

## A World in 'Presence' II

In the present article, I propose to strengthen the validity of the title of the article that I have submitted on 11/26/2012: 'A World in 'Presence''. (Quantum Physics, viXra 1211.0149v1). In this article, I evoked the indelible character of the presence of the '*thinking subject*' which, consequently, should mark the laws and/or the properties that define our understanding of Nature. Obviously, it is at the very small scales of quantum mechanics that these consequences should be detectable. With the hypothesis  $\tau_s$ , I propose an indicator of this indelible 'Presence'. I attribute to this '*proper time of the subject*' a quantitative value (at present I propose one estimation of a threshold value) and also qualitative values that I tried to list<sup>1</sup>.

I imagine that a reader of *A World in 'Presence'* understands all these proposals as pertaining to a corpus of my own metaphysics, and therefore that the destination of scientific veracity will not be reached for some time. However, because I have been developing this subject for more than five years, I have had the opportunity to notice very significant convergences with works justified on very different bases and hypotheses. These encouraging convergences have been already quoted in the preceding article. Also I proposed experiments that could validate (or invalidate) the hypothesis of the 'Presence'<sup>2</sup>.

In the present article, my objective is to highlight new convergences that will reduce - I dare to hope - in a significant way, any *a priori* 'criticism' from a metaphysical perspective. This article will consider convergences with the works of Stanislas Dehaene<sup>3</sup> presented in his course in 2012<sup>4</sup> at the 'Collège de France' in the field of cognitive sciences. (The page 5 of this course contains one remarkable synthesis strictly chiseled of the main ideas of S. D.)

**In the first place** he considers that the swinging confrontation of 'the being of Nature' and 'the being in Nature' that characterizes the human being plays an essential role in the process of human evolution. To quote his work: «*The architecture of the cortex could have evolved to realize, at a very high speed and in a massively parallel way, Bayesian inferences. The employed algorithm*

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<sup>1</sup> A World in 'Presence'. Quantum Physics, viXra 1211.0149v1.

<sup>2</sup> Idem.

<sup>3</sup> Professor at the 'Collège de France' and director of INSERM Unit 562 'Cognitive Neuroimaging'

<sup>4</sup> Lectures accessible on the site of the 'Collège de France'.

could explain the way our brain anticipates the outside world." "The baby seems endowed, from birth, with skills for plausible reasoning and Bayesian learning, combining in an almost optimal way the a priori coming from our evolution and the data received from the outside world.»

Thus according to S. D.:

1 - At the most specific level that makes us human beings endowed with the faculty to think and with the faculty of language, we are the fruit of evolution, that is to say the fruit of the confrontation between the laws of nature that originally determined us and the laws which become our own and assure the dynamics of our survival and our development. In this way we are completely beings of Nature.

2 - From birth we are beings in Nature and as such we receive data from the outside world. We cogitate these data, and a process of anticipation is set up which ceaselessly contributes to the consolidation and to the development of the overhanging position of the being in **Nature**. As such we are completely beings in Nature.

**Secondly**, S.D. tells us that, according to his observations : "Our decisions combine a Bayesian's probabilities calculation with an estimation of the probable value and consequences of our choice. " "The cortex would realize at very high speed ... Bayesian<sup>5</sup> inferences<sup>6</sup>. » At very high speed certainly ! But not immediately ! Any process of estimation and decision on behalf of the thinking subject requires a duration. The thinking subject is always involved in a process by which he infers, whether he is aware of it or not; he cannot be satisfied with the immobility that would be engendered by the absolute, the definitive certainty, reached once and for all. The mobility of his thought is the condition of his existence. It is from these considerations that I was brought, for several years, to formulate the hypothesis of  $\tau_s$ .

It is for these reasons that I qualified it as an **Existential** and that I attributed to it an indivisible temporal duration.

It also corresponds to a blind 'spot' of human intelligence because during this duration the human being is not free.

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<sup>5</sup> See my article posted on 11/2/2012: 'Thomas Bayes in the brain.'

<sup>6</sup> **Inference**: Logical operation by which we accept a proposal by virtue of its connection with other proposals already considered true.

I am delighted by this connection with S. Dehaene works<sup>7</sup> because, for a long time, I have had the conviction that the partition of knowledge into different sciences is particularly sterilizing. It is not simple to establish suitable footbridges between domains of knowledge that are established with very different methods and criteria of validity. Our older ancestors are in part responsible for this. Let us remind ourselves that for Descartes, mathematics deliver the truth about the world only as they translate a certainty of the understanding and for Kant "We can find science in the strict sense only where we can find mathematics."

In the article from 9/11/2012: "*Enter into an alliance with the linguists to move forward*" I indicated that there were very fertile connections that could occur between concepts, results, analyses, observations, resulting from different scientific domains. There are also recommendations that should never remain silent for such a long time. I think in particular of that expressed by Maurice Merleau-Ponty: "*The **situated** and embodied aspect of the physicist*<sup>8</sup> must succeed the *Universal 'I think' of the transcendental philosophy.*"

Regularly I am criticized for taking the risk of wanting to move closer to domains of knowledge that enjoy very different degrees of freedom of interpretation and as such there would be a fundamental incompatibility that would prevent us from wanting to juxtapose them and to draw from one to enrich the other one. This criticism is acceptable and it is necessary to remain intellectually watchful to minimize errors. Besides, it seems to me that by subjecting these links to the criticism of others one can better limit this potential error. It is exactly my intention in submitting the article today.

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<sup>7</sup> « *Are we scientists from the cradle?* », is the title of the recent lecture: 01/08/2013. Obviously, in a certain way, the answer is yes. So immediately the next question is : "Is the adult scientist a scientist in the same way? Is he able to escape from or to transcend this first determination after a substantial process of studying academic physics?" If the answer is 'No', that means that our Scientific knowledge, such as physics, cannot be Universal.

<sup>8</sup> Notes de cours (1956-1960) du 'Collège de France', published in 1995.