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AI Can Never Think: The Uniqueness of Human Thought

In his 1950 article, "Computing Machinery and Intelligence," the famous Alan Turing wrote of the future of computing,

> I believe that in about fifty years' time it will be possible to programme computers, with a storage capacity of about 10^9, to make them play the imitation game so well that an average interrogator will not have more than 70 per cent chance of making the right identification after five minutes of questioning.[1]

This was a near prophetic calculation based on what has come to be known as the "Turing Test." In summary, it was the idea that were you to have a kind of game, where an interrogator questioned three entities who were hidden from sight, and she were to receive the answers via written correspondence, could she guess which of the responders were male, female, or machine.

In February 2011, IBM's Watson went up against the world's leading Jeopardy stars and won! In near 50 years time the computer would not only seem to be able to pass the Turing test but surpass the best of human capability. In addition, Sophia the humanoid robot, has addressed the UN, has been on numerous talk and television shows, and

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[1] A. M. Turing, "Computing Machinery and Intelligence," *Mind* LIX, no. 236 (October 1950): 442.

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has even been granted Saudi Arabian citizenship. In many homes and pockets today is a technology that comes close to fulfilling Turing's prediction. Whether using Siri, Cortana, Alexa, or Google Assistant nearly anyone is able to ask a question and get a human-like response in real time. Even though some responses fail, one is not likely to be discouraged in imagining that in the near future a pocket assistant will appear able to imitate human interaction. In the first section of his article, entitled "The Imitation Game," Turing proposes to tackle the question "Can machines think?" For all intents and purposes he will answer that question in the affirmative and history has seemingly proved him right! Certainly it is a fair description of our time when Turing says,

> Nevertheless I believe that at the end of the century the use of words and general educated opinion will have altered so much that one will be able to speak of machines thinking without expecting to be contradicted.[2]

What does this mean for intelligence in general, the human mind, and the human person? As the saying goes, imitation is the most sincere form of flattery, yet very few assume imitation to be equivalence. An original masterpiece may be worth millions while a copy, no matter how exact the resemblance, would yield just a fraction of the price. A photo, movie, or 3D rendered image while meant to represent its subject does not substitute or replace the real thing. I propose that there is more to thought than a machine will ever be capable. The imitation game, while reproducing an imitation something like human thinking and interaction, will never achieve that same unique mode of thinking we experience as human species. I plan in this article to outline some of the hidden assumptions in this type of test, explain some of the most popular arguments against the computational model of thought today, provide my own thought experiments, and finally discuss briefly the u-

[2] *Ibid.*

nique aspects of human thought that may never be able to be replicated in a machine.

The debate about machine cognition is associated with claims made even centuries ago by materialists or physicalists about the nature of mental life. Since materialist assumptions underpin common beliefs about computer cognition, it is important to examine these assumptions.

Materialism actually has ancient roots. One of the earliest examples can be found in the writings of Lucretius of the Epicurean philosophy in the first century BC. "[M]ind and spirit are both composed of matter. . . . You see the mind sharing in the body's experiences and sympathizing with it. . . . The substance of the mind must therefore be material . . ."[3] Lucretius presents an argument that based on the fact that physical effects of the body, such as the experience of pain from a wound, seem to have an effect on the mind, the mind must therefore be material.

Fast forward 2000 years and Carl Sagan can make a similar claim,

> I am a collection of water, calcium, and organic molecules called Carl Sagan. You are a collection of almost identical molecules with a different collective label. But is that all? Is there nothing in here but molecules? Some people find this idea somehow demeaning to human dignity. For myself, I find it elevating that our universe permits the evolution of molecular machines as intricate and subtle as we are. But the essence of life is not so much the atoms and simple molecules that make us up as the way in which they are put together.[4]

In short, the materialist claim is that there is nothing more to reality than the physical and material. Whether animate or inanimate,

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[3] Jason Saunders, *Lucretius: On the Nature of Things in Greek and Roman Philosophy after Aristotle* (New York: The Free Press, 1966), 32.

[4] Scott Youngren, "Atheism and the Denial of the Soul," *God Evidence* (posted on May 30, 2014). Available online—see the section *References* for details.

things are just arrangements of particles or atoms interacting with other combinations of particles and atoms. According to the materialist, there is no such thing as soul, spirit, or anything immaterial. In spite of its long history and acceptance by some contemporaries, the question persists: Is materialism justifiable? With such a long history and acceptance by modern day scientific thinkers, what might be the justification of holding this philosophy?

