

Out of the Box



New readers ask me: What does 'Out of the Box' mean? It springs from a conversation during the 12th congress of the federation of Latin American nutrition societies (SLAN) held in 2000 in Buenos Aires. During an exchange that involved Carlos Monteiro, Mark Wahlqvist and others, I was trying to suggest something orthodox, but Ricardo Uauy interjected. 'You are out of the box, Geoffrey', he said. 'Stay that way'.

This genial instruction seemed to be good advice: I do believe that writers (and presenters) should state where they are coming from, and I would rather be told to stay out of the box than to 'get back in your box'. So here we are. Next month I will be presenting and participating at the 14th SLAN congress in Florianópolis in my own home country of Brazil. Watch this column.

The trouble with chemicals

My last column included acknowledgement of the importance of the biochemical approach to nutrition science and its translation into public policy. One example I gave was the fortification of the US and other national food supplies with folic acid. In response to an e-postbag from incredulous colleagues, it seems I did not make my general view clear.

So yes, the evidence tells me that focusing on the nutritional properties of food, and making recommendations and enacting policies based on this approach, usually has the net effect of damaging personal and population health. Wait! If you are a 'classic' nutrition scientist, before you toss this issue in the trash, hear me out. By 'focus' is meant more or less exclusive attention; and by 'nutritional' is implied the conventional classification of foods and drinks in terms of their chemical and other constituent parts.

Of course this is not always so. Fortification of salt with iodine has greatly reduced the scourge of goitre and cretinism in many countries. Would anybody argue that this practice has of itself increased the production and consumption of salt, and therefore the incidence of high blood pressure, stroke and stomach cancer, to such an extent as to outweigh its public health benefits?¹ Identification of *trans* fatty acids as more pathogenic than saturated fats, and the decision by relevant sectors of industry to reformulate their products in order to get rid of *trans* fats, must surely have reduced incidence of and deaths from coronary heart disease. True, manufacturers now boast that their margarines, baked goods and junk foods are free from *trans* fats, and so customers are lured into buying and eating products that are pathogenic for

other reasons; but it seems a safe bet that this is on balance less troublesome². Similarly, promotion of dietary fibre has probably done more good than harm, even though supermarket shelves are now heaving with noxious concoctions marketed as fibre-rich elixirs.

The right approach to personal and public health nutrition starts by being based not on dietary constituents but on food systems and supplies, and dietary patterns, as well as foods and drinks. Thus, notwithstanding what is generally similar basic human physiology, food-based approaches pioneered a decade ago by Mike Gibney, Ricardo Uauy and their colleagues meeting in Nicosia 'take into account the customary dietary patterns and ... consider the ecological setting, socio-economic and cultural factors, and the biological and physical environment'³.

So I hope that's clear now. But there is more! In the letters column in this issue, Mark Lawrence of Deakin University in Melbourne challenges what evidently was my rash assumption that folic acid fortification is turning out to be a good move⁴. This now makes me wonder if, with exceptions such as those mentioned above, fortification is ever wise?⁵ And so now we steer into the tsunami of Unthinkable Thoughts...

The value of ideas

The Sage of Toronto, Marshall McLuhan, for me remains a guide; and became a friend in his last decade. He thought out of the box, and was a seer. At the time (40 years ago) most people thought his concept that 'the new electronic media recreates the world in the image of a global village'^{6,7} was nuts.

After a lunch with him and some of his family in London, during which Michael Kustow, then director of the Institute of Contemporary Arts, argued with him, he turned to me in the street. 'People assume I always agree with what I say', he said. 'Why is this?' I remembered what he said 25 years later in a conversation with the distinguished cancer epidemiologist Tim Key, during which I proposed two alternative approaches to one topic – I think it was about the role of vitamin supplementation in modification of cancer risk. Tim, exasperated, wanted to know my position. 'I don't have one', I said. 'Both views are tenable. What if I did? Anyway, does this matter?'

Well yes, usually it does matter. We can't all go around acting like lawyers advocating both sides of a case – not, that is, if we want to make and keep friends. But sometimes the way through difficult discussions is not to be too attached to any position. Like for example in the

processes of expert committees where, as the sceptical cardiologist Michael Oliver has said, there is nothing more obstructive than experts with 'predictably unalterable views'. Do ideas ever arise from datasets? Well, inspiration favours the prepared mind; but in my experience and from my reading, ideas come first, and ideas never flow freely when exchanges are from set positions, as if verbal trench warfare.

