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THE BETTER ADAPTATION OF EDU-CATIONAL AND INVESTIGATIONAL EFFORT TO THE AGRICUL-TURAL SITUATION¹

I

OUR subject takes us at once to the very heart of the agricultural college movement. A more important subject in relation to agricultural progress could hardly be stated.

In a single brief paper one can touch only a few of the outstanding phases of the question. Sometime before very long, let us hope that a thorough study will be made of agricultural research and education as now conducted in the land grant colleges. This should be done by persons who are familiar with the land grant education movement and who understand the needs of the country. These institutions have been operating about half a century, some of them longer. They have endeavored to adapt themselves to everchanging conditions and demands. They have made countless changes in curriculum and in subjects of investigation, in response to pressure of the moment. The original legislative acts have been supplemented repeatedly. Conditions throughout the country are changing rapidly and now are vastly different than when the first laws were passed. Problems have multiplied. Numerous other agencies have been created to do work that relates more or less directly to the work of the land grant institutions. And we have learned much from experience.

Before we can satisfactorily answer the question as to how well agriculture is being served by its special institutions in all the states and what changes should be made, there should be a study of the basic laws, financial support, the physical plants, the personnel in service, policies, the results obtained, the industry itself and the difficulties, drawbacks and needs encountered by farmers; and there should be an effort to look into the future. The whole problem should be studied with the purpose of better fitting the work of the institutions to the needs of the times. This would mean the reduction of some phases of work, the elimination of other, and the magnification of some and the development of some new activities, all in the interest of better service to agriculture.

There is good precedent in the recent study of medical education financed by Rockefeller funds and

¹ Address of the retiring vice-president of Section O— Agriculture—the American Association for the Advancement of Science, Washington, December 31, 1924. JUST PUBLISHED

JACKSON--The Effects of Inanition and Malnutrition upon Growth and Structure

By C. M. JACKSON, M.S., M.D., LL.D., Professor and Director of the Department of Anatomy, University of Minnesota

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THIS book presents a systematic review of the subject, giving the results of the investigations of the author and his co-workers together with a comprehensive discussion of the widely scattered data in the literature concerning the morphological effects of inanition in all living organisms. It has a special appeal and proves very useful in many fields of scientific procedure: to *Biologists* who are concerned with the fundamental characters of living organisms; to *Anatomists* who are interested in the problems of morphogenesis; to *Physiologists* and *Biochemists* working in the various fields of human and animal nutrition, since inanition is one of the primary factors in pathogenesis; and to *Physicians*.

The subject is treated in two general sections: Part I has to do with Plants and Invertebrates, and includes a chapter on the Effects of Inanition on Plants, pointing out modifications in size, structure and sex, and discussing questions of deficiencies. The chapter following on the Effects on the Protozoa is of special importance, since the changes in cell, size, form, endoplasm, reproduction and recovery upon refeeding help the biologist to interpret the effects of inanition in the higher forms, including man. The chapter on the various phyla of the Higher Invertebrates gives interesting and valuable information with regard to weight and regeneration during inanition.

Part II is concerned with the effects of inanition upon vertebrates including man. The general effects upon the body as a whole are considered first, followed by chapters upon the various systems and organs of the vertebrate body. In general each organ or part is considered in relation to the effects of total inanition or the various forms of partial inanition (deficiencies in protein, salts, vitamines, etc.).

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