Ed Feser sheds some light on this theory's wide acceptance in his book *Philosophy of Mind*,

> It is certainly no mystery why the approach in question has come to seem obviously correct. Modern science has, to all appearances, been one long success story, a success made possible in large part because of its commitment to the mechanistic model of the world.[5]

He goes on to explain that many of the advances in technology and medicine of our time owe in some part to the assumption that all is material. Nature must be tortured to reveal her secrets, as Francis Bacon is attributed with saying. Such an endeavor has been carried out from the enlightenment to our modern era revealing things that previous generations would have considered magic. The temptation to use the explanatory power of the mechanisms for nature and the mind is indeed a great one. Lucretius faced such a temptation in the late centuries BC, when speaking of the mind, "[I]t is of very fine texture and composed of exceptionally minute particles."[6] He describes the material composition of the mind as tiny fast moving particles. The famous evolutionary biologist, Richard Dawkins, explains our mental power by allusion to programming, "We are survival machines—robot vehicles blindly programmed to preserve the selfish molecules known as genes. This is a

[5] Edward Feser, *Philosophy of Mind: A Beginner's Guide* (Oxford, England: Oneworld Publications, 2006), 50.

[6] Saunders, *Lucretius*, 32.

truth which still fills me with astonishment."[7] In the face of such technological success it is hard not to consider the assertions of these famous materialists and their assumptions as corresponding to reality. But can the mind be explained entirely by physical mechanisms?

To answer that question we must answer another question, namely what method should be used to explain the mind? The dominant philosophy of materialists of our time is known as Functionalism. Defined as,

> The doctrine that what makes something a thought, desire, pain (or any other type of mental state) depends not on its internal constitution, but solely on its function, or the role it plays, in the cognitive system of which it is a part. More precisely, functionalist theories take the identity of a mental state to be determined by its causal relations to sensory stimulations, other mental states, and behavior.[8]

This system therefore says it's not so much what a thing is made of but what its purpose is in the given situation. Ed Feser in his book, *Philosophy of Mind*, gives a few good examples. A knife isn't so much dependent on any particular material but on its function as a cutting utensil. The material it is made of is not so much a concern as whether it can perform the function of cutting. Likewise the game of checkers isn't necessarily defined by the material of the pieces or the game board. One can play checkers with wood, plastic, or cloth pieces. Obviously, there may be some materials that could make the game difficult or nearly impossible to play, but ultimately the game is not defined by the material make up of the pieces but the function of those pieces according to the rules of the game. By analogy we can see then that men-

[7] Youngren, *Atheism and the Denial of the Soul*.

[8] Janet Levin, "Functionalism," in *The Stanford Encyclopedia of Philosophy* (Fall 2018 Edition), ed. Edward N. Zalta. Available online—see the section *References* for details.

tal states are not defined by what they are made of, but rather the purpose they serve in the function of the mental system.[9]

Functionalism boasts an advantage that it does not commit itself to Materialism *per se*. It is neutral to the system that makes up the mental states and only wants to define them as they correlate to that system. It is hard not to see a similarity with pragmatism, the philosophy that the success of an application determines the truth of the meaning. In both instances, the test for truth seems to come after the reality of the fact. Does it work? If yes, then it must be true. This strikes me as a stacking of the deck in favor of both philosophies. In pragmatism we would have to have some predefined notion of what success means that is not found by using the pragmatic philosophy. Likewise, some definition of what it means to perform the function will have to be smuggled into functionalism.

The particular presupposition that is often smuggled into Functionalism is Materialism. Although Functionalism is technically neutral with regard to Materialism and Dualism, due to the predominance of the materialist view in our time the mind is quite often presupposed to be only the brain and its mechanisms. The conclusion that follows is that the mind must be material because the mind is only the function of the matter of the brain.

A thought experiment that is used in an attempt to confirm these combined philosophies is to imagine that like other organ replacement, after science has completely understood the brain, we could develop a digital version of the brain that functions exactly the same, and replace one's brain with this artificial version. If after replacing the brain with the digital brain, we were to continue to replace all other organs with artificial versions, we would effectively have created a robot, and even more specifically a robot who can think. Therefore, it must be the case

[9] Feser, *Philosophy of Mind,* 70.

that the mind is material and not unique to the human person. Can any challenge be mounted against this theory of mind? I will attempt in the rest of the paper to offer substantial critique of Materialist Functionalism of the mind.

One famous argument against Materialist Functionalism mentioned in Ed Feser's *Philosophy of Mind* and devised by Ned Block is known as the "Chinese Nation" argument. As mentioned above Materialist Functionalism defines mental states not by what they are made of but by their function. Therefore, whatever components create the mental state is indeterminate to there being a mental state. Whether it is brain activity, or sophisticated electrical computation, thoughts, ideas, and understanding are realized by the function of the system. We already offered the example that one could imagine replacing all organs of the body, including the brain, with sophisticated computing, effectively creating a thinking robot. But if we can replace it with sophisticated computing, then why couldn't we replace the brain's function with the population of China?

