Peter Norvig, *Artificial Intelligence : A Modern Approach*, 4<sup>th</sup> ed. Pearson Series in Artificial Intelligence, Hoboken, NJ: Pearson, 2021, 8)

<sup>2</sup> Freund Y, Schapire RE. Large margin classification using the perceptron algorithm. *Mach Learn.* 2000;37(3):277–96. The “perceptron” model can be used to “build a system that uses “neurons” for recognition – the capability of learning profoundly impacted the subsequent design of neural networks and the connection mechanisms. The pioneering work on the perceptron is still a trendy topic in the introductory courses for AI today. In 1960, the perceptron algorithm was transmitted to a physical hardware implementation called “Mark 1 Perceptron” as the artificial brain, consisting of an array of perceptrons, connected to a camera.” (Cf. Jian, Yuchen, et al. “Quo vadis artificial intelligence?” *Discover Artificial Intelligence* 2.1 (2022): 4. See also Hay JC, Martin FC, Wightman CW. The mark-1 perceptron-design and performance. *Proc Inst Radio Eng.* 1960;48(3):398–9

<sup>3</sup> Turing, A. M. 1950. Computing machinery and intelligence. *Mind* LIX:433–460; McCarthy, J.; Minsky, M.; Rochester, N.; and Shannon, C. 1955. A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence. URL: <http://www-formal.stanford.edu/jmc/history/dartmouth.html>, accessed in May 20, 2019; Feigenbaum, E. A., and Feldman, J., eds. 1963. *Computers and Thought*. New York: McGraw-Hill.

<sup>4</sup> Newell, A., and Simon, H. A. 1963. GPS, a program that simulates human thought. In Feigenbaum, E. A., and Feldman, J., eds., *Computers and Thought*. McGraw-Hill, New York. 279–293.

<sup>5</sup> Feigenbaum, E. A., and McCorduck, P. 1983. *The Fifth Generation: Artificial Intelligence and Japan’s Computer Challenge to the world*. Reading, Massachusetts: Addison-Wesley Publishing Company.

<sup>6</sup> Roland, A., and Shiman, P. 2002. *Strategic computing : DARPA and the quest for machine intelligence, 1983-1993*. Cambridge, Massachusetts: MIT Press.

<sup>7</sup> Wang, Pei, “On defining artificial intelligence,” in *Journal of Artificial General Intelligence* 10.2 (2019): 1-37, 4.

<sup>8</sup> Wang, Pei, *Ibid*.

<sup>9</sup> Jian, Yuchen, et al. “Quo vadis artificial intelligence?” *Discover Artificial Intelligence* 2.1 (2022): 4.

<sup>10</sup> Jian Yuchen provides further details for the validation of this claim by insisting that AI has become a household name and is daily engaged in almost every human encounter and is further considered as a major skill for future scientific and technological advancement. According to Yuchen, “the AI market is projected to grow to \$190 billion by 2025, at a CAGR (compound annual growth rate) of over 36% between 2018 and 2025” (Cf. Jian Yuchen, *Ibid.*, see also, Market research report, markets and markets, report code: TC 7894, May 2021. <https://www.marketsandmarkets.com/Market-Reports/artificial-intelligence-market-74851580.html>.

of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from experience.”<sup>11</sup> Even with the different understanding of the functionality of the emphasis is all the same seen to be laid on its research questions and projected theories, its methods of approach, the technologies it engages and the eventual applications for the tendential simulation, extension and expansion of the human intelligence in very unique but similar processes and engagement.

Notwithstanding the initial setbacks, AI studies has in recent times enjoyed a unique renaissance or reawakening consequent upon the success new techniques offered like deep learning and by partly acknowledging the factualness that progress cannot easily be made by a brute neglect of old problems but a certain readjustment to the reality they impose. Resultantly, old problems have assumed new expressions with the intention of responding meaningfully to conventional demands. On this, one witnesses such new introductions like “Human-level AI”<sup>12</sup>, or “Artificial General Intelligence”<sup>13</sup> or even “Strong AI”.<sup>14</sup> However, if a machine is made to undertake functions traditionally understood as fundamentally exclusive to humans, does that not give one a strong leverage to consider these machines whether robots or computer programmed or anything within their neighbourhood as persons in its proper sense and descriptions? Well, before delving into this discussion, a cursory explanation of what this concept “person” is and entertains as its constitutive embodiment is inevitable.

### Person within the Purview of Anthropological Concerns

In the effort to articulate a much more comprehensive name that addresses the being of man, the usage of the term “person” presents itself as quite precise and unequivocal in expressing man’s entire reality.<sup>15</sup> Granted this terminology has undergone historical transformations, especially between the pagan and Christian culture, or even in both Greek and Latin culture, but the definitive meaning it has assumed by the influence of the Christian culture has stayed till today and will basically constitute the point of discussion of this paper. Here, characteristics like singularity, uniqueness, unrepeatability, substantial equality in dignity of every member of the human species become dominant in the consideration of the ontological constitution of the human person.<sup>16</sup>

Nevertheless, even with the Christian influence on the usage of this terminology, variations in meanings have become apparently noticeable in the modern times. It appears that there is a conscious struggle to strip the word “person” its Christian-influenced-traditional constitutive characteristics of uniqueness, unrepeatability, absolute value, and sacredness of the individual, and to be replaced with mere sociological meaning. This attempt is certainly not without its consequences, which Battista Mondin captures as follows: “this means that according to the post-Christian culture of our times, a person is only he who is recognized as such by society: he who receives from the society the recognition of belonging to the human species. The sense of the word ‘person’ is, therefore, no longer that of the human reality in itself, but rather that of a social convention, an identification card, a disguise.”<sup>17</sup> This peculiar mindset will inadvertently classify anything that might be humanlike and that could perform any of the human anticipated functions as humans and the AI will certainly be included in such classifications as humans.

