Latent Life of Organisms and the Cell Scale During the XIXth Century

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Abstract

The phenomenon of latent life was identified and studied during the XVIIth century, notably by Lazzaro Spallanzani. It concerns some invertebrates Tardigradas, Rotifers, seeds or numerous others organisms, which are able to stop their activity under certain extremes conditions.
During the XIXth century very active works and discussions took place in France on the possibility of absolute stop of metabolism in organisms in latent life. After Henri Dutrochet's studies on Tardigradas and Rotifers (1812), the Louis Doyère's thesis (1842) was an important moment in the description and analysis of the phenomenon. Doyère insisted on the necessity of preservation of the microscopically structure of organisms during the latent life phases.

The second important time was the debate initiated by the Société de Biologie. It opposed, in 1859, Felix Pouchet, who denied this possibility of the stop of metabolism, to several biologists who supported it.

Eventually, in 1878, the French physiologist Claude Bernard gave an important place to latent in his *Leçons sur les phénomènes de la vie communs aux animaux et aux végétaux.* He presented it as the first form of life and explained it at the cell and protoplasmic scale.
Therefore, during the XIXth century, latent life was a very accurate question about limits of metabolism and the most intimate scale of the matter of life. The goal of his paper is to study, during these three periods of this history, the complex relationship between the empirical and experimental approaches of the phenomenon and the philosophical considerations of scientists on life.

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