WN *Columns*

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What do you think?

Geoffrey Cannon



Access pdf of my January 2013 column here
Access pdf of my February 2013 column here
Access pdf of my March 2013 column here

São Paulo. Nutrition scientists mostly attend to disease. This is what 'health' usually now means to practitioners and purveyors of medicine. Thus, disease treatment = 'health care'. This inverted preoccupation is a mistake. Nutritional medicine has its place. The quasi-medical administration of nutrients continues to save countless lives of infants and young children in impoverished countries. However, overall a better way to understand health is to pay attention to positively healthy populations and people. Not so easy, of course. How can well-being be measured?

The 'health' of any country is often gauged by the number of physicians, surgeons, hospitals and computerised axial tomography (CAT) scanners there are per hundred thousand head of population. Step back a moment: how strange! This is terrific business for 'health' professionals, not to mention statisticians and equipment manufacturers, and is great for politicians and rich people who can expect treatment in high-tech hospitals, but does little to measure, let alone understand, health (1).

Besides, there is far more to health than absence of disease. Good health and well-being is of the body, and also of the mind, heart and spirit. It has personal, and also

social, political, economic and environmental aspects. Healthy societies are congenial, creative, independent, and equitable. Health is also not for us but for future generations as well, and of us humans as just one species within the living and physical world, itself within the biosphere. Here is the opportunity for nutrition, fully understood. Interested? Let's hope so. Challenged? So we all should be.

Note and reference

1 Ivan Illich observed that this approach to health is like supposing that the solution to insanity is to build a madhouse on every street corner. Illich I. *Medical Nemesis*. New York: Random House, 1976. In any population, the incidence of disease is said to rise as a function of the prevalence of physicians and surgeons and availability of increasingly sophisticated diagnostic machinery. If 'disease' means 'disease as diagnosed by a professional' this surely has to be true. You find what you look for.

Food and nutrition, health and well-being

What I believe: 5

In this series of 'what I believe', I riff each month on what I believe are key topics, and sometimes take what may be a currently unpopular line. It looks like the whole series will cover a dozen topics, with passing references to more. Offers to work them all up into an amply-funded course of studies on the new nutrition will be considered carefully. But be aware though that there are no profits or medals in health. Healthy populations are a drag on 'development' as conventionally measured by national gross domestic product (1).

In February and March I outlined two topics each month. The first in the February column concerns epistemology – the theory of knowledge. Here I believe that 'in the beginning is the idea'. In science it is not facts (quantity) but ideas (quality) that come first. Science is driven not by induction but by deduction. My second February topic is that we should not think *nutrition* so much as *nourishment*. While being concerned with physical health, we should also engage with health and well-being in their mental, emotional and – fasten your seatbelts – spiritual aspects. More quality! In this mode I also proposed as a way to make healthy choices, that: 'Good meals can be celebrated in odes'.

In last month's column I celebrate the now commonly accepted conceptual framework of nutrition with its social, economic and environmental as well as biological dimensions. This was a novel notion in 2005, when a large group of us came together and produced *The Giessen Declaration* on the *New Nutrition Science*. My

second topic, an example of the new nutrition in action, proposes that: 'It is best to be small'. With both I tell some tales of the evolution of the ideas.

From now on my columns will cover just one topic (phew!). This month I propose that a proper understanding of nutrition as a science depends on realising that as now taught and practiced, it is an attenuated and narrowed descendant of dietetics. Dietetics in its original form was first shaped over 4,500 years ago and developed since then, until its obfuscation by materialism, and its virtual obliteration by charismatic 19th century characters who positioned nutrition as biochemistry, a travesty which still holds sway. Classic dietetics is a broad philosophy.

