

SSE 2016 Life and Mind Scientific Challenges

CONSCIOUS SPACETIME

Experiences localised in spacetime
and a mathematical conjecture
towards a proof of conscious experiences existing beyond brain.

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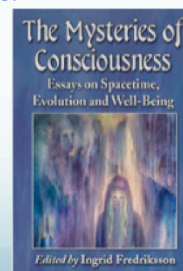
Musical adviser Sofia Thoresdotter

CONSCIOUS SPACETIME

An outline to experiential monism

Jan Pilotti

in



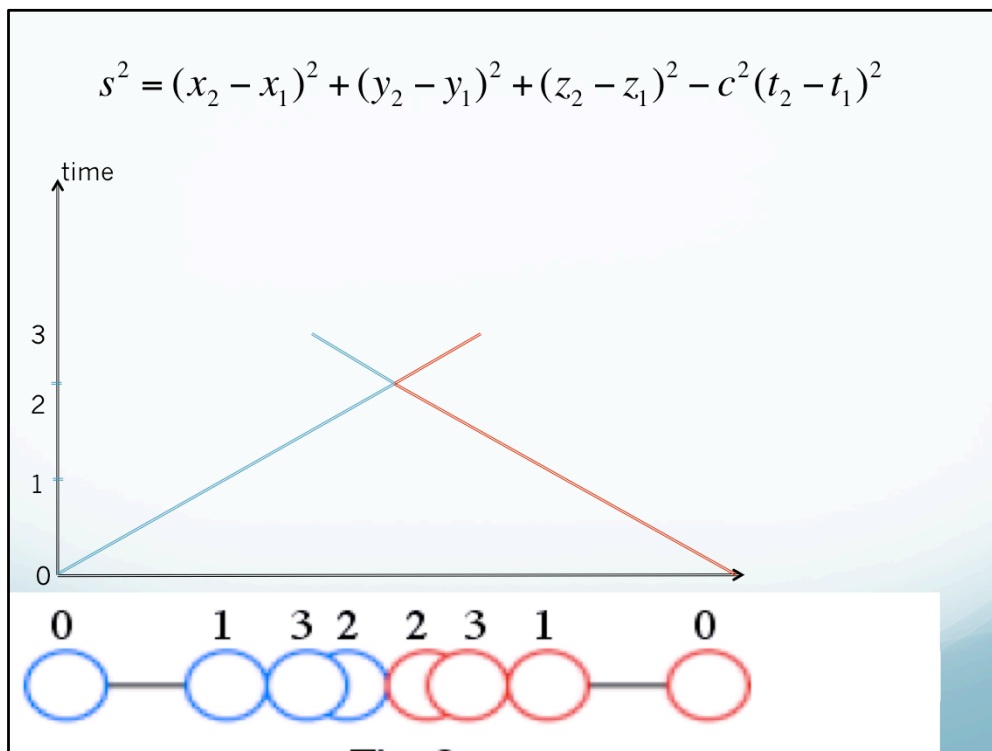
McFarland 2015

I am a physicist. Physics start to describe where objects are located. For more than 30 years I have done over 100000 observations always with the same result. So in statistical language $P = \text{almost } 0$ $ES = \text{almost } 1$: The experiment:

