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The Method of Explanation in Biological Systems as Applied on Medical Sciences

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Introduction: For epistemological purposes, philosophers of science differentiate between three modes of biology: (i) functional; (ii) evolutionary; and (iii) systems biology. This classification is based on the nature of the biological process. **Method:** The present paper aims to highlight these categories and investigate how they may contribute to developing the objective method of understanding the biological systems for a better life on earth. The study of biological systems is necessary, not only for its medicinal applications on environmental and human health but also for better management of social changes. Understanding the governing principles of biological processes is a primary requirement for prediction and control, which are the final objective of scientific explanation. Medical sciences are based on understanding the biological processes at both the programmed systems as well as the purposive acts of a human being. Indeed, modern biotechnology plays a crucial role in the elucidation of the molecular causes of disease, the development of new diagnostic methods, and the development of effective drugs. The basic challenge that has been facing efforts on harnessing the biological phenomenon is embedded not only in the complexity of the biological phenomenon, but also lacking the relevant method of explanation. Accordingly, prediction and control have been the major problems of this field. This paper aims to explore the question of explanation and prediction in biological processes, based on the above classifications of biology, with focus on medical sciences. Contribution of systems biology and its applications / implications on health sciences will be highlighted. **Results:** The paper adopts the method of theoretical analysis. The relevant texts on systems biology will be reviewed. The paper presupposes that the new developments on systems biology can contribute in developing a relevant method of explanation that enables to predict and control processes of the complex system of the natural phenomena, which named by Ernst Mayr as "*irregular subjects*".

Keywords: Medical Sciences, Functional Biology, Prediction, Systems Biology, Causal Explanation, Theory of Evolution.