



Perspective

The Science of Nutrition Is in the Forefront

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I T IS WORTH OUR WHILE to give thought to the inore astonishing discoveries of science during the past six decades and to assess their values in the service of humanity. Within this span of years were discovered the Roentgen rays, radium, radiotelegraphy, atomic fission, the technique of aerial navigation, the sulfa drugs, antibiotics, hormones, and numerous synthetic medicaments—and the latest marvel and affliction, television.

It would be interesting to know the results of a poll of public opinion on the rating of the importance of these discoveries in human affairs. Not many would, I believe, give first place to that segment of science which relates to our knowledge of foods and nutrition, but a strong case can be presented that it deserves that rating for benefits to the human family. Here are some reasons for my belief: Roentgen rays and radium, of outstanding significance in the development of physics and chemistry, find uses in clinical medicine; radioactivity led to discovery of atomic fission with all its connotations for evil in human struggles for material advantages. Isotopes make possible discoveries, otherwise impossible, in the realm of biochemical processes in the living body. They are leading to understanding of the chemistry of living cells in normal and pathological states. Their use may lead to far-reaching consequences, for when we know the chemical events in normal and pathological cells, we are likely to learn how to prevent or cure malignant growths.

The radio and airplane, while now of supreme importance, along with atomic bombs, in protecting us against aggressors, are inventions of highly questionable benefit to mankind. Air navigation eliminated distance and natural barriers as protectors and exposed us to dangers from aggressors who before could not attack us. It may be that we have too much and too fast communication for the good of humanity.

Of therapeutic drugs derived from scientific studies one can speak only with gratitude. But the greatest achievement of science to date is the discovery by biochemists of techniques for placing experimental animals in situations such that their physiological responses yield information about the nutritive needs of the body in terms of chemical substances and the distribution among our natural foods of each of the essential nutrients. These facts point the way to the most effective use of foods for the promotion of growth and health. This statement may cause sur-

prise and incredulity to many, who although they have read and heard much about menu-planning and the importance of right selection of foods in the interest of health, have been only mildly impressed. But consider the following easily verifiable facts:

Six decades ago there were four great human scourges: beriberi, infantile scurvy, rickets, and pellagra, each caused by a specific dietary deficiency. Until 1897, when the difference between whole rice and polished rice in relation to beriberi was discovered, no one knew anything about the causes of these diseases. Scurvy in bottle-fed babies in cities where milk was pasteurized became increasingly common, and the simple means for its prevention did not become known until after 1915. Today the causes and prevention of these afflictions, which ruined the lives of millions, are common knowledge in advanced countries. Now infants and children are almost universally protected against faulty bone growth, blood vessel damage from scurvy, and other developmental defects caused by diets faulty in one or another way in contrasting geographical areas. The incidence of tooth decay can now be greatly decreased by the application of available knowledge of nutrition from early life onward. Attention to the nutritive requirements of pregnancy, several clinical conditions, and the aging population, contribute significantly to improvement of human health standards in most parts of the world.

Comparable benefits are being realized in animal production from the application of scientific knowledge of foods and of how to combine them to secure the best utilization of our feed resources. The improved growth of young animals, and heightened production of mature ones in milk, wool, and eggs, is realized at lower cost. The economic advantage arising from the present knowledge of how best to feed animals is almost incalculable and is a permanent possession.

Nutrition investigators have produced a body of new knowledge which benefits greatly both the human and animal populations. This knowledge is of universal benefit. It is not susceptible, as are some of the other great discoveries, to abuse by the unscrupulous. What other among the discoveries can be compared with our knowledge of how best to utilize our food resources for promoting optimum health and extended maintenance of the characteristics of youth?