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11-27-2007  
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Arguments against the Turing Machine: the mind is not just a complex machine

The mind cannot just be a complex machine. When we look at the Turing Machine Argument there are holes in this theory. Searle argues that the mind has an understanding. To show that the mind is not just a complex machine I will build on the arguments against Searle's Chinese Room Theory. By showing how the arguments against the Chinese Room are no good, I will be able to support my idea that the mind is not just a complex machine. My second support comes from an author named James Heffernan who presents the idea that when it is said the Turing Machine recognizes symbols this is false because the act of recognizing is a human trait. Machines cannot have a human trait and having a human trait such as reorganization means that the mind cannot be a machine.

We need to know a little bit about the Turing Machine first. This was a concept by Alan Turing, which was a machine that could perform functions and would be in states based on a given input and could eventually create an output. Turing claimed that if you made this machine complicated enough you would not be able to tell if it was a machine or a mind. Turing argued that all the mind does is take input, which causes you to change to a specific brain state, this brain state changes you to another brain state and so on. The entire mind is, according to Turing is a big complex machine. All the mind "machine" does is

take input and change brain states until there is an output. Turing thought it was possible to program a machine in such a way that you would not be able to tell if it was a human or machine. This ability to create misperception is what led Turing to believe that there could be no difference between a mind and machine. Just that the mind is a very complex and well-programmed machine with a state table that is very large. Searle did not agree with Turing and presented the Chinese's Room argument

Searle's Chinese Room argument shows that just because something has an input that generates an output based on states does not make it a mind. To be a mind the process needs to include an understanding of what the output means. Suppose you have a room in which there is a slot for input and then there is a slot in which you can receive an output. A Chinese-speaking person puts a Chinese symbol in the input slot and the corresponding response to the symbol comes out of the output. According to the Turing Machine Argument this is a mind, input, states, and output. Searle argues that there is no understanding. Suppose I am sitting inside this room when a Chinese symbol comes in I use a book that is written in English to find the corresponding symbol and slip it out the output slot. In the process I go through states, as in I receive an input, look up a symbol and produce an output. All this process consists of is symbol reorganization, not an understanding mind. I, or the person in the room, never truly know what I am putting in the output chamber. To truly be a mind there has to be a cognitive understanding of the input and output process.

Searle shows that all the Turing Machine actually consists of is symbol reorganization, not a mind.

When facing the idea that the mind is in fact not a machine John R. Searle anticipated arguments that could be made against his theory. The act of knowing all angles to the mind/machine argument makes Searle's theory very strong. To better understand why the mind cannot be a machine it is important to look at each of Searle's arguments against those who believe the mind is nothing more than a complicated machine.

The first argument is the system reply argument. This argument states that even though there is a person in the Chinese Room who is translating the symbols he or she is just part of the larger system. The entire room itself is a system that has input and data bases of Chinese symbols and even though there is a person inside the room you cannot consider it a mind because the understanding of the Chinese symbols that are being put into the room are not placed on the individual in the room but as a system as a whole, which would make the room (the system) a machine. Searle's response to this problem is simple and makes sense. The man inside the room understands the room, by this he knows what to do when the papers come in; he knows where to look for the appropriate response symbol. As more and more symbols come into the room he will begin to grasp the entire system and he knows what to do in any circumstance. In this scenario, he only understands the system, not the Chinese letters that are coming in. Since the man in the room is part of the system, so much that he is the system (literally), you can say that the system does not

understand Chinese because the man does not understand Chinese, he only understands the system of inputting symbols and outputting symbols. In this argument, Searle eliminates the idea that it is all just a function of a system that does understand the inputs. The man in the Chinese room is not a system, he just runs the entire process, never really knowing what the Chinese symbols mean.

The second argument that Seale argues is the Robot Reply. In the Robot reply, the argument is that a computer has been placed inside of a robot. When the robot gets the input it is able to move and act just like a human, maybe so much that you would not know whether it is a human or a robot. In this situation, the input is still causing an action and it is a robot. Even though it looks like a mind, it is actually a robot. Searle seems to ignore this argument completely. Seale dismisses it very quickly by simply stating that it adds nothing to the understanding of the symbols that the robot is manipulating. Searle explains that if you were to place a man in the robot you are essentially getting the same reaction as the room. Just because the symbols come in Chinese and the man in the robot changes them by matching does not imply understanding and make the robot a mind. Even if the symbol that was used to reply caused the robot to move it is still just symbol manipulation and there is not an understanding. All the man inside the robot does is follow instructions, there are no "intentional states" when directions are followed they are just carried out as ordered. I like how Searle puts himself in the robot. He shows that it is just now a room that moves, not a mind. There is still no understanding of the information. If the person is

rewriting symbols based on the original input symbol there is still no understanding of the actual reply, which does not make this Chinese room, or robot, a mind.

