



The Bridge: Spacetime Engineering 201

D. Chakalov
dchakalov@gmail.com
chakalov.net
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On 19 April 2014, I announced my video lecture, entitled: *The Bridge* (snapshot [above](#)). The lecture was available upon request until the end of May 2015. The subject was a hypothetical cognitive-and-quantum vacuum, in line with the doctrine of *trialism*¹ announced in April 2000.

The updated video lecture is scheduled for [27 March 2022](#). It will be available until Christmas 2022. To watch the video², please follow the instructions (1)-(2)-(3) at p. 5 in [explanation.pdf](#). I will reply ASAP.

Briefly about the two kinds of vacua, cognitive and quantum. The first one is demonstrated with two experiments, which you can perform with your brain: read p. 19 in *The Physics of Life*¹ and p. 9 in *Notes on Spacetime Engineering*¹. The quantum vacuum (e.g., [Peter Milonni](#)) is a bit trickier to explain. What happens when you turn on the light? You create photons, which *emerge* from the quantum vacuum ([Slide 9](#)). In both kinds of vacua, we witness the *emergence* (Sic!) of objects which are *not* 'objective reality', e.g., the state of the Sun *before* we looked at it (p. 4 in [Time.pdf](#)). This is the operational definition of 'vacuum'.

Now, according to the doctrine of *trialism*, the cognitive and quantum vacua spring from their common source¹, which makes 'the bridge'. If true, one should be able to demonstrate 'the bridge' experimentally, with brain-controlled quantum tunneling (BCQT). For example, the rice in the jar below will "tunnel" into the empty jar at right, nice'n easy.



This is BCQT². Not Chinese "magic". Read about BCQT of the 'gimbal' at p. 19 in *Notes on Spacetime Engineering*¹. In my opinion, we need a new theory of gravitation³, based on a brand new *arrow of spacetime*².

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. My [first video](#), recorded at my home, was ignored and called "magic". Can't talk with a brick wall.

There are no "quantum jumps". Dead matter makes quantum jumps; the living-and-quantum matter is smarter. To quote [Erwin Schrödinger](#) in 1929: "Wenn es doch bei dieser verdammten Quantenspringerei bleiben soll, dann bedauere ich, daß ich mich überhaupt mit diesem Gegenstand beschäftigt habe". And in 1943: "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. Or are we to term it a non-physical, not to say a super-physical, law?"

Read *The Physics of Life*¹. The [force of Life](#) is real. It is the **fifth force** (p. 25 in *Notes on Spacetime Engineering*¹). Ignore it at [your peril](#).

References and Notes

1. D. Chakalov (2021), *The Physics of Life* ([Intro.pdf](#)), p. 3; *Notes on Spacetime Engineering* ([SE.pdf](#)), p. 14.
2. D. Chakalov (2022), *Spacetime Engineering 201*. Full HD (MP4), app. 20 min. Updated version of *The Bridge* from [April 2014](#). Read ref. [53] on p. 24 in *The Physics of Life*¹ and pp. 4-6 in [The Arrow of Spacetime](#).

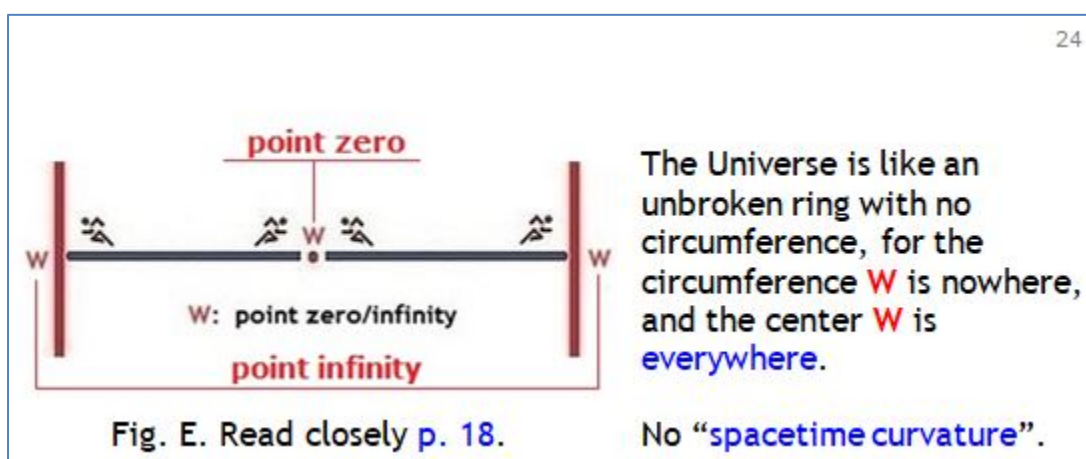
3. There is no acceptable theory of gravitation – see refs [15] and [17] and my comments on p. 18 in *Notes on Spacetime Engineering*¹, and notice the new *evolution equation* on p. 28 in *The Physics of Life*¹. It is the alternative to the C-field cosmology by F. Hoyle and J. V. Narlikar.