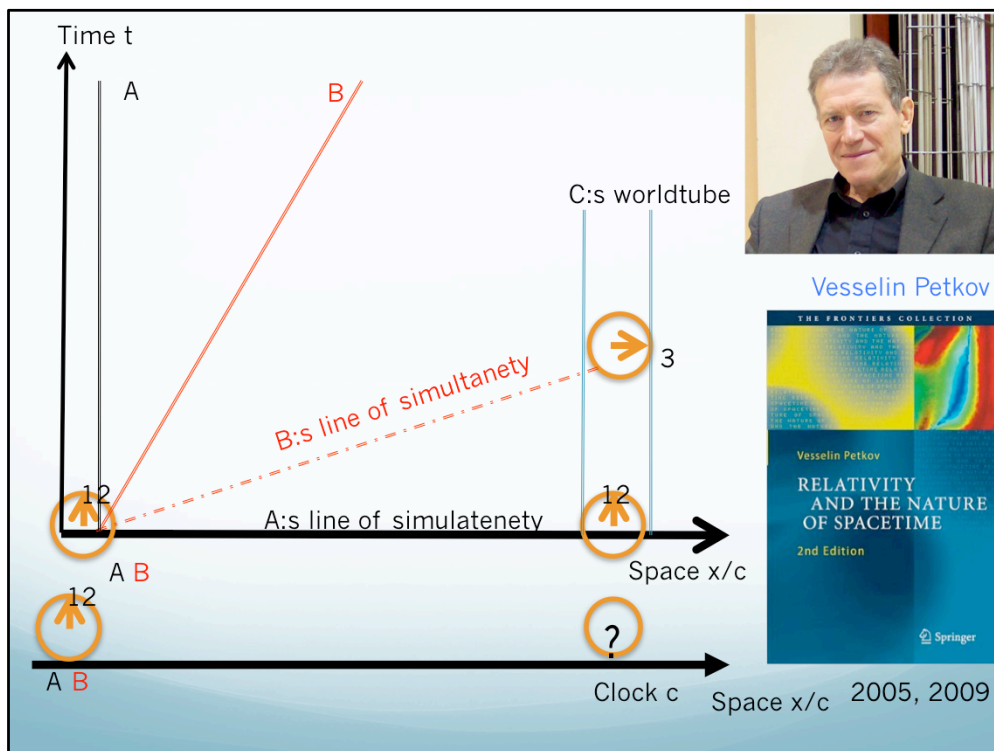
Where is the computer screen (book) located I think you all agree some distance in front of your nose (in my hand a couple of meters in front of our noses)

Please close your eyes for some seconds take few deep breaths Open your eyes .

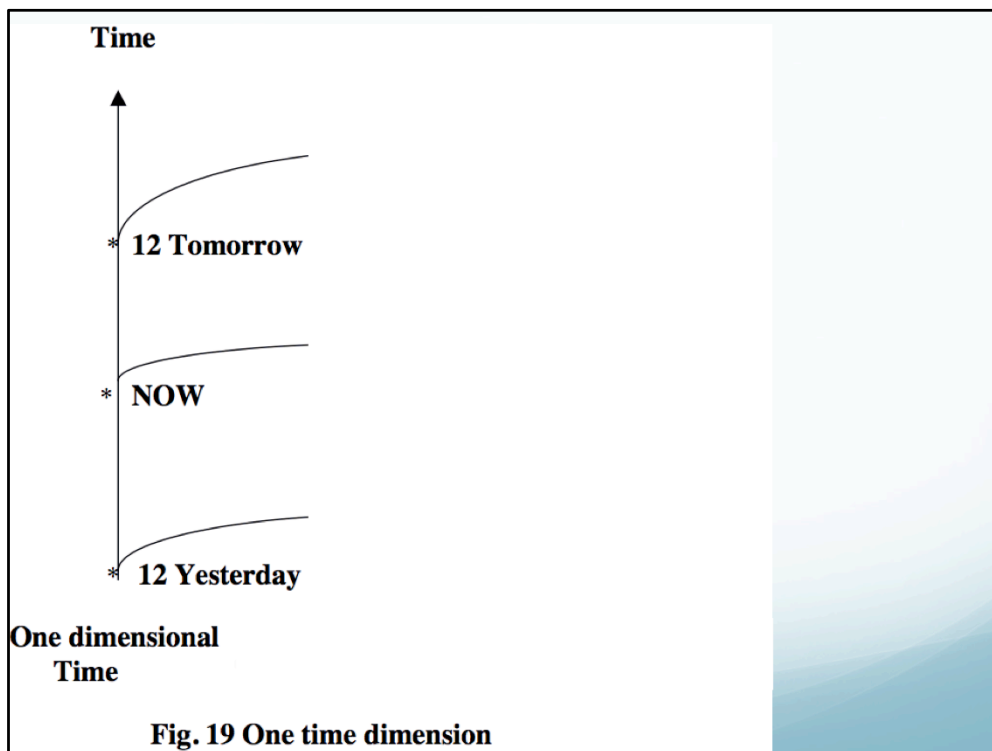
Where is your visual experience of the computer screen (book) located? An extraordinary claim requires extraordinary evidence. I claim the burden of proof is for those who claim sensory experiences are in the brain I have never ever experienced any sensory experience in my brain. Why is this delusion so widely held? Of course there are reasons otherwise intelligent people would hold it so hard. When we affect our brain or sensory organs this affect our sensory experience. Yes but only correlation. Does not prove brain creates consciousness and even less that sensory experiences are in the brain. So I claim all my sensory experiences are in my body outside the brain or outside the body. But where is memory? We all remember professor Manzotti standing exact here 5 minutes ago but no trace of him here now. So memory is not in space outside brain. So must be in brain? NO and to show this I will explain spacetime very brief as the time for my talk is shortened. (If you read this you can find more in textbooks or in my chapter **Conscious spacetime. An outline for experiential monism.** In Fredriksson I The mysteries of consciousness. Essays on spacetime, evolution and well-being. McFarland 2015. And much more in Petkov's book Relativity and the Nature of



