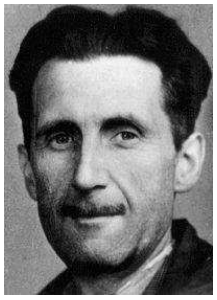
2012 March column
Geoffrey Cannon



Orlando, London, Rio de Janeiro. I begin this column in a 'supermarket' neither super nor a market, in Orlando, Florida. Then I consider the case for sugar (or rather, added fructose) being a master cause of disease. Finally, our two new young cats here at home in Brazil are making me think twice about the notion, celebrated in my January column, that we are descended not from hunters but gatherers.

My hero: George Orwell
Straight thinking, straight writing

My hero this month is George Orwell above). In late January I re-read *Homage to Catalonia* (1), Orwell's account of his part in the Spanish Civil War. This included street fighting in Barcelona, the capital of Spanish Catalonia, which now 75 years later is one of the most glamorous cities in the world. Go see – this month the ninth international conference on the Mediterranean diet_ masterminded by Association founder-member Lluis Serra-Majem (2)_is_being held in Barcelona. George Orwell tried to maintain straight thinking by honest speaking and writing. He says: 'If thought corrupts language, language can also corrupt thought'.



Lluis Serra-Majem of the Mediterranean Diet Foundation in action (left); tapas (appetisers) from Spanish Catalonia. Come to Barcelona, and enjoy!

Cannon G. My hero: George Orwell, Straight thinking, straight writing, and other stories. *[Column]*. *World Nutrition* March 2013, **3**, 3.

Reference and note

1 Orwell G. *Homage to Catalonia.* London: Secker and Warburg, 1938.

2 The Association was agreed in 2006 in Barcelona, as a result of an special meeting called by Lluis and colleagues at the First World Congress of Public Health Nutrition, of which Lluis was the president.

'Supermarkets' in the US. Big Snack
Prevent entanglement with Cheetos®



Signs of the times in Orlando, Florida: What's in an aisle of a 'supermarket'; the fruit available; and packets of human chow filling most of another aisle

Why does anybody imagine that rampant obesity in the US is a mystery? Or, as brainy people say, 'a multifactorial condition with complex and idiopathic aetiology'? Walk into any food store in the US and nose around. Calorie-dense super-size fatty sugary or salty ultra-processed 'convenience' products stare you in the face.

Let's think of some useful correlations. Like, between the rise in the number of retail outlets selling junk food, and rates of obesity – and diabetes. Or (right hand picture above) between the rise in the acreage of foodstore shelves filled with ultra-processed snacks and drinks, and rates of obesity – and the full range of chronic diseases.

Take Orlando, Florida. There I was last November, at the annual meeting of the American Heart Association. Don't take Orlando, said two friends who live in the US, it's not typical. But where in the US is typical? Washington around Dupont Circle, or midtown East Side New York City, to name two areas I know well? No, I think not. So above left, is the sign for what's on sale in one of the three aisles of the Orlando self-styled 'supermarket' close by the Econolodge where I stayed. As you see, it flags 'wine, cocktail mixes, beer, snacks, peanuts, potato chips'. The other two aisles were labelled 'juice, cereal, soup, vegetables, coffee' and 'milk, bread, fruit, water, juice'. Vegetables? These were tinned sugared baked beans, chickpeas and processed peas. And 'fruit'? See the picture above, middle. Mouldering bananas.

Cannon G. My hero: George Orwell, Straight thinking, straight writing, and other stories. *[Column]*. *World Nutrition* March 2013, **3**, 3.

So how about 'snacks'? A detail of one aisle is shown above, right. Here are Ruffles®, Tostitos®, Doritos®, Fritos®, Cheetos®, and Munchies® (1), all manufactured by PepsiCo, and Smartfood, which seems to be Barfles, Halitos or Popoffsicles (3) sprinkled with synthetic vitamins. Let's call this product Ripoffles (3). Notice a purple shape at very top right. The pictures below show what it is. You get a sense of its size from the left-hand picture (and more on that below).

