

d & D: Double Dilema.

Du Bois –Reymond & Driesch, or the vitality of Vitalism

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The subject of the present research are the ideas on the status of living matter among the researchers on the Life Science in 19th century Germany. To do so, two particular instances of discontinuity were chosen as the focus of the study, represented by two scientists: Emil du Bois – Reymond (1819-1896) and Hans Driesch (1867-1941).

In the 18th century, physiologists focused on the matter composing living beings and the forces that set it into motion. In this way, physiology came to be understood as the “science of living matter”. The accent gradually shifted from “living” – emphasized at the beginning of the 19th century by authors such as J.F. Blumenbach, J.C. Reil and J. Müller - to “matter”, until reaching a definitive formulation with so-called “1847 Program”, which exerted influence on the status of the life sciences until our own days.

The 1847 Program, emblemized by du Bois – Reymond, aimed to: 1) define activity in living beings in the terms of matter and motion, 2) implying, therefore, the inclusion of the notions and methods of the sciences of matter into the life sciences, 3) through the application of mathematical techniques into the interpretation of observations, 4) leading to the elimination of the concepts that demarcated the life sciences from the other natural sciences, the “vital force” to begin with and, 5) to the elimination from the scope of physiology of fields not easy to assimilate into the sciences of matter, viz. psychology and embryology.

In this way, within the ongoing process of demarcating sciences into human (*Geistwissenschaften*) and natural (*Naturwissenschaften*), one of the pivotal themes in 19th and 20th century German epistemology, the life sciences were assimilated into the latter. This

ethos would be institutionally sanctioned and formally spread through the reform of the school syllabus. The traditional emphasis on classic studies was replaced by an accent on science, initially mathematics and physics.

This was the context in which two key scientists of the turn of the 19th century received their training: S. Freud and H. Driesch. The former tackled psychology and the latter embryology – the two exiled fields – with mathematical and physical tools.

In the case of Driesch, the application of the notions and methods of mathematics and physics into embryology contributed to the institutionalization of this discipline as an experimental field of research and led to the need to postulate some kind of *sui generis* agent (entelechy) peculiar to living beings, beyond matter and motion. In this way, at the turn of the 19th century, the singularity of life returned to the center of the stage, as “neovitalism”.