Certainly, this is exactly the problem that could emanate which this paper attempts to address. If, as it is stated above that a person derives its legitimacy of beingness merely and by extension exclusively from the societal recognition and not again by the fundamental assumptions of the possession of the qualities already enumerated

<sup>11</sup> Ikechukwu Anthony Kanu, Pilani Michael Paul & Philip Chika Omenukwa, “Philosophy of Artificial Intelligence, Biblical Wisdom and the Exodus (31: 1-11) Narrative: Converging Perspectives,” in Tuijin Jishu/ Journal of Propulsion Technology, vol. 45, No. 3, (2024), 3030-3044, 3033.

<sup>12</sup> Minsky, M.; Singh, P.; and Sloman, A. 2004. The St. Thomas common sense symposium: designing architectures for human-level intelligence. *AI Magazine* 25(2):113–124; See also Nilsson, N. J. 2005. Human-level artificial intelligence? Be serious! *AI Magazine* 26(4):68–75; McCarthy, J. 2007. From here to human-level AI. *Artificial Intelligence* 171:1174–1182.

<sup>13</sup> Goertzel, B., and Pennachin, C., eds. 2007. *Artificial General Intelligence*. New York: Springer. See also, Wang, P., and Goertzel, B. 2007. Introduction: Aspects of artificial general intelligence. In Goertzel, B., and Wang, P., eds., *Advance of Artificial General Intelligence*. Amsterdam: IOS Press. 1–16.

<sup>14</sup> Searle, J. 1980. Minds, brains, and programs. *The Behavioral and Brain Sciences* 3:417–424.

<sup>15</sup> Battista Mondin, *Philosophical Anthropology, Man: An Impossible Project?*, Bangalore, Theological Publications in India, 2016, p.243.

<sup>16</sup> Mondin, *Ibid.*, 244.

<sup>17</sup> Mondin, *Ibid.*, 245.

above, then the robotic products of great intelligence and the computer enhanced products which could perform some human functions could be rightly considered to be persons in this calculation. In this case, as is already noted above, the word ‘person’ will immediately assume meaning strictly by social convention informed by the sense of utility and societal use and relevance basically in pragmatic considerations.

Of course, this is not without some grave consequences, since these semantic transformations portend “an unequivocal sign of the profound crisis cutting across modern culture, a crisis that truly merits the name of epochal crisis which is often assigned to it.”<sup>18</sup> The solution to this crisis can be located within the ambient of metaphysics and religion with an eye on the questions bordering on philosophical anthropology and the issues around and about it, bearing in mind the premium they place on the absolute values, which includes as it were the discussion on the person and the grounds to be qualified as such. Consequent upon this crisis and other related issues, the very first question that deserves serious attention borders on what constitutes the beginning of a person. Simply put, when does a person begin?

This is not a new question in philosophical anthropology. Lynne Rudder Baker has already written an article in 2005 with the caption; “When does a Person Begin?”<sup>19</sup> In his reflection, he noted that the answer to the question is discoverable in the reality of what a person is. According to him, “If an entity is a person, what kind of being, most fundamentally, is she? Since the persons we are familiar with are human persons—persons with human bodies—one may simply assume that what we human persons are most fundamentally are animals. I agree that it is often useful to think of us as animals—as long as we are thinking biologically, rather than ontologically. However, on my view, our animal nature, which we share with other higher primates, does not expose what we most fundamentally are.”<sup>20</sup> Here, he draws a premium not on the biological constitution which the human being shares with other biological creatures, but on the ontological constitution with which the human being is endowed. And this according to him, makes the human being a unique creature. Sequel to this reality he avers: “I believe that we are fundamentally persons who are constituted by human organisms.”<sup>21</sup>

Already, Augustine has analogically applied this term to man by stating that “every single man is a person – singulis quisque homo ... una persona est”<sup>22</sup> With this, he stresses the fact of singularity and individuality as basic constituents of the person. So in this wise, person simply begins from the moment of conception but with a note of individuality, uniqueness and unrepeatable reality. This therefore constitutes a point of differentiation between persons and other primary<sup>23</sup> and secondary<sup>24</sup> created realities both animate and inanimate. This point is well captured by Lynne Rudder in another form when he said: “What distinguishes person from other primary kinds (like planet or organism) is that persons have first-person perspectives. Just as a statue is not a piece of clay, say, plus some other part, so too a human person is not a human organism plus some other part. The defining characteristic of a person is a first-person perspective. Human persons are beings that have first person perspectives essentially and are constituted by human organisms (or bodies).”<sup>25</sup>

The definition of a person offered by Severin Boethius provides a profound ontological consideration of a person. According to him; “persona est rationalis naturae individua substantia”<sup>26</sup> which can be translated as “the person is an individual substance or a rational nature.” The defining factor here is not simply individuality, nor nature nor substance but the fact of rationality, since other creatures possess these other three qualities. The fact of rationality aligns itself with both the Aristotelian and the Thomistic position. Thomas for instance simplified the Boethian definition by describing the person as the “subsistens rationale” “a rational subsistent”<sup>27</sup> The person in this consideration points to the summation of the individual being as a conglomeration of both matter, soul (as

<sup>18</sup> Mondin, Ibid., 245.

<sup>19</sup> Baker, Lynne Rudder. "When does a person begin?." *Social Philosophy and Policy* 22.2 (2005): 25-48.

<sup>20</sup> Baker, Lynne Rudder, Ibid.

<sup>21</sup> Lynne Rudder, Ibid., 25.