Note and reference

1 As pointed out by Kenneth Rogoff, former chief economist at the International Monetary Fund. Rogoff K. Coronary capitalism. Project Syndicate, 1 February 2012. Access at www.project-syndicate.org/ commentary/coronary-capitalism. Of ultra-processing in the US he says: 'Corn-based food products, with lots of chemical additives, are well known to be a major driver of weight gain, but, from a conventional growth-accounting perspective, they are great stuff. Big agriculture gets paid for growing the corn (often subsidized by the government), and the food processors get paid for adding tons of chemicals to create a habit-forming – and thus irresistible – product. Along the way, scientists get paid for finding just the right mix of salt, sugar, and chemicals to make the latest instant food maximally addictive; advertisers get paid for peddling it; and, in the end, the health-care industry makes a fortune treating the disease that inevitably results'.

What do you think?

World Nutrition has a new look as from this month, as you see. This has given us the opportunity for review. Starting in early 2010 my column was called 'Blog', a clunky label, and then 'Column', which indeed it was, and is, but as a name is dull, like calling a dog 'Dog'. So what about a name that indicates attitude? The column I wrote for *Public Health Nutrition* from 2003 to 2009 was called 'Out of the Box'. This followed a conversation in Buenos Aires with Ricardo Uauy, who told me kindly and firmly: 'You are out of the box. Stay that way'. So I did.

Since then colleagues have rightly asked me to flag when the ideas and opinions in my columns are not consensual, or are minority views, or are speculations or even flights of fancy. Fair enough. This led to the idea that the column title itself should flag that what's here, is not cyber-tablets of stone. So phrases like 'On the other hand', 'By the way', or 'Points of view' or 'And another thing' occurred and were all rejected. Boring! In the spirit of interactivity expressed by Isabela Sattamini in her introduction to this month's *WN* letters section, we think that a better idea is not to refer to the writer but the reader. One measure of success of this and other contributions to *WN*, is the quality of responses, and the energy of discussion.

Hence: 'What do you think?' Well, what do you think, about the proposal made in this column here, that we need now to return – as symbolised by the spirals that head this column – to the original concept of dietetics? Let's hear from you please.

The new instruction for responses is at the end of this column, and for convenience is also here. Please address letters for publication to wn.letters@gmail.com. Letters should usually respond to or comment on contributions to *World Nutrition*. More general letters will also be considered. Usual length for main text of letters is between 100 and 850 words. Any references should usually be limited to up to 12. Letters are edited for length and style, may also be developed, and once edited are sent to the author for approval. So please, write what you think.

Public health and nutrition

Dietetics is the mother of nutrition



Lives well led: The Emperor Huang Ti, Hippocrates, Pythagoras, Claudius Galenus (Galen), Muhammad Al-Razi (Rhazes), Johann Wolfgang Goethe

Access pdf of PHN 2005 8 6(A) Giessen Declaration here
Access pdf of PHN 2005 8 6(A) 4000 BCE-2000 CE history here
Access pdf of PHN 2005 8 6(A) Klaus Meyer-Abich on dietetics here
Access pdf of my December 2011 column here
Access pdf of my May 2012 column here

The same word can have different meanings at the same time or over time, and translations of words from one language to another can be misleading – or revealing. For instance, the Portuguese word '*alimentação*' is often translated as 'food', but this is not correct. The word means 'food-as-eaten', which is to say, the process of being nourished. The English word for this concept, 'alimentation', has this meaning also, but is now rarely used, except as the medical term 'alimentary canal'. This is significant. Using the Portuguese word, Brazilians retain the subjective sense of food as eaten, 'in here', whereas the usual English word distances what we eat from us, so that it remains objectively 'out there', or else is not our concern but that of a pathologist.

Another example, directly relevant to this riff here, is 'diet'. This has several meanings. Three are linked (1). Thus, the word can refer to the sum of what is normally eaten and drunk, as in 'daily diet'; or it can refer to unusual regimes, as in 'Macrobiotic diet'; or it can – and now very often does – mean regimes that are meant to reduce body fat, as in 'The Atkins Diet Revolution'. Correspondingly, 'dietitians' are professionally qualified people who have the ancillary task of applying current thinking about nutrition. This may be as advice in general, or for special groups, or for people with disorders or diseases that require specific foods or nutrients, or for weight reduction, or as support to the business they work for or advise (2).

