

Computers mimic the human mind 13828

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The mind-body problem has captivated the minds of philosophers for centuries. The problem is how the body and mind can interact with each other if they are separate and distinct. One solution to the problem is to replace any mental term with a more accurate physical description. Eliminative Materialists take this idea to the extreme by stating that everything that is believed to be mental will someday be explained in terms of the physical world. One way that people try to prove Eliminative Materialism to be true is through technology. Certainly if we are able to create computers and software that mimic the human mind, then Eliminative Materialism is a sound solution to the mind-body problem. In order to examine if computers actually do mimic the human mind then we must first look at the capabilities of the human mind. If one looks closely at the capabilities of the human mind and compares them to the most recent technological advances, then it would be obvious that computers and software are beginning to mimic even the most advanced mental states. In the future, computers will be able to do anything the human mind is capable of thus proving Eliminative Materialism to be a sound solution to the mind-body problem.

Most of the day the human mind is taking in information, analyzing it, storing it accordingly, and recalling past knowledge to solve problems logically. This is similar to the life of any computer. Humans gain information through the senses. Computers gain similar information through a video camera, a microphone, a touch pad or screen, and it is even possible for computers to analyze scent and chemicals. Humans also gain information through books, other people, and even computers, all of which computers can access

through software, interfacing, and modems. For the past year speech recognition software products have become mainstream(Lyons, 176). All of the ways that humans gain information are mimicked by computers. Humans then proceed to analyze and store the information accordingly. This is a computer's main function in today's society. Humans then take all of this information and solve problems logically. This is where things get complex. There are expert systems that can solve complex problems that humans train their whole lives for. In 1997, IBM's Deep Blue defeated the world champion in a game of chess(Karlgaard, p43). Expert systems design buildings, configure airplanes, and diagnose breathing problems. NASA's Deep Space One probe left with software that lets the probe diagnose problems and fix itself(Lyons). All of this shows that computers are capable of taking information and solving complex problems. This is where current technology put obstacles in the way of Artificial Intelligence.

The human mind is a complex system of brain cells or neurons which accomplishes all of these tasks. Silicon chips, the hardware a computer, is extremely similar to the human brain. The human brain has over ten billion cells, and the largest cell has 200, 000 inputs(Levin, 30). Neurons run in parallel which adds up to trillions of connections per second. Most PC's run about thirty million connections per second. This is a far cry from the capabilities of the human mind but as technology advances neural technology will begin to close the gap between the two.

This is the major obstacle to tackle in order to build a machine that thinks the same way that a human brain does. Think of it this way. The human mind has had thousands of years to evolve into what we understand of it today.

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The field of Artificial Intelligence roots started in 1965. As we learn more about the human mind and neural network technology improves we will be able to hurdle all obstacles to mimicking the human mind.

There are computer scientists, engineers, and neurologists researching solutions for these obstacles as you read. The human brain is capable of creativity, learning and emotions. These are the areas where computers lack the technology to compete with humans but they are working on it. Take creativity for example. " Aaron", an invention of Harold Cohen, produces artwork that Cohen has no way of predicting what Aaron is going to do(Boden). Not only is the artwork an original painting but it is also pleasant to look at. Paul Hodgson's program Improviser is a music composer that plays a unique performance in real time(Boden). This does not prove that a computer has creativity in the same sense that humans do but it is a start. Human creativity springs from association. One has spontaneous thoughts or actions that are a result of many different past experiences that are related by this new thought. " Copycat", the brain child of Hofstadter, is closer to this type of thought than any other program(Boden). In her article " Artificial Genius" Boden states " Hofstadter believes that capturing the processes that make up creative thinking in a computer program is possible, given that computer could be made big enough and fast enough to rival the vast complexity of the human brain."

Artificial intelligence experts are starting to mimic the human brains function of learning. Scientists at MIT are trying to create a machine that simulates the way that humans learn through the senses. The robot stated out as a baby, that is no code to base decisions on. Rodney Brooks, the developer, is <https://assignbuster.com/computers-mimic-the-human-mind-13828/>

concentrating on eye-hand coordination and face recognition and hoping that one day it will use the information to make discoveries of its own (Smith). Doug Lenat is trying to teach a computer common sense in hope that the computer will "reason" on its own (Smith). He is trying to accomplish this by manually entering over two million common sense statements such as ice is frozen. Geoffrey Yuen is developing a robot that can learn to do tasks that are too dangerous for humans. Yuen is trying to teach the robot to find a location, remember that site, and return to the same spot. He must first teach the robot to move around obstacles, process information, and learn from its experiences by using the information in future action (Smith). Although these are extremely simple tasks it is a breakthrough on the frontier of computers learning from past experiences.

Emotions is an area of artificial intelligence is just beginning to research in this year. If computers could have emotional intelligence then they would be able to respond to the user. Dr. Bernhrd Kammeer is teaching devices how to detect and interpret speech, facial expressions, and finger movements. In the article "Computers with Attitudes" Udo Flohr states, "Emotional intelligence, these scientists propose, will help machines recognize and adapt to the users' actions and intentions, offering help and support when needed or scaling down the amount of time interaction to fit stressful situations." This would only satisfy understanding emotions, what about actually experiencing them? Infantile emotions are a result of interacting with other people. Cynthia Breazeal developed Kismet, a robot that socially interacts and has emotions. This is accomplished by human drives that become satisfied or not by human stimulus. The robot reacts accordingly.

Happiness is shown by an open mouth and raised eyebrow and eyelids. Sadness is shown by a clamped mouth, lowered ears and eyelids(Fung). Kismet has the emotions of a new born child that could evolve into full human emotions. Kismet means destiny. The destiny of Eliminative Materialism could lie in the hands of such innovations.

All of this being proved true then Eliminative Materialism will be proven a sound solution to the mind-body problem. So why do so many people believe that computers will never be able to think like human beings? Why do so many people reject the idea machines will be able to have the ability to learn, be creative, and have emotions? It is due to their religion or belief that human brains are more than just a huge mass of cells working together in that they can experience metaphysical transformations(Wright). Eliminative materialism scares the crap out of these people which happens to be the majority of the world. Eliminative Materialism needs to be taken with an open mind. So our brain is a natural computer but it is the best and brightest computer that has evolved over thousands of years(Hinrichs). There should be nothing dehumanizing about this solution to the mind-body problem. In his book *Consciousness Explained*, Daniel Dennett notes, "Artificial intelligence is progressing, creating smart machines that process data somewhat the way human beings do. As the trend continues it will become clearer that we're all machines, that Ryle's strict materialism was basically on target, that the mind-body problem is in principle solved"(Wright). This summary of Dennett's book is right on the mark when computers mimic the human mind.