<sup>22</sup> Augustine, De Trinitate (On the Trinity) VII, 6, 11.

<sup>23</sup> Primary created realities are considered here to be naturally primary creatures without any mediation of any sort. They are not at all caused by human agents like man, lion, ants, dogs etc.

<sup>24</sup> Different from the primary creatures, the secondary creatures are mediated realities. They are the products of the human ingenuity and creative prowess like robots, computers, tables, chairs, cars and so on.

<sup>25</sup> Lynne Rudder, Ibid., 28.

<sup>26</sup> Boethius, Contra Eutichen et Nestorium (Against Eutichen and Nestorium), c. 4.

<sup>27</sup> Thomas Aquinas, Summa Theologiae 1, 23, 3)

the substantial form) and the act of being (actus essendi) as the accidental forms. Mondin, following from Aquinas<sup>28</sup> maintains that the actus essendi endows the person with the property of incommunicability; by virtue of which it becomes complete in itself, and an ontologically closed entity.<sup>29</sup> The fact of incommunicability causes in the person a profound distinguishing character both from essence and nature.<sup>30</sup> The thoughts of Romano Guardini brings the ontological idea of person very clearly in a seemingly forceful, elegant and fineness presentation. In his opinion, “person means that, I, in my being, definitively, cannot be inhabited by any other, but that in relation to me, I am only with myself; I cannot be represented by any other, but I am guaranteed to myself; I cannot be substituted by any other, but I am unique – this remains closed even if my sphere of reserve is strongly damaged by intrusions and exteriorizations.”<sup>31</sup> Here, the constitutive embodiment of person stretches beyond mere interiority of life, the acquisition of knowledge, the performance of action, or even the creation of the spirit, etc, but that “man remains in himself ... this means that the fact of being able to and of having to exist in himself.”<sup>32</sup>

Not all philosophers admit of a strict exclusive ontological constitution of person. Descartes for instance refrained from towing the line of ontology which for him is burdened with the load of metaphysics, but rather advanced his argument on the line of gnoseology. In this wise, the autonomy of being characteristic of the ontological argument was replaced with an emphasis on man’s relation to self-consciousness. Descartes’ argument is well brought out in his “cogito, ergo sum” in which “the ‘I’ consists in self-consciousness. The uniqueness of the person in his presentation is given precisely by this infallible testimony, which cannot be negated even by the most powerful and insidious demon.”<sup>33</sup> Mondin describes such arguments like the one of Descartes as a psychological definition of the person, which he considers to be absolutely unsatisfactory and can be very risky when properly analysed for two reasons: “First, because if one does not succeed in positively resolving the problem of doubt, then the definition of person remains blocked; second, because identifying the person with self-consciousness leads to the concession that he who does not exercise self-consciousness remains deprived of personality; in such a way, babies who have not yet reached the age of reason, the sleeping, and the comatose would no longer be or would not yet be persons!”<sup>34</sup>

In the modern age, a seemingly discountenance with the ontological consideration of person and an option for the psychological consideration is demonstrated in the philosophies of Descartes, Hume, Freud, and Watson. To be classified among this group is even the most exasperating ones like the opinions of Fichte, Hegel and Nietzsche. The abandonment of the ontological consideration of the person for a psychological consideration unleashes grave consequences both on the political and the social spheres. According to Mondin, “monstrous atrocities such as the extermination of the Jews and Palestinians, racial discrimination, the manifold manipulations of man through science and technology, barbarous and iniquitous laws such as the legalization of abortion, etc., are due not only to human wickedness, but also to the dissolution of the concept of the person on the philosophical plane.”<sup>35</sup> This new reality that embodies a gross tendency to a unique barbarism in the interpersonal relations among humans has inadvertently pressured the modern man to rethink his convictions and restrategize his projections for a more enhanced dignity and value of the person. This, thus gives birth to the dialogical concept of the person which is duly reflected in the philosophies of Mounier and Martin Buber. Here, man’s relationship with his fellows receives premium consideration and fundamentally valued as more essentially necessary and valuable than with things that do not belong to the human family. Indeed, Mondin summarizes what he considered to be the essential properties that influence the considerations of philosophers

<sup>28</sup> Thomas suggests that the person enjoys a threefold incommunicability. According to him: “first of all, the individual who is a person cannot communicate with other things as a part, being a complete totality; then, he cannot communicate as the universal communicates with the individuals, in that the person is something assumable, because that which is assumable passes in the personality of the assumer and no longer has its own personality. Instead, the capacity of assuming does not go against the concept of person.” Cf. In III Sent. (Commentary on the Sentences), 5, 2, and 2m.

<sup>29</sup> Mondin, *Ibid.*, 248.

<sup>30</sup> In III Sent. (Commentary to the Sentences), 5, 1, 3.

<sup>31</sup> R. Guardini, *Welt und Person* (World and Person), Werkbund, Würzburg, 1939, 122-123.

<sup>32</sup> *Ibid.*, 128-129.

<sup>33</sup> Mondin, *Ibid.*, 251. Mondin further observes that the departure or transition from the ontological to the psychological consideration caused by the cartesian approach paves the way for deep diminutions reflected in the thoughts of Hume, Freud, and Watson or grave exaggerations noticeable in Fichte, Hegel, and Nietzsche in the conceptual articulation of person.

<sup>34</sup> Mondin, *Ibid.*, 251.

