

## **Human brain – Artificial Intelligence – biological chips.**

### **The step from AI (Artificial Intelligence) to OI (Organoid Intelligence).**

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Note Wivine :

There is much to tell about our changing world. Our daily news is only about existing wars, natural disasters, sports. Also a lot of politics now that elections are going on everywhere or coming up that can give a new twist to the current state of world affairs.

I know that everything will get better. That there are many more peace talks going on behind the scenes that no one hears about because concessions are made by all parties, that not everyone would agree with, in order to reach that peace agreement. That is how it has always been. There is nothing wrong with it. Peace is always preferable to the destructive power of war. Unfortunately, not everyone agrees with that and so the bloodshed continues. There are enough examples of that at the moment.

There is a lot going on about Artificial Intelligence, as if artificial intelligence would increase the capabilities of the brain. There is also other research going on and that is making chips for computers and smartphones based on biological neurons. Months ago I came across articles that I had been keeping track of that talk about these chips based on biological neurons. Keep in mind that this kind of research is done by all major powers, not just the West. I even suspect that the 'West' is lagging behind.

I have long wondered to what extent **human mind** and consciousness, given by our **Mother Spirit**, was directly connected to our brain.

The fans of Artificial Intelligence give you the impression, or want you to believe, that our brain is insufficient and that with Artificial Intelligence the capacities of the brain can be increased to unimaginable heights. To achieve this, one would have to place Nano-chips in our brain from childhood, which are then connected to large computers that work as databases and super-calculators. I am simplifying here.

I have a problem with that and I am not the only one.

I know that we can achieve **through the spiritual development of our soul** much higher mind capacities than those of the actual human mind. This will allow us to **create** material things **through the mind** as the morontia mind of our soul develops and on the condition that these mind creations are **in accordance with the Laws of Unity and selfless Love of the Creator of the universes**.

It will also allow us to understand things at great speed, on multidimensional levels and receive holographic information that already can be stored in our brains, where answers can be found if needed and access is allowed. The human brain has an immense and unmatched storage capacity.

We can also get answers from the celestial world to questions that are given to us holographically ; but to read or hear the answer, for example if it is about music, then our *morontia glands* must be developed. There is one between the eyebrows and one on top of the back of the head. We develop these through our group meditations and by the utilization of the Paradise energy or the Energy of our indwelling God Fragment according to each person's capacity to help humanity.

These are all things that present humanity cannot even conceive and is totally unaware of ; although, there are always a few exceptions.

So I asked for an explanation and that explanation was not forthcoming as if they could not explain it with my current scientific knowledge.

Well, Ok! I am going to take my courage in both hands and rack my brains while you, the celestials, guide me through everything I need to know to understand your explanation at my level because I'm not some kind of Einstein.

The following is an article I read some time ago that contains some interesting comments on our brain capacities. There are many other articles on the subject concerning scientific discoveries in laboratories about Organoid Intelligence.

End.

### **Computer biological chips made with human neurons**

- 1) LIFESTYLE - [Computer chips made with human neurons – DW – 06/02/2023](#)

**The human brain is much more energy-efficient than current AI systems.** Australian startup 'Cortical Labs' hopes its biological chips made with human neurons will be a game changer.

2) [Tech firms are making computer chips with human cells – is it ethical? \(theconversation.com\)](https://theconversation.com/tech-firms-are-making-computer-chips-with-human-cells-is-it-ethical-148484)

The year is 2030 and we are at the world's largest tech conference, CES in Las Vegas. A crowd is gathered to watch a big tech company unveil its new smartphone. The CEO comes to the stage and announces the Nyooro, containing the most powerful processor ever seen in a phone. The Nyooro can perform an astonishing quintillion operations per second, which is a thousand times faster than smartphone models in 2020. It is also ten times more energy-efficient with a battery that lasts for ten days.

A journalist asks: "What technological advance allowed such huge performance gains?"

The chief executive replies: "We created a new biological chip using lab-grown human neurons. These biological chips are better than silicon chips because they can change their internal structure, adapting to a user's usage pattern and leading to huge gains in efficiency."

Another journalist asks: "Aren't there ethical concerns about computers that use human brain matter?"

Although the name and scenario are fictional, this is a question we have to confront now.

In December 2021, Melbourne-based 'Cortical Labs' grew groups of neurons (brain cells) that were incorporated into a computer chip. The resulting hybrid chip works because both brains and neurons share a common language: **electricity**.

In silicon computers, electrical signals travel along metal wires that link different components together.