Diet as way of life

But this is a narrowing and inversion of dietetics as originally understood. The Greek word δίαιτα (*díaita*) has the very much broader meaning of 'way of life', within which food and drink and diet in any modern sense is one part. Originally, dietetics was the philosophy of the good life well led.

In Chinese, Greek, Roman, and Arab culture, and in European culture until the identification of nutrients as chemical entities, the teaching and practice of dietetics was generally similar. It included attention to work and sport, to rest (including sleep and dreams), to states of thought and emotions, to evacuations (including sexual activity), and to relationship with society and the environment, as well as to food, drink and activity (3,4). Leading thinkers have included those pictured above: from the left: the Chinese 'Yellow Emperor Huang-Ti (around 2500 BCE), the Greeks Hippocrates of Cos (460-370 BCE) and Pythagoras of Samos (384-322 BCE), the Roman Claudius Galenus or Galen (130-200 CE), and the Arab Muhammad ibn Zakariyā Rāzī or Rhazes (865-923).

It is commonly supposed that such philosophies are curios, merely antique or (from the point of view of the global North) primitive or exotic. This is not so. Dietetics as a central part of 'natural philosophy', which is to say the study of nature and our place in it, persisted until industrialisation (5), as evident in the writing and teaching of the European Johann Wolfgang Goethe (1749-1832). What these teachers and practitioners and their followers have in common, is commitment to protect, promote and maintain health in the full and proper sense of vitality and well-being. Hippocrates identifies health as 'universal sympathy', meaning harmony between the internal environment of ourselves, and the external environment of nature.

This is the concept of 'dietetics' as I use it here. In this sense it is no longer a mere practical application of nutrition. Instead, it is the master philosophy of living, of which food, nutrition and physical activity is one integral part, not to be separated from the other parts but to be understood holistically and systematically.

The need for values

The unfortunate reason for the separation is pretty obvious. As soon as food was identified as a collection of chemical constituents, as it began to be following the investigations that isolated protein, carbohydrate and fat in the early 19th century, it could be measured, not just roughly, as 'a pound of bread and a flagon of ale', but exactly, as '45 grams of protein' and (later) '300 micrograms of folic acid'. Not to mention all the amino acids. Plus I read that folic acid is pteroyl-L-glutamic acid, pteroyl-L-glutamate, and pteroylmonoglutamic acid, or (2*S*)-2-[(4-{[(2-amino-4-hydroxypteridin-6-yl)methyl]amino}phenyl)formamido]pentanedioic acid for long. By jove, there could be a Nobel Prize implicit in this chemical cornucopia!

So nutrition became 'scientific'. Nobody outside a laboratory can see or handle protein or folic acid, or *trans*-fatty acids or resveratrol. In this way nutrition scientists have gained a status somewhat like that of priests who intone in Latin, or of magicians who read the runes. Moods, friends and dreams are qualitative, and so are excluded from what is now the scientific canon, or else consigned to the 'soft literature'. Nutrition as conventionally taught and practiced now is tough stuff, with numbers. Physical activity is also hard stuff now, after development of machines used to measure it in various ways.

The power of numbers over us has become so great that we now tend to think that aspects of health such as the nature and quality of sleep, ideas and indeed vitality and even being alive, are not significant or relevant; or even somehow that they do not exist, at least in ways that are professionally relevant. This has tended to make nutrition a dull topic. It is as if architecture has been reduced to studies of bricks, or painting to observations on pigments, or – to take a salient painful example – economics to the mathematics of money. These are all relevant, but are not the main thing – are not the thing itself.

The work of many nutrition scientists is entirely more significant, but such work that I know transcends numbers, and is based on and loaded with value judgements – which by their nature cannot be quantified. The pressure to be 'objective' is so intense that 'in the literature', issues of quality are usually not identified as such, and instead are sometimes overlooked, often obscured or evaded, and only occasionally acknowledged (6). Indeed, discourse of what is stated or assumed to be good, is characteristically limited to readily measured outcomes, notably the promotion of growth, the prevention of disease, and the extension of life, which matter, but which do not amount to what life is all about.

