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## Facing a Shift in Paradigm at the Bedside?

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### ABSTRACT

Our entire medical framework is based on the concept of disease, understood as a qualitative departure from normality (health) with a structural substrate (lesion), and usually an identifiable cause (aetiology). This paradigm is loaded with problems, some of which are discussed in the text. Nevertheless, we study, diagnose and treat diseases, and while often painfully conscious of the dysfunctionalities of this scheme, we can hardly imagine how we could practice medicine otherwise. However, most of the recent developments in basic sciences, and most notably in Immunology, Genetics and -omics, are inconsistent with this "health/disease" paradigm. The emerging scenario is that of complex networks, more in the spirit of Systems Biology. In these settings the qualitative difference between health and disease loses its meaning, and the whole discourse becomes progressively irreducible to our conventional clinical categories. As clinical research stagnates while basic sciences thrive, this gap is widening, and a change in the prevailing paradigm seems unavoidable. However, all our clinical judgments (including Bayesian reasoning and Evidence Based Medicine) are rooted in the disease/health dichotomy, and one can hardly conceive how they could work without it. The shift in paradigm will not be easy, and certain turmoil is to be expected.

### KEYWORDS

Clinical Diagnosis; Genetics; Immunology; -Omics; General Systems Theory

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