At first I thought it was dog or cat chow, and then I realised it is people chow. It is a monster 'flavor mix' bag containing 20 packs of Lays® sour cream and onion or barbecue flavour chips (six of these), Cheetos® crunchy chips (four), Doritos® Nacho® or Cool Ranch® chips (seven), and Fritos® chili cheese chips (three of these). This is one response of PepsiCo to the charge that ultra-processed products are being sold in ever-increasing super sizes, for each of the 20 packs is smaller than the packs you see on the shelves in the first row of pictures above. Clever stuff.

Here's the ingredients of 'Cheetos® Cheese Flavored Chips – Crunchy'. Enriched corn meal (corn meal, ferrous sulfate, niacin, thiamine mononitrate, riboflavin, folic acid), vegetable oil (corn, canola, soybean and/or sunflower oil), cheese seasoning (whey, and less than 2 per cent of the following: cheddar cheese (milk, cheese cultures, salt, enzymes), partially hydrogenated soybean oil, canola oil, maltodextrin (made from corn), sour cream (cultured cream, skim milk), salt, whey protein concentrate, monosodium glutamate, natural and artificial flavors, lactic acid, citric acid, artificial color (including yellow 6) and salt. The 'Nutrition Facts' say that a pack delivers 0 per cent of the daily value for calcium, and 2 per cent for iron. Clang!

Or of 'Doritos® Brand Spicy Nacho Flavored Tortilla Chips'? Whole corn, vegetable oil (corn, canola, soybean, and/or sunflower oil), maltodextrin (made from corn), salt, cheddar cheese (milk, cheese cultures, salt, enzymes), whey, monosodium glutamate, buttermilk, romano cheese (part-skim cow's milk, cheese cultures, salt,



People chow coming to your supermarket soon: a monster pack of chips (crisps) complete with added iron, calcium, phosphorus and magnesium

Cannon G. My hero: George Orwell, Straight thinking, straight writing, and other stories. *[Column]*. *World Nutrition* March 2013, **3**, 3.

enzymes), corn starch, whey protein concentrate, partially hydrogenated soybean and cottonseed oil), onion powder, lactose, garlic powder, dextrose, spices, natural and artificial flavor, artificial color (including yellow 6 lake, red 40 lake, yellow 6, yellow 5, red 40, and blue 1), citric acid, sugar, sodium caseinate, lactic acid, disodium inosinate, and disodium guanylate. Yum, yum! The 'Nutrition Facts' say that a pack delivers 2 per cent of the daily value for calcium, 0 per cent for iron, and a whopping 6 per cent for phosphorus. Strike a light! Ker-Ching!

The bag includes advice: 'Warning. Prevent entanglement and strangulation. Keep this bag away from young children. It is not a toy'. The picture above (left) is of my playful colleague Fabio Gomes. He suggests a rewrite. 'Warning. Prevent obesity and diabetes. Keep this bag away from people. It is not a food'.

Notes

1 Recently passing by Marine Ices opposite the Roundhouse, London's famed rock'n'roll venue, I was reminded that marijuana induces 'the munchies'. The Urban Dictionary explains. 'Munchies. When you get hungry after smoking weed. Usually people will eat a lot of junk food. Two stoned kids speak: "...and ice cream, and a whole pizza just for me, and some chips, and a soda, and some chocolate...maybe some Chinese food, gummy worms, lasagna ...oh yeah, I almost forgot I wanted some fries with that..."… "Damn, that's some serious munchies you have!".' Could the brand wizards at PepsiCo possibly have been aware of this association?

2 Ripoffles and so on. The brand names without an® are not manufactured by PepsiCo, do not exist, and are a joke.

Sugar. Fructose. Metabolic syndrome. Nutrition policy

Sugars, sucrose, fructose: what's the story?



John Yudkin (left), New York City official warning against sugar (centre), Robert Lustig (right). Are dangers of sugars (or fructose) underestimated?

Cannon G. My hero: George Orwell, Straight thinking, straight writing, and other stories. *[Column]*. *World Nutrition* March 2013, **3**, 3.

