

Platonic Theory of Spacetime

The **Unmoved Mover**: The Self-Acting Fifth Force

1. This is the text version of my second announcement; watch video [here](#).

Today is a special day: I started this project fifty years ago, on 6 January 1972, as a freshman in chemistry. The physical part of the project, aimed at understanding the physics of the **brain**, is completed. Today I am happy to announce the **fifth force**. Check out my website chakalov.net and the reports there and read the latest one, entitled *Spacetime Engineering 201*.

2. The physics of the brain: the two-way “mediator” (*sit venia verbo*) of the mind to its brain, and of the brain to its mind. How does the ‘mediator’ interact with that **wet soft chunk of grayish matter**, a thermodynamically-open system consisting of many billions of neurons and **trillions of synapses** ([photo 1](#) and [photo 2](#))? Some people claim that the brain is the hardware and the mind is its software, which is **crap**. The opposite claim made by parapsychologists, **dualistic interactionism**, is also false. But what is the **physics** of the ‘mediator’? It is neither a physical field nor some “**ghost**”.

3. The fifth force empowers the ‘mediator’ (p. 2 in [brain.pdf](#)), which has far reaching implications: **the physics of Life**. In 1943, Erwin Schrödinger stressed that “we are here obviously faced with events whose regular and lawful unfolding is guided by a ‘mechanism’ entirely different from the ‘probability mechanism’ of physics. (...) We must be prepared to find a new type of physical law”. It is “nothing else than **the principle of quantum theory** over again.” (Erwin Schrödinger, *What Is Life?* 1944, pp. 28-29.)

4. Perfect. The principle of quantum theory is the *atemporal* transition of the **Platonic** quantum-gravitational world into its physicalized 4D ‘**jacket**’ on the **light cone**. The theory of **quantum gravity** involves the fifth force.

5. Why not demonstrate the **fifth force** here and now? Only at a technical laboratory in EU, and under strictly controlled conditions. Otherwise it will be voted “**magic**” and will be totally ignored, like the case in **China in 2012**. To quote from p. 1 in my latest report *Spacetime Engineering 201*: “Let me stress that all demonstrations of **spacetime engineering** must be recorded under tightly controlled laboratory conditions at some renowned technical institute or laboratory, under the supervision of qualified physicists and technicians. I hope to find such institute or laboratory in EU very soon.”

6. See you later. The fun part ([27 March 2022](#)) is just around the corner. Praise the Lord and pass the ammunition!☺



Q1. Can you demonstrate the [fifth force](#)?

A1. Yes I can demonstrate it, but only at a technical laboratory and under strictly controlled conditions (read [above](#)). Two years ago (6 January 2020), I recorded my [first video](#) alone at my home. Sadly, it was [totally ignored](#).

All living organisms and quantum-gravitational systems are empowered by the [fifth force](#) of the [matrix](#), at every 4D instant from the [arrow of Time](#). Metaphorically speaking, they are like a 4D 'glove' empowered by the fifth force [inside](#) it. Thanks to the [matrix](#), the 4D 'glove' becomes *gravitalized* (p. 5): read p. 2 and Addendum 1 at pp. 7-9 in [Spacetime Engineering 201](#).



The [fifth force](#) makes [all forces in Nature self-acting](#), e.g., the self-acting [Maxwell demon](#) acting on the [electrochemical gradient](#) in the [sodium-potassium pump](#) to *guide* the [electrical signaling of neurons](#). It is not like [Baron Munchausen](#): the [Platonic](#) quantum-gravitational world (read [above](#)) is not *physically* present on the [light cone](#), which is why the 4D 'glove' (e.g., a [neuron](#)) is just [self-acting](#), like a fish in a [holistic bootstrapped school of fish](#). Read p. 17 and pp. 27-28 in [Notes on Spacetime Engineering](#).

NB: The generic fifth force of the "[carrot](#)" is immensely small, perhaps in the range of the [Casimir force](#) or the "cosmological constant" (10^{-9} joules per m^3). Point is, the fifth force is *scalable*, meaning that one can [increase](#) its *physicalized* effect, leading to apparent "[non-conservation](#)" of energy (Addendum 2 in [brain.pdf](#)). Just don't call it "[magic](#)" or "[mystery matter](#)". Read [below](#) about the [matrix](#) (pp. 5-9 in [Notes on Spacetime Engineering](#)).

Don't expect from me to [entertain people](#), like some "street magician".



This is not some magic psi-freezing bio-paranormal energy or whatever. The [fifth force](#) is real and there is no violation of [thermodynamics](#). But if those "magicians" worked under strictly controlled conditions (read [above](#)), there will be no "magic" and no "mystery". Can't get [seriously rich](#) from science.

Q2. There is no need for some "[Maxwell demon](#)" in the [active Na⁺/K⁺ pump](#).

A2. This bold statement brings me back to December 1983. I contacted two leading [neurohistologists](#) in the Soviet Union by snail mail, and kindly asked them to explain how come the brain (the "hardware") does *not* get messed up by the [active Na⁺/K⁺ pump](#) (the "software"), ensuing from their (idiotic) Marxist-Leninist philosophy 'the brain is the hardware and the mind is its software'. Namely, how the neuron "[calculates](#)" the *precise* timing and location of the [active Na⁺/K⁺ pump](#) in order to make the *correct neural pathways*, leading to the [binding problem](#). Their muted reply in February 1984 was something like 'this is the living matter'. I responded by quoting Erwin Schrödinger [above](#), and never heard from them. Coincidentally or not, on 31 March 1984, I lost my job as technical assistant at what was at that time the [Institute of Physiology](#) at the Bulgarian Academy of Sciences. My former boss ([Leon Mitrani](#)) told me that I am out, "effective immediately". Three years later, on 5 February 1987, I quoted Erwin Schrödinger and [the principle of quantum theory](#) during my seminar at the Institute for Nuclear Research and Nuclear Energy ([INRNE](#)) in Sofia. Huge mistake. In March same year, I again lost my job: read p. 4 in [Penrose-Norris Diagram](#).

