

## Out of the Box

My columns so far have each covered about four themes. This time, prompted by a recent issue of this journal and to stimulate your Christmas and New Year, here is just one theme: who do you think you are?

### What is public health nutrition?

I know what *Public Health Nutrition* is, and you do too: you are holding Volume 6 Number 8 in your hand. But what is public health nutrition? I turn to the inside back cover and find: '*Public Health Nutrition* provides a forum for the presentation of original research findings in the field of Public Health Nutrition'. Capital letters aside, this reminds me of the Shorter Oxford Dictionary definition of 'nutrition science': 'The branch of science that deals with (esp. human) nutrients and nutrition'. Apart from '(esp. human)' – which seems wrong to me – we go round in a circle, and are no further forward.

I now turn to recent articles by Roger Hughes<sup>1,2</sup>. He electronically assembled 24 public health nutritionists in Europe, the USA and Australia in a 'first round of a consensus development Delphi technique'. The experts agreed that 'public health nutrition' needs definition. Component terms were proposed, like 'population-based', 'education', 'food and nutrition systems focus', 'wellness maintenance' and 'environmental and political descriptors'.

This reminds me of the Project plotters, working through the nights at 4 Millbank in the mid-1990s, cutting and pasting terms like 'law enforcement', 'justice', 'social market focus', 'wealth maintenance', 'education and health descriptors' and 'New' into the Labour manifesto, like balsamic vinegar sprinkled on to fish and chips. The Roger Hughes article likewise shows agreement on some warm fuzzy keywords and phrases in which to wrap 'public health nutrition'.

Of various hand-me-down definitions, that devised by the Nutrition Society seems safe: 'Public health nutrition focuses on the promotion of good health through nutrition and the primary prevention of diet-related illness in the population. The emphasis is on the maintenance of wellness in the whole population'<sup>3</sup>. Bolder definitions from Australia<sup>4</sup> and the USA<sup>5</sup> include daring terms such as 'economic', 'legislative', 'social', 'cultural' and 'political'.

### What is nutrition?

The general impression given so far is that public health nutrition is a branch of nutrition science concerned with populations not individuals, prevention not treatment, and humans not the rest of the living world. This positioning is

similar to definitions of public health medicine, that place it as a subsidiary of medicine, like a lean-to shed built on the back of a mansion – which, in terms of relative wealth and power, is what it is.

But what is nutrition science? Neither this nor the word 'nutrition' is defined or discussed in the articles by Roger Hughes. I now turn to the textbook edited by John Garrow, Phil James and Ann Ralph<sup>6</sup>. Its introduction includes some hints, such as 'classical nutrition problems were concerned with famine relief and the prevention of deficiency diseases' and 'nutritional science is not isolated from the economic and cultural life of society'. But I look in vain for any definition. Go back to the Nutrition Society phrasing. To me, without an agreed definition of 'nutrition', it in effect reads: 'Public health thingy focuses on the promotion of good health through thingy and the primary prevention of [blah blah]...'. To know what the definition of 'public health nutrition' means, 'nutrition' has to be defined. (So does 'public health', but not now.)

So what is 'nutrition' or 'nutrition science'? In his keynote lecture to the congress of the International Union of Nutritional Sciences (IUNS) in Vienna in 2001, Vernon Young had a bash: 'The study of the totality of the relationship between the functional (metabolic, behavioural) characteristics of the organism and its dietary environment'<sup>7</sup>. This reads well, except that '(metabolic, behavioural)' seems an arbitrary choice of two of many relevant terms; and use of 'dietary' instead of 'nutritional' looks like a way of disguising more circularity. Knowing the interests and attitudes of this distinguished US-based researcher<sup>8,9</sup>, it is perhaps not surprising that his definition excludes the terms 'disease' and 'health'.

I begin to wonder if all reflective nutrition scientists have their own private definition of 'nutrition science' that encapsulates their own take on the subject. I suggest that one reason for the current manifest confused and depressed state of many nutrition scientists is that you do not know who you are, what you are doing, or why you do what you do. When I browse nutrition journals and conference presentations, in my mind's ear I hear the words of that old marching ditty of browned-off soldiers: 'We're 'ere because we're 'ere because we're 'ere because we're 'ere'. The 'who', 'what' and 'why' questions are not being answered. I do not except myself. While I see myself more as a food and nutrition policy specialist, I also have been confused, and have tended to define my work merely in terms of specific projects.

Friends and colleagues outside the field are no wiser. As all nutrition scientists who admit what they do at dinner parties know, it is generally assumed that nutritionists

are people who (1) disapprove of food that tastes good, (2) have a spurious formula to lose weight now, ask me how, (3) disagree with one another and change their minds all the time and (sometimes) (4) are to blame for mad cow disease.

Another problem is that the profession of nutrition remains commandeered by biochemists, physiologists, physicians and others who typically see nutrition science as a subset of their own increasingly specialist 'hard' sciences, and disdain to describe themselves as nutritionists. This also helps explain why clinical nutrition is seen by those who dominate the profession as its core activity, why nutrition science has no generally agreed definition, and why nutrition scientists are demoralised.

### Conventional nutrition science

So who are you? As my first wake-up call, I propose that nutrition science should always be concerned with public health, and that any meaningful definition of 'nutrition science' includes public health nutrition. So here is my definition of current orthodox nutrition science: 'The study of interactions of constituents of food with biological systems, and the application of this knowledge to prevent disease and sustain human health'.