Now for a hot topic that never goes away: sugars, and obesity, diabetes and heart disease. As you can see above (centre), these links are made in official public health warnings posted in New York City. The topic is also being heated up by statements and claims made by the neuroendocrinologist Robert Lustig. above, right). My first meeting with him was as a fellow speaker at last October's conference held in Valparaiso, convened by the president of the Chilean senate. This was designed to set down markers for food and nutrition policy throughout the Americas (1). It was a surprise to find Robert Lustig on the platform. His hypothesis apparently contradicts the long-established consensus view on diet, nutrition and health (2-4), as well as being bitter gall and wormwood for Big Sugar (5). Is he reviving the claims of UK nutritionist John Yudkin (picture above, left), generally thought to have been discredited long ago, that it is sugar, and not saturated fat, that is a major cause of cardiovascular disease ? (6,7)

His pyrotechnic presentations do give this impression. His hypothesis is that added sugars, or to be exact fructose, cause the metabolic syndrome. This disease cluster includes diabetes, hypertension, blood disorders, non-alcoholic liver disease, and some cancers. Following genial breakfast discussions he had with me, Philip James, Carlos Monteiro and others in the delightful Gervasoni boutique hotel on the Cerro Concepcion overlooking the Pacific ocean in Valparaiso, he has sent me a couple of new papers of which he is co-author (8,9).One of these, published in *Nature*, has been publicised in *The Atlantic* by journalist and author Raj Patel.(10). He claims that fructose, as contained in added sugar (sucrose) and high-fructose corn syrup (HFCS), is toxic and addictive (11), and should be grouped with tobacco and alcohol; and processed foods containing added sugars should be taxed, and generally restricted (12).

He is gaining traction. He has academic credentials, as professor of pediatrics at the University of California (San Francisco). He is a campaigner: his 2009 90 minute lecture 'Sugar: The Bitter Truth', available on YouTube (13), in which he repeatedly identifies added fructose as a poison, had been accessed 1,965,286 times when I checked early last month, and passed the 2 million mark ten days later. He is promoted by high-profile US journalists, including Gary Taubes in *The New York Times* (14) (see Box 1). Also, his papers are being published in high-impact scientific journals (8,9,15). Like the topic, he is hot.

Rejection, modification, or integration?

Could Robert Lustig be right? Or short of that, does he have a valid point of view? What should we make of what he and his co-authors are saying? Maybe he is just plain wrong, or maybe his hypothesis has only marginal significance. If so, what he says should be countered in a prominent commentary.

Box 1
The added fructose hypothesis

As summarised by Gary Taubes (14): 'Lustig's argument… is that sugar has unique characteristics, specifically in the way the human body metabolizes the fructose in it, that may make it singularly harmful, at least if consumed in sufficient quantities.

'The phrase Lustig uses when he describes this concept is "isocaloric but not isometabolic". This means we can eat 100 calories of glucose (from a potato or bread or other starch) or 100 calories of sugar (half glucose and half fructose), and they will be metabolized differently and have a different effect on the body. The calories are the same, but the metabolic consequences are quite different.

'The fructose component of sugar and of high fructose corn syrup is metabolized primarily by the liver, while the glucose from sugar and starches is metabolized by every cell in the body…

In animals, or at least in laboratory rats and mice…if the fructose hits the liver in sufficient quantity and with sufficient speed, the liver will convert much of it to fat. This apparently induces… insulin resistance, which is now considered the fundamental problem in obesity, and the underlying defect in heart disease and in… diabetes type 2, that is common to obese and overweight individuals… If what happens in laboratory rodents also happens in humans, and if we are eating enough sugar to make it happen, then we are in trouble'.

His high media profile may obscure the fact that quieter researchers also conclude that added fructose is especially troublesome. Thus, George Bray of Louisiana State University, an authority on obesity for 40 years, with colleagues including Association founder-member Barry Popkin, has been worried about HFCS for at least eight years (16,17). He now states: 'Fructose acutely increases thermogenesis, triglycerides and lipogenesis as well as blood pressure, but has a smaller effect on leptin and insulin release than comparable amounts of glucose. In controlled feeding studies, changes in body weight, fat storage and triglycerides are observed as well as an increase in inflammatory markers. Thus the evidence indicates 'that in the amounts currently consumed, fructose is hazardous to the cardiometabolic health of many children, adolescents and adults' (18). Other independent research teams also agree that added fructose has disturbing metabolic effects (19).