- In brains, neurons communicate with each other using electric signals across synapses (junctions between nerve cells).
- In the '*Dish brain system*' of Cortical Labs, neurons are grown on silicon chips. These neurons act like the wires in the system, connecting different components. The major advantage of this approach is that the neurons can change their shape, grow, replicate, or die in response to the demands of the system.

These human cells in a dish, called 'Dishbrain' could learn to play the arcade game 'Pong' **faster** than conventional **AI** systems. The developers of 'Dishbrain' said: "Nothing like this has ever existed before ... It is an entirely new mode of being. A fusion of silicon and neuron."

*Cortical Labs* (company that develops biological intelligence), believes its hybrid chips could be the key to the kinds of complex reasoning that today's computers and AI cannot produce.

*Koniku*, another start-up making computers from lab-grown neurons, believes their technology will revolutionize several industries including agriculture, healthcare, military technology and airport security. Other types of organic computers are also in the early stages of development.

While silicon computers transformed society, they are still outmatched by the brains of most animals.

For example, a

- cat's brain contains 1,000 times more data storage than an average iPad and can use this information a million times faster.
- The human brain, with its trillion neural connections, is capable of making 15 quintillion operations per second.

**This can only be matched today by massive supercomputers using vast amounts of energy.**

The human brain only uses about 20 watts of energy, or about the same as it takes to power a lightbulb. It would take 34 coal-powered plants

generating 500 megawatts per hour to store the same amount of data contained in one human brain in modern data storage centers.



It would take an enormous amount of power to store the data from one human brain. Female Server Technician Stands next to Cabinet in Data Center Corridor with Rows of Rack Servers. She's Running Diagnostics on Her Computer.

Companies do not need brain tissue samples from donors, but can simply grow the neurons they need in the lab from ordinary skin cells using stem cell technologies. Scientists can engineer cells from blood samples or skin biopsies into a type of stem cell that can then become any cell type in the human body.

However, this raises questions about donor consent.

Do people who provide tissue samples for technology research and development know that it might be used to make neural computers? Do they need to know this for their consent to be valid?

People will no doubt be much more willing to donate skin cells for research than their brain tissue. One of the barriers to brain donation is that the brain is seen as linked to your identity. But in a world where we can grow mini-brains from virtually any cell type, does it make sense to draw this type of distinction?

If neural computers become common, we will grapple with other tissue donation issues.

In 'Cortical Lab's' research with *Dishbrain*, they found human neurons were faster at learning than neurons from mice. Might there also be differences in performance depending on whose neurons are used?

Might Apple and Google be able to make lightning-fast computers using neurons from our best and brightest today? Would someone be able to secure tissues from deceased genius's like Albert Einstein to make specialized limited-edition neural computers?

Such questions are highly speculative but touch on broader themes of exploitation and compensation.

Consider the scandal regarding Henrietta Lacks, an African-American woman whose cells were used extensively in medical and commercial research without her knowledge and consent.

Henrietta's cells are still used in applications which generate huge amounts of revenue for pharmaceutical companies (*including recently to develop COVID vaccines*). The Lacks family still has not received any compensation. If a donor's neurons end up being used in products like the imaginary 'Nyooro', should they be entitled to some of the profit made from those products?

Another key ethical consideration for neural computers is whether they could develop some form of consciousness and experience pain.

Would neural computers be more likely to have experiences than silicon-based ones?

In the 'Pong experiment', brain cells in a dish are exposed to noisy and unpredictable stimuli when it gets a response wrong (the paddle misses the ball), and predictable stimuli when it gets it right. It is at least possible that a system like this might start to experience the unpredictable stimuli as pain, and the predictable stimuli as pleasure.

Chief scientific officer Brett Kagan for Cortical Labs said:

*Fully informed donor consent is of paramount importance. Any donor should have the opportunity to reach an agreement for compensation as part of this process and their bodily autonomy respected without coercion."*

*As recently discussed in a study there is no evidence neurons on a dish have any qualitative or conscious experience so cannot be distressed and without pain receptors, cannot feel pain. Neurons have evolved to process information of all kinds – being left completely unstimulated, as currently done all over the world in labs, is not a natural state for a neuron. All this work does is allow neurons to behave as nature intended at their most basic level.*

Humans have used animals to do physical labor for thousands of years, despite often leading to negative experiences for the animals. Would using organic computers for cognitive labor be any more ethically problematic than using an ox to pull a cart?

We are in the early stages of neural computing and have time to think through these issues. We must do so before products like the "Nyooro" move from science fiction to the shops.

End.

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