

## Out of the Box



Is the human race becoming too stupid? A big question, for this month's column. Much of the human race is certainly now too fat; does Audrey (F2 Plan) Eyton have the answer? And, following the late great John Rivers, I muse on what it takes to be relevant and transparent. First though, congratulations to Tasmania.

### Multi-dimensional down under

When Tasmania was a penal colony, its name was Van Diemen's Land, and its people were known as Vandemonians. This led to tedious jokes, and the names were changed. Curiously, this seems not to have led to more jokes. Judging from my recent visit to Hobart, the only mania of Tassies is to protect their living and physical environment.

Judy Seal, nutrition officer for the state government, gave me a copy of its food and nutrition policy<sup>1</sup>. The vision includes: 'Tasmania: a state which produces quality, healthy, safe and affordable food, while sustaining the natural environment and strengthening the local economy'. The policy is framed by overall goals. These include 'Value, protect and conserve our national and cultural heritage'. Specific guidelines include 'ensure that food labelling in Tasmania ... assists consumers to make informed food choices'; in which case Tasmania had better declare its independence and insist that its nutrition labels specify kilocalories and not just kilojoules<sup>2</sup>.

The national and cultural heritage is originally that of the Aboriginal people, who have lived in Australia for over 50 000 years. What of them? We should learn from Aboriginal food systems. 'Before European settlement ... Aboriginal Australians ate rich, exciting and balanced diets of seasonal fruits, nuts, roots, vegetables, meats and fish ... each totally adapted to this unique environment, the continent of Gondwanaland<sup>3</sup>. Original food systems have come close to complete devastation. Most Aboriginal people in the outback have become diseased by 'store food' – crude versions of industrialised food supplies – with many men corrupted by booze. But 'bush tucker' survives.

### The sibilance of nutritionists

John Rivers once wrote: 'We nutritionists are on the whole a sibilant species, happiest when breathing our views into the official ear. We are a profession dominated by consultants, advisors, and official committee members used always to acting in the acceptable shadows. In relation to our limited numbers, our contacts with the

worlds of industry and policy are staggering<sup>4</sup>. John was not, as I recall, particularly iffy about industry itself. Rather, he thought that too many of his senior colleagues were venal, devious, or hypocritical.

He was also concerned that much teaching and practice of nutrition science is irrelevant or misleading. Indeed, I will go to my own grave happy if I play my part in erasing 'carbohydrate' from professional literature, nutrition labels and public consciousness. A term that conflates starches and sugars as if, because chemically similar, they are biochemically and metabolically similar, damages public health<sup>5</sup>. But do I read academically trained nutritionists making this point? No, I do not.

Thus, 'carbo-phobia' swept the USA and also less impressionable nations in 2002, as a result of the smash-hit revised Atkins Diet<sup>6</sup>. Consequently 'two of the most wholesome and uncontroversial foods... – bread and pasta – acquired a moral stain that promptly bankrupted dozens of bakeries and noodle firms and ruined an untold number of perfectly good meals<sup>7</sup>.

This happened because of the confusion of starchy with sugary foods. The policy of Big Sugar, the leviathan whose profits depend on added sugars, is to ensure that sugar has 'a clean bill of health'; and so to dispute the evidence on dental caries, and confuse that on other diseases. This is done partly by evading the term 'sugar'. Thus standard nutrition labels – fixed by committees from governments and industry advised by nutrition scientists – do not mention sugar and only list carbohydrate.

It's understandable that industry will defend its interests. We all do. What's of more concern is the position of scientists. I once noted that expert opinion on the causal role of added sugars in type 2 diabetes was divided about 50/50, and that all the exonerators I had checked out were funded by the sugar industry<sup>8</sup>. So: who are the biological scientists who believe that added sugars are irrelevant or marginal in the causation of type 2 diabetes, who are not and never have been supported by Big Sugar with grants, honoraria, nice trips and so on? If so, would they please declare their lack of interest in a letter to the editor of this journal? John would applaud.

John's own speciality was protein metabolism. Human protein requirements have been disputed since the mid-1980s. One group of insiders says that the human requirement for protein is relatively high; the other says that requirement is relatively low and that humans adapt to different levels of intake<sup>9</sup>. This is not a baroque big-ender vs. little-ender debate. High protein requirement means that traditional plant-based diets need supplementation and fortification. It also implies that breastmilk, uniquely

low in protein, causes 'failure to thrive', and so needs supplementing with, and replacement by, cow's milk-based formula feeds and energy-dense weaning foods.

So, John might have asked: Which nutrition scientists who advise UN bodies, and who believe that protein requirement is relatively high, are not and never have been funded by, on the boards of, in receipt of honoraria from, or in other ways formally involved with, the transnational infant formula industry? Again I pause for a reply.