<sup>35</sup> Mondin, *Ibid.*, 252-253.

that are insistent on the dialogical concept as the defining factor in the worth and value of person as vocation, action, and communication.<sup>36</sup>

Beyond the dialogical view of the person is what could be considered as the global concept of the person. This embodies a synthesis of both the ontological, psychological and the dialogical views especially in the assimilation of that which is considered to be positively illustrative of the object of attention: the person. Nevertheless, the ontological view presents itself as more expressive in that which is more constitutively indispensable in the articulation of the concept of the person. Very clearly, according to Mondin, “without the autonomy of being, without subsistence, all the rest (self-consciousness, freedom, communication) can be shipwrecked in the ocean of the impersonal)”<sup>37</sup>. Particularly important is the fact that man cannot easily be dichotomized without grave harm and ontological damage. The ontological, psychological and dialogical concepts of the person possess profound characteristics of the person when considered together, and to be necessarily added to this according to Mondin is the quality of self-transcendence, because “it is in this quality that the sense and the value of man is expressed”<sup>38</sup>

Consequently, with the global concept, four fundamental elements present themselves as the defining characteristics of the person: autonomy of being, self-consciousness, communication, and self-transcendence.<sup>39</sup> Explaining this further, Mondin asserts: “Man is not simply an ex-sistent (Heidegger), or a co-existent (Buber), and not even just a subsistent (Boezius), but he is a transcendent. He is a project tending towards the infinite who constantly leaves himself behind in all that he is, all that he does, and all that he knows. Man is gifted with an intentional aperture (be it in knowledge or in will) that carries him to a systematic self-transcendence in all directions.”<sup>40</sup> So to be a person, the quality of subsistence must be noted, since it endows man with the ability of differentiating himself from others. To be included as well is the quality of self-consciousness, since it enables one to recognize himself as a unique and unrepeatable entity that is at the same time free, social, and perfectible. Equally by the fact of communication, man engages and is engaged by other existential realities and through self-transcendence man is enabled to surpass his immediate spatio-cosmic reality to embark on a voyage to assuage the deeper yearnings of his inner self and so get over the limitations of space and time by attempting to penetrate the realm of the absolute and eternal.<sup>41</sup>

The penetration of the absolute or even a tendency towards it, points to the fact that man is in himself not the absolute but a being that tends towards the absolute. The tendency to the absolute makes man in this wise not an absolute as a person, not the supreme being, not omnipotent, or infinite or immortal, but as an absolute as a value. According to Mondin, “this is an obvious truth to which all humanism are disposed to subscribe.”<sup>42</sup> Devoid therefore of any contradiction, the human person, though constitutively fragile moves his gaze upwards in that singular stride of yielding to a profound self-transcendence that basically defines his composition as a person. And so while not being an absolute person, the human person has an absolute value because “he proceeds from He who is absolute (both as a being and as a value) and who has wished that a contingent being participate in his absolute value.”<sup>43</sup> By implication therefore, the absoluteness, of the man-value becomes derivative and participatory and never originary, because behind and beyond the human absolute is the divine absolute which gives legitimacy and validity to the human absoluteness. Summarily, one can say that “the God-value guarantees with his love, generosity, liberality, and compassion the man-value, and he does so not only during the historical phase of terrestrial life, but will also do so in the transhistoric phase of eternal life: by virtue of the immense goodness of God every man is a perennial, eternal value.”<sup>44</sup>

## Building a Community of Persons and not a Community of Artificial Intelligences

<sup>36</sup> Mondin, Ibid., 254.

<sup>37</sup> Mondin, Ibid., 256.

<sup>38</sup> Mondin, Ibid., 256.

<sup>39</sup> Mondin, Ibid., 256.

<sup>40</sup> Mondin, Ibid., 256.

<sup>41</sup> Mondin, Ibid., 257.

<sup>42</sup> Mondin, Ibid., 257.

<sup>43</sup> Mondin, Ibid., 258.

<sup>44</sup> Mondin, Ibid., 258.

Already in the dialogical consideration of a person, an emphasis is placed on the fact of community as efficient point of the discovery and demonstration of the constitutive character of person as a being in relation with others. Although, as is pointed out, this communitarian aspect of the human person does not in any way exhaust the entire constitution of the human person, but it all the same points to the community aspect of the human person as inevitable in the entire consideration of the person. It must be noted that the dynamism that is organically attributable to the human community is not at all mechanical, but one that organically springs from within individuals as beings in search of others in a social environment.

With the happening of the second world war, philosophers like Martin Buber, Carol Woyjtyla, Emmanuel Mounier and others have given greater emphasis to relationality as a profound quality of the character of the human person. In this, “they see the need for the other in human dealings.”<sup>45</sup> In his work, *Le personalisme* (Personalism), Mounier for instance argues against the empiricists, the idealists and as well as all those who harbour and project individualism in reference to the human person.<sup>46</sup> To that, Mounier asserts: “I cannot think without being and be without my body: by means of my body I escape from the solitude of a thought which would only be the thought of my thought. Refusing to concede a complete transcendence to myself, the body continually projects me outside of myself, into the problematic of the world and the struggle of man.”<sup>47</sup> The person therefore is fundamentally structured with an aperture of an inevitable tendency towards his fellows, for this is engrained in his constitutive build. Indeed, the need for the other naturally opens up the deeper yearnings of encounter in a network of relationships that is fulfilling and in which the beingness of the human person is realized and ennobled.<sup>48</sup> And this is completely unachievable by an imaginary creation of AIs.