The large population of China could be mobilized to behave exactly as neurons or the circuitry of a computer, using a specific set of rules and walkie-talkies. Now imagine this system of the Chinese population functioning as the brain of a giant robot. The System then behaves in all ways the brain or computer would so that when the robot takes in an input the appropriate output is given via the network. When the giant robot "sees" the rock that has been thrown at it, the system of neurons that are the Chinese Nation, provide the appropriate communicative function to cause the robot to put up its arms in defense.

So just as we replaced the entire human brain with computing, we have replaced it again with the Chinese nation. Yet it is hard to imagine that were the robot to feel pain, the whole Chinese nation would feel pain. Or were the robot to experience color that the entire Chinese nation would experience color in the same way. Therefore, there must

be something more to the mind than just the brain, if the particular experience is not felt or understood by each of the components of the system.[10]

At first glance, Materialist Functionalism seems to have met a formidable foe. Clearly, the nation does not experience as the robot would experience, if we can say that the robot can experience at all. But the Materialist Functionalists have a counterexample. If we start with the Chinese nation it is difficult to see how we might find mental states. But if we start with a human person, even ourselves, we know that we do in fact have these experiences.

Now imagine that a group of scientists were able to surgically open your skull and start to hang the various pieces and strands of your brain on various hooks in their laboratory. Now suppose that you could replace one neuron or synapse with a few of our Chinese walkie-talkie communicators. One can imagine that you'd still experience all the normal mental states even with this one change. Well then let the scientists proceed to replace even more neurons until all have been replaced by our Chinese Nation. In this example, your understanding would seem to be intact and would still function as it did when it was your brain, even though it is now the Chinese Nation. It would seem that the Chinese Nation argument then is inconclusive.

While the Chinese Nation argument might be inconclusive, an argument that has gained in popularity is the one proposed by John Searle, named the Chinese Room argument. In this argument Searle asks us to imagine that a native English speaker is locked in a room and given sheets of paper in Chinese. Our native English speaker has no previous understanding of Chinese. She also has a rulebook instructing her to draw out of a box in the room certain characters in response to questions persons outside the room ask her. These characters she thrusts

[10] *Ibid.*, 89.

outside the room. They are read by actual Chinese speakers who have asked the room's occupant certain questions. Because these characters are arranged according to the rulebook, they appropriately answer the questions of those outside the room. Since the answers are appropriate, those outside the room infer that the room's occupant understands and speaks Chinese. This scenario analogizes *inputs* (questions asked from outside the room) and *outputs* (answers put outside by the room's occupant).

But it turns out that the room's occupant does not know Chinese at all. She is simply receiving input, acting on a rule, and then providing a prescribed output. The understanding of the language is lost on our subject, the native English Speaker.

Searle argues that providing a proper output is not necessarily equivalent to understanding. Something more is required to guarantee understanding. The arrangement of inputs (*syntax*) is one thing; the understanding of its meanings (*semantics*) is something else altogether. Nevertheless, Searle's protest has not insulated the Chinese Room illustration from criticism.

Some have claimed that the person in the room does not represent the whole system. They assert that rather than representing the whole system the occupant of the room is more analogous to the processor in the system. Therefore, understanding may still be possible but it would be by virtue of the whole system: the room, the rulebook, the characters, the native English speaker, and the output combined.

Searle counters by saying that the native English speaker could internalize the rulebook and memorize the rules without actually understanding the meanings. This would move the entire system into the person's head but not necessitate understanding. Being such a popular argument and a popular topic in philosophy of mind today there are many more attempts at a rebuttal. None has proven to be decisive. Hence,

Searle's Chinese Room illustration persists as a challenging argument against Materialist Functionalism that has become difficult to counter.[11]

At this point, I'd like to offer two of my own thought experiments.[12] The first will attempt to demystify computation and assert, like Searle, that computation cannot account for all of what we mean when we speak of thinking. The second will try to highlight the quantitative versus qualitative argument presented in the Turing test and how it may prove too much.

The speed of electricity can seem magical at times. Things we are capable of today from the discovery and control of electricity would have been considered other worldly just a century or two ago. I believe that the speed of electricity convolutes our inquiry into the truth of the computational theory of mind. Turing himself said that it was only superficially necessary,

> The fact that Babbage's Analytical Engine was to be entirely mechanical will help us to rid ourselves of a superstition. Importance is often attached to the fact that modem digital computers are electrical, and that the nervous system also is electrical. Since Babbage's machine was not electrical, and since all digital computers are in a sense equivalent, we see that this use of electricity cannot be of theoretical importance. Of course electricity usually comes in where fast signalling is concerned, so that it is not surprising that we find it in both these connections. In the nervous system chemical phenomena are at least as important as electrical. In certain computers the storage system is mainly acoustic. The feature of using electricity is thus seen to be only a

[11] David Cole, "The Chinese Room Argument," in *The Stanford Encyclopedia of Philosophy* (Spring 2020 Edition), ed. Edward N. Zalta. Available online—see the section *References* for details.