Picture of spacetime. The movement in physical space is on the horizontal line but in spacetime above it is the X and the process is already existing as a whole. Einstein showed that space is relative, i.e. different for different moving observers and time is relative but the spacetime interval S is absolute the same for all observers. So spacetime is more fundamental than space and time taken separately

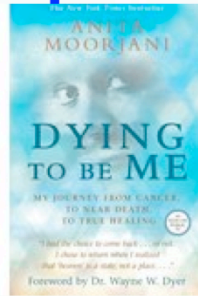


A stands still B moves to the right on the horizontal line. In the upper spacetime diagram it can be seen that A and B when they meet see the same time 12 on the clock where they meet, but on the clock C B sees 12 and A sees 3 as simultaneity is relative. So under the very weak assumption, and the very assumption in all objective science, that existence is absolute i.e. not dependent on the observer the clock C exists in all its moment as a 4D world tube. All 3D objects exists as 4D worldtubes



So all that has happened , the now and all that will happen exist at once in 4D spacetime. So a species who have learnt to tap the spacetime library does not have to store any memory in the brain and the brain can be free to do what the brain shall do, action . I claim we experience this extension of consciousness in time when we experience movements. And clearly when listen to music – we here not just one note , one note one note but a whole sequence of notes i.e. our consciousness extends in time as in space,

