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BOOK OF ABSTRACTS

6TH MEETING
OF YOUNG RESEARCHERS OF UNIVERSITY OF PORTO



Brain and Space – The Production of Perceptual Space

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This dissertation is focused on the study of the relation between space and the self, and of the underlying mental and physical processes that allow this interaction to occur. It is intended to make the chain of events responsible for the creation of perceptual space explicit, describing the whole process of being in space and being aware of it. From the basic physical ways of perceptions to the construction of subjective places, it is proposed to link space with the self.

For this research to be possible it is necessary to reach several other fields of knowledge besides architecture. Through philosophy and psychoanalysis it is possible to refer to the theories that surround space in his basic form and the place where consciousness takes part. With the fields of biology and the cognitive sciences we can describe accurately (as they are sciences) how the natural system works with the brain.

Following a materialist theory of the philosophies of the mind, it is believed that mind has a physical support, the brain. Through the communication of brain-cells we gain consciousness and the ability to act, feel and think. It gives us also the awareness of time, mental imaging and the capacity to create dreams and emotions.

Nevertheless, the brain doesn't work alone, it depends on a big nervous system that allows it to receive stimuli coming from the outside world through nervous impulses. This kind of information is responsible for our perception of the physical environment and thus the creation of mental space.

But the process of space-awareness does not come directly from this impulses. There's a whole variety of mental processes, defined by the cognitive sciences, that allow the provided (and already treated) information to be organized. Only after the perceptual space can reach the place of awareness.

"... at levels below its atomic and molecular materiality, nature is without the status of certainty, the complementarity of particle and wave, matter and spirit, provides only for indeterminate outcomes. Non locality and non-linearity are qualities at the very foundations of life, the specificity of all quantum events depending on our active participation as observers."

Following this chain of thoughts, it is extremely important to be aware of the uncertainty of the field in question. We are not even near to reach a conclusion in this matter but happily the neuro-sciences are recently involved in the pursuit of more answers.

References

- 1) *Ascert. Res. Engineering Action - E.A.C. (1999), in the *Proceedings of E.A.C. 1999*, Ed. 2000.*