

Lemoine, Maël. *Philosophy of Physiology*. Elements in the Philosophy of Biology. Cambridge University Press, 2025.

What is health? What is disease? These are two of the most addressed questions in contemporary philosophy of medicine, forming a now-standard debate structured around two rival camps: naturalists, seeking the answers in biological notions of function and dysfunction, and normativists, arguing that health and disease should be understood as social, value-laden concepts. The first section of Maël Lemoine's short introduction to the philosophy of physiology inscribes it clearly within this debate, looking for answers to these questions in physiology and medical science.

As Lemoine argues, there exists a scientific field that explores the functions and dysfunctions of organisms: namely, physiology. The physiological notion of a "disease entity," a set of causal pathophysiological processes, corresponds, he claims, to the way in which medical science identifies, understands, and explains diseases. The difficulty arises when we want to generalize across these disease entities: generally applicable "theories of disease" are, for reasons Lemoine clearly lays out, difficult to establish.

This, Lemoine argues, should perhaps push us to think that we have asked the wrong question. Instead of looking for a definitive feature of all diseases, he proposes instead to ask "why it is necessary that organisms have diseases in general" (41). Following the approach of evolutionary medicine, he proposes a fourfold answer to that question: mismatch, infection, disposability, and senescence, each phenomena which could have made disease, as a category, a product of selection.

In the book's final section, Lemoine argues that shifting our focus in this way will let us build a theory of what he calls (following recent literature) "physiological health." Paralleling his approach to disease, he argues that the correct question to ask here concerns "why a certain state should be called 'healthy'," instead of being a theory of the concept "health" as it is used in physiology (64). His answer to this question involves a unique approach to the idea of homeostasis. While cybernetics characterized it formally, as a maintenance of a certain variable by a feedback loop, Lemoine is interested in the "material homeostasis" understood as a "specific, optimized balance an organism can supposedly remain in indefinitely" (56). Describing the particular processes that sustain this balance is crucial for medical research and practice.

This book simultaneously serves as a lucid introduction to questions surrounding health and disease and as a kind of "manifesto" for the kinds of research that Lemoine describes in the second half of the work. The necessarily short length of the Cambridge Elements series makes this manifesto less detailed than one might like, although this limitation is

understandable. If we were to offer two brief critiques, they would be these: the book largely departs from human biomedical research, though its impact on other areas of zoology and ecology is clear; and Lemoine's explanatory arsenal, in dialogue as it is with evolutionary medicine, often focuses on natural selection to the exclusion of other potential causal paths. But these are minor critiques, lacunae that, we hope, will be rapidly filled by future research along the lines proposed here.

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