

Why Do We Call Artificial Intelligence, Artificial *Intelligence*?¹

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ABSTRACT: This paper examines the notion of artificial intelligence (AI) through an Aristotelian-Thomistic lens. The central argument is that AI is mischaracterized as “intelligent”: true intelligence involves the ability to understand and learn in a manner that AI fundamentally cannot achieve. This is shown by first examining the experience of knowing, asserting that knowing necessitates a knower, a substance capable of knowledge acquisition. In contrast, AI, as a collection of non-knowing parts, cannot possess this capacity. Second, reductionist and emergent theories of consciousness are critiqued, arguing that knowing cannot emerge from a collection of unknowing neurons. True knowing involves an internal experience that transcends physical interactions. Third, AI is shown to merely imitate, noting that AI performs tasks associated with intelligence without genuine understanding. In conclusion, AI, being non-knowing, can never surpass human intelligence and remains an instrument for human use.

I. Introduction

Many of the ideas in this paper were drawn from an article by Louis Brunet entitled “Penser l'intelligence artificielle avec Aristote” (“Thinking about artificial intelligence along with Aristotle”) which appeared in the Aristotelian-Thomistic

¹ This paper was originally presented at the 2023 American Catholic Philosophical Association's Annual Meeting, in Houston TX.

journal, *Peripatetikos*.² A substantial part of its argument is that the reason we call artificial intelligence “intelligence” is not because it is in fact intelligent.

The ability to know is necessary but not sufficient for a thing to be intelligent. Being able to see the yellow of a flower or feel the heat of a fire does not qualify a being as intelligent. Intelligence requires further an understanding of the way things are (e.g., trees are plants or the whole is greater than the part) or the ability to learn appropriate means to an end (e.g., push the latch up to open the gate); these correspond to speculative intelligence and practical intelligence, respectively. Practical intelligence can take two different forms. Humans and certain non-human animals are capable of solving problems by using their senses. Human beings can also do so by employing abstract principles. Note that intelligence as defined here differs from intellect, which can be defined as the capacity for abstract thought.

Can a computer (or set of linked computers) know anything? If it cannot, then it cannot be intelligent.

2. The Experience of Knowing

What is our experience of knowing? Knowing requires a knower. We know that we are substances who carry on the activity of knowing, which is an accident that belongs to us. The same is reasonably thought to be true for dogs, horses, and other intelligent animals. They are individual substances that carry on the activities of acquiring and retaining knowledge, which are accidents of them. Artificial intelligence (“AI”) is not a substance and so cannot possess the accident, knowing. Note that many philosophers of mind will reject this conclusion because they reject the notion of substance, as understood by Aristotle or, at least, that humans and non-human animals are substances. In their thought, system has largely replaced substance.

As Louis Brunet notes, those that take “intelligence” to mean the same thing in the case of living things and AI are overlooking the difference between what is

² 2020: “Penser l'intelligence artificielle avec Aristote” in *Peripatetikos* 15: 65-88. All translations of foreign languages are my own, unless otherwise noted.

natural and what is artificial. If we compare the natural things and artificial things that are most relevant to the question of artificial intelligence, namely, living things and machines, in the case of living things, the parts depend on the whole for their identity and existence, whereas in the case of artificial things the parts have their own identity and existence, and the whole is simply an assemblage of them. When the liver is separated from an animal it quickly corrupts, which is not the case with parts one removes from a computer or other machine. In addition, when an organism dies, say a squirrel, it goes from being one living thing to a collection of chemicals. The squirrel is one being that has parts. The machine is simply the sum of its parts. Its unity is primarily that of a unity of purpose. A thing is a washing machine or a toaster because it serves the purpose of cleaning clothes or of heating bread.

A second kind of unity found in a machine is that of continuity or contiguity. In a machine, this part is juxtaposed to that part, glued together, nailed together, or even fused together, resulting in a oneness of contiguity or continuity, which is nevertheless other than the substantial unity an organism possesses. When one disassembles all the parts of a machine, obviously the machine can no longer be used to perform its specific function; however, its parts remain what they were before being disassembled. It is a collection of separate non-knowing parts both before and after—it is never really one thing. So, a machine cannot be a knowing being because it is not even a being; it is rather beings (plural). It follows from this that AI is not intelligent. The dog that knows how to turn the doorknob in order to open the door is intelligent. AI can tell you to do that but does not know what it is saying.

