

Obituary



Jacques Le Magnen with his wife Régine on July 14, 1976, the eve of ISOT VI, which he organized at Gif-sur-Yvette.

Jacques Le Magnen (1916–2002)

One of the pioneers in research on olfaction and taste, and on the regulation of water and food intake left us on Thursday, May 23, 2002, at the age of 85. Jacques Le Magnen was a disciple of the famous French physiologist Henri Piéron at the Collège de France, and from 1949 till 1989 developed his own laboratory of sensory and behavioral neurophysiology in this same renowned institution.

His early work was dedicated to the study of olfaction, and more especially (but not only!) to the influence of hormonal status and particularly sex hormones on variations in olfactory sensitivity. The originality of his approach and the precision of his experiments, executed with very primitive olfactometry, immediately assured him a position as one of the leading personalities in the field of olfaction. He always retained a keen interest in olfaction and was a mentor to many young scientists, both in and outside his laboratory, who wanted to study olfactory phenomena, even when the main orientation of his work shifted towards the study of the regulation of food and water intake. To this latter field of research he made a number of invaluable contributions.

Beginning in 1950, Jacques Le Magnen put forward a series of revolutionary concepts. His ideas have inspired and still inspire generations of scientists. He was the first to develop instruments that made it possible to register food and water intake in the rat across the whole 24 h day, and to show how the behavior and its determinants change

under the influence of circadian cycles. During the phase of activity (the night in the rat), intake permits the build up of bodily reserves which will be used in the resting phase, during which consumption is reduced to a minimum. This day/night alternation is one of the cornerstones of energetic and hydromineral regulation. During the daily active period, meals alternate with fasting in response to metabolic signals that are generated by the acquisition of the ingesta and by the composition of bodily reserves. In all this, the role of the sensory characteristics of food, olfactory of course, but also gustatory and visual, was not forgotten. In what he called 'learning of palatability', Jacques Le Magnen showed how the sensory characteristics of food transform themselves into a complex conditioned stimulus that guides behavior, permits the formation of food preferences and aversions, and determines the size of a meal depending on the anticipated metabolic consequences of ingestion. Furthermore, his laboratory confirmed that the same sensory and metabolic factors also function in humans.

Finally, he was also interested in problems concerning human alcohol consumption, and in order to study them he created an animal model that was addicted to ethanol which he used during 30 years of research.

Jacques Le Magnen continued to publish scientific work right to the end of his life. His bibliography can be found in his last invited publication in an international journal, entitled 'My scientific life: 40 years at the Collège de France' (2001, *Neurosci. Biobehav. Rev.*, 25: 375–394). Thus, the richness of his ideas and his enormous knowledge of the fields that were important to him are readily available.

Jacques Le Magnen also played an important role in the organization of research. As a Research Director of the Centre National de Recherche Scientifique and of the Ecole Pratique des Hautes Etudes, he played an important role in the evaluation of research and scientific development in France. As co-founder and first president of the European Chemoreception Research Organization, he had a lasting impact on the development of the coordination of chemosensory research in the world.

But above all, his students and all those who have known him will remember him by his exceptional courage and dedication to science. At the age of 13 he contracted an encephalitis, as a result of which he lost his eyesight. His blindness, however, did not stop him from pursuing a scientific career characterized by brilliant ideas and experiments. He was an indefatigable worker, a true scholar and a lover of refined music. His intellectual activity did not end with his retirement from the Collège de France in 1989 and he continued to write to the last.

His students and his friends were always struck by his phenomenal scientific and encyclopedic memory. Jacques Le

Magnen knew everything: who had demonstrated what, by what means and under what circumstances. The most astonishing feats of this memory were his lively and very visual descriptions of cities he had visited, but of course had never seen directly. He saw these cities through the eyes of Madame Le Magnen, his admirable and devoted companion, who was always at his side wherever he traveled.

Jacques Le Magnen was Chevalier de la Légion d'Honneur and Doctor Honoris Causa of the Universities of Lausanne and Utrecht.

France Bellisle, Paul Laffort and Ep Köster