F. Hoyle and J. V. Narlikar, A New Theory of Gravitation. *Proceedings of the Royal Society of London. Series A, Mathematical and Physical Sciences*, Vol. 282, No. 1389 (1964), pp. 191-207.

The expression of mass and creation in terms of direct particle fields is so similar to that of the electromagnetic field that the question arises whether there is an absorber theory of ‘*m*’ and ‘*C*’ fields on the lines developed by Wheeler & Feynman (1945) for electromagnetism. In principle such a theory would exist; but it would be much more complicated than the absorber theory of electromagnetic radiation.

Much more is involved here than the result itself. If the present line of argument is at all correct it will mean abandoning the conventional point of view of physics, that the local behaviour of matter can be entirely determined by local experiments; by local behaviour we mean all physically possible forms of behaviour—e.g. the increase of solar luminosity—not just the behaviour actually observed. The latter is restricted by the obvious fact that we cannot experiment with the universe.

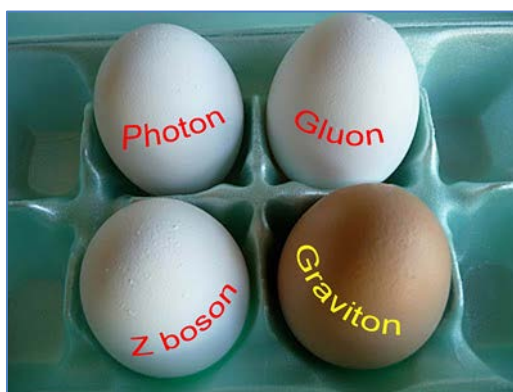
We do not try to experiment with the *physical* universe, but with the **Platonic** Universe as ONE¹. **It** (not “He”) is [between] the quanta of spacetime, just as there is no water between the molecules of water. Read p. 5 and notice Fig. 5 on p. 7, Fig. 7 on p. 11, and Fig. E on p. 24 (reproduced below) in *Notes on Spacetime Engineering*¹.



Combined with the so-called Relative Scale (RS) spacetime (p. 14 in *The Physics of Life*¹), the theory above suggests *physical theology* as an extension of quantum cosmology. Notice that **physical theology** is not religion, e.g., we do *not* discuss ‘God as eternal Love’ (1 John 4:8). In

the doctrine of *trialism*¹, there are *two complementary explications* of Nature (p. 5 in *The Physics of Life*¹): both the entire Universe as **ONE** (*physical theology*) and God as Love. Nature itself is incomprehensible to us, for the same reason physicists talk about *wave-particle duality* without being able to explain its *not-yet-physicalized Platonic* origin — neither a classical particle nor a classical wave. As Richard Feynman acknowledged in 1985: “The theory of quantum electrodynamics describes Nature as absurd from the point of view of common sense. And it agrees fully with experiment. So I hope you accept Nature as She is — absurd.” We cannot comprehend the doctrine of *trialism*¹. Nature is smarter. Read about the ‘general rule’ $1 + 0 = 1$ in [rule.pdf](#).

Philosophy aside, our first off task is to develop a *brand new* theory of gravity³ incorporating its *self-acting faculty* and *non-conservation* of energy. The *linearized approximation* of gravity is a *spherical cow*. Can you explain the *Earth tides* and the gravitational *rotation of Earth* with GR textbooks (MTW p. 467)? Can *geometry* produce work? *Forget GR*. Read p. 4 in *Notes on Spacetime Engineering*¹. There are no *gravitons*. The idea that gravitons are “particles” that generate the gravitational force is not even wrong.



Regrettably, *theoretical physicists* do not want to challenge the idiotic *gravitational-wave hypotheses*: see the bold facts in Addendum 3 at pp. 28-31 in *Notes on Spacetime Engineering*¹. Sorry, I can't give them what they *do not want*. Will leave them to simmer in *their our sauce*. They are good for nothing. As Max Planck warned us in 1936, we have to wait patiently until they die 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*.