

Athenian Symposia: Cerebral Instantiation of Memory, Under the auspices of the Hellenic Clinical Neurophysiology Society, Athens, March 30-31, 2018

Guest Editors: Andrew C. Papanicolaou, Ioannis Evdokimidis, Theodoros S Constantinidis

## Lecture

# Perception of space—space memory—perception of space sixty years later

Ioannis Evdokimidis

### Abstract

When we recall many years later the places where we lived as children, the family home, the elementary school, places where we played we remember them as spacious while when we visit them they appear small, as if they the volumes of objects the surfaces even discrete objects had shrank. This clash between the recollection and the present perception of the same space is the topic of my presentation.

The factors that influence the emergence of a percept and its subsequent encoding as a mnemonic engram are many, Steven's law expresses the relative reduction of the original percept on its way to become a memory. Therefore the general trend of perceived magnitudes (weight, surface, distances) all shrink in the process of becoming transformed into memories. This, however conflicts with our subjective impression that the memorized image of places, the space where we played, for instance, is larger than what it is in reality.

Besides these factors that are expressed in Steven's law, there are others that influence the process. The most basic among them are the following. The Age: there is evidence that up to the age of 9-10 years the distances are overestimated but subsequently the estimates become more precise. The feelings experienced, the efforts exerted in play and the goals of the various actions. Negative moods result in overestimation of distances. However, if the traveled distances lead to desired goals they are underestimated. Moreover, greater efforts lead are correlated with overestimates of distances.

Also important are kinesthetic sensations because they express the active involvement of the person within the space where the actions occur. The walking the running the sudden changes of direction while playing and the associated strong feelings create a pronounced affective experience which "dilates" the perceived dimensions of the objective space.

In conclusion, the dimensions and distances of the childhood playing spaces while remaining objectively constant, in the context of their later recollection they are far richer than their present perception through adult eyes. It appears that the richness of the childhood memories which are absent in the impoverished adult percepts seems to increase space beyond its objective size.

Ioannis Th. Evdokimidis was born the 1950 in Pireefs. He graduated (class of 1967) from the Ionidios High School and later, in 1974 from the Medical School of National and Kapodistrian University of Athens. He completed his training in Neurology and Psychiatry in 1980 and joined the staff of the Neurology Department of the University of Athens Medical School housed in the Aeginition Hospital. In 1984 he received the degree of Doctorate in Neurology after completion of his Ph.D. thesis on the occulographic examination of congenital nystagmus. From 1984 on, he served as Assistant Professor of Neurology, then Associate Professor and since 2014 as Professor

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