

## Out of the Box



Food manufacturers are right to emphasise that regular sustained moderate and vigorous physical activity is vital. However, this does not mean consuming their products while watching next month's Coca-Cola and McDonald's Olympics in Beijing; it means doing it yourself. This month's column also wonders why programmes to reduce vitamin A deficiency are quasi-pharmacological. Plus a riff on the need for comfort from food and what this may tell us about nutrition.

### The best things in health were free

The 17th century physician Thomas Sydenham, 'the English Hippocrates', once cured a patient by prescribing him a roast chicken and a pint of Canary wine. He said: 'I had rather undertake the practice of physick with pure air, pure water and good food alone than with all the drugs in the Pharmacopoeia'. And: 'I leave you with three great physicians: air, water, exercise'<sup>(1)</sup>.

All, note, free. Well... up to a point. As consumers and citizens we have been neglecting to protect global public goods, starting with the air we breathe and the water we drink. For me the one depressing aspect of the very rapidly industrialising ancient city of Hangzhou in the Chinese province of Zhejiang, which I visited in late 2006, was its perpetual haze of polluted air<sup>(2)</sup>. Charles Mann tells a terrifying story of the impact of water privatisation on impoverished urban populations in China, in last year's *Vanity Fair* environmental special<sup>(3)</sup>. People who want themselves and their families to become and remain physically active now need to be increasingly careful in choosing where to live and work.

### 500 calories below par

It is unnatural to be physically inactive. As the Swedish exercise physiologist Per-Olof Åstrand says: 'Regular physical activity is necessary for optimal function and health. The health hazards of inactivity are for many reasons much higher than activity: the individual who remains inactive should therefore bother about a health examination much more than the active one'<sup>(4)</sup>.

Younger health professionals have grown up and learned their trade during an odd time in history, when in materially rich countries almost all people have been – and are – basically sedentary. A modern classic book

on lessons to be learned from Palaeolithic ways of life says: 'Viewed through the perspective of evolutionary time, sedentary existence, possible for great numbers of people only during the last [19th] century, represents a transient, unnatural aberration'<sup>(5)</sup>.

As I observed last month, typically sedentary people now are in energy balance around 400–600 kcal (roughly 1675–2500 kJ) below the level to which the human species is evolved and adapted<sup>(6)</sup>. This range is obtained simply by comparing current energy requirements issued by governments<sup>(7)</sup> or UN agencies<sup>(8,9)</sup> with previous carefully observed levels of energy balance issued in the 1980s<sup>(10)</sup>, 1970s<sup>(11)</sup> and 1950s<sup>(12)</sup>. The same range is found by comparing the energy balance of sedentary and active populations within the same country<sup>(13–15)</sup>.

This higher level, roughly 20% above that of sedentary people now, was normal three generations ago and apparently for the 200 000 or so years of *Homo sapiens*. The range is approximate and allows for size, age and gender. At the higher level of energy intake and turnover our bodies generally work well, and our systems are more tolerant of gastronomic pleasures and of energy-dense snacks, desserts or alcoholic drinks. At the same weight, lean people can eat almost the equivalent of a meal more a day, compared with flabby people.

At the lower level – as said over a generation ago by Arvid Wretling, another Swedish public health leader – it becomes difficult to obtain adequate nourishment from diets unless they are unusually nutrient-dense. He points out that requirements for various nutrients are not just a function of energy turnover, and says: 'A diet which is adequate for a man with a caloric requirement of 3000 calories per day, simply cannot be assumed to cover the desirable nutritional supply for a low caloric consumer – for example, a woman with a caloric requirement of less than 2000 calories per day'<sup>(16)</sup>.

### Daily half-dozens don't make it

The world's urban populations are not going to become active by abandoning cars – though sharp rises in the price of petrol will help – or by reverting to the daily labour of their forebears in mines and fields. For privileged and basically sedentary people, no doubt like you and me, exercise is the main way. But contrary to what some governments have been mistakenly advising, half an hour a day five days a week of moderate activity such

as brisk walking, which may amount to around 150 kcal (630 kJ) a day, does not make it.

The ‘softly softly’ approach to physical activity is a compromise between what the science shows and what expert committees think people will accept. In my view this is bad public health, and unethical. Sure, ‘every little helps’. Indeed, people who have been out of shape and flabby at any body weight for decades, need months of patient persistence before they have built up enough lean tissue to sustain substantial amounts of vigorous physical activity. Yes, many older sedentary people are physically disabled. All true.

Nevertheless, full compensation for being basically sedentary means half an hour of moderate and also half an hour of vigorous physical activity, five days a week, and preferably more, and better still every day. That’s a lot. It implies reorientation of inveterate sedentary ways of life. Determination and discipline are needed. Thus, one colleague in London in his mid-50s, who lives in the suburbs, walks briskly from his train terminus to work in the West End and back again, also runs and works out regularly, and plays tennis. Another colleague in north Scotland, of much the same age, changed her job because her daily commute, often starting and ending in the dark, made regular running impossible. That’s how they choose to raise their physical activity levels from what otherwise would be maybe 1.50 to 1.75 or even a bit higher – which otherwise expressed, means they are turning over 400–600 kcal every day more than their inactive colleagues. They are also following what amounts to a new scientific and public health consensus<sup>(17–19)</sup>, developed from the 1996 landmark report of the US Surgeon General<sup>(20)</sup>, that a ‘daily half-dozen’ amounting to half an hour of moderate activity, is nowhere near enough.

