Good day. Today I will be informing you about the blue brain project, and how this project is still used today.

What is the blue brain project

The blue brain project is the first attempt to reverse engineer the brain of a mammal, in order to understand the brain functions and disfunctions through simulations on a supercomputer (computer that has a performance capacity that exceeds normal computers). So they try to virtually recreate the brain of a human to study it.

The blue brain project’s goal is to create a comprehensive digital reconstruction of the brain, which can be used to study the nature of the brain. It helps in understanding how humans make decisions, experience emotions and thoughts. It gives a deeper insight to the power of the human brain.

Where does the name “blue brain” come from?

The project has earned this name, because to reconstruct the brain virtually, they make use of the “blue gene supercomputer”, developed by IBM. It was especially constructed to carry out these simulations.

Where and who founded it?

The project was founded by Henry Markram in Switzerland. In May of the year 2005.

What is planned for the future?

It is planned that the first full human brain simulation can take place in three years. It takes that long, because the brain is a system with 100 billion neurons and 100 trillion synapses. To virtualize all this data can take a lot of time. So, if all goes well, we’ll have our first “virtual brain” in 2023.

What is a virtual brain and why do we need it?

A virtual brain is an artificial brain. It can think like a natural brain, and take decisions based on past experiences. It is possible to do this with a supercomputer that has a very big storage capacity amongst other specifications. There is an interface between the human and the artificial brain. In this way the human brain can be uploaded to the computer.

We need it because:

* Human society would always need intelligent minds, and this way an intelligent mind can stay alive, even after death
* We often face difficulties in remembering things. Such as birthdays or spelling of words, etc. a virtual brain can take away the extra stress we all face to remember these things. It is a perfect solution to a very common human problem.

How does a virtual brain work?

|  |  |  |
| --- | --- | --- |
|  | Normal brain | Virtual brain |
| input | Neurons transmit information to sensory cells. Sensory cells produce electric impulses and send those to neurons. These transfer the pulses to the brain | Neurons can be replaced by a silicon chip. The impulses from the sensory cells are received through the chip, and sent to a supercomputer for interpretation. |
| Interpretation | Electric impulses are received by the brain. These impulses are interpreted by the brain by the means of certain states of many neurons | The electric impulses are received by the chip and interpreted by means of a set of different registers (with different values that represent states of the brain) |

Is it possible to copy data from the brain to the computer?

Short: yes

Longer: the uploading is possible by the use of nanobots. These bots are small enough to travel through our circulatory system, our spine and last our brain. They will be able to provide a complete scan of the connections in the brain. This information will be entered into a computer, which could continue to function as us.

Pros and cons

Pros;

* After death our intelligence can be used
* This could also be used to study animal behavior.
* This can be used to allow the deaf to hear via direct nerve stimulation, or can provide a solution to mental disorder

Cons:

* Humans depend even more on technology
* Computer viruses will pose an increasingly critical threat when your mind is digitalized
* This may lead to human cloning, and we cannot imagine how big this threat would be against nature

Conclusion

This project (if implemented successfully) would change many things and boost the area of research and technology.