It is in the spirit of Marshall McLuhan and Michael Oliver that in this and the next column I will (as people from Hot Shops in public relations used to say) 'run some ideas up the flagpole and see if anybody salutes'; and so wait to see, in the letters section of this journal, if any views alter. My theme is: 'Who can you trust?' I can give only some partial impressions and examples, and here I do not touch on the issues of research science methodology or of ideological positions taken in the media and by other powers.

The value of science

I begin by proposing Cannon's Law of the Tune and the Piper, which is: The bigger the budget for any research project, the greater the likelihood that the funding agency will ask the question, specify the method, choose the researchers and control the results, their interpretation and their promulgation. An associated Law, again suggested in the spirit of mild enquiry, of the Song and the Bread, states: Compliance with the overt and covert requirements of a funding agency increases as a function of the amount of cash granted to research institutes and to principal investigators.

Another associated Law, of the Stuffed Mouth, once more floated on the lightest of zephyrs, states: The greater the dependence of any centre of research excellence on core funding and grants from sources with known or inferred policies and attitudes, the lesser the incidence of any project undertaken by that centre resulting in results unexpected or uncomfortable to the funder.

Indeed, there are sad stories of individual scientists – whose work on topics related to official or commercial policy went against the grain – being trashed by civil servants, their own institutes, the established order, and even their peers^{8–11}.

None of this questions the endeavour of science. Of course not. The suggestions here are modest and are offered in an attempt to protect science. There is no one type of reliable research, the theory of science may seem to be dispassionate but its practice is often tendentious, and you need some savvy to know what and who to trust. That's the modest proposal.

The analogy with trade

Staying with this theme, here is a literally homely analogy, familiar to us all: buying a house, which I am engaged in doing as I write this column.

Do you trust real-estate agents? Obviously the answer is: it depends. In our case, an associate in the agency is the partner of a close friend of my wife, so the chance of a straight steer is increased; and furthermore, she and he live five minutes away from the house we want, which has frontage on the grand canal linking the lagoon through the city to the ocean, and they want to moor a boat, so their interests and ours converge.

Next issue: what about the asking price, how come it has plunged in the last few months? The first answer we know, everybody in Brazil is short of readies. The second answer is that the house is patrimony for three grown-up children all of whom need the cash urgently. Ha! A buyer's market! So we put in a bid just under the asking price which is immediately accepted. Is the house sound? It was designed 48 years ago by Ricardo Meneschal, an architect who was also a member of the first Brazilian team to climb Aconcagua and who founded the national camping clubs of Brazil, so we know he was righteous. Is the house nonetheless sliding into the canal? My wife's father is a structural engineer, so we are guaranteed not to get a jive answer and a big bill. As I write I'll know the answer to this question tomorrow.

In professional situations that are relatively familiar to us, we all apply commonsense tests before we trust. The agent and the neighbour have interests in common with ours. The owner needs to sell (and we probably could have offered slightly less, but hey...). The architect built to last. And the engineer is in the family. As they say, our ducks are coming into a row.

Now for the analogy: I suggest, in the most tentative spirit, that tests like these should always be applied in the process of deciding whether or not to trust and accept the findings of scientific research. The bottom line is: Where are the researchers coming from? Are their interests convergent with or divergent from yours? Do they have any motives to bend the data to get a result supporting some agenda they are running? What are their strategic objectives? Who pays their institute, their research funding, their salaries and their pensions?

Do you feel outraged at being compared with real-estate agents? If so please explain why. Imagine you are having a discussion over dinner in say Hangzhou, by the side of the West Lake. The roast duck with steamed vegetables, part of the cuisine that delighted Marco Polo¹², is served – delectable enough to soothe Barry Popkin and fellow nutrition scientist gourmets. Imagine your companion continues: 'But once the mystique is stripped away, what is the difference?' And then: 'It seems to me that in any human transaction you have reason to trust those you are interacting with only after establishing that their interests are harmonious with yours. All the rest is religion'. And then as you both sip refreshing green tea, your companion pats you on the back, saying: 'No coughing and spluttering please. Tell me why this is wrong.'

Nor does any of this denigrate the scientific enterprise. It simply positions science and scientists as human. The practice of nutrition science is comparable with that of other professionally organised human activities, such as say politics, the law, accountancy, medicine, journalism or indeed business, all of which earn respect. Congresses include very many speakers and delegates of utter integrity and independence of spirit, dedicated to making a difference for the better. They will know that this is not easy, in the rough old world in which we live and work now.

The price of money

Now for money and its uses. We all need and use money. There is nothing wrong with money. The issue is: Where does it come from, what is it used for, and who calls the shots?