### Are we too dumb?

Occasionally the detached style used in learned journals does not altogether conceal the seethings of top profs who – even as you and I – are human.

So, now for the catch-weight all-in tag-team bout fixed by Omega Promotions, recorded in the *British Journal of Nutrition* and supplemented by (Crawford M, personal communications) on the topic of docosahexaenoic acid (DHA) and other goodies, and human intelligence. Ladeees'n'gen'men, this is a no-holds-barred fight to the finish. I give you in the red corner the Nova Scotia Nonpareil, the Aquatic Ape, Stormin' Steve 'Catfish' Cunnane, and his partner Mr One Hundred Degrees Proof, the Shellfish Genius, 'Big MAC' Crawford! And in the blue corner I give you the Savannah Slasher, the One and Only Eclectic Eel, Pro-Fessor John 'The Indiana Gorilla' Langdon, and his masked mystery partner, known only as The Evidence. No gouging! No best-bits maceration! Otherwise anything goes!

The bell! John Langdon is centre ring. He argues that terrestrial food systems, preceded by extended exclusive breastfeeding, are adequate for development and maintenance of brain function<sup>10</sup>. He immediately calls on The Evidence: 'The hypothesis of an evolutionary dependency of the human brain on aquatic or marine resources or on any other single food source is unnecessary and unsupported... Current data do not suggest that an ancestral population... would have encountered fatty acid deficiencies that would limit the evolution of the brain'. Slam!

In the second round<sup>11</sup> Stormin' Stephen, whose forearm-smashing muscle has been built up by the general theory that humans evolved not on savannah but the shores of oceans, lakes and rivers<sup>12</sup>, says: Hang on... don't we all know that *Homo sapiens* developed in the semi-arid centre of Africa? Well, what is now Africa passed through phases of climate change. In the era when *H. sap sap* evolved, the Rift Valley was a system of lakes and rivers<sup>13</sup>. O-my-god, the Savannah Slasher is down!

Marshalling arguments from evolutionary theory, the fossil record, traditional food systems and brain chemistry, as elsewhere<sup>14</sup>, Stephen Cunnane concludes as follows. 'Extant human hunter-gatherers have only occupied inland niches for 100 000 years, so they have the benefit of >2 million years of hominin brain evolution and the experience of many previous generations of forebears

from whom to acquire knowledge about which plants or animals to consume to remain healthy; that is a far cry from the challenge of actually evolving the human brain in those inland regions'. Smash! Further, we are not just talking DHA. Iodine and iron deficiencies damage cognitive function, and may affect at least a fifth of the world's population; and shore-based foods are richer in iron and iodine than inland foods. Smash! And o-my-god folks, now the Catfish is applying his own very special head hold, the Horror Bin!

One! Two! The Eclectic Eel wriggles free! John Langdon responds (rather huffily, I thought) that the burden of proof is on Stephen Cunnane to overturn conventional wisdom; and this, he says, has not been done. 'Human diets, past and present... are broad, eclectic, and adaptable'<sup>15</sup>. Now the Shellfish Genius clambers into the ring. But the Indiana Gorilla is unsupported by The Evidence! And o-my-god, Big MAC has locked on his speciality, the Double Sinclair Strangehold!<sup>16,17</sup> And now comes the Cenozoic Crusher!<sup>13</sup> And now – o-my-god folks, this is horrible to behold – it's the Mighty Joe Hibbeln Piledriver!<sup>18</sup> The Slasher is out of the ring! And where was The Evidence?

I put my bets on the aquatic origins of *H. sapiens* over 20 years ago. Humans most likely developed as a result of food systems rich in constituents that specifically feed the brain – in particular, fish and seafood. The vital importance of extended exclusive breastfeeding – on which John Langdon and Stephen Cunnane agree – is corroborative evidence.

What of our current eclectic diets? As I write, today's aol.uk 'news' stories include: 'Are you trembling for the wrong reasons?' – advice on 'making love' on the first date. Big Brother is top 'news' every day. Today it's 'Chiggy on the rocks... Chanelle is left in floods of tears after having a blazing... more'. Are the media dumbing us down? Or, responding to the impulses of the great mass of hopped-up helots, with wits scrambled by junk food?

The nutritional origins of the development and sustenance of human intelligence should be the subject of world best-selling books like those of Richard Dawkins and Jared Diamond. In the 19th century rival theories would be passionately debated in arenas such as the Royal Institution. Instead of which... well, think about it, while you can. Fish is the big dish. A couple of days after completing this piece, I will be taking the Rio trolley to the Espirito Santa restaurant in the Santa Teresa district, whose chef, Natacha Fink, is from Belém in the state of Amazonas, and relishing stewed *piranha*.

