

MacLeod, Julius. THE QUANTITATIVE METHOD IN BIOLOGY. Longmans, Green and Co., London, New York, and Bombay.

In physics, chemistry, and mineralogy the properties of the object are measured and expressed by means of figures called constants. A constant is independent of any theory; it is the exact expression of a fact. The constants are in reality the material by means of which theories are built up, the explanation of the observed facts is found and the road opened for new discoveries."

Thus the author starts to outline what he is going to try to accomplish, namely to reduce to primordia (*i. e.*, simple or elementary properties or characters) as many of the variables of the biological sciences as possible, since the variables concerning the properties of living things are such obstacles to the use of quantitative data (*i. e.*, figures).

Vagueness and general terminology must give way to more exact definitions if collective thinking is to be made possible and by the utilization of mathematical thinking some order may be introduced into the control of phenomenal understanding.

He thus starts out with the notion of species and attempts to reduce it to chemical terms. This leads to the study of environmental reactions, to notions of plasticity, to variability and to equilibrium, in which his primordia represent states of equilibrium.

The author then classifies his primordia, reducing them to uniaxial and biaxial (chess board systems) systems, which leads him to a discussion of the possibilities of chance system in which the data of biometric and mendelian measurements are freely utilized.

All of these factors are worked out chiefly by means of botanical species, mosses and grasses, and he finally concludes this intricate but interesting study by a series of applications of the quantitative method.

It will take several generations before these principles can be applied to most of the problems of neurology, but it is a book for the curious and speculative imagination.

Ellis, Havelock Mrs. JAMES HINTON A SKETCH. Stanley Paul and Co. London.

The preface, written by Havelock Ellis tells us of the inception of this book; of his early interest in this surgeon and aurist, who became immured in the study of many social problems, and of his efforts to bring the material left by Hinton into some form. After he had abandoned the task, his wife took up the work and just before her death in 1916, completed the manuscript, which is here published.

Hinton in many aspects was a mystic, but for other aspects he was vainly trying to work out the natural order of life in a moral world. Right and pleasure were not opposed. He strove to show how they were to be reconciled. "Pleasure and pain alike are but incidents, and therefore not powers, not determiners; with no power to move, and