Is this worth the effort? Sure. When we use and train our muscles, our bodies preferentially convert dietary energy into building and maintaining lean tissue. Regular sustained physical activity nourishes all the body’s systems – brain and nerves, heart and blood vessels, immune, lungs, stomach, liver, kidneys and other vital organs, as well as those of consumption, digestion, metabolism and excretion. Activity makes us healthy.

### Blindness and short sight

The editorial in this issue<sup>(21)</sup> comments on ethical aspects of the failure to publish the results of the largest randomised controlled trial ever conducted, which finds that vitamin A supplementation of infants does not reduce mortality<sup>(22,23)</sup>. We have been here before.

In 1992 the regional office of WHO based in New Delhi published a report prepared by Dr C. Gopalan, founder of the Nutrition Society of India and a former president of the International Union of Nutritional Sciences<sup>(24)</sup>. He pointed out that keratomalacia leading to blindness, common in India and Indonesia until the 1970s, was no

longer a major public health issue. Why was that ‘general socio-economic development, better health care (despite all the inadequacies)’ and also prompt treatment of infections ‘have made the major contribution to the decline of, not only keratomalacia, *but all fuminant forms of clinical malnutrition as well*’ (italics mine).

As for vitamin A, whereas studies carried out in Indonesia, India and Nepal by US and local scientists found that supplementation evidently reduced mortality, other collaborative studies done in India before the DEVTA trial showed no such effect. ‘The need for... massive oral doses of synthetic vitamin A in early infancy has not been established; the safety of this approach has also not been proven’. Dr Gopalan called for revised national strategies, in which supplementation was used very selectively and generally replaced by increased cultivation and consumption of plant foods rich in carotenoids, from mangoes and leafy vegetables to palm fruits. These protect against deficiency, promote general good health – and encourage local initiative, industry and autonomy. Such strategies are endorsed by relevant UN agencies, but the overwhelming approach remains pharmaceutical. The reasons why, need a book.

We have not heard the end of the DEVTA story, with its many ethical, scientific, public health, social, economic, political and other implications. Next month I will elaborate. Meanwhile the Editor-in-Chief of this journal welcomes letters for publication.

### Roundheads and cavaliers

Here comes a riff on ‘comfort foods’, and on needs for foods or drinks that go beyond simple appetite and hunger. First, the general context.

In Britain left-wing governments have hesitated to increase taxes on booze – and also cigarettes – on the grounds that the workers need their ‘comforts’. A generation ago no Labour Minister of Health would dare question the then national working class habit of strong cuppa teas with three added heaped spoons of sugar. But in general, as their name suggests, *socialist* politicians have accepted some responsibility for public health, with what this implies.

By contrast, successive right-wing Conservative politicians have adroitly positioned themselves as cavaliers fighting the good fight against quasi-commie killjoys. Kenneth Clarke, Conservative Health Minister for much of the 1980s, flaunted his big belly, foaming pints of ale and cheroots puffed in public.

In the UK this has been fertile soil in which the rank weeds of ‘nanny-state’ denunciation have become deeply rooted. The line has been that if people want, or need, to put themselves in harm’s way – even if this means debilitated and then diseased middle-age, plus the risks of bankruptcy, misery, agony, mutilation and premature death from diabetes, lung cancer, cirrhosis or the

heebie-jeebies – that's their choice and privilege and nobody else's business, irrespective of the cost to their employers, their families, national health services, and taxpayers, and the wealth of their nation.

It is not by chance that since the great days of John Freeman, the image of successive editors of the left-wing weekly political review the *New Statesman* has been as purse-lipped mean-spirited skinny dullards, whereas editors of the right-wing *Spectator* from Nigel Lawson to Boris Johnson have gained public affection for boisterous behaviour including conspicuous consumption of various fleshpots. Boris Johnson's colourful reputation and personality helped him win the London mayoralty in May.

Thus my theory – steering a little into Marshall McLuhan territory – is that the strange success of Tony Blair had a lot to do with him having a warm fuzzy image, whereas his successor Gordon Brown never looks as if he is enjoying himself, and so will go down as a half-term unelected prime minister. The Labour attachment to non-conformist puritan ways, vital to its emergence a century ago, loses the party not just public affection, but maybe up to forty parliamentary seats.

### Our need for comfort

That's the context for some public health nutrition. In previous columns I have bitched about the profession overlooking fasting and feasting. Now I will gripe about apparent relative indifference to hunger, desire, appetite, and craving for food and specific foods. Take 'comfort foods'. Are there times when you feel an imperative need for solace from food or drink, either regularly, say every mid-morning or after finishing a hard day's work, or occasionally, say after being rejected for promotion or after reading a Dear J note or text telling you that the person you love has cleared out of your life?