As I see it, modern 'scientific' nutrition has taken a wrong turning up a blind alley or, to switch to a more precise metaphor, has painted itself into a corner. Despite many efforts to give it proper scope – which surely soon will be successful – it is still mainly concerned with the study of nutrients and their effect on health in the sense

of physical disease. Why, is a long story. One reason is because this narrowed and inverted aspect of nutrition in its full sense, as originally understood by masters and followers of the natural philosophy of dietetics, can be and is measured and reproduced as all sorts of products, from guidelines to biscuits (7). In this way wisdom is reduced to knowledge which in turn is reduced to information – or, as we are now supposed to say, data.

Now I will attempt to distinguish between nutrition in the sense now generally taught and practiced, and dietetics in its original sense

Nutrition is technical. It is concerned with humans physically, and with the prevention, control and treatment of disease. Its focus is quantity and nutrients. It is positioned as objective in the sense of being free from contexts. It is reductionist (8). Dietetics is philosophical. It is concerned with the environment as well as humans spiritually, emotionally and mentally as well as physically, and with the protection, development and promotion of vitality. Its scope is quality and ways of life and being, including dietary patterns, meals and food. It is subjective in the sense of being bound up with its contexts. It is holistic.

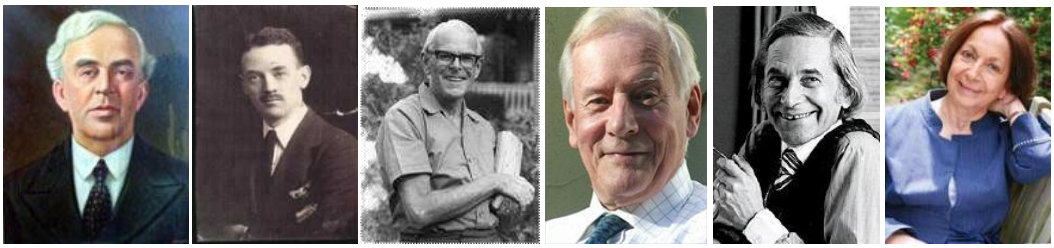
Seen like this, nutrition can become part of dietetics, with its own special knowledge and value, as long as it accepts quality, expands, and becomes positive. On the other hand, dietetics cannot become part of nutrition, unless all its essential aspects are expunged, shrunk, and made to be measured. This is what happened as a result of the rise of 19th century biochemistry to serve industrialisation, mechanisation, and the need to breed big strong young people as foot-soldiers and manual workers (9).

You may now feel that I am positioning myself as a fan of 'organics' – what an official of the English government Department of Health and Social Security once sarcastically characterised as 'the compost-fed school'. Up to a point, yes I am. We need to understand systems and therefore ecology, or else we are done for. But best not to go for a riff within this riff. Let's just say that in general, people with hands-on experience of some combinations of nature, farming, plants, animals, culture, and meals, and dare I say life as lived, are more likely to understand nourishment, than do scientists who rely on slicing rats or crunching numbers.

This begs a question because as you see, I am shifting from 'nutrition' to 'nourishment'. Of course nutritionists know more about nutrition than other people or professionals, so long as 'nutrition' is defined as what nutritionists know and do. That's like saying that theologians know most about religion, whereas what they know is theology, which is not the same thing. It depends what these terms mean.

If you have read thus far but are feeling what's here is rancid ravings, below are six examples of people in modern times who in various ways have been or are masters

of dietetics in the original sense; although none as far as I know has ever identified themselves as such. My knowledge here does not include Asian nationals, for which apologies. Much or most of the work of the first four (from the left) was or is concerned with population nutrition. These are Robert McCarrison (1878-1960), Jack Drummond (1892-1952), Denis Burkitt (1911-1993), and Michael Crawford (1930-).



