

## GUIDE BOOK FOR NUTRITION SURVEY

IN his monograph on investigations into the nutrition of populations, Dr. Bigwood has set forth what he considers to be the guiding principles of a comprehensive survey.<sup>1</sup> Two approaches he portrays: inquiry into food consumption and examination of the nutritive state. Although each has been used singly, seldom have they been used conjointly. But this is understandable, says the author, since one or the other satisfies such varied objectives of information as national food supply, food consumption by a group, food expenditures, assessment of nutrition, and numerous physiological problems.

In Part I are described four types of dietary survey, classified by the nature and size of the social unit to be investigated: nation; specific social groups and institutions (army, prison, school), more or less homogeneous; family; and individual. The several techniques, appropriate to particular objectives and types of survey, are then considered in two steps: collection of the data and analysis. Under methods of collection, in turn, detailed instruction is given in three methods: weighing; records of purchases in household books; questionnaire. In conjunction with analysis of data, considerable preparative information is given in the science of diet covering such matters as the essential nutritive principles. Especially the vitamins are discussed at some length with consideration of their content in foods and their calculation in units. For the analysis of intake he lists two methods: direct, through chemical examination of foods consumed, used in physiological studies; indirect, through recourse to tables of composition, used in mass studies.

Even while the favorable points of the several techniques are indicated, the limitations are not neglected. Ranging in refinement and precision the methods of collection have definite limitations; consequently difficulties arise from applying a method to a purpose for which it is unsuited. Where the more sensitive method is used, the task may become so magnitudinous as to be impossible; *per contra*, if the least sensitive is used, the results may become so questionable as to be unacceptable. For example, employment of either the weighing or household book method becomes, as Dr. Bigwood points out, a formidable feat when individual intake is under investigation. Of the questionnaire method he is exceed-

<sup>1</sup> Bigwood, E. J.: GUIDING PRINCIPLES FOR STUDIES ON THE NUTRITION OF POPULATIONS. Geneva (Series of League of Nations Publications), 1939.

ingly critical, regarding it as a means of "fragmentary and very rough information" about dietary habits, with little promise of data quantitative in nature. Indeed, he dismisses it so shortly that he appears to have mentioned it only for the sake of completeness. Nevertheless, it is capable of greater adaptability and quantitation than is indicated in the monograph; properly modified it is, for certain purposes, to be neither despised nor rejected.

For all methods of collection, he recommends a week's duration, indeed emphasizing the point in a separate chapter with an adjuration in italics. In this he follows precedent, for the week-period has been handed on to the point of becoming sacrosanct. Although the supporting argument, based on criteria of sampling, holds for many cases, there is little or no evidence that the error in a week's inquiry is the minimum permissible under all circumstances. To pronounce doubt on any food intake records of less than a week's length is somewhat sweeping and a trifle on the dogmatic side, unless the purpose of the survey is specified. All in all, it is clear that in the collection of diet information, the author favors the weighing method for a week's duration with use of an investigator in the home. But that is time-consuming, laborious, and expensive. If information is sought on individuals, this approach becomes almost prohibitive for routine use. In the domain of public health at least, it raises the question, as yet unanswered, how much precision is necessary; and how can interests of precision be harmonized with limited time, personnel and funds. These very practical considerations are more than guiding principles in public health work; they are inexorable specifications.

In certain steps of the analysis also, the author points out limitations. Family surveys do not show how "the total food consumed by the family is divided among the different members." Consequently, if the results obtained for different families of dissimilar composition are to be compared, or if information is sought on per capita consumption, scales of family consumption coefficients are necessary. But even these only indicate how the family supply of the different nutrients should be, not how they are divided among the members. In McHenry's recent study, the mothers fared worst in the division. As another instance of limitations in technique the author emphasized the point, often overlooked, that the values in tables of food composition are approximate.

In Part II, devoted to a discussion of the methods of inquiry into the state of nutrition, the available tests are grouped under three headings:

clinical, somatometric, and physiological. This section enumerates the individual tests, elaborates on them with description of their purpose and nature, and outlines how they may be incorporated into three types of inquiry. Depending on the number and kinds of tests, these types form a progressive series in expansiveness and complexity, the more comprehensive type including all the tests of the simpler type, together with additional tests.

In matter and form the monograph displays both scholastic and literary workmanship. True, the inclusion of a section on statistical methods running to eighteen pages, while understandable, is perhaps superfluous. Characterizing pellagra as a secondary (endogenous) deficiency disease and linking it with parasitic infections needs a certain revision. Except for one or two instances, the arrangement of the bulk of the material is a model of coherence. For some unfathomable reason, the section on analysis of dietary data precedes that on methods of collection; and perhaps some of the paragraphs on deficiency states occurring in Part I might better appear in their more natural setting of Part II. But against the overwhelming excellence of the book on all points, these comments are so insignificant as to suggest cavil where none is intended.

Encyclopedic in nature, this monograph is a survey of methods with critical comment rather than a critique on rigidly selected methods. Prior to a revision and expansion, Part II originally appeared in the League of Nations *Bulletin*; but it is useful to have all the material within one cover. The contents are of interest for what some believe to be the next strategic and necessary step forward in nutrition. Bearing upon it, one statement takes on significance: "Only combined research covering both food consumption and the physical state of nutrition can . . . define the immediate medical consequences of any slight departure from the standard thus established—in a word, to throw light on the problem of latent pre-deficiencies and their early diagnosis." It is not to be expected that the book gives the answer to this practical and basic point; nor to the urgent need, implicit in it, for a simple, economical, standardized methodology of precision for case detection of unsatisfactory nutrition. Certainly the various types of inquiries, cited in the book, do not represent the final word. Rather the book's merit is in exhibiting samples of technical ore out of which, it is hoped, a refined methodology may ultimately be forged. It belongs on the list of recommended reading in the field of public health.

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