Scientists from all disciplines characteristically say that they are objective. What they mean is that careful use of scientific methods, applied according to an agreed methodology, enables reliable results irrespective of the ideology of scientists or the source of their employment or funding. So it should and so it may. But, again suggested gently, isn't this a variant of the 'uniform excellent service' claim of any professional group whose methods are mysterious to the lay person? To take a very highly esteemed and qualified profession, do you believe that all relevantly qualified surgeons will do equally safe and reliable jobs when you go in for a triple bypass operation?

And in the case of nutrition and all sciences, there is also the question of where salaries and research funding come from. Most nutrition scientists know that at some time in their lives they may need to accept a job from the food industry or from a research institute funded by industry, and almost certainly will accept funding and other support from industry or its front organisations.

In a real sense so do I: congresses that offer me the cost of flights and accommodation are practically always supported by transnational food manufacturers. And as I was told by Luis Mejia of Kellogg's and then of ADM at the last SLAN congress in Acapulco: 'You wouldn't be here without the support of industry. That's reality'. Until organisers work out how to make their congresses solvent without money from that section of the food and drink industry with a direct commercial interest in the subjects being discussed, he is right.

All nutrition researchers have reason to hesitate when their findings on any subject are against the commercial interests of any branch of the food industry. Many do not flinch; they may be protected by academic tenure, or be obstinate, or else senior and influential, but my sense is that any who ignore industry are liable to be gradually marginalised. This is the era of public-private partnerships.

So how can science be funded and supported reliably? I won't try for a complete answer in one column, and instead refer to a short, crisp, measured but heartfelt book written by Derek Bok, the former President of Harvard¹¹.

I suggest that the first step is to cease any funding from those sectors of industry with a direct commercial interest in the subject of research. The value of any such research so funded can reasonably be questioned. The second step is to ensure transparency. The financial and other material contributions of all funders and sponsors should be specified in the annual reports and accounts of all scientific institutes, and in the programmes of nutrition congresses, and both should as part of a policy of full disclosure, include all sources of core funding with donors and amounts, published in print and on the web, and make all such information readily available on enquiry and to congress delegates. The more independent, open and transparent any process and activity is, the more trustworthy it becomes.

The case of PINGOs and BINGOs

Now for industry and its influence. Industry and technology have transformed the nature and quality of human life on Earth. Any effective and sustainable food policy needs industry as a partner. There is nothing wrong with industry as a whole, though many branches of the food industry make, distribute and sell pathogenic products. One problem comes when interests conflict, or seem to do so.

Here is just one example: the International Life Sciences Institute (ILSI), an important global organisation. Let me make it clear that ILSI is a charitable body with all this implies, whose mission is 'to seek a balanced approach to solving problems of common concern for the well-being of the general public'¹³. It also states: 'ILSI is a global network of scientists devoted to enhancing the scientific basis for public health decision-making'¹⁴. Over the years ILSI has enjoyed observer status with both the WHO and the FAO, and has engaged in many scientific activities as a sponsor and partner of WHO and FAO.

But where is ILSI coming from? It may be common knowledge that ILSI sprung from the US Nutrition Association, itself 'created and supported by leading companies in the food and drink industries'¹⁵. An early ILSI executive committee included a senior executives of Coca-Cola as president and of Kellogg's and Proctor and Gamble as vice-president and treasurer, as well as six senior academics and also executives from Pepsi-Cola, Heinz and Quaker¹⁵.

The founding principles of ILSI, in common with those of the Nutrition Foundation and in the UK the separately constituted British Nutrition Foundation^{16,17}, are admirable. All were founded by industry, and are funded by industry as a forum for executives, officials and scientists

from industry, government and academia to reason together.

But whose presence is eventually most influential? The UN System Standing Committee on Nutrition (SCN) has been considering such questions for some time. The issue is categorisation of non-governmental organisations (NGOs), which, when agreed to be independent and serving citizens' interests, are known as PINGOs (public interest NGOs). The SCN current position is as follows¹⁸. 'Business interest NGOs (BINGOs) also comprise the "private sector". These ... include trade associations and charitable foundations. ... Such organizations may or may not be registered as not-for-profit, with or without charitable status, may or may not express an explicit public purpose, but report over half of their income in the past year coming from the private sector (as donors, members or clients), or obviously share a brand with a corporation. ... Henceforth all such companies and BINGOs are referred to as "private sector organizations" (PSOs)'. So unless I misunderstand the nuances of this statement, not all of which I have quoted, or else have missed something about the formal status of ILSI, by this somewhat rough-and-ready measure ILSI looks very like a BINGO.