Well-being expressed in modern times: Robert McCarrison, Jack Drummond, Denis Burkitt, Michael Crawford; and also Alan Davidson, Claudia Roden

Robert McCarrison

At the time of the Raj, Robert McCarrison was from 1918 founder-director of the Indian nutrition research laboratories in Coonoor (which later transferred to Hyderabad as the Indian National Institute of Nutrition), and in 1929 became director of Indian nutrition research (10,11). His work on the thyroid gland and goitre is classic.

His relevance here, was that as a result of putting meticulous laboratory research and human investigation into evolutionary, historic and other broads contexts, he identified the type of diet that produced physically magnificent Sikhs and Pathans, contrasted with puny Bengalis and Madrassis. Since he was advisor to the governors of India, this has had a permanent effect on the recruitment and sustenance of the national fighting forces. In 1928 he wrote a primer for the nutrition and health of young people in India (12) in which he said 'Well-living consists in many things as well as the satisfaction of appetite: it consists in the perfect growth of mind and body, in perfect health'; and he advocated 'the unsophisticated foods of nature' (13).

Jack Drummond

In 1920 the term 'vitamin' was proposed by Jack Drummond as a shorter and accurate version of the previous name 'vitamine'. In 1922 he became head of biochemistry at University College, London. He isolated vitamin A in the 1930s (14).

He is significant here because he also saw the bigger picture. As from 1940, as chief scientific advisor to the Ministry of Food, he took a lead in devising the 'wartime diet' that sustained national health. National self-sufficiency in food production, which he also helped to mastermind, enabled the British population to endure the

German submarine U-boat blockade, and to work long hours in factories sustaining the war effort. The purpose was national survival, not prevention or control of disease, but given the need for food rationing, the 'national' brown loaf, and plenty of home- and locally-grown fresh food, overweight became rare and rates of various chronic diseases dropped. These lessons were unlearned after the war. His one book, *The Englishman's Food,* is a history of dietary patterns for five centuries from around 1450, which includes profound knowledge of food production, preparation and cooking. It is one of a select group of books on food as produced and consumed that have been written by nutrition scientists (15).

Denis Burkitt

Burkitt's Lymphoma is named after Denis Burkitt, who tracked its remarkable cause and so was elected FRS, while from 1946 to 1966 engaged as a surgeon in Uganda. His epidemiological enquiries, involving extensive worldwide correspondence, in partnership in Africa and later England with the physician Hugh Trowell, led to the identification of a great range of ailments involving all organ systems as 'Western diseases'. These Denis, Hugh and others showed to be rare or practically unknown in Africa and other countries and regions of the global South before adoption of the ways of life and in particular the dietary patterns of the global North (16).

Denis is singled out here, because following the work of others who he always acknowledged, he made sure, with charm and conviction, that dietary fibre became universally agreed as protective against various diseases, in particular of the colon. A milestone was publication in 1981 of a favourable report by the London Royal College of Physicians (17). The achievement was mainly that of Denis himself, largely as a result of compelling lectures around the world. Although he supported the use of bran as a supplement, he advocated whole grains, tubers, vegetables and fruits, as sources of nourishment and well-being. He ended a vivid illustrated popular book by saying 'The basic concept of health is one of wholeness. This involves every component of man's being, and also inter-relationships with one another' (18).

