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# Does pathophysiology contain a theory of disease?

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## Abstract

Session: Biological Theories and Theories in Medicine (Darrason, Demazeux, Kincaid, Lemoine) Medicine stands at the intersection of many sciences, of which pathophysiology seems to be the only one to be both fully biological and specifically medical. Roughly speaking, it is the science of diseases, as biological dysfunctions. The purpose of this contribution is to explicate this notion through three questions. First, it is obvious that 'dysfunction' does not refer to every effect that is not a function (Davies 2000): accidental effects, side effects, statistical anomalies are neither functions nor dysfunctions. A typology of all non-functional effects, as they are encountered in experimental physiology, is proposed. Second, it is noteworthy that organisms are not dysfunctional in all possible ways: pathophysiology is not a conceptual, but a factual science, that of actual dysfunctions, which are natural phenomena of their own. The natural consequence seems to be the theoretical independence of pathophysiology from physiology (Nervi 2010). The third question is that of the existence of a general notion of disease. Instead of using conceptual analysis of the usage of the term in medical sciences (Boorse 1977), a more theoretical approach is investigated. Three views on what a biological dysfunction consists in are examined. They are respectively based on theoretical biology, genomics and microbiology. Together, they give a global idea of what a unified theoretical framework of pathophysiology could look like.

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