So, what if the added fructose hypothesis is correct? Much then depends on how it is expressed, and therefore what it implies. It may be taken to reject the long-established consensus on food, nutrition and chronic diseases. It could be consistent with the consensus, while modifying it. Or, both the consensus position and also the added fructose hypothesis can be integrated into a broader general theory. As follows:

1 Rejection

Here, the long-established scientific consensus on diet, nutrition and chronic disease is rejected. Added sugars are seen as the main dietary cause of diabetes and cardiovascular disease or, more broadly, the metabolic syndrome of which these diseases are two manifestations, and fats and saturated fats are seen as relatively unimportant or even innocuous. If this actually was Robert Lustig's position, he would be in a small minority within the scientific community. Any claim that the consensus position is just plain wrong, overlooks thousands of epidemiological and clinical investigations, and judgements of scores of independent expert panels convened now for over 30 years (2-4).

The view that sugars – and going much further, carbohydrates as a whole – are a major cause of various chronic diseases – and further out yet, that diets mainly made up of animal protein and fats are healthy – is not new. In recent times its best-known academically qualified champion was John Yudkin (above, left) (6,7). In mass-selling popular dieting books, its champion was the entrepreneur 'dieting doctor' Robert Atkins (20,21), who was dismissed by most qualified scientists who expressed an opinion, some of whom saw him as a get-rich-quick quack.

Proposals to overturn the long-standing consensus fly in the face of established science. They are also troublesome. They could be said by the food manufacturing industry as a whole, and even Big Sugar, to be proof that the experts disagree, it's anybody's guess, anything goes, and consumers should not worry and be happy.

However, while Robert Lustig's platform style is enthusiastic and sweeping (13), I don't read or hear him as agreeing with the general anti-carbohydrate position of John Yudkin and (in his first phase) Robert Atkins. Even if he does, I think this is an unjustified extrapolation of the core added fructose hypothesis. Most fructose in food supplies is contained in ultra-processed products. The added fructose hypothesis does not of itself imply hostility to carbohydrates in general, or rejection of current mainstream advice to consume diets that are plant-based and mostly made up from whole and minimally processed foods. So:

2 Modification

The long-established consensus on sugar and chronic diseases among independent experts (19), is expressed in two UN reports both entitled *Diet, Nutrition and the Prevention of Chronic Diseases* (2-4). The chairs of these reports were first, Association founder and Council member Philip James, and second, Association founder member Ricardo Uauy. In the reports, added or 'free' sugars are identified as the main dietary cause of dental caries; and inasmuch as they supply energy without nutrients, as relevant in the context of obesity (22). Neither report identifies sugars as

significant in cardiovascular disease except inasmuch as they may increase body fat. A modified version of the consensus is that added fructose, in the quantities typically consumed in industrialised countries, is itself also a cause of diabetes and cardiovascular disease, not instead of, but as well as, saturated fat. It proposes that both fructose, in the quantities contained in industrialised food systems, and also saturated fats, are seriously pathogenic. With fructose, biological mechanisms include the effect on levels of insulin and triglycerides in blood.

A variation of this position would specifically point the finger at high-fructose corn syrup, which since the late 1970s has increased the amount of fructose in the US food supply and thus diets (see Box 2). Alternatively, HFCS may be particularly pathogenic, notably as contained in caloric cola (soda) and other soft drinks. It's relevant here to mention that the consensus was first shaped, in the US and elsewhere, well before HFCS was mass-produced.

3 Integration

There is another way to reconcile both the established consensus position and the added sugar (or fructose) hypothesis. They can be integrated within an overarching general theory. This is that all analyses, conclusions and recommendations focusing on specific nutrients or food groups, miss the main point. With diet, nutrition and health, the main issue is not nutrients, and is not foods, so much as what is done to food before it is purchased and consumed. That is to say, the main issue is the nature, extent and purpose of food processing (24).