Near-death-experience

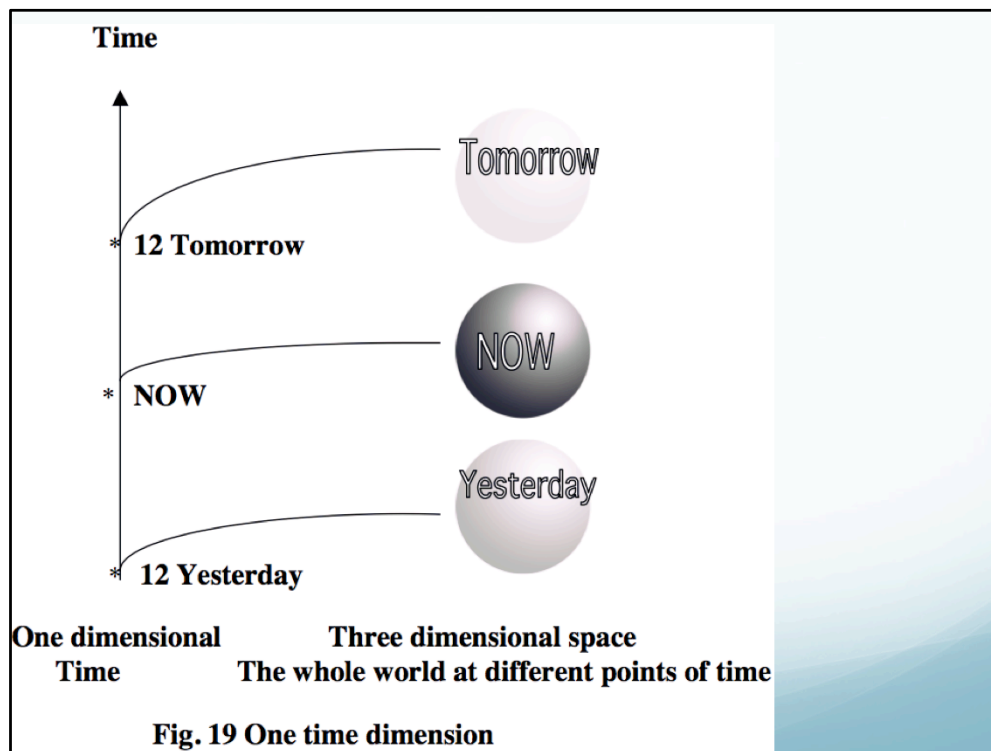


2012

“Total awareness, I could see everything at the same time and it was not limited by distance and not limited by time either ... felt as if everything was happening at once.

Past, present and future, it all felt like it was happening simultaneously.”

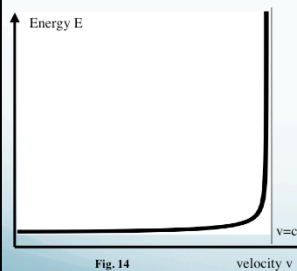
Even more clearly experience the 4D spacetime in NDE



BUT why don't we experience 4D all the time? + How can we experience the 4D as 3D changing in time? More time dimensions have been suggested. The brain then is a time machine which make us travel through spacetime. But in this picture future seems to be predetermined and no free will or free choice. But this can be solved.

Theory of special relativity

$$E=mc^2 \quad E = \frac{m_0 c^2}{\sqrt{1 - \frac{v^2}{c^2}}}$$



This shows that a
Particle starting with $v < c$
Cannot reach c or $v > c$
Light is born with $v = c$
And SR doesn't exclude
Particles born with $v > c$

For supposed particles
With $v > c$ "tachyons"

$$E = -\frac{im_0 c^2}{\sqrt{\frac{v^2}{c^2} - 1}}$$

Quest for Faster-Than-Light Particles. Alväger, T., Kreisler, M. Physical Review **171**, 1357, (1968)

Alväger et al argued no problem mass is imaginary as these tachyons can never be at rest to us and thus never weighed. Possible but ad hoc. So I thought if tachyons exist there would exist tachyon systems where coordinates for the tachyons are real and if we can see them they must have real coordinates in our system. This does not work in ordinary LT which gives imaginary number for $v > c$. So if we can see tachyons there must exist another transformation.

Derivation of Lorentz transformation

For details see <http://www.drpilotti.info/eng/sixdimensional-relativity.html>

Exactly as in Wolfgang Rindler Special relativity 1960 get

$$x^2 + y^2 + z^2 - c^2 t^2 = \pm (x'^2 + y'^2 + z'^2 - c^2 t'^2)$$

Rindler argues correctly we cant use - for low velocities but as I sought for $v > c$

also used the - and use the usual simplification to two dimensions x, t

$$x^2 - c^2 t^2 = \pm (x'^2 - c^2 t'^2)$$

+ gives ordinary LT

$$x' = \frac{x - vt}{\sqrt{1 - v^2/c^2}}$$

- gives

$$x' = \frac{x - vt}{\sqrt{\frac{v^2}{c^2} - 1}} \quad \text{Valid only for } v > c !$$

$$t' = \frac{t - vx/c^2}{\sqrt{1 - v^2/c^2}}$$

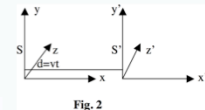
$$t' = \frac{t - \frac{vx}{c^2}}{\sqrt{\frac{v^2}{c^2} - 1}} \quad \begin{array}{l} \text{But to use -} \\ \text{when three space} \\ \text{Must also have three times} \\ \text{If real coordiantes}^* \end{array}$$