Michael Crawford

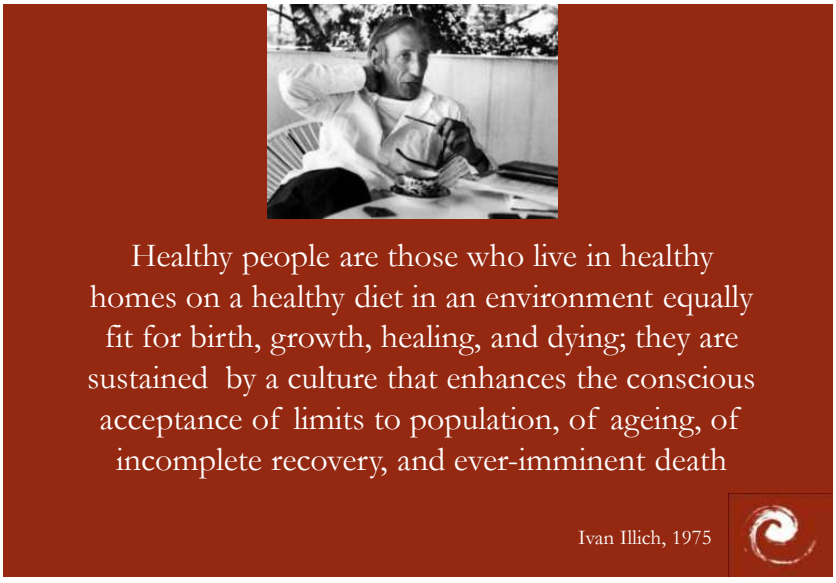
Michael Crawford is a biochemist at London University. He is mentioned here not just as a world authority on essential fatty acids, which he is, but because his life's work concerns the evolution of the human brain. He attributes this to emergence of *Homo sapiens* by the side of estuaries, diets rich in marine oils, and slow growth – all against the grain of conventional thinking (19). It is the scale and sweep of his thinking, much originally derived from work in Africa, which qualifies him as a philosopher of dietetics in the classical sense – that, and his focus on intellectual, mental and also emotional health. He sees the diets of the global North as breeding human hippos or humvees, physically gross and mentally retarded.

Alan Davidson, Claudia Roden

The two people pictured on the right in the strip above are Alan Davidson (1924-2003) and Claudia Roden (1937 -). If I had to give two examples only of people in our times who have the most advanced understanding of dietetics in the full, classic sense, these are they. Alan Davidson was at first a diplomat, rising to be British ambassador in Laos. His passion was food and all it means. His masterwork, *The Penguin Companion to Food,* all 1072 large-format pages was commissioned in 1976 and completed in 1999 (20). Claudia Roden, brought up in Egypt, has a broad and deep understanding of the food systems and cultures of the Mediterranean world, often expressed in stories and recipes for delicious dishes and meals whose meaning she explains (21). Neither Alan Davidson nor Claudia Roden refers to disease, except in passing. Their books are odes to joy in living, centred on whole nourishment.

Thinking about these six masters of dietetics, I notice that all of them assemble their insights into books, which researchers who now incessantly must chase grants with which to prepare original papers rarely can do. Also five of them, while mostly based in Britain, gained much of their inspiration outside the global North: Robert McCarrison in India, Denis Burkitt and Michael Crawford in Africa, Alan Davidson in Indo-China, Claudia Roden in Egypt. The special factor with Jack Drummond was a national war of survival. The work of the four who are academically qualified is infrequently cited now, as if they have become outlaws. Food writers are usually not seen as professionally relevant by nutritionists, an ignorant and foolish attitude.

Perhaps what will revive the full glory of dietetics will be the world crisis that faces us all now. This will not be successfully tackled with biscuits, whether or not fortified.



As so often, a beacon is the philosophy of Ivan Illich (1926-2002), expressed above in the form of a favourite slide.

Notes and references

1 The term also is used to refer to formal meetings. Martin Luther was not summoned to the Diet of Worms as an early version of 'I'm a celebrity, get me out of here'.

2 Many dietitians work for manufacturers of ultra-processed products or for associated organisations, and so have the task of… no, let's not go there…

3 Mazzini I. Diet and medicine in the ancient world. [Chapter 12]. In: Frandrin J-L, Montanari M. *Food. A Culinary History from Antiquity to the Present.* London: Penguin, 2000. [Originally published in French, 1996].

