

## In memoriam Jacques Gervet (1934-2018)

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Jacques Gervet died on December 5th, 2018 at the age of 84. His research activity began in 1954 at the “Laboratoire d’Évolution des Êtres Organisés” in Paris which was directed by Pierre-Paul Grassé. Then, in the early 1960s, he moved to Marseille during the foundation of the new Institute of Neurophysiology and Psychophysiology where he joined the Department of Animal Behavior. In 1965, he defended a doctoral thesis on the regulation of egg-laying in polygyne societies of *Polistes gallicus* (Gervet, 1965). After leading the team “Ontogenesis of behavior and social life” within the Group of Laboratories of Marseille as a CNRS research director from 1985 to 1994, he joined the Laboratory of Ethology and Animal Psychology in Toulouse until his retirement in 2000. Throughout his scientific career, with his many students and collaborators, Jacques Gervet developed two main lines of research using the solitary wasp *Podalonia hirsuta* Scopoli and the social wasp *Polistes dominulus* as model organisms. His first line of research focused on the study of instinctive complex behaviors such as nest building in *Polistes* or the epigenesis of the stinging sequence during the paralysis of prey and nesting cycle in the digger wasp. His second line of research focused on the quantitative analysis of interactions between individuals in *Polistes* wasps and their role on group effect (as this term was originally defined by Grassé, 1946) and in the self-organization of collective behaviors (such as hierarchy formation and division of labor). On the same line of research he also re-examined the criteria used to classify social phenomena in biological systems (Gervet, 1968).

During his whole career Jacques Gervet showed a deep interest in the epistemological problems raised by the study of animal behavior. He addressed in his work the notions of

“system” and “level of integration” and part of his research was devoted to the study of the animal’s representation of the world (such as Jakob von Uexküll's theory of the animal's Umwelt). He also worked on the evolutionary steps that led to the emergence of intentional processes in animals. In the field of the evolution of living systems, he made a strong criticism of sociobiology and “Social Darwinism”. He emphasized the existence of non-genetic modes of transmission of behavior (environmental, proto-cultural), which made it possible to discuss a Darwinian model of the hominization process that didn’t require any war between individuals or between lineages. He co-edited several books on these topics such as *Misery of sociobiology* (1985), *Animal Representation* (1992) and *Elements of Cognitive Ethology* (1999). After his retirement he continued to have a vivid intellectual life and published several books on topics unrelated to his scientific activities.

Jacques Gervet was a brilliant open-minded and inspiring humanist thinker. His intellectual rigor, his tireless curiosity but also his deep generosity will continue to be present in the minds of those who, like us, had the chance to share with him many years of enthusiastic work.

## References

- Gervet, J. et al. (1985). *Misère de la sociobiologie*. Paris, Presses Universitaires de France.
- Gervet, J. Livet, P. & Tête, A. (1992). *La Représentation Animale*. Nancy, Presses Universitaires de Nancy.
- Grassé, P.-P. (1946). Sociétés animales et effet de groupe. *Experientia*, 2: 77-82.
- Gervet, J. (1965) La ponte et sa régulation dans la société polygyne de *Polistes gallicus* L. (Hymen. Vesp.). *Annales des Sciences Naturelles - Zoologie et Biologie Animale*, (12) 6:601-778.
- Gervet, J. (1968). Interaction entre individus et phénomène social. *Netherlands Journal of Zoology*, 18: 205-252.
- Gervet, J. & Pratte M. (1999). *Elements d'éthologie cognitive*. Paris, Hermès.