

International Journal of Applied Life Sciences and Engineering (IJALSE)

The “Twins” Paradox

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Vol. 1 (1) 83-86, 2014

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The “Twins” Paradox

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Abstract

If it is not too disabling, the mild form of an ictus (TIA) can be a welcome opportunity to analyze the workings of one’s own brain from the inside out as revealed by the perception of its breakdown. Impaired consciousness unveils a truism : that nothing can be felt, perceived, experienced in absence of the brain. We take our brain for granted, we are not even aware of using it until we are confronted with its workings. This paper is about the brain as the seat of perceptions including its own perception. You can go a step further and say that it is about the brain and the feeling of perceptions including the feeling of its own perception. This paper is not about the experience of a stroke for the sake of it, but about what the experience of a stroke can tell you about the brain because of changes that occurred in its physicality and psychic content (consciousness, cognition, the self). I have tried to describe the feeling induced by a stroke using a model *à la* Minkowski and based on the Twin Paradox thought experiment.

Key Words: Ictus, perception, brain, Minkowski, self, consciousness, non-locality

Introduction

This paper is about the brain as the seat of perceptions including its own perception. You can go a step further and say that it is about the brain and the feeling of perceptions including the feeling of its own perception. You can perceive things without feeling that you are perceiving them: you don’t feel the weight of your limbs, the touch of the clothes on your skin, the humming of the engine in your car until in fact it breaks down. By this I mean that you are unaware of perceiving. The feeling of perceiving involves a conscious effort. You know that all these things are happening but you don’t feel them: it is just another normal day in the world with my brain. Our brains let us ignore any constant input, monitoring a steady state is of no interest, so what a brain does is adjusting for constant input, a feature called sensory adaptation. Only changes in perception are consciously felt in our brains: adaptation is a feature of all the sensory systems. With an obvious extension of the meaning of

‘sensory system’ to the brain—the global sensory system—we can expect to become aware of its functioning whenever it breaks down because of a stroke; likewise we will become aware of our consciousness because the feeling of it has changed.

The stroke

Suddenly I was unable to express my thoughts : whatever word I uttered it bore no relation to what I wanted to say, I even felt an urge to utter words but they were the wrong ones uttered at random. It seemed as if I were observing myself in slow-motion, I was witnessing myself acting as opposed to being an active participant in it. My impaired consciousness was suspended in some esoteric space. I still could think logically, I felt no pain, but I had difficulties in identifying my body parts in space, as if they were not mine. The condition lasted perhaps a few minutes before I recovered and became aware of the fact that somehow my Broca area had been temporarily impaired. Upon reflection I realized that I had been present to myself and was aware that I could not bring myself to speak what I was thinking despite the conscious efforts to the contrary. The feeling of a

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psychic space-time continuum is the best approximation of what I felt in the few minutes that my stroke lasted. This story is about the perception of a psychic space-time continuum *à la* Minkowski. I experienced the perception of time as if my personal clock had stopped – time stretched indefinitely: I was able to dig into the past as if it were happening in the here-and-now. I was experiencing psychic time: a bonus on top of the timeless feeling that you will experience. The difference between “personal” time and psychic time is that in the former case you are consciously remembering past memories, in the latter you re-live the whole thing as the “real” thing and not as a memory. You are in it as if it were happening at that precise moment. You will feel the same poignant emotions, you are balancing on the rim of an abyss.

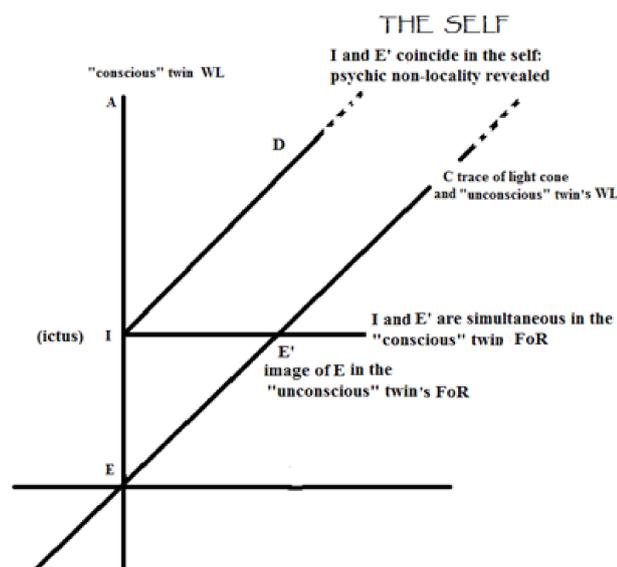
The “new” brain

I became aware that I was experiencing a ‘new’ brain: my feelings of space and time had changed. Having a different brain can set off unexpected reactions in your social environment: family and friends. They will try to make you understand that you have “changed” and this in turn will lead to a reaction of denial, especially if you have suffered only a mild stroke. You will in due course come to accept the fact that indeed because you have a different brain, you also display a different behaviour both physically as well as psychically. You are not the person that you were before. You have a different brain now. Rewiring the brain extends over three levels: a purely physical recovery where dendrites and axons seek to establish new synapses, a functional recovery and a psychic recovery. Physical recovery occurs in a time-limited window of neuroplasticity that opens following the stroke, the functional and psychic recovery can last many years following the initial injury. Functional recovery is of course a product of physical recovery. True functional recovery is difficult to assess because it is difficult to distinguish it from some kind of behavioural compensation that allows a partial return to pre-stroke motor performance levels.