$$\begin{array}{l} y' = y \\ z' = z \end{array}$$

$$t'_2 = t_2 \quad t'_3 = t_3$$

$$y' = ct_2 \quad z' = ct_3 \quad t'_2 = \frac{y}{c} \quad t'_3 = \frac{z}{c}$$

* According to theorem of inertia for quadratic forms fo



I sought for a new possible transformation starting exactly as Einstein and trying to derive transformations to a system not limiting to $v < c$ and actually found a new solution which have been missed. Einstein's theory of special relativity can be extended to a six dimensional spacetime three space three time dimensions and allowing superluminal velocities.

For details see <http://www.drpilotti.info/eng/sixdimensional-relativity.html>

Six dimensions 1971-1977



Matej Pavšic



Jan Pilotti



Ersamo Recami



Roberto Mignani



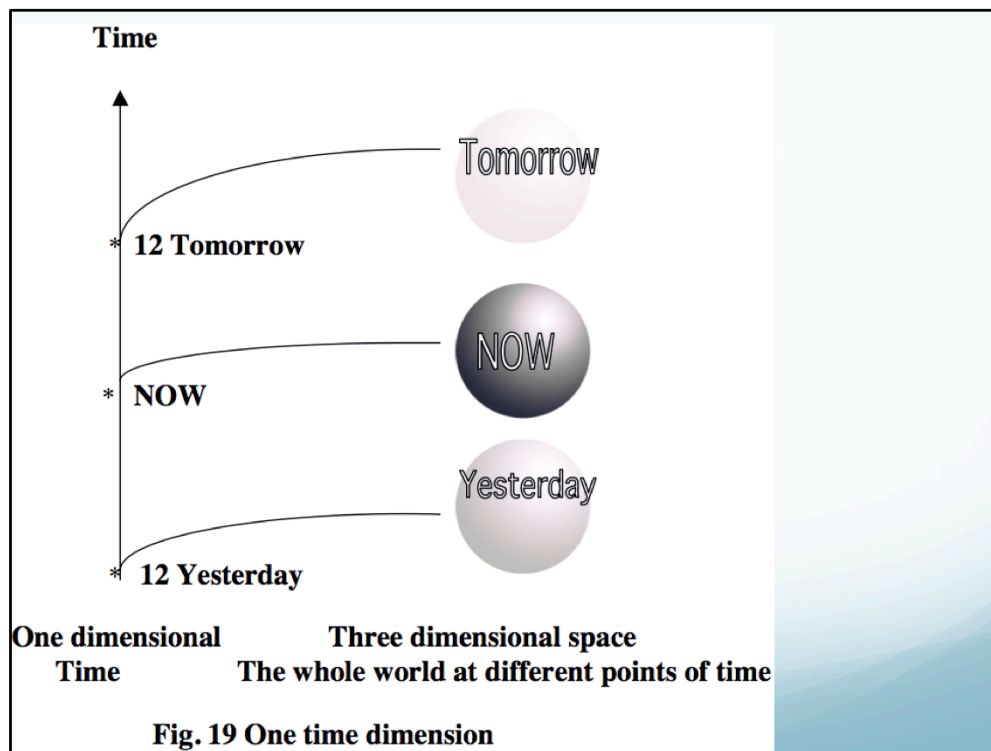
E.A.B. Cole

Cole, E.A.B. (1977). Superluminal Transformations Using Either Complex Space-Time or Real Space-Time Symmetry. *Il Nuovo Cimento*, **40A**, pp. 171-180

