

SCIENCE

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THE RELATION OF PHYSIOLOGY TO OTHER SCIENCES¹

OUR subject of physiology has developed so rapidly during the last few decades, has taken so definite a place among the sciences and has such intimate relations with other subjects, that its position as a branch of natural knowledge is one of some general interest.

Physiology has a threefold appeal—as the master-key of medicine its practical value is self-evident, as a science it has now a distinctive position, while its relations to philosophy command the attention of all thoughtful men. We will consider it, for convenience sake, from these three standpoints.

From the earliest times, physiological knowledge, whether known by that name or not, has had the closest association with medicine. It would indeed be difficult to imagine any great advance in the one that was not immediately reflected in the other. Their methods, though necessarily different, are convergent, their meeting-point being the disclosure of normal functions. It is the business of the physician to attend to the urgent call of pain and disease, and to use for their relief such information as he has at his disposal. As he does so he observes, compares and draws conclusions on the basis of which a theory of the causation of the disorder may be built. The clinical observations and deductions drawn from them give a basis of rational physiological theory from which we have learnt that a state of disease is never a thing in itself, but is always a result of a quantitative change in some physiological process, an increase or diminution of something that was there to begin with. Reflection upon the observed bodily states in, say, a fever, jaundice, diabetes, nephritis or even mental disorders, reveals only overaction or underaction of some physiological function as the feature which distinguishes the affected from the normal individual. It is perhaps easier to speak of the normal than to define it. In the long run, the normal is the description given by a majority of individuals of their own build or behavior. It is abnormal to have unequal legs, to be eight feet high or to believe the earth is flat; but as no two individuals are exactly alike the definition of normality is more a matter of a statistical average than of precise definition.

¹ Address of the president of Section I.—Physiology. British Association for the Advancement of Science, Glasgow, 1928.

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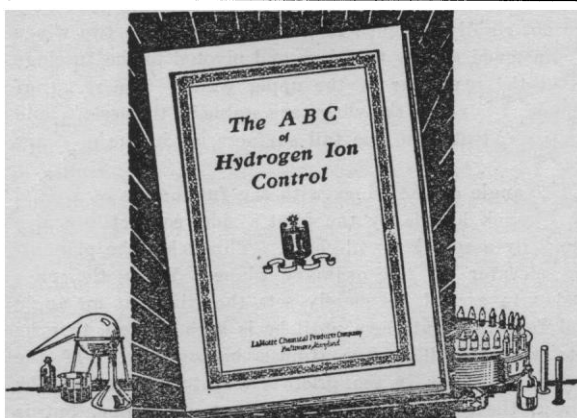
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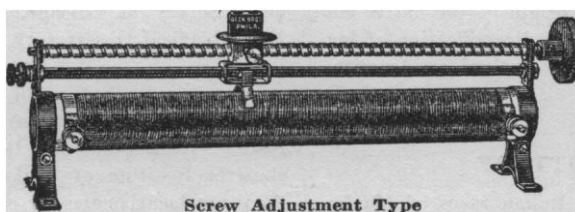
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