[12] I believe these to be my own and if they share any similarity to already existing arguments it should be attributed to the logic of the consequence of the ideas and my lack of exposure to those thinkers. I intend no plagiarism and if it is found that these ideas share similarity to some previous writing I will take appropriate action to make amends.

> very superficial similarity. If we wish to find such similarities we should look rather for mathematical analogies of function.[13]

With this in mind, I'd like to remark on how a computer functions. Computers take in binary signals and record them in a particular order. This binary is often referred to as a 0 or 1, or as an on or off state. Some input is presented to the computer, say, as a keyboard press. This input is translated to electrical impulses via the machines hardware, which is then represented as 0s and 1s and subsequently stored in bits and bytes. These bits and bytes, arranged in a particular order, then indicate certain other outputs to perform, such as to display the corresponding letter in the word processor to the key that was pressed on the keyboard.

But as Turing said these electrical impulses are not necessary to imagine computing. One could imagine an entirely mechanical computer made of a series of mechanical switches or levers. Every input becomes a binary switch flipped up or down or lever pulled up or down by an operator. After all input switches are appropriately toggled to the connected lever arms, and mechanical apparatus moved to their positions according to the rules of the input, these then can be connected to colored blocks that are arranged in order to display an output. If all inputs and outputs are identical to an electrical machine, the fact that it is mechanical should not make a difference. Neither should the speed of the output be a problem. Were it to cause difficulty one could easily imagine a person toggling the switches at the speed of electricity so that speed is truly mitigated in this thought experiment.

In this case, it is hard to imagine this system of switches, pulleys, and levers having any kind of cognition. All the rules are pre-arranged by someone who builds the machine so that nothing could happen contrary to how it is built and designed to respond. It would be akin to

[13] Turing, *Computing Machinery and Intelligence*, 439.

making the argument that each colored domino, or the dominoes as a whole, understand the image they have been arranged to display as they fall revealing a mosaic in the place in which they lay. The displayed image of the dominoes, and the displayed image of the mechanical computer, are simply the designed output of the arrangement of the builder of the machine. I believe that when the speed and wonder of electricity are removed the reality that outputs are just mechanical arrangements becomes more apparent. Indeed, a Rube Golberg machine may make my toast, but I would not claim that the Rube Golberg machine understands it is making my toast. Rather the builder of the Rube Golberg understands how to make it. In terms of mechanics, there is little fundamental difference between a Rube Golberg machine and our mechanical, or electrical, computer.

In the quotation stated in this article's introduction, Turing predicted that a computer with 10^9 storage capacity could effectively play the imitation game.

> I believe that in about fifty years' time it will be possible to programme computers, with a storage capacity of about 10^9, to make them play the imitation game so well that an average interrogator will not have more than 70 per cent, chance of making the right identification after five minutes of questioning.[14]

Over 50 years later, we recognize that computers have significantly higher capacity than 10^9, which is approximately 100M, and which qualifies as a rather pathetic machine in our time. So why are there not little thinking computer robots everywhere?

We might be tempted to think there are given the proliferation of recent mobile and in home technology advancements. I brought our attention early on to mobile assistants such as Siri, Alexa, and the like. But does quantity of storage really equate to mental states? Why is the

[14] *Ibid.*, 442.

imitation of language a test for thinking if thinking is a quantitative ability? If we use Turing's number for our measure, if 10^9 is sufficient to succeed at the imitation game, implying that true thinking is happening, what about 10^8.5? Or 10^8? Two implications emerge when we consider thinking as a quantitative difference instead of a qualitative difference. Neither implication seems to be tenable.

First, if thinking is a quantitative difference, it seems arbitrary to associate it with language. If we assume, like Turing, that an animal or small child can think without the capacity for sophisticated language, then it would seem our computational device begins to think much earlier than 10^9. In fact, I see no reason to conclude that there is any boundary, so that we might even say that our calculator computing 2 + 2 = 4 would perhaps understand 2 + 2 = 4. Surely mathematics is as much of an indicator of thought as language, under a Materialist Functionalist definition of thought. Turing, and Materialist Functionalists, prove too much when making the imitation game based on a quantitative difference in computation or neuron firings.

