The Dietary Causes
of Degenerative Diseases

Nutrients vs Foods

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1. Introduction

For a very long time, food has been recognized as being important in the development of disease, at least back to the time of Hippocrates 2500 years ago when he said, “Whoever gives these things (food) no consideration, and is ignorant of them, how can he understand the diseases of man?” Much later, in 1849, John Hughes Bennett, Senior Professor of Clinical Medicine, whose textbook on medicine appears to have been the standard of its day in Britain, pursued the idea that dietary fat was important in the causation of cancer when he first stated that, “The circumstances which diminish obesity, and a tendency to the formation of fat, would seem a priori to be opposed to the cancerous tendency” (p. 250) (1), then later, in 1865, urged that, “In carcinoma ... a diminution of this element (fat) in the food should be aimed at” (2). In more modern times, the studies of Tannenbaum and his colleagues (2–4) during the 1940s and 1950s on the role of nutrition in the development of tumors in experimental animals and the research
of Ancel Keys and colleagues on diet and cardiovascular disease \((5,6)\) often have been assigned landmark status.

More relevant to the present chapter, however, are the recommendations published in recent years to reduce by dietary means the prevalence of cardiovascular and neoplastic diseases, commonly called chronic degenerative diseases \((7)\).* Much focus, in particular, has been given to the need to reduce dietary fat to 30% or less of total calorie intake. In fact, it would appear that this figure of 30% dietary fat calories has become a benchmark to gage the acceptability of healthy diets.

The development and promulgation of national dietary recommendations to avoid degenerative diseases, particularly with reference to nutrient intake recommendations, has not been without considerable difficulty, both within and without the scientific research community. Unquestionably, the development of these recommendations has had a long and tumultuous history, sometimes focused on the concept that the nutrients present in food have little to do with disease causation (with the more significant factors being genetics, viruses, and chemical carcinogens or other chemical agents), sometimes on the concept that disease is acceptably controlled through cure, sometimes on the concept that the nutritional benefits of food are described best in terms of a few "magic bullets" (nutrient

*These diseases include most if not all of the cancers, most of the cardiovascular diseases, diabetes, and certain other ailments associated with the more industrialized societies; they also have been referred to as "diseases of affluence" \((8)\), "diseases of misdevelopment" \((9)\), or in the older literature, as diseases of "civilization" \((10)\). We propose the term "diseases of extravagance" because the total cost of these diseases to society is a summation of the costs of producing the causes plus the costs of treating the consequences. In this chapter, we mostly refer to these diseases as "degenerative diseases" because of their association with biological degeneration, or aging.