Searle's third argument is a very strong argument that shows the special "thing" that a mind contains. The third argument is the Brain Simulator Reply. In this reply the argument is that a machine is designed that does not just contain the interpretation of the symbols and how that answer the symbols but imitates the actual brain function. In this model actually neurons are used to simulate the firing of neurons and the synapses of the brain. This simulated brain would have all the information of a native Chinese speaker and be able to tell stories in Chinese as well as answer questions in Chinese. The "brain" would take in Chinese inputs and process the inputs and is able to tell a story back in Chinese. Basically this machine would act just as a mind does. If the technology was right and an actual model of a brain could be created to understand Chinese and act as a brain does. What makes this argument even stronger is the fact that the machine uses neurons not wires and metal parts. If we were able to create a simulated brain like this is it a mind? Does it understand the inputs? Searle still says "no." Seale says "I thought the whole idea of AI is that we don't need to know how the brain works to know how the mind." Just because you have recreated the brain does not mean that you have created understanding. While this is a close replica of the brain it still is just a replica. If we picture a man in the room Searle explains how he is still just a man in a room. The Chinese input comes in and the man looks up the program in English. Now picture he is

working with water pipes, the answer that is in English instructs him on which pipes to turn on. After finding the answer the man turns specific valves, this system is programmed around the right valves being turned on and off at specific times. This synapse creates a Chinese answer in the machine. Through this entire valve opening or replica brain synapse there is still no understanding of the material. The man or the machine is still just answering symbols with corresponding symbols, the whole time having no understanding of what is truly being "communicated in Chinese.

The fourth reply takes the previous three and combines them. You have to use a little imagination to create this machine, but here we have a robot with a computer that is in the exact shape of a brain. This brain shaped computer is located in the robot's head (just like a real brain). The computer brain is programmed with neurons and synapses just like a human brain. Where the imagination comes in is that this robot cannot be distinguished from a human in its behaviors and mannerisms. If this whole system is all together, unified if you will, not just an input and output you would have to say that this creation is a mind and has intentionality. The answer is still no. Searle defends this argument by discussing the fact that we are still making too many assumptions. Searle says that it is understandable that if a robot looks and acts like a human, we could assume that it has mental states. Because it was programmed by someone to do just that act like it has mental states. Searle reverts back to his original objections to the idea of a robot. The robot does not understand the action it is doing. Even our complex robot that acts just like a human is doing just

that...acting. The inputs are being manipulated by the entire system, the robot does not know what it is seeing or why it is moving its legs, or why it is saying the things it does, it simply is doing what the complex program has been programmed to do. Searle refers back to the idea of understanding again, the program does not understand. To understand is to be human, the reason that the program seems to understand is that it has been programmed to just that. The way that Searle explains this is a mind created this machine. The machine acts like the mind that programmed it, but can never fully be a mind itself.

The fifth argument against Searle belief that the Chinese room is not a mind just a symbol manipulator is the Other Minds Reply. In this reply they question how you know that there is a true understanding at all. Searle constantly says that there is no understanding in these machines, just a manipulation of symbols. However, what this argument asks is how you really know that people understand the Chinese. The way that we interpret understanding is by the way that a person behaves. The behavior is to answer a Chinese question in Chinese. In theory the Chinese room does just this it behaves like a Chinese person. I found this argument hard to fight, I read Searle's response and agree, but the idea that we judge people through there behaviors makes sense. Searle seems to push this question aside by saying "the problem in this discussion is not about how I know that other people have cognitive state, but rather what it is that I am attributing to them when I attribute cognitive states to them." My argument of the Other Mind Reply I would say that it is not the behavior that shows a person has understanding, but rather the

choices and responses that lead to that behavior. This argument specifically says that just the response is a behavior and that is why there is not difference between the machine and the mind. I am going to fall back on understanding, the machine can just answer but when a person says something or portrays a behavior there is a mental process involved that does not show in a machine.

The final Argument is the Many Mansions Reply. In this argument it is stated that Searle argues that AI is only based on specific types of computers, be they analog or digital. Where the argument comes from is that this is only as far as technology has come today. What if in the future the computer and AI gets so advanced that humans can build devices that have thoughts and ideas, cognitive processes if you will. I dismiss this argument because it is just like a little kid saying yeah well it could happen someday. Right now we do not have technology so all of these ideas and arguments are based on what we know. If we start to play cards that say “well in the future.....” there is an endless supply of arguments. I think it is an easy out and we need to stay in the present and what we are capable of now.

The last author I found to help me support my theory that the mind is not just a complex machine was by James D. Heffernan of *University of the Pacific*. Heffernan argues an article title “On Mechanical Recognition” by R.J. Nelson. In his article Nelson claims that the Turing Machine “recognizes” patterns that are input into it. Heffernan disputes that there is no way a machine are not physical systems just logical tables that follow specific orders. Each input is an instruction for the machine, the Turing Machine does not recognize the input instructions it



simply follows that directions that are given in the input. Heffernan claims that the act of recognizing is a human characteristic, but it is also a cognitive process that conscious being can perform. "We do not say that plants recognize the coming of spring but that warmer weather and longer days trigger a characteristic response in plants." By saying that that a machine recognizes symbols we give it human characteristics when it is not human in any way.

In this paper I have stated that a mind cannot be a machine. Using Searle's Chinese Room argument and defending the theory against several arguments it is shown that to truly be human there needs to be a cognitive understanding of the input and understanding of why an output is being given, not just because the state table said it is what to do. Heffernan showed that the Turing Machine is just that a machine. We cannot say that the TM recognizes its inputs because the act of recognizing is a human trait and a machine is not human. A machine cannot be a mind because a simple or complicated input and output process does not create a cognitive understanding and recognition of that input or why the output is given. It takes a mind to understand and that human characteristic of understanding separates a mind from a machine.

## References

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