

Impact of Diet on Behavior

THANKS to the generosity of the National Vitamin Foundation, to the hospitality of the Minnesota School of Public Health, and to the imagination and energy of Dr. Josef Brožek we have ahead of us what promises to be a stimulating and productive day. I am sure that I speak for all present when I say that we are grateful for the opportunity they have provided us for an interdisciplinary discussion of the problems of nutrition and behavior. Speaking for the psychologists present, may I add that this symposium is a welcome indicator of the growing realization not only that psychologic research has something to contribute to the science of nutrition but also, and more important for us, that nutritional studies can help to clarify some of the fundamental problems of human behavior.

There is no psychologic function—cognitive, affective or volitional—that is not related to the nutrition of the organism. There is no field of psychologic research, from the sensory acuity of night-flyers to the intellectual and temperamental differences among races, in which the nutrition of the individual could not become relevant. Let me mention two problem areas in particular in which, it seems to me, the nutritionist and the psychologist can profitably collaborate, viz., (a) the motivation of behavior, and (b) capacity for performance.

In recent years psychology has become more and more motivation-oriented. We are concerned with the initiation, the regulation and the direction of behavior; we are interested in needs, goals, and the machinery of energy transformations. The current pre-occupation with motivation stems initially from Darwin, but more recently from Freud. Without necessarily deploring the Freudian interest in sex, anxiety, and aggression, one welcomes a counterbalancing interest in the motivation of food-directed behavior. It is possible, we are told, to survive in a state of celibacy, even if this may be uncomfortable at times; but no one has ever demonstrated that survival is possible without food. Food is a basic need—according to the survival criterion—more basic than sex. But food-directed behavior involves much more than an organismic need. It includes appetites, remote goals and esthetic enjoyments that extend over the whole range of human motivation. When we search for paradigms for the understanding of the dynamics of behavior we can find none better than in the behavior of organisms directed towards food. No investigators have done more to clarify these problems than have Curt Richter and P. T. Young. It is our good fortune that we have both men as participants in this symposium, also representatives of the Quartermaster Food and Container Institute, where so many of the basic problems of food-directed behavior are being investigated.

The motivational problems belong, however, in later sessions. This session has to do with the impact of diet on behavior. From time immemorial it has been known that poorly fed animals are poor workers, although man seems to have been reluctant to correlate his own efficiency



with his diet. In recent years, however, the popular interest in diet has grown to fantastic proportions. Everywhere women (and men too) are counting their calories, swallowing vitamin pills, watching their mineral intake and subscribing to exotic diets. The poor nutritionist can hardly open his mouth without making the headlines as the advocate of a new dietary religion. Few sciences have suffered more from popular acclaim. In spite of the popular appeal of their subject, however, a core of dedicated scientists are seriously trying to find out how human efficiency is related to diet. The practical challenge is obvious: how can we through dietary regulation and education improve the lot of man? Behind this practical matter, however, are a multitude of scientific questions. What are the effects on human behavior of restricted caloric intake? of protein deficiency? of deficiencies in specific vitamins and minerals? Can human capacities be improved through dietary control? What is the relation between diet and temperament, or between one's diet and one's philosophy of life? The challenges to scientific curiosity seem limitless.

For the solution of most biologic, and of many social problems we must turn first to animals. In the study of nutrition we have made some headway in the analysis of human evidence; but for the crucial experiments we are still dependent on animals. In this session on "the impact of nutrition on behavior" we shall draw from both sources.

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