Strong AI vs. Weak AI

Searle believes that strong AI is impossible to achieve. His main argument is the fact that a computer cannot understand the way a human brain and understand. He used the example of the Chinese Room Experiment, noting that the English speaking person inside the room could respond to questions in Chinese and seem as if they “understand” what they are answering, when in reality they have no knowledge of what the Chinese symbols meant. They were simply following instructions and responding accordingly, much like a computer follows a program. A computer can seem as if it understands a story, but it is simply following the programmed instructions on how to provide the correct output given a certain input.

Searle also points out some arguments for the possibility of strong AI: The systems argument (given the entire system: a computer, the given programs, and the user (or in the case of the Chinese Room Experiment: the man inside the room, the instructions, and the men outside the room) there is understanding), the robot argument (a robot can mimic the movements and actions of a human, so it must have understanding and other mental states), the brain simulator argument (the program can simulate the neuron firings of a human brain when given input and after the firings and synapses can produce the correct output, simulating the process of thinking that a human brain does), and the combination argument (combining the previous three arguments), the other minds argument (how do we know that other people are understanding as we do?), and the many mansions argument (machines capable of understanding have not yet been built). Although these arguments have some valid points, there are flaws in all of them. The main flaw is that the computer still does not “understand” what it is doing, but rather mimicking or simulating the same processes a human goes through when trying to process and understand something.

On the other hand, Turing believes that strong AI is possible. The main argument in his paper is that a computer can have the ability to “think”. He uses the imitation game experiment to argue his stance. The imitation game experiment involved a man, a woman, and an interrogator who did not know the gender of either person involved. The interrogator was to figure out the gender of each person, and the man was to try to trick the interrogator into believe he was a woman, and the woman was to be truthful. He compared this experiment with using a computer instead, and if the interrogator believed that the computer was a person, then the computer demonstrated strong AI, being able to simulate a human. He also discussed that in the future machines would be able to change their programs in order to produce correct output, therefor simulating the process of “thinking”.

He also pointed out some arguments against his opinion: Lady Lovelace’s Objection (a machine can only do what we order it to do, and cannot originate anything), the argument from continuity in the nervous system (a computer cannot possibly simulate the nervous system and its influence on a human), the argument from informality of behavior (a program cannot have a set of rules for every conceivable set of circumstances). He discounts these arguments by pointing out that they do not come into play when looking at the imitation game experiment.

I agree with Searle, that there is no possible way to have strong AI. Searle makes very good arguments that a computer cannot understand what it is doing, despite how well it can seem like it does (by imitation, mimicking, and simulation). The best way to show this is the Chinese Room Experiment. Even though the computer can take in input and produce the correct output it does not mean that the computer understands or thinks, which makes the imitation game experiment an inadequate way of proving that strong AI exists. The computer can trick the interrogator into believing it is human, but that means nothing in terms of what happens on the inside of the computer.

One example of a program seeming to be intelligent like a human would be a chess game on a computer. You pick a move, then the computer counters with the best move available to it. To the user, the computer seems to be intelligent and understand the game of chess. However, the computer simply tries each possible move and rates it using the evaluation function, and then picks the best rated move. This process can be used in a number of programs where the computer can seem to understand and think, but in reality it is just using algorithms programmed into it and producing the correct response. Therefore, a computer is only as intelligent as the people who programmed it. So, there is no possible way for strong AI to exist, at least not in the present.

**References**

“Artificial Intelligence – Strong and Weak”. <http://www.i-programmer.info/babbages-bag/297-artificial-intelligence.html>