The moral of this story is simple: never discuss [the principle of quantum theory](#) and the physics of the human brain ([Q2](#)) with [Russians](#). They may speak [different languages](#), but they are and will *always* remain Russians.

Are you also [Russian](#)? Let me see: try the experiment with your own brain at p. 2 in [brain.pdf](#), and explain how your [86+ billion](#) neurons “[calculated](#)” your answer. Or try to explain the effect discovered by [Charles Wilson](#) in 1911. In QM textbooks, the relativistic time read with your clock is *not* an observable, as there is no [Hermitean operator](#) whose [eigenfunctions](#) were the [quantum time](#). My BG colleagues were dead silent on [5 February 1987](#).

Watch my video announcement of the [fifth force](#) ([p. 1](#)) at [this http URL](#). The video demonstration will be available on [27 March 2022](#), *Deo volente*.

Does the [fifth force](#) exist? Can we tweak the [quantum vacuum](#)? Absolutely. Just don't call it “[magic](#)”. Get the facts in [Notes on Spacetime Engineering](#).

If we were living in 18th century, my video demonstration on [27 March 2022](#) would be like the ultimate proof that the meteorites exist, contrary to the opinion of the French Academy of Science in [1772](#), backed by [Lavoisier](#). All the academicians were rejecting the claims of meteorites until 1803, when a huge [shower of meteorites](#) rained down in France, and it was already impossible to deny the “anomalous” fact that stones can fall from the sky.

Obviously, I will have to go public and try to trigger a new [paradigm shift](#). It will be a terribly protracted process though. As [Max Planck](#) pointed out:

An important scientific innovation rarely makes its way by gradually winning over and converting its opponents: it rarely happens that Saul becomes Paul. What does happen is that its opponents gradually die out and that the growing generation is familiarized with the idea from the beginning: another instance of the fact that the future lies with youth.

But I can't wait two generations until my opponents “gradually die out”.

Regarding NB at [p. 2 above](#): recall (i) the “positive energy solution moving [backward in time](#)” and Eliot's cat [Macavity](#), which can *only* exist [when we aren't watching](#), and (ii) the “non-conservation” of [gravitational energy](#). Now, place (i) and (ii) at the [Platonic](#) future along the [arrow of spacetime](#), driven by the [fifth force](#). The [Platonic](#) world — the origin of [both matter and psyche](#) — exists “[before](#)” light, which is why we cannot ‘turn around’ and look at it ([Plato](#)). We do need [new mathematics](#): the ‘mediator’ ([p. 1](#)), called [matrix](#) (pp. 5-9 in the [Notes](#)), is *not* physical stuff on the [light cone](#).

It is [between] the quanta of spacetime (p. 5 in *Spacetime Engineering 201*) like the absence of water between the molecules of water. It (not “He”) is simply Platonic reality (P) or *Res potentia* (Hawking & Ellis), which lives “just in the middle between possibility and reality” (Werner Heisenberg).

Think of the **matrix** as a pool of infinitely many instructions ‘if P, then Q’, which creates and sustains all living organisms and quantum-gravitational systems, such as the brain, the protons and photons, and the 4D physical world. In January 1990, I proposed the general form of retarded relativistic causality, called *biocausality*, applicable to all living and quantum systems. The *biocausality* employs two ontologically different antecedents – P from the irreversible past, and P from the Platonic **matrix** – which jointly guide the consecutive outcomes Q, one-Q-at-a-time (Slide 1 and Slide 2). In the inanimate macroscopic world, the Platonic **matrix** – the antecedent P – has a vanishing small feedback which gradually increases in the quantum-gravitational world. If we access the **matrix** controlling gravity, we may be able to fly just like we move our thoughts: try the experiment on p. 2 in [brain.pdf](#). This is spacetime engineering. Alternatively, read John Hasted.

Suppose – just hypothetically – that I fly over the River Thames in London. Many tourists there will be fascinated (tourists love free entertainment), but will the established mathematicians and theoretical physicists become interested in spacetime topology and in the origin of gravity? When pigs fly. On 15 February 2020, I announced 5 (five) confirmations of spacetime engineering (p. 8 in *Gravitational Energy*), but nobody showed even a trace of curiosity. It is like talking to a brick wall. Perhaps these “academicians” simply hate the possibility that God can exist ‘inside’ every consecutive 4D instant ‘here and now’ (p. 2), which ultimately leads to physical theology. Or perhaps they just don’t care about Physics. Or both.

Read Q2/A2 on p. 6 in *Spacetime Engineering 201*. Time is running out!

For the record: The Platonic theory of 4+0 D spacetime denounces the “intuitively obvious” presumption about denumerable chunks of geometry (e.g., 10^{66} in cm^2). Read *Quantum of Spacetime: Zenon Connection*. Next year, I hope to explain the *Zenon Connection* (Slide 1) with a video lecture.

Today I only wanted to announce the fifth force. The future belongs to spacetime engineering, and “the future lies with youth” (Max Planck). Don’t need your “feedback”.

D. Chakalov

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