Making reference to Mounier, Mondin has the following to say “to struggle in favour of the person is, ... the fundamental task of our times. To struggle for the person means to struggle against those innumerable forms of alienation which risk annihilating man and putting him into a rule-bound conformism and destroying him spiritually.”<sup>49</sup> And because the AI lacks the fundamental organic coherence that is considered to be spiritual and inevitably relevant in this circumstance and is judged necessary for the creation of a community, makes it basically impossible for even the assemblage of many AIs to be considered as a community of persons. Thus, Mounier further specifies, that “to struggle for the person means at the same time to struggle for the community, because the true community is the personal one where the most profound bond is in the interiority of the incarnate existences living in communion, vibrating in unison, and tending to the realization of a justice that frees millions of the suffering and the poor from debasement and humiliation. The community of persons is the community of the neighbour, of the ‘I’, and of others capable of realizing a ‘we’.”<sup>50</sup>

Drawing further from Martin Buber’s contribution on the dialogical concept of the person, one observes Buber’s countering of a preferential rapport that man could have with things (AI inclusive) as either equal or superior to his relationship with his fellow humans as simply unacceptable. That is to say that “Ich-Es = I-it” can never replace or judged higher than the “Ich-Du = I-thou”. While the former denotes the character of possession and monopoly, the latter possesses essentially the character of dialogue. Nevertheless, there are other distinguishing factors perceivable in the two different types of rapport, of which encapsulated in the “Ich-Es are experimentation, objectivity, and utilization and free will, and in the “Ich-Du” the character of encounter, presence, love, freedom, and being become expressive.<sup>51</sup> Indeed, “in the Ich-Es structure, man lives on the shoulders of things, alters them, uses them, possesses them, governs them, and when he also assumes this behaviour towards his peers, then the He and You also becomes a species of the “thing-person”, with which one disposes as one wishes. “I will be your slave and your thing”, declares Electra to Jove in one of the dramas of Sartre.<sup>52</sup> This, according to Buber, is the emblematic expression of the Ich-Es rapport: the person is no longer a person, but is treated as a thing. Buber admits that “without the It man cannot live. And yet he who lives only

<sup>45</sup> Philip Omenukwa, “Man is Narrow but Vast – Ethnicism and Its Presuppositions: An Anthropological Appeal to the Fundamental Constitution of the Human Person” in *Journal of African Studies and Sustainable Development*, vol. 7, No. 1., 2024, 103-123, 120.

<sup>46</sup> Mondin, p. 253.

<sup>47</sup> Mondin, *Ibid.*, 254.

<sup>48</sup> Philip Omenukwa, *Ibid.*, 120.

<sup>49</sup> Mondin, *Ibid.*, 254.

<sup>50</sup> Mondin, *Ibid.*, 254-255.

<sup>51</sup> Cf. M. Buber, *I and Thou*, tr. Eng., Clark, Edinburgh 1937, p.34.

<sup>52</sup> See M. Buber, *I and Thou*, tr. Eng., Clark, Edinburgh 1937, p.34.

with the It is not a man”<sup>53</sup>. It is indeed man, and therefore also the person, who interests himself with another in such a way as to completely understand and respect his ‘I’: “I have my origin from my relationship with the Thou: when I become ‘I’, then I say Thou.”<sup>54</sup> The AI can be likened to the “it” that is essentially created for usage and unlimited manipulations. Basically, it is the human person that creates and allocates functions to the AI within the limits of its created and structured efficiency, and so can at best be related to on the level of the “Ich-Es” characterization. It must be noted that the AI is merely an imitation of a human intelligence and therefore has to be accorded its proper place. Being an imitation, it can never be ascribed a superiority higher than the mode from which it is moulded and for which it imitates. The human person assumes in this sense a superior embodiment from which the mode derives its form and construction. Corroborating this point, Wang Pei avers: “AI is conceived as a computer system that are similar to the human mind in a certain sense, though a computer and human mind cannot be identical in all aspects.... This abstraction guides the construction of a computer system that is similar to a human mind in that sense, while neglecting other aspects of the intelligence.”<sup>55</sup> So, in this unique imitation, not all aspects of the human intelligence can in reality be replicated, but only some replicable aspects judged essential in the execution of duties that humans consider relevant and necessary. So in the creation of the community of persons, the AI can be engaged to enhance the human community in the performance of duties humans consider necessary to them at such material times.

### Assessing the Human Person on the Basis of Functional Efficiency?

Jian Yuchen makes a heavy claim about the surpassing of the human intelligence by the AI based on the fact of efficiency in the performance of duties in the following manner: “The research fields of AI include systems and engineering, brain science, psychology, cognitive science, mathematics, computer science, and many other fields. The application fields of AI are extensive, covering (but not limited to) speech recognition, image processing, natural language processing, smart robots, autonomous vehicles, energy systems, healthcare, Fintech, etc. In limited areas, AI has surpassed humans.”<sup>56</sup> Nevertheless, quite interesting is his last assertion, that this is only in limited aspects, thus pointing to the reality of the limited nature of the AI in comparison to the vast quality of the human person.

Furthermore, in his discussion on the rise of AI in the recent studies, some factors were considered by Jian Yuchen as heavily responsible for this upsurge and renewed interest in the AI industry, of which one of the factors according to him bordered on the exhibitiv functional excellence displayed by the AI in multitasking tangibly expressed in its remarkable dominance in comparison to the human ability. In this consideration he states; “... several AI systems that outperformed top human players in contests and competitions impressed the public and rebuilt confidence in AI.”<sup>57</sup> He further explained this with a concrete instance, referencing a quiz competition in 2011, in which the IBM’s AI system Watson won the championship at America’s popular quiz TV show “jeopardy!”. Astonishingly, it was not connected to the internet and had a four terabytes storage that covered 200 million pages of information, including the complete version of Wikipedia.<sup>58</sup> This according to Yuchen “is a remarkable achievement in implementing a machine with joint abilities ranging from information search to knowledge representation, automatic reasoning, and natural language processing.”<sup>59</sup>

To further stress this point, Yuchen presents three arguments in which he expresses hopes that the Machine learning will dominate the human intelligence in a foreseeable future, without giving a determinate period for the actualization of this hope. According to him, firstly, that Machine Learning has been observed to show superiority in learning; from colossal amounts of structured data more than humans, consequent upon the limited memory and brain capacity of humans. Secondly, a visual appreciation of training samples of Machine Learning show good generalization capability. Thirdly, the adjustment of the input-output projections is predicated upon the contribution of each newly available data. The learning process according to him can be realized

<sup>53</sup> Cf. M. Buber, *I and Thou*, tr. Eng., Clark, Edinburgh 1937, p.34.