Someone may try to counter this argument by appealing to someone who has suffered brain damage. A quantitative reduction of the brain has an effect on their ability to function therefore the conclusion must be that the mind is material. As a quick rebuttal, I'd say that one thing can work through another yet be of different substance. If I were speaking to someone through a telephone and the telephone were to suffer damage, it would not mean that I have lost my ability to speak. Rather the mechanism through which my speech is being transmitted is malfunctioning. Likewise, the mind works through the brain in the body and the material. A brain that suffers damage does not damage the mind but the mind's ability to work through the body.

Now let's assume that there is a quantitative difference in thinking. That once a certain number of neurons, or computer chips, start firing thinking emerges. Where is that quantitative line of pre-thinking

to thinking and what happens at that line? What materially changes from 10^8.99 to 10^9 data storage that allows for comprehension? It would seem that if it is not there from the start, as a qualitative difference, it is hard to determine how thought could emerge from an accumulation and activation of a certain multitude of bits.

If consciousness is merely a quantitative and not a qualitative difference, that a certain number of messaging neurons or computer chips allows for consciousness, then what is that number? What makes a calculator that can represent 2 + 2 = 4 not conscious but a more complex calculator that can respond in other symbols, whether written or audio, conscious? Turing believed that 10^9 would allow for imitation but is imitation the same in substance? Equality in number does not constitute sameness in substance. An even simpler example might make this more understandable; if I have 3 apples and 3 oranges I have equality in number but difference of substance. If I have 3 red apples and 1 green apple I have sameness in substance but an inequality in my number. The underlying Materialist Functionalism assumes that there is a sameness in substance between the mind, assumed to be brain only, and a computer and only an inequality in the number. I argue that there is a difference of substance and therefore an equality in number will not provide the sameness desired by the Turing Test. I can manipulate my oranges to appear as apples but they will still be oranges. I can manipulate my machine to appear as thinking but it will still be mechanical.

My speculation here has been inspired by Leibniz's comparison between the mind and a mill. Leibniz states the comparison thus:

> Moreover, it must be confessed that perception and that which depends upon it are inexplicable on mechanical grounds, that is to say, by means of figures and motions. And supposing there were a machine, so constructed as to think, feel, and have perception, it might be conceived as increased in size, while keeping the same proportions, so that one might go into it as into a mill. That being so, we should, on examining its interior, find only parts

> which work one upon another, and never anything by which to explain a perception. Thus it is in a simple substance, and not in a compound or in a machine, that perception must be sought for.[15]

Leibniz's idea is that if we were to walk inside such a machine we would not materially see thinking, or feeling, or any kind of perception. We would only see the movement of a machine. Therefore, perception cannot be found in the movements of this machine.

Despite the evidence above, some Materialist Functionalists may still be willing to hold out hope that science will show someday there is no difference in substance between mind and matter. All the arguments to this point attempted to show the absurdity of the belief that computers can think. The rest of this article will attempt to show how human thought differs not quantitatively but substantively and qualitatively. Hopefully, the combined force of the arguments from absurdity above and the arguments for dualism below will persuade the reader to (1) consider abandoning the materialist presupposition in functionalism, and (2) consider marginalizing functionalism as a convincing answer to the question of the nature of mind.

In C. S. Lewis book *Miracles*, he presents an argument that requires that we must believe in the validity of thought otherwise science is not possible. But belief in the validity of thought can only happen under certain conditions. He presents the following situation.

> (1) He thinks that dog dangerous because he has often seen it muzzled and he has noticed that messengers always try to avoid going to that house. (2) He thinks that dog dangerous because it is black and ever since he was bitten by a black dog in childhood he has always been afraid of black dogs.[16]

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[15] Cole, *The Chinese Room Argument*.

[16] C. S. Lewis, *Miracles: A Preliminary Study* (London & Glasgow: Collins/Fontana, 1947), 26.

In the first scenario, the fear of the dog is a result of the observation that it has been potentially violent in the past. We trust the rationale of this first scenario because it follows from good reason. Whereas we are less likely to trust the second scenario, the fear of the dog because it is the same color as a dog that had previously been violent, because it is an irrational fear. The second scenario proceeds from causes that do not scientifically connect.

Another example offered is the case of a man claiming his house was full of snakes and insects. If we know the man to be typically of sound mind, we would be very unlikely to enter the house and likely call an exterminator as soon as possible. But if we know the man to be suffering from mental illness, we are less likely to believe him. C. S. Lewis says the difference between the two is that "in the first instance the man's belief is caused by something rational (by argument from observed facts) while in the other it is caused by something irrational (association of ideas)." He then makes this claim: "We may in fact state it as a rule that *no thought is valid if it can be fully explained as a result of irrational causes*."[17]

Now if this is true of thoughts in particular, it must be true of thought in general, or human reason as a whole. We can't say that each particular thought must have rational causes and reason itself can proceed from irrational causes. But this is precisely the claim made by the underlying Materialism philosophy popular today. Our minds are the product of the same conditions as everything else, or as C. S. Lewis puts it, as the "Total System." But this Total System, according to Materialism, is not rational but irrational. Therefore, reason has for its explanation an irrational cause.