Sure there are. Am I right? Notice that need for comfort from food or drink tends to arise from need to recover from some shock or stress. Take me. Two days ago as I write, my 4-year-old son Gabriel was savaged in our communal playground by two pit bull terriers which, as they do, knocked him down and went for his face. It took me a few seconds to get to him, lift him out of the screaming and snarling horror, and stagger to my feet with him in my arms, as the dogs leaped up and took lumps out of me. Two men nearby fetched planks and beat off the dogs. Since then we have been taking shots at the local excellent public hospital – the impressive Brazilian equivalent of the UK National Health Service – to stop us foaming at the mouth and biting dogs. Yes, Gabriel and I are OK, and now he calls me 'Papai incrível' (incredible Daddy) and an honorary member of the League of Justice, a great honour.

Since the incident – as the local police say – I have imperative desires for certain foods and drinks. If the great nutrition educator in heaven sent me a pamphlet on

angel's wings invoking me to stay with what I normally consume, I would tell her or him to go to hell.

What I thought I needed was cakes, pastries, biscuits, ice-cream, chocolate, that sort of sugary fatty stuff. But not so – I tried some ice-cream, and my system was not interested. What I have really needed these days is big helpings of hot chunky vegetable soups fortified with plain boiled wholegrain rice, and in the evenings a couple of quadruple 'cachaças' (Brazilian sugar cane liquor). These have hit my psychic spots, as my mind runs tape-loops of what if the other men had not been there, what if the dogs had done what they are bred to do, and so on.

Sometimes, occasionally or daily, what we consume is not governed by understanding of how to prevent chronic diseases. Our lives – mine and yours – are usually comfortable, whereas the lives of so many people, in materially rich as well as poor countries, are struggles against misery and despair. Are we the best judges of what is best for others to eat and drink? At the very least, in the words of the great blues song, before we accuse others we should take a look at ourselves. Hateful to admit, Ken Clarke has a point.

In my case, why liquor? That's easy to explain. As an Englishman 'born three gins below par', at times of adrenalin overload a family-size dose of booze brings me down to a level where I can think straight, instead of spinning alternative lives and deaths. Why soup? My theory, which may have general application, is this is because I normally sustain myself on whole fresh foods and drinks, and have broken any habit for calorie bombs – it seems also even in psychic emergency. If I now needed seven sausages or half a dozen donuts, these are what I would be consuming. Craving is irresistible.

This morning a vet came round for discussions on anti-rabies protocols. He was surprised to see that the bites on Gabriel's face are superficial, and said he had snaps on his cell phone, taken by a hospital nurse friend, of adults whose lower faces had been torn off and cheek and jaw bones smashed by pit bulls, and would we...? Thanks but no... I am sufficiently souped up.

### The basis of nutrition science

Nutrition science teaches that the prime need from food is for dietary energy. This sounds like sense for undernourished populations, whose needs created the foundations of modern nutrition practice. But among food-secure sedentary populations, energy as such from food is now incidental – calories are just about the last thing that they might be short of. Sedentary people in materially rich societies have other basic needs.

Maybe conventional nutrition science is up a gum tree. Certainly it's time to move from a nutrition of quantity to a nutrition of quality – and this means defining what is 'quality'. Certainly, recommendations written in ignorance of the foods and drinks people desire with a felt

need as strong as that for sex and drugs, surely cannot possibly succeed. As just one example, if we don't understand why people feel the need for 'comfort foods', either every day or at particular times, we are not doing a good job.

Me now? These evenings I also have an atavistic desire for one slice of wholegrain toast heaped with Waitrose Seville orange fine-cut marmalade, which I have not enjoyed for months. This I feel is reminding me of hundreds of leisurely breakfasts savoured in decades gone by, which I now need as trauma therapy. No, I am not noticing any need for kippers, kidneys, haddock, bacon or Marmite. But two scrambled eggs on toast? Mm...

### Acknowledgements

*Sources of funding:* Ongoing research on energy balance and on physical activity has been undertaken for the rewritten version of my book *Dieting Makes You Fat*.

*Competing interests:* As stated in previous columns, I remain committed to the precepts of the New Nutrition Science, whose symbol accompanies this column, and also to the thesis evident in the title of my current book. While not being competing interests in the usual sense, I do see information through these lenses.

*Authorship responsibilities:* Special thanks are owed to four distinguished nutrition scientists for guidance on energy balance, physical activity, and on appropriate approaches to vitamin A deficiency. Arvid Wretling gave me a copy of the 1967 proceedings of Swedish Nutrition Foundation Symposium during a visit to Stockholm in January 1982, together with many sage observations that have guided me since that time. Prakash Shetty's meticulous work on energy balance has been illuminated by discussions with him. In 1996 Dr C. Gopalan, during his visit to the London School of Tropical Medicine for its 6th annual public health forum on diet, nutrition and chronic disease worldwide organised by Prakash<sup>(25)</sup>, pointed me to his observations on vitamin A deficiency in India. John Waterlow has steered my thinking on undernutrition, during discussions in London last and this year. The pit bull terriers taught me a lesson, but no thanks go to them – or their owners. Riffs, confessions and reminiscences by

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