<sup>54</sup> Cf. M. Buber *Ibid.*, p.11.

<sup>55</sup> Wang, Pei “On Defining Artificial Intelligence,” in *Journal of Artificial General Intelligence* vol. 10, No.2 2019, 1-37, 8.

<sup>56</sup> Yuchen, et al. “Quo vadis artificial intelligence?” *Discover Artificial Intelligence* 2. 1 (2002) : 4.

<sup>57</sup> Yuchen, *Ibid.*, 4.

<sup>58</sup> Yuchen, et al. “Quo vadis artificial intelligence?” *Discover Artificial Intelligence* 2. 1 (2002) : 4.

<sup>59</sup> Yuchen, et al. “Quo vadis artificial intelligence?” *Discover Artificial Intelligence* 2. 1 (2002) : 4.

incrementally, which facilitates an online and life-long learning.<sup>60</sup> But all of these are basically projections of which not even Yuchen knows when they will be realized. Sequel to this, mere projections cannot be considered as factual realities in the style and manner he does it. In truth, the AI holds a promising future for the human race, but only as instruments of labour and therefore cannot enjoy the value and dignity accorded to humans as persons.

There is a write up at the earliest moments of Google's Machine Learning Handbook that states, "If you can build a simple rule-based system that does not require machine learning, do that."<sup>61</sup> This particular assertion evokes various interpretations two of which according to Yuchen could be: "first, as a type of heuristic algorithm, machine learning still cannot achieve guaranteed performance with full interpretability; and second, ML (Machine Learning) may have satisfactory performance (but still, not guaranteed performance) in specific scenarios that rule-based methods cannot."<sup>62</sup> The reason for this borders on the fact that "there are considerable challenges in figuring out all the rules and steps for highly complex problems."<sup>63</sup> And this undoubtedly expresses the limits of the Machine Learning and so cannot be accorded with the quality of omniscience, if that is even the basis upon which the quality of person could be ascribed to it.

There is a basic assumption here especially as it concerns an ascription of superiority on Machine Learning (ML) which when not moderated can trigger one into unwarranted imaginations, one of which is the blatant subversion of the human intelligence by the machine intelligence and learning, and or even to ascribe to the machine (i.e. the AI) the anthropological qualities of the human person and consider it to be a "person" in all its aspects because of the perceived excellence in the performance of duties and multitasking in comparison to the faculties and abilities of the human person.

It must be noted that the modern man, with the happening of the AI is faced with a new reality which brutally imposes its acceptance on the tangible world of today, and so must be accorded a space in his cosmic communitarian living. This is clearly the brute reality of the modern man, who, although the AI is a product of his ingenuity might still be surprised by its evolutionary speed and development and its high complexity in structure, behaviour and decisions and is ambitiously projected to even overtake the activities of the common mind, even though, till date, "engineered systems cannot be modelled to precisely replicate the real-world entities and the physical environment."<sup>64</sup>

Indeed, the successes already recorded in the AI system possess within it some notes of limitedness especially as it concerns the performance of very multicomplex tasks that only humans can undertake. Nevertheless, the reality of a future when humans cannot but be constrained to share with and symbiotically coexist with the AI system has become inevitable in today's existence. But this reality, must be properly analysed to eschew unnecessary exaggeration and an over bloated consideration to the point of substituting humans to the AI system or even ascribing anthropological qualities of a person to the AI objects. Interestingly, "computer programs have plenty of speed and memory but their abilities correspond to the intellectual mechanism that program designers understand well enough to put in programs. Some abilities that children normally don't develop till they are teenagers may be in, and some abilities possessed by two year olds are still out. The matter is further complicated by the fact that the cognitive sciences still have not succeeded in determining exactly what the human abilities are. Indeed the organization of the intellectual mechanisms for AI can usefully be different from that in people."<sup>65</sup> The inability of the cognitive sciences in determining exactly what the human abilities are belongs perfectly to the elusive quality of the human person in reference to his depth, vastness, and indeterminateness in comparison to the nature of AI that is programmed and determined by the creative intelligence of the human person. In any case, humans are to create community of persons in which their worth and value receive profound definition and recognition, ennoblement and accomplishment and not community of artificial intelligences.

<sup>60</sup> Ibid.

<sup>61</sup> Quoted in Jian Yuchen p.4

<sup>62</sup> Yuchen, Ibid., p.4.

<sup>63</sup> Yuchen, Ibid., p.4.

<sup>64</sup> Yuchen, Ibid.

<sup>65</sup> McCarthy, John, „What is Artificial Intelligence.” (2007) <file:///C:/Users/phili/Downloads/What%20is%20artificial%20intelligence.pdf>, accessed on 10-09-2024.

## Concluding Remarks

It has been noted that the word “person” was introduced within the sphere of anthropology for a particular reason; namely for a proper designation of the realities of the being of man. In doing this, very deep and profound characteristics typical of the being of man were highlighted, like singularity, uniqueness, unrepeatability, substantial equality in dignity of every member of the human species thus pointing to the ontological constitution of the human person.<sup>66</sup> But together with the ontological consideration of the human person, the psychological, and the dialogical aspects must all be taken together for a finer assessment. The consequences for a differentiation and so a separation of these aspects of consideration have already been pointed out and similar to these negative effects is the danger of ascribing the value and dignity of person to the AI based on the efficiency of multitasking. Insistence must be made at this point that a wider spectrum of assessment must be made in the ascription of the quality of person to any being. For even if the AI can execute admirable duties, it still harbours within it some inefficiencies worthy of note. Few of these examples are pointers to this fact.