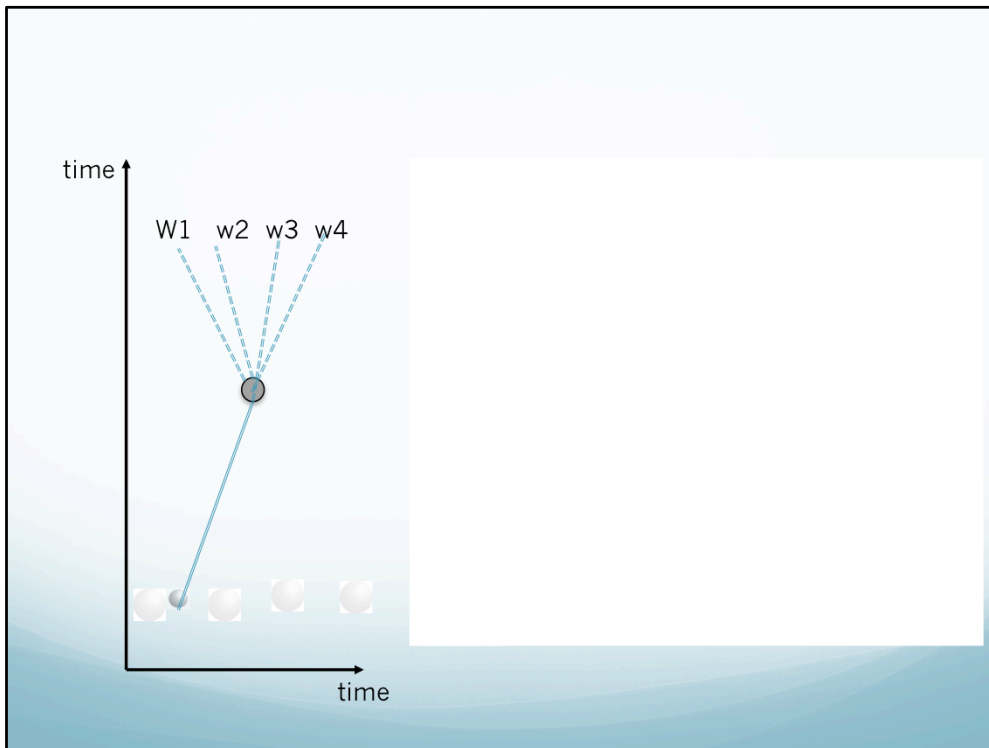
Cole, E.A.B. (1980). **New Electromagnetic Fields in Six-Dimensional Special Relativity** *Il Nuovo Cimento*, **60A**, pp.1-12

Cole, E.A.B. (2000). **Prediction of dark matter using six-dimensional special relativity** *Il Nuovo Cimento*, **115B**, pp.1149-1158.

There are to my knowledge at least four different researcher who independently discovered this possibility to extend Einstein's SR to six dimensions three space and three time dimensions which also allows velocities $>c$. Pavšic and I did our discovery January 1971 but we were then undergraduate students and didn't publish. I don't know when the others did their discovery but Recami and Mignani published 1974, Cole 1977



Again how solve the predetermined future? Every point on the 1D time line is a full 3D world.

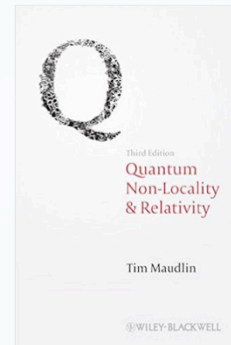


This is a picture of 5D: every point in the 2D time-time surface is a full possible 3D world and now we have many possible choices for the future. Our real time used in the animation is the third time dimension which shows how we can move through this 5D so totally 6D.

I will also argue that this solves the deep problem why we have not been able to bring the two physical theories Relativity and Quantum theory together. As you know string theory aims to that but have not yet succeeded and have no experimental corroboration at all. String theory uses extra space dimensions except Baar who uses two time dimension. But I argue the problem is due to that SR shows spacetime ontological (at least) 4D but in a 4D spacetime all is predetermined and there is just one possible future but QM shows there are many possibilities. The 6D view have both that spacetime is ontological $\geq 4D$ i.e 6D and many possible future. So this theory seems to solve even deep physical problems which strengthen that it can be a good ground even to solve consciousness. As argued here there are also experiential support for 6D. This is expanded on in my chapter **Conscious spacetime. An outline for experiential monism**. In Fredriksson I The mysteries of consciousness. Essays on spacetime, evolution and well-being. McFarland 2015