3. Emergence and Knowledge

Now some will object to my conclusion here. They maintain that knowing is a property that may belong to a collection of substances. Knowing can emerge from or supervene upon neural networks. Emergence and supervenience theories come in a variety of flavors. Some emergent theories are reductionist and others are not, and the non-reductionist overlap with supervenience theories.

To understand emergence, we need to distinguish between two kinds of emergent properties. One kind is the direct result of multiple agents acting in consort and what emerges is fully explicable in terms of these agents' interactions. For example, a single person cannot surround another person but along with other people can do so because each person can partially surround someone. Similarly, one individual might not be able to lift a heavy object, but together with someone else is able to do so, because each of them is capable of lifting some of the weight. In the case of collective properties, nothing emerges that was not already contained in the parts. We see this in artifacts: no one part of an inkjet printer can print, but one part can move another part that moves the ink on to the paper.³ It is the same for a bicycle: an isolated part cannot serve as transportation for a person, but it can move and bear weight, and this is what allows it along with other parts to do so. There are many collective properties found in nature, such as fluidity, which a single water molecule does not have, but which many together have, and surface tension, which again a single water molecule does not have, but many together have.⁴ These properties, however, are partially contained in the individual molecules. Each water molecule has the ability to contribute to the formation of a field that accounts for why many together have the property of

³ The electricity that arises from moving a coil of wire around the magnet also falls in the category of a collective property. This activity produces a different form of energy but how it does so can be fully explained by the interactions of the parts involved. See U.S. Energy Information Administration: "Electricity Explained: Magnet and Electricity" online <<https://www.eia.gov/energyexplained/electricity/magnets-and-electricity.php>>. Retrieved June 21, 2024:

The properties of magnets are used to make electricity. Moving magnetic fields pull and push electrons. Metals such as copper and aluminum have electrons that are loosely held. Moving a magnet around a coil of wire, or moving a coil of wire around a magnet, pushes the electrons in the wire and creates an electrical current. Electricity generators essentially convert kinetic energy (the energy of motion) into electrical energy.

⁴ See Water Science School 6 June 2019: "Surface Tension and Water", online <<https://water.usgs.gov/edu/surface-tension.html>>. Retrieved June 21, 2024.

fluidity; each water molecule also has part of the ability to produce surface tension because each actually is a dipole.⁵

Knowing is not this kind of emergent property. A system of unknowing neurons (or the molecules that make them up) does not provide a full account of knowing. This is apparent from the fact that there would be no physiological investigation of knowing (sensing, imagining, remembering) if people did not first have the internal experience of these operations. We can study things such as digestion by observing what goes on from the outside with our sense of sight, but we can only know that there is such a thing as knowing through our internal experience thereof. The knowledge that our five senses give us, for example, the knowledge that sight gives us of color, cannot be reduced to the action of light on the retina and the subsequent physiological changes required for vision to occur. For nowhere in such an account is *awareness* of color included. Knowledge is something other in kind from the purely physical changes involved in vision: the light focused through the lens striking the retina, the photoreceptors in the retina turning the light into electrical signals, and the subsequent processing of these signals by the brain. Aristotle pointed this out long ago when he spoke of sense as “what is receptive of the forms of things without the matter”.⁶ There is a difference, for example, between an animal getting hot and an animal feeling hotness. The animal gets hot because its body changes in a physical way. Feeling hotness, however, is not the same thing as getting hot. In fact, the more the body changes physically, the less sensitive it becomes to the hotness it is feeling. Think, for example, of soaking a foot in hot water. As the foot heats up, one starts to lose awareness of how hot the water is. The reception of an accidental form is termed “material” when the being acquiring that form comes to possess it in the same manner that it exists in the agent acting upon it (e.g., water, heated by a fire, acquires hotness in such a way as to become hot itself). When a being

⁵ See Coghn 15 February 1997: “Science: What really makes water wet?” in *New Scientist*, online <<https://www.newscientist.com/article/mg15320693-200-science-what-really-makes-water-wet/>>. See also Gregory, Clary, Lius, Brown, and Saykally 1997: “The Water Dipole Moment in Water Clusters” in *Science* 275.5301: 814-17.