If mental states are just the random collision of atoms, there is no reason to suppose that my beliefs are true, including the belief that my

[17] *Ibid.*, 27.

brain, and therefore my mental states, are composed of atoms![18] In other words, there does not seem to be a rational reason to believe rationality arises out of the predetermined interaction of material particles. Much like the point of Leibniz's machine example, rationality seems to be something more than the order of flipping switches. To have good reason, to believe in good reason, and for reason to operate at all, a cause is necessary.

Some will make an attempt to escape this conclusion by attributing mysterious powers to small particles. They will claim that the indeterminacy found in quantum mechanics allows for phenomena such as consciousness, free will, and mental states. I have to agree with Walker Percy, in his article "The Fateful Rift": "At the statistical level, large numbers of atoms behave lawfully. Boyle's law still obtains. If the will is free, it is no thanks to Heisenberg."[19] That is to say, no matter how indeterminate subatomic particles may be, in their larger atomic behaviors they act according to scientific principles and laws. There doesn't seem to be any reason to believe mental states result from the behavior of these small particles other than the wishful desire it be so in order to avoid a dualist conclusion.

Turing cites the experience of Helen Keller as one that provides an example of the possibility of teaching a machine to think. Since the machine may not have the ability to hear or see, we can tailor a teaching method to enable a machine to attain human-like intelligence. In the 1950s, around the time Turing's article was published, Walker Percy was contemplating Helen Keller's situation but arriving at very different conclusions. He recounts her story in his book *The Message in the Bottle*. Here Helen says,

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[18] *Ibid.*, 28.

[19] Walker Percy, "The Fateful Rift: The San Andreas Fault in the Modern Mind," *Design for Arts in Education* 91, no. 3 (1990): 7.

> Someone was drawing water and my teacher placed my hand under the spout. As the cool stream gushed over one hand, she spelled into the other the word water, first slowly then rapidly. I stood still, my whole attention fixed upon the motion of her fingers. Suddenly I felt a misty consciousness as of something forgotten—a thrill of returning thought; and somehow the mystery of language was revealed to me. I knew then that "w-a-t-e-r" meant the wonderful cool something that was flowing over my hand. That living word awakened my soul, gave it light, hope, joy, set it free![20]

Percy in contemplating what has occured in this instance, the same occurrence that happens in a child learning to speak, says that it is only reducible to the Delta, the greek letter that has a shape of a triangle. His idea of the Delta is in contrast to dyadic relations. A dyadic relation would be one that is direct cause and effect. I hit the billiard ball and it travels in a straight line, striking another ball, causing it to travel and so on. But he thinks dyadic relations are even found in animals. When I say, Fido fetch the ball, Fido does not contemplate the meaning of ball but has come to associate those particular soundwaves in the vocal *ball* (cause) with the effect of an object thrown to chase.

Yet in the case of Helen Keller, and the child learning to speak, there is an irreducible triadic relation. The particular sound waves that make up w-a-t-e-r, or in this case letters spelled in Helen's hand, come to be coupled, or directly related to the reality of water, in the person. This is not dyadic, cause and effect, but some real relation takes place that three elements are needed: the word, the object, and the person. As Percy points out, when the child comes to understand *balloon* to mean this floating red round thing here, the child may then ask whether the watermelon is a balloon. There is not a cause and effect relation but an

[20] Walker Percy, *The Message in the Bottle* (Toronto, Canada: McGraw-Hill Ryerson Ltd., 1989), 35.

understanding that reality has organizational unity and those unities have identifiers or names.

St. Thomas Aquinas would describe this as our power of abstraction. Wonder leads us to be curious about why there is a one in a many, why some one thing designated water has the many attributes of cool, flowing, clear, etc. In the desire to satisfy wonder's angst, we set out to accumulate knowledge, discovering what things are in the way that they are. But for Helen to know that this flowing liquid here in the well house, and the later flowing liquid in her glass, are one and the same water, some real causal relation must happen between the word and the thing in Helen. Abstraction then is the process by which the knower, taking in a set of sense perceptions, pulls from those perceptions the unity of the contrary opposites found in the one thing. The consequence of this Percy writes in his article, "The Fateful Rift."