The health industry is one area of instance in which the AI has been shown to dazzle with great prospects. The healthcare applications of the world of today appear to act as the major wheels upon which the AI development thrives. There is today an unimaginable collection of medical data of grave complex forms. The complex nature of the medical information is profoundly expressed in the high depths of grave dimensional, nonlinear and even sometimes very strong dynamic characteristics. This is not without its grave challenges, since the AI-powered diagnostic systems must be well prepared to respond optimally to this anticipated high-level proficiency “which usually consist of a list of indicators such as those characterizing the prediction accuracy and the confusion matrix that characterizes the classification performance.”<sup>67</sup> Faced with the dearth of efficient medical personnels, especially in situations where “the physicians require reliable intelligent preprocessing tools to reduce their workload in dealing with raw data”<sup>68</sup>, the AI presents itself as a good auxiliary. Positively considered, a replication of this medical efficiency can easily be mass produced and carefully distributed even to the remotest areas of medical needs for a wider healthcare coverage and outreach. Nevertheless, this glowing apparent gain is not without its own dangers, because just like any other machine, there are grave possibilities of risks arising from Machine complexities and peculiar failures. And the impact of these failures especially in the medical field ought not to be underestimated. Moreover these machines (AI) must be constantly serviced for optimal performance which may not be easily available or even affordable and even at that, it does not equally guarantee infallible efficiency.

Other areas in which the AI project is dominant in contemporary living are in the transportation industry, manufacturing companies, education and research, entertainment industry and even in the execution of house chores or domestic duties especially in the civilized world. On transportation for example, “research on autonomous vehicles has been an extremely popular direction. The tasks cover all aspects from perception to decision making, which are all considered to be in need of intelligence. Delightfully, what were considered as challenging problems have now applicable approaches, such as localization, object recognition, and tracking, movement prediction and path planning.”<sup>69</sup> Interestingly, all of these auxiliaries and technological enablement like the digital twin, robots, smart grids, space technologies etc have transformed the AI into a fascinating object for the modern mind. In the academics and research works, the AI apps like the writing helpers, ChatGPT, grammar checkers and the automated essay grading systems have impacted heavily in academic works<sup>70</sup> triggering off a wide range of discussion in academic institutions on how best to optimally accommodate and so maximize the positive gains of this new reality in the academic world without grave harm to the academic norms and principles. Because, even with the academic efficiency and inestimable support it offers, there are serious concerns concerning its potential misuse in facilitating a high rate of academic plagiarism, destruction of creativity and hardwork,<sup>71</sup> and a bunch of other negative effects.

---

<sup>66</sup> Mondin, *Ibid.*, 244.

<sup>67</sup> Yuchen, *Ibid.*

<sup>68</sup> Yuchen, *Ibid.*

<sup>69</sup> Yuchen, *Ibid.*

<sup>70</sup> Niemann, 2022; Binns, 2023; Hu, 2023; Chen, 2023.

<sup>71</sup> Yuan et al., 2022

The insistence on a wider spectrum of assessment is necessitated by a number of factors like the necessity of warmth and affection, the formation of an organic human community, the issue of procreation, an insistence on the ontological appreciation of the human person that equally takes into cognizance his psychological and dialogical constitution, the assertion on the absolute value of the human person, etc. And even in the efficient performance of duties, distinction must necessarily be made according to Wang Pei between the brain as a biologically organic substance and the mind in relation to being intelligent as is ascribed to these special machines although qualified as “artificial”. Indeed according to Wang Pei, “if it turns out to be the case that the only way to get intelligence is doing exactly what the human brain does, then AI should be considered as an ill-conceived concept. Instead, we would better talk about brain modelling or emulation. A related issue is whether ‘mind’ can be completely reduced into ‘brain.’ If it is not the case, then a good model of the brain and a good model of the mind are not the same, and the intuitive meaning of intelligence is closer to the latter than to the former.”<sup>72</sup> The machines with the special human attributes of intelligence can never be human beings and so can never be described as persons in this sense. Indeed, “to expect an AI to behave exactly like a human is too anthropocentric to non-human intelligence, since human behaviours not only depend on our intellectual competence and mechanisms.”<sup>73</sup>