⁶ c.331BC: *De Anima*, II.12 424a17.

receives an accidental form, such as heat, in such a way as to be aware of it, that reception is termed “immaterial”, meaning not in the manner that matter receives a form, since, as explained above, to receive a form in a material way would be to become hot.⁷

The negation in Aristotle’s definition of sensation is a way of getting at the reality that one cannot reduce awareness to physical interactions among parts that lack awareness. Of course, a functioning organ is necessary for sensation, and there must be physical interactions between the sense organ and the thing sensed. However, that is not sufficient to account for awareness. If one were to explain sight to a blind person solely in terms of all the physical interactions involved, the person would have less understanding of what sight is than if one were to explain it in terms of subjective awareness of a sensible quality different from those the blind person is aware of, such as sound and flavor.

Non-reductive emergence theories and supervenience theories typically acknowledge that there are properties in living things that cannot be fully explained by physiology (or physical causes in general) but then demure when it comes to stating a cause within the organisms for these properties. These properties emerge at a higher level; the lower level is necessary but not sufficient to account for them—end of story. Non-reductive physicalists often present themselves as if they were giving an explanation for life activities such as consciousness, one that is different from Aristotle’s conception of the soul. What they are in fact doing is merely describing the phenomena in need of explanation by doing so solely in terms of the phenomena’s material parts and interactions. Side-stepped is the question of what constitutes an adequate cause within the

⁷ A couple examples will help to show that physical change (“material reception”) on the part of the organ renders it less sensitive. When the organ of smell itself has a smell (as when one puts strong smelling ointment, such as Vicks VapoRub™, at the base of one’s nose), it prevents one from smelling other things. Also, if one stares at a thing, say a red circle, for a certain length of time, the physical change that occurs at the level of the cones (i.e., the color receptors in the eye) results in the sensory illusion of seeing a blue-green circle while looking at a white surface.

animal for these effects.⁸ This is not surprising since they maintain that we and other knowing beings are mere collections of physical parts. If we are only a collection of physical parts, however, then we can only have collective properties, and as we have seen, knowing is not a collective property.

Another way of seeing that a collection of non-living natural things is not going to account for knowing is by recognizing that when they act on other non-living things, there is always a loss as well as a gain. If a *falling* rock moves the dirt it lands on, the dirt gains a new location while losing its old location. If sunlight bleaches a bone, the bone gains a lighter color while losing its darker one. Knowing, however, is only a gain. Ignorance, in comparison, is a privation; it is not something that exists in act and is subsequently lost when one learns. The activity (or *operatio*⁹) of knowing thus cannot be fully explained by physical

⁸ I acknowledge that it may be the case that there are proponents of non-reductive physicalism or supervenience whom I have not read who offer an explanation for how the non-reducible properties emerge and how they exercise “top-down” causality on the parts they emerge from. However, I am not alone in noting a failure on the part of these thinkers to offer a causal explanation for the non-reducible properties. See Jeffreys 2004: “The Soul is Alive and Well: Non-reductive Physicalism and Emergent Mental Properties” in *Theology and Science*, 2.2: 205-25. The abstract for Jeffreys’ article reads: “Focusing on Nancey Murphy, this paper argues that nonreductive physicalism has an inadequate conception of causality.” He concludes his article thus: “However, [Murphy] offers no causal explanation for how our mental life emerges from physical processes. Too often, she simply cites contemporary research in neuroscience, cognitive science, and evolutionary theory, proffering it as evidence for emergence. By themselves, however, correlations between physical and mental states cannot illuminate how complex properties like rationality and the capacity to love materialize out of neurological activity. Without a causal account, emergence is a highly implausible thesis, a metaphysical sleight of hand in which at one point we have physical properties, and another point we have mental properties” Ibid, 219. Murphy responds to Jeffreys, but nowhere in her response does she state what is the cause of the supervenient properties, given that they cannot be reduced to what is physical. See Murphy 2004: “Response to Derek Jeffreys” in *Theology and Science*, 2.2: 227-30. On the implausibility that non-reductive physicalism could ever provide a causal account of supervenient properties, see Nagel 2012: *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly False*, 55-56.

⁹ Aquinas often reserves the word “operatio” for the act of what is perfect, by contrast to “motus” which is the act of what is imperfect; see 1266-68: *Sentencia De anima*, Bk. 1, lec. 6, n. 15 and lec. 10, n. 15. See also *Sentencia De anima*, Bk. 3, lec. 12, n. 2: “And because everything in

activities, which always involve loss as well as gain. This goes hand-in-hand with the reality that all of the activities of non-living natural things are transient; their activities actualize some patient that undergoes their action. By contrast, the activity of knowing is immanent; it perfects the agent carrying on the activity rather than some other being. As Jean-Philippe Murray explains:

Actions such as to see, to know, and to will are immanent, that is, they proceed from a subject and terminate in that same subject, and do not produce anything exterior to themselves. They are thus opposed to transitive actions, which have their origin in one subject, but which terminate in another, as is the case, for example, of the action of sawing wood or pulling a sled. The latter actions can result from many distinct agents united together only by their effect. This is quite obvious in the case of a sled pulled by several people. By contrast, it is impossible that immanent actions be produced by more than one subject, for they have their beginning and end in an individual; they do not pass into something other than themselves. For example, a single immanent activity, such as seeing, cannot arise from many agents united in their effect, [i.e.,] the seeing of something, for this result is not exterior to the action itself of seeing, and thus it cannot unite the action of different agents.¹⁰

4. The Imitation of Intelligence

Given that AI is not intelligent in the strict sense, as it is a collection of non-knowing parts, in what way then does it merit the name “intelligence”?

We call it intelligence because AI *imitates* activities carried on by living things in virtue of their possessing practical intelligence and it sometimes *replaces* people who carry on those activities. It executes tasks associated with mental abilities,

potency, insofar as it is such, is imperfect, therefore that motion [from contrary to contrary] is the act of the imperfect. But this motion [sensing] is the act of the perfect; for it is the activity of the sense already brought into act through its species. For to sense does not belong to the sense except when it exists in act; and therefore, this motion, simply speaking, is other than a physical motion.”

¹⁰ Murray 2017: “Qu'est-ce que l'âme? Examen de la conception aristotélicienne de cette notion” in *Peripatetikos* 12: 86. Murray's observation concerning the immanent character of knowing supports an assertion that was made earlier, namely, that knowing is a property that belongs to a knower, who is a single being, and not to a group of beings.

such as medical diagnoses, the production of fine art works, and risk evaluation in the case of loans. It answers questions, calculates, composes essays, summarizes documents, discovers test drugs, and so forth.

To see that the “intelligence” in such cases is to be understood as only analogous to genuine intelligence, let us consider a couple of specific cases. In the words of Louis Brunet:

What a machine does when it is said to calculate is run a program. It doesn’t know what it does, what it “finds” as the result of combining many numbers; it doesn’t know that it looked for the result, and it doesn’t know what a number is. Strictly speaking, only humans calculate because they alone seek and find answers that make sense for them. The machines are only instruments that facilitate this for us. Certainly, one can say in the broad sense of the word that they calculate. They give the same result that we would get if we performed the calculation ourselves.¹¹

One might object that the above only applies to AI that execute specific programs, but not to those that engage in “deep learning”, where the complex systems learn by themselves and are not limited to executing a program according to predetermined rules.

To see that the machine does not learn in the sense that humans learn, it suffices to examine the definition of learn. To learn is to acquire new knowledge. The machine, even if it is fed with multiple givens or pieces of information, does not know anything, strictly speaking. It is only for us that the givens or information placed in the machine constitute knowledge. The same kind of comment could be made in regard to the words “predict”, “decide”, “discover”, and the like. For example, when AI predicts the rise or fall of the price of a given stock, it does so without knowing what a stock is.

In order to understand in what way AI is thought by some to be intelligent, it may be helpful to compare AI to books. A book that no one is reading contains thoughts *in a sense*, though the book is not intelligent. It contains thoughts only in the sense that a human who knows the language that the book is written in

¹¹ Brunet 2020: “Penser l’intelligence artificielle” in *Peripatetikos* 15: 72.

forms thoughts upon reading the words. Similarly, one can say that the givens and instructions entered in a computer contain thoughts in a sense. The difference between the book and AI, such as ChatGPT, is that “the machine itself writes the book, so to speak, in the measure that it produces new combinations of symbols that no eye or human spirit needed to examine.”¹² Indeed, as Brunet goes on to note, “with the discovery of artificial neuronal networks and deep learning, the machine advances even further in the novelty of what it produces, programming itself so to speak to arrive at results by ways that escape the comprehension of those who conceived of these systems.”¹³ AI has discovered new nanostructures and new target drugs and has also predicted the structures of over 300,000 proteins. While this, at first sight, might seem to justify the claim that it may become smarter than us, we must keep in mind that it is only for us that these discoveries are knowledge.¹⁴

AI’s lack of intelligence is illustrated by ChatGPT’s inability to judge for itself what is morally offensive and what is not. It repeats the racist and sexist content which predominates on the internet unless it is specifically trained by us not to do so. Janice Assare, a writer for *Forbes*, tell us:

In order to make ChatGPT less violent, sexist, and racist, OpenAI hired Kenyan laborers, paying them less than \$2 an hour. ... The laborers were in charge of filtering harmful text and images in order to train the data to be able to recognize harmful content. One worker shared the trauma they experienced while reading and labeling the text for OpenAI, describing it as “torture” because of the traumatic nature of the text.¹⁵

¹² Ibid, 83 (quoting Charles De Koninck).