> By whatever name one chooses to call it—interpretant, interpreter, coupler, whatever—it, the third element, is not material. It is as real as a cabbage or a king or a neuron, but it is not material. No material structure of neurons, however complex, and however intimately it may be related to the triadic event, can itself assert anything. If you think it can, please draw me a picture of an assertion. A material substance cannot name or assert a proposition.[21]

Percy confirms what was found in our thought experiment with the switches and levers and what seems to be intuitively understood by both sides in the Chinese Nation and Chinese Room arguments. Something more than the individual material parts must understand the language. Even some of the Materialist Functionalists say it must be the entire system. But that system must be something real. Based on the triadic event that takes place in understanding, the character of that something cannot be material. And so the abstraction power described

[21] Percy, "The Fateful Rift," 52.

by St. Thomas is our ability to dematerialize an object for the intellect to make it a thing known immaterial to our immaterial substance.

If materialism is true then the brain is equal to the mind. The mind and brain are not two things but one. Now it may be that brain events can cause mental events and the reverse but just because A causes B that does not mean that A is identical to B. A light bulb may cause light but they are not identical. It is not sufficient for materialism to show that mental states and brain states are causally related with each other in a person. If something is true or possibly true of a mental state that is not true or possibly true of a physical substance, property, or event then it follows that materialism of the mental states is false.

For instance, ideas have intentionality while physical states do not. Intentionality is what our mental states are about. I think about a car, I have a belief about politics, or I fear a nuclear war. No physical object is of or about another physical object. We can contemplate intentionality in another way. Some thoughts entail other thoughts. The sky is blue entails that it is not true that the sky is not blue. The sky cannot be both blue and not blue at the same time in the same way. In contrast, no physical thing entails another physical thing. Ed Feser, in his book *Philosophy of Mind*, makes this point about physical objects,

> They are also intrinsically without meaning or intentionality. Even the words you're now reading are in themselves just meaningless squiggles of ink on paper; what meaning they have is meaning we give them, by interpreting them as having meaning. The same goes for the noises made by a tape recorder or the electronic impulses generating images on a computer screen. Intrinsically there is nothing there but sound-waves and electrical current, as devoid of significance as the sound-waves generated by a fan or the electrical current passing through the fan's motor. The reason the former have any meaning at all is, again, that we interpret them as having it—we interpret the sounds made by the recorder and the images on the screen as words rather than merely noises and shapes. So, it seems that physical objects and pro-

> cesses have meaning only when they derive it from minds, which have it intrinsically. This is as true of brain processes as of any other physical process—in themselves, the electrochemical signals passing between neurons surely have no more meaning or intentionality than the electrical current passing through the wires and motor of an electric fan. So, again, the mind seems just obviously different from the brain.[22]

Feser illustrates that a physical object does not have intentionality, or an inherent meaning. Any meanings seem to be derived from minds who give them meaning, the coupler mentioned in the triadic relation by Percy above. Feser later writes this which brings the discussion even more clarity,

> More to the point, brain processes, composed as they are of meaningless chemical components, seem as inherently devoid of intentionality as soundwaves or ink marks. Any intentionality they have would also have to be derived from something else. But if anything physical would be devoid of intrinsic intentionality, whatever does have intrinsic intentionality would thereby have to be non-physical.[23]

Here is a devastating blow to the results of the imitation game. Without a non-physical mind, able to derive meaning from the physical, a computer generating symbols really just becomes random marks on a paper or lights on a screen. There is no inherent meaning to those physical objects without a mind to give them meaning! Therefore the imitation game seems to be just that, an imitation. While valuable in its ability to calculate it does not contain the necessary qualitative difference of a non-physical mind to provide the intentionality needed for meaning. The observer-relative nature of computation is made explicit by Feser commenting on Searle's arguments,

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[22] Feser, *Philosophy of Mind,* 25.
[23] *Ibid.*, 172.

> Computation, Searle concludes, is an observer-relative phenomenon. There is nothing intrinsic to the nature of anything in the material world that makes it a computer, or that makes it true that it is implementing a program. It is all a matter of interpretation: our interpretation. If we decide to count something as a computer, it is one; if not, then it isn't. There is nothing more to it than that. The most complex machine that rolls off the assembly line at IBM will not count as a computer if we have no use at all for it; by contrast, even the pen sitting on the desk in front of you counts as a computer in the trivial sense that we can interpret it as "implementing" the following "program": "Lie there and don't move."[24]

Feser illustrates that without the intentionality derived from minds providing meaning to computation, the latter is simply meaningless. Because of intentionality, the observer-relative nature of the semantic content of a computer reveals that without the human interpretant there is no such thing as a computer. Computer information is always observer relative, which means that anything following a rule (a program) can be called a computer. I can program an ink pen to "lie still." It does so, satisfying the requirements of the program!

My arguments in this article have made a cumulative case that materialism is unconvincing. Hence, we have a right to be open to the possibility that ideas exist immaterially. If they exist, what is their precise mode of existence? Jacques Maritain helps us explore that question.