The virtue of disclosure

In 2005 the ILSI Code of Ethics included: 'ILSI will be transparent in the disclosure of its funding sources'¹⁴. And its website does have a button showing that ILSI Argentina, Brazil, Europe, China, India, Japan, Korea, Mexico, North Africa and Gulf, North America, North Andean, South Africa, South Andean and South-East Asia have altogether 379 members who all seem to be from industry, and virtually all big transnational and national processed foods and drinks manufacturers, with some big manufacturers of agrochemicals, pharmaceuticals and chemical additives. The most ubiquitous members are Coca-Cola (listed 17 times), Nestlé (13), Monsanto (12), Unilever (10), Kraft (the food part of Altria, formerly known as Philip Morris) (9), Masterfoods (formerly known as Mars) (8), Danisco (8) and Pepsi-Cola (7). Further down the list are International Flavors and Fragrances (5) and Danone (5). There seem to be no farmers, retailers or caterers (apart from feed-lot to food-lot McDonald's, members in Europe and South Andes only). ILSI also has a 'health and environmental sciences institute', whose 46 members seem to be all agrochemical, petrol, pharmaceutical and such-like companies.

So what about the governance of ILSI? The website also has a 'members only' button which, when pressed, does an electronic version of 'sorry pilgrim, no admission'. So, here is one modest and respectful question.

May we know now, please, what percentage of the core funding of ILSI currently comes from that part of the food industry with a direct commercial interest in the

programmes of the UN agencies with whom it is a partner, and of the congresses it supports?

If funding from industry is higher than 50%, which does seem rather likely, would an ILSI representative present at relevant UN meetings and congresses be happy to stand up and acknowledge that the Institute is, as defined by SCN, a BINGO and thus a private sector organisation? And finally, would any WHO/FAO official present at the congresses brief delegates on the current standing of ILSI with these UN agencies? I think this would make the work of ILSI and other BINGOs altogether more open and transparent and easy to understand and appreciate.

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References

- 1 Hetzel B. Iodine-deficiency disorders [Chapter 38]. In: Garrow J, James WPT, Ralph A, eds. *Human Nutrition and Dietetics*, 10th ed. Edinburgh: Churchill Livingstone, 2000.
- 2 Willett W. Surprising news about fat [Chapter 4]. *Eat, Drink and be Healthy*. New York: Free Press, 2001.
- 3 WHO/FAO. *Preparation and Use of Food-Based Dietary Guidelines*. Report of a Joint FAO/WHO Consultation, Nicosia, Cyprus. Geneva: WHO, 1996.
- 4 Lawrence M. Mandatory folic acid fortification and the science of 'sociality' [Letter to the Editor]. *Public Health Nutrition* 2006; **9**(7): 827–828.
- 5 Cannon G. Reply to Mandatory folic acid fortification and the science of 'sociality' [Letter to the Editor]. *Public Health Nutrition* 2006; **9**(7): 829.
- 6 McLuhan M. *Understanding Media. The Extensions of Man*. London: Routledge and Kegan Paul, 1964.
- 7 McLuhan M, Fiore Q. *The Medium is the Massage. An Inventory of Effects*. London: Allen Lane, 1967.
- 8 Proctor R. The Reagan effect [Chapter 4]. *Cancer Wars. How Politics Shapes What We Know and Don't Know About Cancer*. New York: Basic Books, 1995.
- 9 Rampton S, Stauber J. Attack of the killer potatoes [Chapter 7] and The best science money can buy [Chapter 8]. *Trust Us, We're Experts. How Industry Manipulates Science and Gambles With Your Future*. New York: Putnam, 2002.
- 10 Mooney C. Wine, jazz and 'data quality' [Chapter 8] and Eating away at science [Chapter 9]. *The Republican War on Science*. New York: Basic Books, 2005.
- 11 Bok D. Scientific research [Chapter 4]. *Universities in the Marketplace. The Commercialization of Higher Education*. Princeton NJ: University Press, 2003.
- 12 Erlich R. Cultural and historical trends and influences of nutrition and cuisine on health and development. *Asia Pacific Journal of Clinical Nutrition* 2004; **13**(2): 25–30.
- 13 Gray J. *Carbohydrates: Nutritional and Health Aspects*. Brussels: ILSI Europe, 2003.
- 14 Information available at <http://www.ilsil.org>
- 15 Olson E, ed. Diet and Behaviour: A Multidisciplinary Evaluation. *Nutrition Reviews* 1986; **44**: 1–254.
- 16 Cannon G. Science, government and industry: the system [Chapter 6]. *The Politics of Food*. London: Century, 1987.
- 17 Information available at: <http://www.nutrition.org>
- 18 UN System Standing Committee on Nutrition. *SCN Private Sector Engagement Policy* [online]. Provisional position agreed at the 33rd SCN session in Geneva, March 2006. Available at <http://www.unsystem.org/scn>