Thinking About Food

Plants, Power, and Profit. Social, Economic, and Ethical Consequences of the New Biotechnologies. LAWRENCE BUSCH, WILLIAM B. LACY, JEFFREY BURKHARDT, and LAURA R. LACY. Blackwell, Cambridge, MA, 1991. xii, 275 pp., illus. $39.95.

This book asks us to ponder a simple question: What is the future of food? One possible future for food might consist in the following: a breakfast of bioengineered toast, petroleum-based protein capsules, and genetically enhanced eggs. Such a repast might not be particularly appealing. Equally unappealing might be the prospect that the biotechnology behind the bread put thousands of small farmers out of business; that the protein pills were manufactured by an oil company; and that, even though the eggs are marvels of science and highly profitable for the conglomerate that hatched them, no one knows for sure how healthy they might be in the long run.

The principal message of *Plants, Power, and Profit* is that now is the time to contemplate and debate the future of food and the economic and social systems through which it will be produced. Developments in biotechnology, the authors argue, have expanded the array of possibilities—in food, as well as in food production—but neither biotechnologists nor policymakers are adequately equipped to make choices about which is the preferable future. Scientists may be concerned about the broader consequences of their research, but the scientific community is not routinely expected to think through the social, political, and economic implications of the experiments it runs. Likewise, policymakers and social scientists may be concerned about the ramifications of scientific activity, but they tend to be ill-equipped to understand the choices scientists make, much less to engage researchers in meaningful discussion of those choices.

Informed choice and effective policy, Busch and his colleagues suggest, require three essential ingredients. First, each side must have a better understanding of the other: its motivations, its ways of thinking, its stake in the future of food. To that end, the authors provide an overview of developments in the fields of plant breeding, genetics, and biotechnology with an eye toward explaining to the nonscientist not only what are the current "hot topics" (that is, problems that are attracting both research and research dollars) but also what are the issues that scientists themselves find controversial (such as whether plants should be thought of as microbes). Conversely, they challenge scientists to reflect on the social organization and the intellectual underpinnings of their own activity. For example, they contrast positivistic, reductionist, and dialectical approaches in an effort to bring to the surface deeply held assumptions about the physical world and make them part of policy debate.

Second, Busch *et al.* argue that all sides must have a common language that will enable them to debate food futures. While implicitly rejecting the idea that language can be stripped of interests, they provide the next best thing: a detailed but very readable introduction to the histories of the "old" biotechnology (that is, plant breeding as practiced by farmers and extension agents and rooted in Mendelian theory) and the "new" biotechnology (grounded in molecular biology and biogenetics). To this they add a pair of empirical chapters—on the wheat and tomato industries—that analyze the accomplishments of both biotechnologies historically and consider their impacts on the political economy of those crops.

Third, Busch *et al.* argue that it is essential to have an analytical framework robust enough to engage scientists, industrialists, economists and sociologists, and policymakers and to encourage them to think beyond their immediate material and intellectual interests. To that end, they stress the importance of identifying and then thinking across levels of analysis. For example, in an early chapter readers are treated to three different ways of thinking about new biotechnologies: as scientific and technological facts and procedures; as political and economic forces on a world scale; and as contenders for a direct role in the restructuring of national and global society. Subsequent chapters detail the potential impacts of biotechnology on the molecular structure of plants, the physical and social organization of agriculture, and the ordering of the global economy. To their credit, the authors are modest in their effort to present an analytical framework: they seek to be comprehensive, but they also take great pains to avoid the suggestion that theirs is the "proper" approach to assessing the potential impacts of biotechnology or that one can be derived from a purely technological, economic, or political perspective. Indeed, it is the tendency toward reductionism in science (as well as in economics) that has stifled adequate consideration of food futures. The authors have provided a serious and, in many ways, sobering treatment of a topic deserving of wide attention.

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Delayed Cures

A Simple Matter of Salt. An Ethnography of Nutritional Deficiency in Spain. RENATE LELLEP FERNANDEZ. University of California Press, Berkeley, 1991. xiv, 252 pp., illus. $34.95. Comparative Studies Of Health Systems and Medical Care.

Iodine deficiency is associated with major mental deficits, goiter, and other, potentially fatal disorders. Treatment of goiter with iodine-bearing substances began in antiquity, as has been documented among Egyptians, Chinese, and the Inca. In the 1920s, iodized salt was introduced as a cheap, reliable way to prevent goiter. In Spain, however, its use did not gain official backing until 60 years later. Renate Lellep Fernan-

"Daughter and goitrous mother, from a nineteenth century glass plate." [From *A Simple Matter of Salt*; courtesy Joaquín López]