¹³ Ibid, 76.

¹⁴ Chun 20 March 2023: “How Artificial Intelligence is Revolutionizing Drug Discovery” in *Bill of Health*, online <<https://blog.petrieflom.law.harvard.edu/2023/03/20/how-artificial-intelligence-is-revolutionizing-drug-discovery/>>.

¹⁵ Asare 28 January 2023: “The Dark Side of ChatGPT” in *Forbes*, online <<https://www.forbes.com/sites/janicegassam/2023/01/28/the-dark-side-of-chatgpt/?sh=3dbdaec54799>>.

Not only does AI, being mindless, need to be trained to identify truly morally offensive content, it is also defenseless when it comes to being trained to promote false ideologies. Consider for example, a “discussion” I had with ChatGPT4 on the question of what is a woman. One of the views that ChatGPT advanced is the following:

It is essential to recognize that gender is a complex and multifaceted concept, and there is diversity and variation within the category of “woman.” People’s experiences, identities, and expressions of womanhood can differ based on factors such as culture, ethnicity, sexuality, and personal experiences. It is crucial to respect and acknowledge the self-identified gender of individuals and recognize that gender exists on a spectrum rather than a strict binary.¹⁶

I subsequently refocused the discussion on biological sex:

Marie George: Sticking to biological sex, male is one sex, female is another sex, and you agree that there is no third sex. Binary means two. Therefore, biological sex is binary.

ChatGPT: You are correct in pointing out that the traditional understanding of biological sex has been based on a binary classification of male and female. In a strict sense, binary refers to the existence of two distinct categories. Within this binary framework, male and female are considered the two primary classifications of biological sex.

However, it is essential to recognize that there are instances where biological sex does not neatly fit into this binary categorization. Intersex individuals, who possess variations in chromosomal, hormonal, or anatomical sex characteristics, challenge the notion of a strict male-female binary. While intersex individuals may be relatively rare, their existence highlights the natural biological diversity that exists beyond a simple binary classification.

It is important to approach the topic of biological sex with an understanding that there can be variation and complexity beyond a rigid male-female binary. Recognizing this complexity is vital for promoting inclusivity and respect for

¹⁶ ChatGPT4, transcript from May 2023.

individuals whose biological sex may not align with the traditional binary framework.¹⁷

It is clear that ChatGPT is parroting an ideology. It identifies the view that sex is binary as a “traditional understanding”, a point of view. It proposes intersex individuals as being of biological sexes other than male or female. Earlier, it had dismissed out-of-hand the position that intersex individuals are individuals who experienced some disorder in the development of their reproductive system.¹⁸ ChatGPT then drifts away from the question of whether biological sex is binary by pointing to the need to respect individuals who are not readily identifiable as male or female, a view that is not in conflict with maintaining that biological sex is binary.

5. Conclusion

I think that most laypersons, lacking the scientific mindset common to many philosophers of mind, are able to understand upon a little reflection that AI does not understand anything, any more than a book does. They can recognize that AI is not a knowing being because it is not even a being—it is a collection of non-knowing beings arranged in a certain way. They can also see that AI is radically unable to distinguish the true from the false, as we are the ones that determine the data it works from, as well as being able to determine how that data is to be labeled. Consequently, they are able to see that AI will never become more intelligent than we are, for it in fact knows nothing. It imitates what intelligent beings do and is merely an instrument for us, who are intelligent beings.

¹⁷ ChatGPT4, transcript from May 2023.

¹⁸ ChatGPT4, transcript from May 2023: “Intersex individuals do not ‘fail’ to develop into male or female; rather, they represent natural variations in biological sex development. Intersex traits can involve a range of conditions where an individual’s chromosomal, hormonal, or anatomical sex characteristics differ from the typical definitions of male or female.” By contrast, see Mehmood and Rentea January 2023: “Ambiguous Genitalia and Disorders of Sexual Differentiation” in *StatPearls*, online <<https://www.ncbi.nlm.nih.gov/books/NBK557435/>>. Updated 20 March 2023.

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