## BIBLIOGRAPHY

1. Augustine, De Trinitate (On the Trinity) VII, 6, 11.
2. Baker, Lynne Rudder. "When does a person begin?." *Social Philosophy and Policy* 22.2 (2005): 25-48.
3. Battista Mondin, *Philosophical Anthropology, Man: An Impossible Project?*, Bangalore, Theological Publications in India, 2016, p.243.
4. Boethius, *Contra Eutichen et Nestorium* (Against Eutichen and Nestorium), c. 4.
5. Feigenbaum, E. A., and Feldman, J., eds. 1963. *Computers and Thought*. New York: McGraw-Hill.
6. Feigenbaum, E. A., and McCorduck, P. 1983. *The Fifth Generation: Artificial Intelligence and Japan's Computer Challenge to the world*. Reading, Massachusetts: Addison-Wesley Publishing Company.
7. Freund Y, Schapire RE. Large margin classification using the perceptron algorithm. *Mach Learn*. 2000;37(3):277–96
8. Goertzel, B., and Pennachin, C., eds. 2007. *Artificial General Intelligence*. New York: Springer. See also, Wang, P., and Goertzel, B. 2007. Introduction: Aspects of artificial general intelligence. In Goertzel, B., and Wang, P., eds., *Advance of Artificial General Intelligence*. Amsterdam: IOS Press. 1–16.
9. Hay JC, Martin FC, Wightman CW. The mark-1 perceptron-design and performance. *Proc Inst Radio Eng*. 1960;48(3):398–9
10. Jian, Yuchen, et al. “Quo vadis artificial intelligence?” *Discover Artificial Intelligence* 2.1 (2022)
11. Jian, Yuchen, et al. “Quo vadis artificial intelligence?” *Discover Artificial Intelligence* 2.1 (2022): 4.
12. Kanu, A. I., Pilani, M. P., & Omenukwa, P. C., “Philosophy of Artificial Intelligence, Biblical Wisdom and the Exodus (31: 1-11) Narrative: Converging Perspectives,” in Tuijin Jishu/ *Journal of Propulsion Technology*, vol. 45, No. 3, (2024), 3030-3044, 3033.
13. Kanu, A. I.; Addidi, T.; Kanu, C. C., “Artificial intelligence and cybercrime in Nigeria: Towards an Ethical framework”. *Dialogue and Universalism*. 32(1): 143-158, 2024. Doi: [10.5840/du202434115](https://doi.org/10.5840/du202434115)
14. Kanu, A. I.; Addidi, T.; Kanu, C. C., “Virtue and the business of governance in Nigeria”. Published in *Dialogue and Universalism*. 32(1): 207-228, 2024. Doi.org/10.5840/du202434111
15. Kanu, I. A. & Anetoh, B, & Ejikeme, P., “Information Revolution and the Future of Humanity: A critical Perspective”. *ESTAGA: Journal of Philosophy and Arts*. 1(1): 27-36, 2024.
16. Kanu, I. A. & Anetoh, B, & Ejikeme, P., “Martin Heidegger on Technological Development”. *ESTAGA: Journal of Philosophy and Arts*. 1(2): 6-15, 2024.
17. Kanu, I. A., “Colonialism and the Igbo Struggle With Climate Change”. *Pakistan Journal of Life and Social Sciences*. 22(1). 1349-1367, 2024. <https://doi.org/10.57239/PJLSS-2024-22.1.0091>
18. Kanu, I. A., “Decolonization: Towards an Igwebuike Transformative Pedagogy”. *TOLLE LEGE: An Augustinian Journal of Philosophy and Theology*. 3(1): 1-19, 2023.
19. M. Buber, *I and Thou*, tr. Eng., Clark, Edinburgh 1937, p.34.

<sup>72</sup> Wang, Pei, “On Defining Artificial Intelligence”, in *Journal of Artificial General Intelligence* 10. 2, 2019, 1-37, 8.

<sup>73</sup> Wang, Pei, *Ibid.*, 9.

20. Market research report, markets and markets, report code: TC 7894, May 2021. <https://www.marketsandmarkets.com/Market-Reports/artificial-intelligence-market-74851580.html>.
21. McCarthy, J.; Minsky, M.; Rochester, N.; and Shannon, C. 1955. A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence. URL: <http://www-formal.stanford.edu/jmc/history/dartmouth.html>, accessed in May 20, 2019
22. McCarthy, John, „What is Artificial Intelligence.” (2007) <file:///C:/Users/phili/Downloads/What%20is%20artificial%20intelligence.pdf>, accessed on 10-09-2024.
23. Minsky, M.; Singh, P.; and Sloman, A. 2004. The St. Thomas common sense symposium: designing architectures for human-level intelligence. *AI Magazine* 25(2):113–124
24. Newell, A., and Simon, H. A. 1963. GPS, a program that simulates human thought. In Feigenbaum, E. A., and Feldman, J., eds., *Computers and Thought*. McGraw-Hill, New York. 279–293.
25. Nilsson, N. J. 2005. Human-level artificial intelligence? Be serious! *AI Magazine* 26(4):68–75; McCarthy, J. 2007
26. Philip Omenkwa, “Man is Narrow but Vast – Ethnicism and Its Presuppositions: An Anthropological Appeal to the Fundamental Constitution of the Human Person” in *Journal of African Studies and Sustainable Development*, vol. 7, No. 1., 2024, 103-123, 120.
27. R. Guardini, *Welt und Person (World and Person)*, Werkbund, Würzburg, 1939, 122-123.
28. Roland, A., and Shiman, P. 2002. *Strategic computing : DARPA and the quest for machine intelligence, 1983-1993*. Cambridge, Massachusetts: MIT Press.
29. Russell, Stuart J., and Peter Norvig, *Artificial Intelligence : A Modern Approach*, 4<sup>th</sup> ed. Pearson Series in Artificial Intelligence, Hoboken, NJ: Pearson, 2021
30. Searle, J. 1980. Minds, brains, and programs. *The Behavioral and Brain Sciences* 3:417–424.
31. Thomas Aquinas, *Summa Theologiae* 1, 23, 3)
32. Turing, A. M. 1950. Computing machinery and intelligence. *Mind* LIX:433–460
33. Wang, Pei “On Defining Artificial Intelligence,” in *Journal of Artificial General Intelligence* vol. 10, No.2 2019, 1-37, 8.
34. Wang, Pei, “On Defining Artificial Intelligence”, in *Journal of Artificial General Intelligence* 10. 2, 2019, 1-37, 8.
35. Wang, Pei, “On defining artificial intelligence,” in *Journal of Artificial General Intelligence* 10.2 (2019): 1-37, 4.
36. Yuchen, et al. “Quo vadis artificial intelligence ?” *Discover Artificial Intelligence* 2. 1 (2002) : 4.