Tim Maudlin



1994, 2011

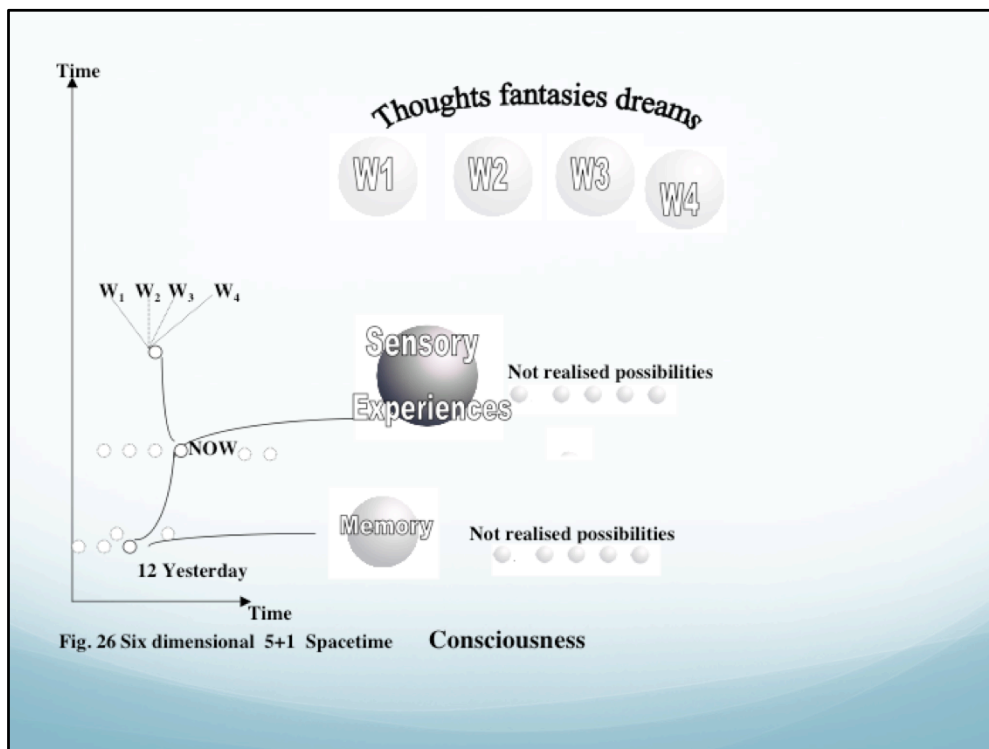
"Violation of Bell's inequality does require superluminal causal connections".

WILL

"Violation of Bell's inequality can be accomplished only if there is superluminal information transmission"

PERCEPTION

I think information is = perception and causality = will which are aspects of consciousness so think this shows consciousness is related to superluminal velocity



I argue that sensory experiences are in the material object outside the brain (c.f. Manzotti object bound mind-identity theory) Touch in my body, smell in my nose, taste in my mouth and sight and hearing in the space outside my body. Memories are where the earlier events took place in spacetime. Mental experiences as thoughts fantasies dreams etc. are in spacetime outside the now and so also outside the 3D brain. More detail see Pilotti J Conscious spacetime. **An outline for experiential monism.** In Fredriksson I The mysteries of consciousness. Essays on spacetime, evolution and well-being. McFarland 2015

Time was not passing in the usual way.
an entire episode its beginning, its middle and its end stood out as a unit