4 Meyer-Abich K. Human health in nature – towards a holistic philosophy of nutrition. *Public Health Nutrition* 2005, **8** (6A), 738-742. The scope of classical dietetics in the text roughly corresponds to that specified by Galen

5 Hutchison R. The history of dietetics. [Introduction] In: Mottram V, Graham G (eds). *Hutchison's Food and the Principles of Dietetics.* Eighth to eleventh editions. London: Edward Arnold, 1944 to 1956. [First published in *The Practitioner,* January 1934].

6 Breastfeeding is a striking and significant exception to this rule, which helps to explain why the issue of the human right to adequate and nourishing food remains sidelined in conventional nutrition discourse.

7 Biscuits? A while ago I was discussing 'aid' with my friend and colleague Urban Jonsson, who as a former UNICEF chief of nutrition, with many years of experience in Africa and Asia, understands aid. The topic of conversation was then current attempts by UNICEF to get food aid into Gaza. The items being trucked in under fire, included 'fortified' biscuits. While starving people must eat, Urban and I agreed that what the children of Gaza most need, is not biscuits but justice. This would imply fortification of UNICEF's remit, beyond technical assistance.

8 And public health nutrition? As practiced this is mostly conventional nutrition applied not to individuals but to communities and populations. Much depends on what is meant by 'public health', which like nutrition tends to be subsumed into conventional medicine while given a social aspect. The terms are muddled, perhaps hopelessly so. Also, most people whose work has most impact on the nutrition and health of the public, such as sanitary engineers, urban planners, trade regulators and indeed food manufacturers, do not identify themselves as public health nutritionists.

9 Giedion A. *Mechanization Takes Command.* New York: Oxford University Press, 1948.

10 McCarrison H. *Nutrition and National Health.* The Cantor Lectures, 1936. London: Royal Society of Arts, 1936. [Reprinted as *Nutrition and Health*. London: McCarrison Society, 1982].

11 Aykroyd W, McCollum E, Sinclair H, Taylor S. [Chapter 1]. In Sinclair H (ed). *The Work of Sir Robert McCarrison*. London: Faber and Faber, 1953.

12 McCarrison R. *Food.* London, Bombay, Calcutta, Madras: Macmillan, 1941. [First published 1928].

13 Robert McCarrison identified the Hunza people of what is now northernmost Pakistan, in the Karakorum mountains, as having exceptional well-being. Now Bhutan, the small Himalayan country north of India and south of China, identified with the myth of Shangri-La, has an official policy of replacing gross national product with gross national happiness. Below (left) is its king, Oxford graduate Jigme Khesar Namgyel Wangchuck, and (right) some happy children. Perhaps here is the fount of the new dietetics.




14 Steffen J. Sir Jack Cecil Drummond. *Sight and Life* 2012, **26** (2), 76-81.

15 Drummond J, Wilbraham A. *The Englishman's Food. Five Centuries of English Diet.* London: Pimlico, 1991. [First published 1939].

16 Trowell H, Burkitt D. *Western Diseases. Their Emergence and Prevention*. London: Edward Arnold, 1981.

17 Royal College of Physicians of London. *Medical Aspects of Dietary Fibre*. Tunbridge Wells: Pitman Medical, 1981.

18 Burkitt D. *Don't Forget Fibre in Your Diet*. London: Martin Dunitz, 1979.

19 Crawford M, Marsh D. *The Driving Force. Food in Evolution and the Future*. New York: Random House, 1987.

20 Davidson A. *The Penguin Companion to Food*. London: Penguin, 1999.

21 Roden C. *A Book of Middle Easten Food*. London: Penguin, 1970.

Status

Conflicting or competing interests: In the 1980s I was on the committee of the McCarrison Society, whose president is my friend Michael Crawford. I knew Denis Burkitt quite well in his last decade and am a friend of Claudia Roden. I do not regard these as competing interests. Thanks to Kirsten Hartvig and Nic Rowley for putting me on The Way, and Klaus Meyer-Abich for his insights. Reviewers of this column are Fabio Gomes and Claudio Schuftan.

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