d&D: double Dilemma. du Bois-Reymond and 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 Sciences 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 Heinrich du Bois-Reymond (1819-1896) and Hans Eduard Adolf 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 kept an 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) therefore, in 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 results, 4) which would lead to the elimination of the concepts demarcating the Life Sciences from the other natural sciences, the “vital force” to begin with, and 5) the elimination from the scope of Physiology of fields not easily assimilable

into the sciences of matter, viz. Psychology and Embryology.

In this way, within the ongoing process of demarcation of sciences into human (*Geisteswissenschaften*) 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 reformation 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 late 19th – early 20th centuries received their training: S. Freud and H. Driesch. The former tackled Psychology and the latter Embryology – the two exiled fields – with the 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 of postulating some kind of *sui generis* agency (*entelechia*) peculiar to the 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”.

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