The “twins” paradox and psychic recovery

The “twins” that I am referring to are as coexisting and consubstantial as those of the Twins Paradox in the thought experiment of relativistic memory. They are the children of the self: they live parallel lives in a *psychic space-time continuum à la* Minkowski and do not take notice of each other unless something unusual happens, their names are “conscious” and “unconscious”. As Jung puts it: “The self is a quantity that is supraordinate to the conscious ego. The self is the totality of conscious and unconscious”. And he adds: “But it transcends our powers of imagination to form a clear picture of what we are as a self, for in this operation the part would have to comprehend the whole”¹. If I may object to Jung’s definition, I wouldn’t rather use the word quantity to define the relationship of the self to the ego. It introduces a mereological dimension that cannot be at home when dealing with non-material items like the ego and the self. I would rather use Varela’s definition that every system-whole is organizationally closed: “The wholeness of a system is embodied in its organizational closure. The whole is not the sum of its parts, it is the organizational closure of its parts”². The self’s “twins” play a role in a psychic space-time continuum *à la* Minkowski that I myself experienced when I suffered the ictus and became fully aware of having a brain because, in a sense, it had partially broken down. The analogy with the psychic space-time continuum *à la* Minkowski was spurred by the feeling at the exact moment of the ictus of being nowhere and everywhere at the same time and of being aware at the same time of being myself physically present in the kitchen. With space having vanished to a dimensionless point, time seemed to stretch indefinitely. Time stretches indefinitely, but what does that mean? Remember Jung’s remark that “. . . space and time are hypostatized concepts born of the discriminating activity of the conscious mind and therefore essentially psychic in origin (Kant’s a priori). Space and time are created by the intellectual need of the observer, then their

relativization by psychic conditions is no longer a matter of astonishment but is brought within the bounds of possibility. This possibility presents itself when the psyche observes, not external bodies, but itself”. Is causality also essentially psychic in origin? If this were the case, wouldn't it be created by the intellectual need of the observer? And how about synchronicity, the acausal connection or meaningful coincidence? This is what happens to time at the moment of the stroke: clock time is replaced by psychic time. The feeling of time stretching indefinitely is a psychic condition that is revealed even while one is looking at the moving pointers of a clock. The feeling of the space-time continuum is the best approximation of what I felt in the few minutes that my stroke lasted. The ictus (**I**) was the cause of remembering (**E'**) a fact (**E**) that I had repressed years before and was to re-live with the same intensity and poignancy of emotions.



WL = World Line FoR = Frame of Reference Straight line
I-D: signal sent from “conscious” FoR to “unconscious” FoR parallel to the trace of the light cone (also WL of “unconscious” twin). They will meet at infinity where psychic non-locality is revealed.

At that moment the unconscious-twin had left the common house at the speed of light with regard to the conscious-twin's frame of reference, and it joined consciousness again to complete the self as being “the psyche image of totality and wholeness”. The psyche as an unbounded domain where mereological

concepts do not apply: the part and the totality have the same cardinality. Psychic recovery has to do mostly with memories and dreams, in Jung's terminology “archetypes”, that are registered in the Limbic System. This part of the brain (the mammalian brain) is unconscious but it has a profound effect on our experience because it is densely connected to the conscious cortex above it and constantly feeds information upwards. Emotions – our most basic cerebral reactions – are generated in the limbic system, along with most of the many appetites or urges that direct us to behave in a way that helps us to survive. The archetype is essentially a collective unconscious content that is altered by becoming conscious and by being perceived, and it takes its color from the individual consciousness in which it happens “to appear”³. It is in psychic time that the wholeness of the self, the synthesis of conscious memory (**E'**) and unconscious archetype “appearing” in consciousness (**I**), can be perceived. I was experiencing a psychic space-time continuum that would recall unconscious memories that I had repressed years before and was to re-live with the same intensity and poignancy of emotions. At the speed of light the clock of the “unconscious” twin will stop. Time ‘stretches’ indefinitely and distance collapses to a dimensionless point (psychic non-locality). The Relativity Theory shows that time and space are relative to our frame of reference. They are so relative, that if we use ‘the movement at the speed of light’ as our frame of reference, time and space become insignificant. Consequently, speed as a dimension of space over time also becomes irrelevant. At the speed of light, there is no speed any more, it is just a condition. The reality at the speed of light is the reality of light.

Conclusions

The stroke brought to the surface of my consciousness the memories of past events that I thought I had forgotten but that in fact had only been repressed to avoid disturbing memories. Emotional memories that I thought long incorporated, forgotten and lost in my conscious psyche surfaced again from

the unconscious after many years. Being actually aware of being in the present, I had the feeling that past events were jostling to gain access to my conscious self. Psychic time does not dissolve after the duration of the stroke, it stays with you during your personal time: it keeps surfacing now-and-then when memories of past events are replayed as being in the here-and-now, actually re-enacting them in the same context. Past events had left deep emotional scars in my Limbic System and were to stay with me for a long time before being truly forgotten and experienced as memories of memories. For the sake of mental health I had to learn to peer into that abyss without becoming swallowed up by it. In fact I was swallowed up, it took me years before I could re-emerge at conscious level. Psychic

recovery has lasted a couple of years, the time necessary to assimilate again my memories in my consciousness : psychic recovery was a long therapeutic process of which this essay is the conclusion.

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