### Dieting: a dirty secret?

My father kept his copy of the pre-war Obelisk Press first edition of Henry Miller's *Tropic of Cancer* at the back of the top shelf in his wardrobe. He must have smuggled it in from France; the book was then banned in Britain.

Did he hide it to protect himself from Mr Customs Man, or to protect his only son from inappropriate ideas? I found it when I was around 14 and read it, careful not to break the spine – if I did I would be rumbled, because it would then fall open on the pages containing the steamy passages. It did anyway. Maybe my dad did not want anybody – including himself – to know he had it.

This naturally leads me to dieting books. I detect cognitive dissonance. Many of us consult them for how to get rid of love handles, jodhpur thighs and flabby midriffs, especially as summer holidays approach. Some of us flag these books with stickies for easy reference to the bits with the magic answers. But generally they remain if not back-of-the-wardrobe secrets, certainly not subjects for professional discourse.

Well, I agree with Norman Mailer that *Tropic of Cancer* is one of the outstanding books of the 20th century. Nutrition journals should also bring dieting books into the light. Their impact on intelligent consumers and citizens, and the media and policy-makers is, as we know, far greater than that of academic papers.

### Mrs Eyton's green bananas

Audrey Eyton's *The F-Plan Diet*<sup>19</sup> was first published a quarter of a century ago<sup>4</sup>. This is an example of the 'one-item' dieting book; in her case, not pineapples or protein, but dietary fibre. The book sold tens of millions. Now she has followed up with *The F2 Diet*<sup>20</sup>. She goes in for some power thanks to fibre buffs Sheila Bingham, Tony Leeds, John Cummings and Ken Heaton; and to Susan Jebb, Catherine Geissler, Philip James and Alison Stephen.

*F2* is a snappy book: 100 pages of text, 100 pages of lists and recipes. 'Unbeatable for fast weight loss' it says. As founding editor of *Slimming* magazine, Mrs Eyton does not resist a gimmick. 'Eat at least one medium-size green banana each day', she says. 'Get slim fast and feel fantastic in days!' says the cover selling lines. 'New super-slimming tactics'. The cover picture is of a pretty girl-next-door type with a winsome smile in a white halter, and unbelted blue jeans that look as if they are about to fall off, as perhaps have her excess pounds. Browsers may tremble for the wrong reasons.

Nutritionists who care about poo bulk and gut health will welcome a best-seller that boosts fibre-rich foods. *F2* summarises the glycaemic index and resistant starch stories; points out that fibre is munchies for gut flora; and recommends reduction of fat and alcohol.

However, the F-books are really energy-restricting dieting books in disguise. (By the way, note 'dieting', as distinct from 'diet'.) In *F1* Mrs Eyton says 'allow yourself 1,500 calories daily if you are male, of at least medium height, and more than 7 pounds overweight ... allow yourself 1,000 calories daily if you are female and less than 14 pounds overweight'; and also says 'with a daily deficit

of 1,000 calories you could expect to shed around two pounds a week'.

She is against physical activity. She is of the 'to get rid of the calories in a cream cake you would have to ski up and down Mont Blanc' tendency. In *F2* she says 'it is exceedingly difficult to shed any significant amount of surplus weight by exercise alone ... this would require a very great deal of time, effort, persistence and patience'. As in *F1*, calorie cutting is the way, and 'on a high-fibre diet you will shed fat faster than any other diet of the same number of calories. This is well-proven scientific fact'.

This time she apparently reckons that if you look after the fibre and fat, the calories will look after themselves. She cites disc-jockey Andy Walker who is 'now lean, fit, and trimmed of 18 surplus pounds in weeks'. What about sustainability? 'That phrase "this is a diet you can follow for the rest of your life" somehow fills me full of profound depression'. She braces the reader to expect weight gain after completing her regime.

Verdict? Mrs Eyton's general approach is more or less in line with current consensus dietary guidelines, especially for gut health; but she does not understand physical activity. Her claims range from sensible for general health, to incredible for sustained weight loss, and her 'fast-track' very low energy regime is disreputable. The chances of sedentary people who follow *F2* keeping lost body fat off long-term is, as with all energy-restricted dieting regimes, especially those that neglect physical activity, practically nil<sup>21</sup>. Typically, dieters who fail think the fault is theirs and not that of the regime, so they are likely to try harder or switch to another regime. Dieting is an expanding business.

### Acknowledgements (1)

I am pondering professional ethics. Editor-in-Chief Agneta Yngve rightly asks authors to make appropriate declarations of interest. Founding editor Barrie Margetts has been invited by the IUNS to head up a group to make recommendations on ethics. Good stuff.

