

## Nutritional panacea

*Fish Protein Concentrate: Panacea for Protein Malnutrition?* By E. R. Pariser, M. B. Wallerstein, C. J. Corkery and N. L. Brown. Pp.296. (MIT Press: Cambridge, Massachusetts, and London, 1978.) \$17.50; £12.25.

NUTRITION tends to be a profession beset by fashions, but poor on introspection. Now that a 30-year obsession with a fictitious world protein crisis has ended, it is generally agreed to have been a fiasco, costly in both money and human suffering. And yet there is remarkably little soul-searching about why it occurred, and how future (or current) outbreaks of myth production can best be terminated.

This book is therefore to be welcomed as hopefully the first of a series of studies on how the protein fiasco developed and was sustained. It is a detailed study or one solution to 'the protein gap', that of fish protein concentrate (FPC), how it was invented and used, and why ultimately it failed. The authors deal primarily with FPC in the United States and they show quite convincingly that the development of FPC followed both the technological imperative (that which can be done, must be done) and a political one of supporting the ailing US fish industry, by providing an outlet for unpalatable fish and fish waste. Humanitarianism was the secondary justification, rather than the primary motivation of the project.

But the FPC story is raised from being a dirge about the duplicity of the aid industry, to the stratosphere of high farce, by the injection of a unique element into the story: filth. For the FPC venture failed, not because a rational analysis of the world's problems showed that no protein deficit existed, or even because someone noticed that bland, odourless powders are not acceptable foods. FPC failed because it was deemed filthy.

When the US Bureau of Commercial Fisheries first sponsored FPC, it necessarily applied to the Food and Drug Administration (FDA) for permission to sell the stuff as food. This permission the FDA denied on the grounds that FPC was filthy, as, being made of defatted whole fish, it contained fish guts, heads and scales. On these grounds they argued that FPC was "a crime against decency". When evidence was presented that this did not mean that FPC was bacterially contaminated, the FDA countered with the view that filth was an aesthetic judgment, not a bacteriological one. When the FDA were reminded by the National Aca-

demy of Sciences that guts of oysters or clams were habitually consumed, they replied that as these guts were acceptable to the public, they were, *ipso facto*, not filthy. As FPC was made from fish that were not usually eaten, by FDA definition, the guts were filthy.

It's Catch-22 of course: that which you don't eat is unacceptable, therefore you can't be offered it to eat, so you don't eat it. Ironically, FPC had never been intended for the US market. Its primary destination was to have been the third world, but they could hardly be given as aid food declared unfit for consumption by the US regulating agency.

Less than \$20,000,000 were squandered on FPC research in the US and despite its importance in President Johnson's loudly proclaimed "War on

Hunger", FPC was inflicted on very few people for very limited periods. By the time the FDA withdrew their objections to FPC after 12 years, the project was scientifically bankrupt and was quietly allowed to decay.

It is a fascinating, if saddening, story, and though I found the authors' style too full of confusing abbreviations and heavy prose, and felt that the inclusion of some unnecessary material, such as technical references on FPC, added only to its length, not its quality, I nevertheless found it a worthwhile book to read.

I enjoyed this book and I recommend it to nutritionists, historians, old-fashioned radicals and fish-eaters alike.

**John Rivers**

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## Social responses to natural hazards

*The Environment as Hazard.* By I. Burton, R. W. Kates and G. F. White. Pp.240. (Oxford University Press: New York and Oxford, 1978.) Hardback £5; \$11; paperback £2.95; \$6.50.

THERE is a strong tendency in all but the most primitive of societies to see natural disaster largely as a matter of science, and so to view possible responses in terms of the scientific or technological fix. Thus, as recently as 1972 a United Nations conference could conclude that the causes and prevention of natural catastrophes "fall within the province of science and technology" and offer 30 concrete recommendations of which no fewer than 28 called for new scientific investigations. But as Burton and his colleagues point out at length (indeed, it is their basic premise), it takes two sides to make a natural disaster—an unusual natural event and the community affected by it. It is only to be expected, therefore, that in the long term the reconciliation of man to environmental hazards will require social, no less than scientific, action.

If there are any doubts on that score they must disappear with the knowledge that in recent decades the potential for disaster has been increasing, not as a result of any increase in the violence or extent of the Earth's activity but as a consequence of new social mistakes. It is well known that a human settlement with a commitment to a particular location in terms of capital and a sense of identity will defy either natural or man-made threats to remove

it (as San Francisco's response to the earthquake threat shows). What is less well known, however, is that past ignorance has not yet been replaced by current enlightenment. Man is not only creating new hazards by modifying the environment but is forcing new people and old hazards together in fresh areas. In what is now Bangladesh, for example, land reclaimed from the sea by sophisticated engineering and held by agricultural technology has attracted a huge new population into a zone at high risk from cyclones. The great disaster of 1970, in which a cyclone killed more than 250,000 people in Bangladesh, should therefore have surprised no-one.

Under the circumstances a theory, however primitive, of the social responses to natural hazards is far from being an academic luxury. Yet the social aspects of natural disasters and their mitigation have all too often been ignored in the past, even at the level of basic information gathering, no doubt because of the daunting complexity of human behaviour and the near impossibility of expressing it in even remotely 'scientific' terms. In bringing together and ordering for the first time the results already obtained in this astonishingly complex field, Burton and his co-authors have provided a valuable and fascinating account. They would be the first to admit that the subject is still in its very early stages; but though in that sense incomplete, their book is more than sufficiently coherent to offer an excellent starting point for further studies.

**Peter J. Smith**

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