Hard truths to swallow

Sally M. Horrocks

Protein and Energy: A Study of Changing Ideas in Nutrition. By Kenneth J. Carpenter. Cambridge University Press: 1994. Pp. 280. £30, \$39.95.

THE production of dietary guidelines is an occupational hazard for nutritional scientists: witness the fuss surrounding the publication earlier this month of the British government report *Nutritional Aspects of Cardiovascular Disease*. It is a source of debate and controversy that, as Kenneth Carpenter shows, has a very long history. He begins by tracing the course of changing ideas about the role of protein in human nutrition from the first half of the seventeenth century, long before the word 'protein' itself was coined, through to the work of more familiar figures such as Leibig, Voit, Atwater and Chittenden. After briefly considering the discovery of the essential amino acids, he moves on to discuss the more recent debates over optimal levels of protein consumption. The principal focus here is on the identification of protein deficiency in the diets of people — especially children — in developing countries, on the efforts to address this problem and on the eventual rejection of the scientific basis of these attempts. He also takes a quick look at changing ideas about adult needs for amino acids. Whereas the first half of the book covers material familiar to historians of nutrition, by venturing into the period after the Second World War, Carpenter breaks new and exciting ground, raising many issues that merit further investigation.

Presenting an account of these controversies is not, however, his sole objective. By drawing out the contrasts between the past and the present he seeks to illuminate the nature of the scientific process itself, and invites the reader to make judgements on the state of science today. On the basis of historical sources, he argues that science in the past was an enterprise mainly done by individuals working in isolation and motivated by a disinterested desire to find scientific 'truths'. These truths were established by decisive experiments and sustained until new experiments or ideas led to their

demise. Errors were the result of imperfect experimental procedures, failure to appreciate the significance of results or gaps in knowledge. Scientific knowledge derived from experiment went unchallenged by sociological or economic considerations.

The picture of the scientific enterprise that emerges from the second half of the book is altogether different. Basing his

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The "protein man", a familiar figure to shoppers on London's Oxford Street for many years. His pamphlet, which claimed that dietary protein is the cause of lust, reached its thirty-fifth edition.

account on events he witnessed first-hand as a practising scientist, Carpenter depicts modern scientists as a group "engaged in the passionate pursuit of research grants and professional success". Every scientist is dwarfed by national and international funding agencies, who become the leading actors in his story. Scientists have to cede their previously uncontested sovereignty over the field to accommodate the views of economists, development experts and sociologists, who are also supported by

these institutions. Scientific fact is no longer the result of individual endeavour or a single, decisive experiment, but of the negotiations of committees whose "democratic approach to truth is a contradiction in terms". Nevertheless, this truth becomes embedded unassailably in textbooks that educate the next generation of practitioners. Scientific truth has lost its innocence and purity, and has become tainted by association with forces outside its control.

This picture of modern science accords surprisingly well with that painted elsewhere by historians and sociologists of science, which has recently been attacked vehemently by some practising scientists as unacceptably relativist. However, historians and sociologists regard the developments that Carpenter deplores not as a recent form of corruption of a once pure enterprise but as a fundamental part of the creation of new scientific facts and ideas. There is no reason to believe that the past was so very different. Indeed, Carpenter acknowledges that the persistence of some ideas in the past may well have been related more to the high professional status of their advocates than to sound experimental underpinnings. Also, it is clear from the account of the career of Wilbur Atwater, a founding father of nutrition science in the United States, that many of the factors that Carpenter identifies as distorting the scientific process were as important in the past as they are now. Atwater relied for his initial funding on the US Commission of Fish and Fisheries, whereas his later projects were supported by the Massachusetts Bureau of Labor Statistics. Yet Carpenter, despite his assessment of modern science, rejects suggestions that these connections played any formative part in Atwater's conclusions.

Connecting science past with science present sheds light on the nature of the scientific process itself, Carpenter argues. His book does indeed achieve this aim, but not necessarily in the way he intended. Rather than showing how the personal, professional and institutional concerns of modern scientists may have diverted them from the objective search for truth that their predecessors pursued, he instead unwittingly invites us to see these as integral parts of the scientific process, as components of scientific truth itself. □

Sally M. Horrocks is in the Department of Economic and Social History, University of Leicester, Leicester LE1 7RH, UK.