> Things have two different forms of *esse*, two differing planes of existence: their rightful existence by which they act and hold themselves apart from nothingness, and the existence which they take on in the apprehension of the soul, so as to be known. In order to enter into the sense of sight the bindweed and the apple have to leave off that matter by which they subsist; in order to

[24] *Ibid.*, 161.

> enter into the intelligence and the reason, they lay by their individuality. In the inward world of our intelligence there are a multitude of distinct aspects or concepts of things which in the world of nature exist in an undivided state, and which lead in one world a life wholly different from that of the other. In one the lion devours the antelope, in the other he achieves by means of the copula the predicate, carnivorous. And the possibility of error simply arises from the disparity between these two worlds. All of which shows that thought is not a copy of the thing corresponding materially with its model: there is an abyss between the conditions and mode of thought and the condition and mode of things.[25]

Here Maritain illustrates wonderfully the difference in being between object and intentional existence of the idea. The object existing in particular in the particular world is taken to exist universally in the mental world via the thought or idea. This universal cannot exist materially but rather informs the material while being understood by the mind. This process of dematerializing the particular from which we produce the universal, the idea, is the power of abstraction as defined by St. Thomas above. Without abstraction no truth, conformity between intellect and known, would be possible. We could only experience particular things. But an idea is not a particular as shown above, an idea is an immaterial universal. Again Maritain illumines this idea eloquently,

> For the very glory of thought's immaterial nature is that it is not a thing in exterior space extended over another thing, but rather a life superior to all spatial order, which, without quitting itself, perfects itself with what is not itself—the intelligible real who fecund substance it draws from the senses, gathered by them from the (materially) existent in act.[26]

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[25] Jacques Maritain, *The Degrees of Knowledge* (Glasgow: The University Press, 1937), 104–105.

[26] *Ibid.*, 126.

Maritain explains that mental states, while deriving their substance from the senses, nonetheless are in some way over and above the materially existing thing.

In conclusion, I offer up Turing's first consideration of opinions opposed to his own,

> The Theological Objection. Thinking is a function of man's immortal soul. God has given an immortal soul to every man and woman, but not to any other animal or to machines. Hence no animal or machine can think. I am unable to accept any part of this, but will attempt to reply in theological terms. I should find the argument more convincing if animals were classed with men, for there is a greater difference, to my mind, between the typical animate and the inanimate than there is between man and the other animals.[27]

Turing then proceeds to claim this view arbitrary and offers other possibilities God could do if He wanted, including en-souling a machine. I do not intend here to put any limitations on God but to point out that there is a difference between what could be and what is. While we may share characteristics more closely with certain primates than say breccia, based solely on observation, there is a chasm when it comes to humanity, man and woman, not shared by any other physical being in the world. That chasm, Turing and the computational philosophy of mind may claim to imitate, but it lacks sameness of substance. As Percy pointed out, there is an irreducible triadic relationship between thing, language of the thing, and the knower. This relationship is an immaterial one, shown by intentionality that cannot be of material things but of immaterial things. Call it what you will, interpreter, coupler, or soul, the immaterial agent seems to be a unique entity of the human person that gives him the power of abstraction, to dematerialize a physical object, to know it as it is. The machine is just a dyadic system of inputs

[27] Turing, *Computing Machinery and Intelligence*, 443.

and outputs which derives all its meaning from agents who can give it meaning.

In an effort to avoid the orthodox view, Turing and the computational philosophy of mind have missed the size of the chasm they want to traverse. The quantitative capacity of a machine allowing for the imitation of language being described as human is like saying if I were to increase the resolution of my video and play it on a stage in such a way it was to scale, someone may mistake it for being an actual present human. But the chasm from video to human is just as large as the chasm from machine to human. It seems possible to imitate and impossible to traverse. So let us allow science to follow where it may lead. The observational facts are there; the mind is more than the brain. We are not simply a sophisticated machine but an immaterial and material composite. While we can celebrate the technological advances the emphasis on the material has had, we should also celebrate our uniquely human capability of thought.

AI Can Never Think: The Uniqueness of Human Thought

SUMMARY

As the saying goes, imitation is the most sincere form of flattery, yet very few assume imitation to be equivalence. An original masterpiece may be worth millions while a copy, no matter how exact the resemblance, would yield just a fraction of the price. I propose that there is more to thought than a machine will ever be capable of. The imitation game, while reproducing an imitation that is something like human thinking and interaction, will never achieve that same unique mode of thinking we experience as human species. This presentation aims to outline some of the hidden assumptions in the Turing Test for the computational theory of mind, explain some of the most popular arguments against the computational model of thought today, provide some original thought experiments, and finally discuss briefly the unique aspects of human thought that may never be able to be replicated in a machine.

KEYWORDS

AI, artificial intelligence, thought, mind, turing, materialism, functionalism, dualism, semiotics, computational theory.

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