This should cheer up nutrition scientists. It identifies nutrition as a theoretical and also a practical science concerned with all living systems, and reconciles prevention with treatment and population with individual health. It makes nutrition significant. Public health nutritionists have more reasons to be cheerful, because it implies that public health nutrition is not a subsidiary of clinical nutrition, but the reverse. Similarly, public health medicine should refuse to accept that disease treatment means health, should reclaim 'health' in its original, positive and proper meaning, and subsume clinical medicine. I invite all those concerned with the health of populations, including public health nutritionists, to stop conniving in their own marginalisation. Stand up, walk tall!

### New nutrition science

I now go further. Nutrition science itself needs a wide definition, broad principles and a full context, as it had in its first phase roughly between 1850 and 1950, culminating in Britain with the creation of the Nutrition Society. Nutrition science is meant to make a lasting difference for the better in the world.

As my second wake-up call, I assert that the definition suggested above is too narrow for now and the future. Nutrition science is a meeting ground of many disciplines. As a life science it includes chemistry, biochemistry, physiology and medicine. It is also a social science involving economics, epidemiology, anthropology and ecology. In its application to food policy it embraces

dietetics, agriculture, technology and geography. Its scope is indicated by the number of government departments affected by its application to food and nutrition policies: these include finance, foreign affairs, home affairs, education, urban and rural affairs, industry, trade, planning, environment and culture, as well as food, agriculture and health<sup>10</sup>.

Nutrition science should not be confined to the metabolism, composition and consumption of food, and their effects on human health. Its need to regain the confidence and ambition of its first phase is obvious. In the North, urbanisation, industrialisation, the transformation of food systems, and the consequent emergence of mass epidemics of nutritional deficiency, infectious diseases and then of chronic diseases, occurred with phenomenal speed between the eighteenth and twentieth centuries. These linked demographic, technological, nutritional and epidemiological transitions are now occurring all over the world with exponential velocity, in part caused by the current crude and cruel form of economic globalisation<sup>11–13</sup>.

Nutritional deficiency and infectious diseases are no longer overwhelming burdens in those countries of Europe and North America whose élites are becoming even more rich by exploiting the rest of the world. But in the South nutritional deficiencies persist; old and new infections such as tuberculosis, malaria and HIV-AIDS are often out of control; and chronic diseases have become epidemic. This triple burden on impoverished countries is crushing Southern Africa, and could destroy the health and also the cultural integrity, economic viability and social and political cohesion of other regions of the world.

For Asia, Africa and Latin America, imperialism is not an option; and even in the richest countries, on a population basis nor is medical and surgical treatment of chronic disease. The only feasible and rational approach is primordial prevention: the creation of conditions in which nutritional deficiency, infectious diseases and chronic diseases all become less common – in the context not just of the maintenance and protection of human health, but also that of the whole living and natural world<sup>14,15</sup>.

Looking forward to the next IUNS Congress in Durban in 2005, I propose that nutrition scientists concerned with public health should simply call themselves 'nutritionists', and that 'nutrition science' itself be given a new timeless, inclusive, positive and active definition. Thus I propose: 'Nutrition science is the study of interactions of food and drink and their constituents with biological and all other ecological systems'.

This enlarges the scope of nutrition science to include not only personal and population but also planetary health. The second part of the current evident mainstream definition can then be developed, to indicate its mission as applied to food and nutrition policy. Thus I propose: 'The application of nutrition science is designed to prevent

disease and sustain the health and integrity of the human, living and natural worlds all together; and to ensure science-based policies that promote and protect rational, equitable and sustainable food systems'.

Such definitions show the scope of the new nutrition science. Keywords, terms and concepts themselves all need explicit definition. Thus, 'equitable' and 'sustainable' point to the 'deep' underlying and basic causes of good and bad health<sup>16,17</sup>. And 'food systems' is broader than 'food chain': it involves the planting and breeding, production, harvesting and slaughter, preservation, storage, transport, manufacture, processing, packaging, trade, distribution, sale and preparation of food, as well as its composition, consumption and metabolism; and also the cultural, social, environmental, ecological, economic and political aspects and impacts of all these inter-related processes<sup>18–20</sup>.

### What then is to be done?

The time is right for nutrition science to include public health nutrition. Mark Wahlqvist, 2001–2005 IUNS President, advocates 'eco-nutrition'<sup>21,22</sup>, and Claus Leitzmann, another IUNS officer, goes further in advocacy of 'nutrition ecology'<sup>20</sup>. But these admirable proposals are conceptually and politically mistaken, if they imply development of another branch of nutrition science concerned with environmental and other ecological impacts. The whole tree has rotted to its roots, and a new sapling needs planting and tending.

This means scientific revolution, in the sense popularised by Thomas Kuhn<sup>23</sup>. New definitions and directions will not come from those stuck in the mud of current normal science. Instead, international non-government organisations concerned with issues like food and nutrition security, adequate and nourishing food as a human right, sustainable biodiverse food systems, nutrition of mothers and children and traditional food culture, are now forming global networks<sup>24,25</sup>, and setting agendas for world nutrition policy, as for example that for infant and young child feeding<sup>9,26</sup>. The whistle has blown, the green flag has been raised, and it is time for all concerned with public health nutrition to get on board.

Discovery, exploration and understanding of new worlds begin by being open to exotic ideas. With nutrition science, this will involve incorporation of many disciplines, attention to history, tradition and culture, and commitment to policies and programmes designed to protect the whole human, living and natural world. The meaning and purpose of nutrition science will be renewed as a result of this collaborative adventure. More power to those who work to this end in these pages.

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