Ethics are not simple. If you get money from a source with a vested interest in your work, you should declare this. With nutrition, the food and drink industry is an obvious example. But why stop there? I well remember John Garrow quizzing me dryly, over 20 years ago. I see, he said (I paraphrase). You think that money from industry is not OK, whereas you apparently think that money from government (say) is OK. Why is this? As usual, John Garrow is right. Governments also have vested interests, identify researchers likely to support their own policies, and steer research findings in agreeable directions. Tim Lang is also right to say that there is no such thing as white money. And what counts as funding? A research grant, yes; flights and hotels, I would say yes. Then, what about meals, and gifts of goods, time or skills? Why not?

Conflicts of interest (I prefer the term 'competing interests') also tend to focus on associations with industry.

Again, why stop there? Michael Oliver once advised convenors of expert committees to think twice before appointing candidates with 'predictably unalterable views'. Thus, for example, avoid officials from ILSI or from Mars Bars (aka Master Foods) when assembling a committee on sugar and health. That's obvious. But he was also thinking about people whose minds are fixed – or can be so seen – for other reasons. These can be professional (membership of the IOTF, say), or personal (hatred of or devotion to relevant colleagues, say). But how far to go? Should two male authors, who criticise one another, declare that one has run off with the other's wife; or must we rely on the professional gossip circuit to take care of such factors?

When a paper has a number of authors, their contributions should be specified. But what about people who are not co-authors, whose ideas have been used? References do not cover all such cases. And should people who have contributed ideas be acknowledged, dead as well as alive? Why not? And so... (2)

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Geoffrey Cannon  
GeoffreyCannon@aol.com

### References

- 1 Department of Health and Human Services (DHHS). *Tasmanian Food and Nutrition Policy Overview*. Hobart: DHHS, 2004.
- 2 Cannon G. Calories out, energy-density up [Out of the Box]. *Public Health Nutrition* 2007; **10**(9): 865–8.
- 3 Isaacs J. *Bush Food. Aboriginal Food and Herbal Medicine*. Sydney: New Holland, 2002.
- 4 Rivers J. The hollow men [Editorial]. *Nutrition Notes and News*, 9 August 1985.
- 5 Cannon G. Chemistry, and food labels [Chapter 2]. *The Fate of Nations. Food and Nutrition Policy in the New World*. London: Caroline Walker Trust, 2003.
- 6 Atkins R. *Dr Atkins' New Diet Revolution*. New York: Harper Collins, 2002.
- 7 Pollan M. Our national eating disorder [Chapter 1]. *The Omnivore's Dilemma. The Search for a Perfect Meal in a Fast-Food World*. London: Bloomsbury, 2006.
- 8 Cannon G. Sugars [Chapter 3]. *The Politics of Food*. London: Century, 1987.
- 9 Millward J. FAO/WHO/UNU protein requirements. Identifying recommended dietary allowances for protein: a continuing saga. *Nutrition Society Gazette*, 29 November 2005.
- 10 Langdon J. Has an aquatic diet been necessary for human brain evolution and functional development? *British Journal of Nutrition* 2006; **96**: 7–17.
- 11 Cunnane S. Docosahexaenoic acid and human brain evolution: missing the forest for the trees [Letter]. *British Journal of Nutrition* 2007; **97**: 1021–2.
- 12 Crawford M, Marsh D. *The Driving Force. Food in Evolution and the Future*. London: Heinemann, 1989.
- 13 Truath MH, Maslin M, Deino A, Strecker M. Late Cenozoic moisture history of East Africa. *Science* 2005; **309**: 2051–3.
- 14 Cunnane S. *Survival of the Fattest: The Key to Human Brain Evolution*. Singapore: World Scientific, 2002.
- 15 Langdon J. Aquatic diet and brain evolution [Letter]. *British Journal of Nutrition* 2007; **97**: 1025.
- 16 Crawford M, Gale M, Woodford M. Linoleic acid and linolenic acid elongation products in muscle tissue of *Syncerus caffer* and other ruminant species. *Biochemistry Journal* 1969; **115**: 25–7.
- 17 Sinclair A, Crawford M. The incorporation of linolenic and docosahexaenoic acid into liver and brain lipids of developing rats. *Federation of European Biochemical Societies' Newsletter* 1972; **26**: 127–9.
- 18 Hibbeln J, Davis J, Steer C, Emmett P, Rogers I, Williams C, Golding J. Maternal seafood consumption in pregnancy and neurodevelopmental outcomes in childhood (the ALSPAC study). *Lancet* 2007; **369**: 578–95.
- 19 Eyton E. *The Complete F-Plan Diet*. London: Penguin, 1982.
- 20 Eyton E. *The F2 Diet. The Big Bio-Breakthrough*. London: Bantam, 2006.
- 21 Mann T, Tomiyama J, Westling E, Lew A-M, Samuels B, Chatman J. Medicare's search for effective obesity treatments: diets are not the answer. *American Psychologist* 2007; **62**: 220–33.