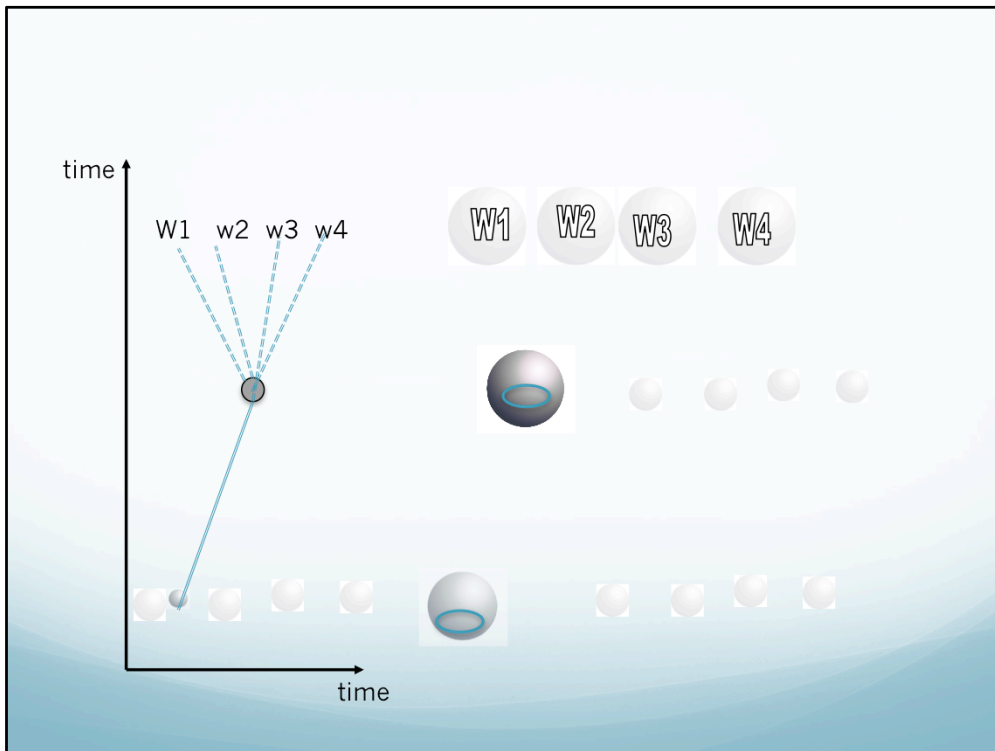
What we "saw" was actions, all the actions of an episode,
"simultaneously" with a sound track

It was as if we were able to wander about, back and forth, in a static landscape the features of which were actions, words and emotions

When I revengefully hit him, I not only experienced my own feelings of glee and triumph,
but also my brother's physical pain and despair..

Göran Grip M.D. From Near death experiences
The Ins and Outs of NDE perception
in Fredriksson I Aspects of Consciousness Mc Farland 2012

I interpret this as GG experience his life extended in time that is 4D spacetime but as he also experiences other possibilities e.g. his brother's pain, which he didn't before it is experience of 5D and moving through this takes one time dimension more so 6D



Moving through 5D using our real time as the sixth dimension



From a flat hat we can by magic get a flat cat but to get a 3D cat we need a 3D hat

Mathematical Conjecture

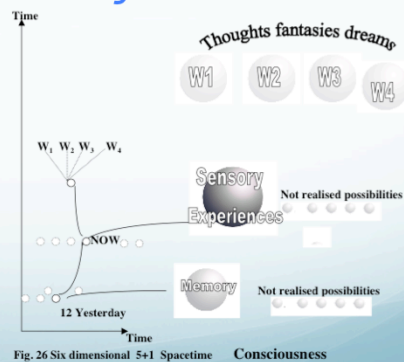
**A N-dimensional experiential structure
can in no sense
“create”, “produce”, “emerge”
a (N+1) dimensional experiential structure
and that
this is possible to prove
mathematically-logically.**

The theoretical physicist Matti Pitkänen supported my conjecture at SSE conference 14 October 2016 and have also sent me a formal proof 18 October 2016 using induction which I and also others will examine. If this is correct we are closer to a full proof that there are conscious experience beyond the brain which cant be “produced” by the brain.

Scientific Conclusion

Existence of $\geq 5D$ experiences and a mathematical proof of the conjecture give a strong case that there are experiences not created by 4D brain.

And which can be described in 6D spacetime



My personal conclusion: We are in the midst of a "Copernican" revolution where the brain-centred view of consciousness and worldview will be replaced by the view of spread mind (Sheldrake) object-bound mind (Manzotti) conscious spacetime (Pilotti) and to the Universal Mind and even God ... and The One about Whom nothing can be said.