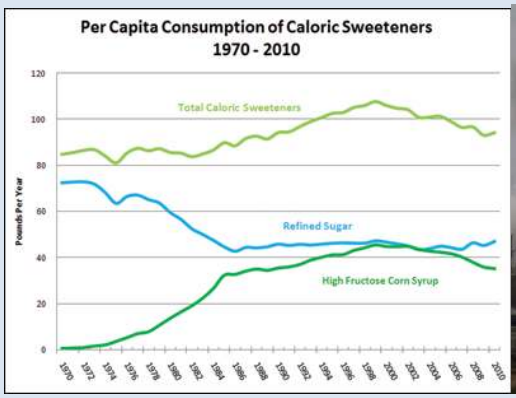
The implication here, is that the main issue with dietary fat is not saturated fat as contained in whole and minimally processed foods. Rather, it is hydrogenation, the process that turns the healthy unsaturated oils naturally contained in many plants, into saturated fats and also *trans*-fatty acids, and also is other processes that use palm and other highly saturated oils, which greatly add to the amount of fats and saturated fats in food systems (25). Similarly, the issue with sugars is not those contained in whole foods, but the processes by which sugars are extracted, or created from plant starches, as with high fructose corn syrup. Seen like this, the crisis we face is a global food system where naturally-balanced whole and minimally processed foods are rapidly being replaced by calorie-dense, nutrient-poor, fatty, sugary and salty ultra-processed products.

The added fructose hypothesis, with all its implications for public health nutrition policy and practice, must now be clarified and critically examined. The World Health Organization should convene an expert panel. Its members should understand the metabolic impact of added fructose and the implications for public health policy, and also have open minds. It would be unwise to exclude Robert Lustig. He is not about to go away.

Box 2

Is this mainly a US issue?

A variation of the 'modification' option is that added fructose is an important cause of the metabolic syndrome, with all this implies – but mainly only in the US. This is because consumption of fructose in the form of high-fructose corn syrup (HFCS) is far higher in the US than in any other country. The implication here is that there is something especially pathogenic about HFCS.





The graph above, from the US Department of Agriculture, shows that production and consumption of HFCS was nil before 1970 and negligible until the late 1970s, and then shot up in the 1980s and 1990s. Since the late 1990s it has more or less equalled that of sucrose, which also contains fructose. The technology to mass-produce HFCS was developed in the 1970s, and corn farming in the US is protected by federal price support schemes. (The picture below is of a HFCS factory in Iowa which, as an aside, creates as much pollution as industrial cattle and pig farming).

Also, the response of the US food manufacturing industry to recommendations to reduce dietary fat, has been to reformulate a vast number of branded ultra-processed products to contain less fat (and saturated fat and *trans*-fats) but more caloric sweeteners – sucrose and also HFCS (23)

It is generally agreed that the fructose contained in sucrose is just as troublesome as that contained in HFCS. In which case the hypothesis applies to most industrialised countries and environments. But if HFCS is particularly toxic, maybe simply because it increases the load of fructose in soft drinks, the hypothesis applies most of all to the US.

Notes and references

1 Yes I know the current official term is 'non-communicable diseases' or 'NCDs', a dull technical term. But as Chilean senate president Guido Girardi emphasised at the Valparaiso conference, chronic diseases are communicated – usually not by bugs, but by viral marketing perpetrated by transnational corporations.

Cannon G. My hero: George Orwell, Straight thinking, straight writing, and other stories. *[Column]*. *World Nutrition* March 2013, **3**, 3.

2 World Health Organization. *Diet, Nutrition, and the Prevention of Chronic Diseases.* Report of a WHO study group. WHO technical report series 797. Geneva: WHO, 1990.

3 World Health Organization. *Diet, Nutrition and the Prevention of Chronic Diseases.* Report of a joint WHO/FAO expert consultation. WHO technical report series 916. Geneva: WHO, 2003.

4 For an authoritative summary of the established consensus view on dietary fats, saturated fats and heart disease, see James WPT. UN summit on non-communicable diseases. Up to the Summit: Inglorious paths.[Commentary] *World Nutrition* September 2011, **2,** 8: 352-399. Obtainable at www.wphna.org

5 Big Sugar is all transnational and other big food and drink corporations and associated organisations whose profits depend on use of added sugars and syrups, derived from cane, beet or corn.

6 John Yudkin (1910-1995) was professor of nutrition at Queen Elizabeth College (now part of King's College), London, from 1954 to 1971. His most provocative book is *Pure, White and Deadly* (Davis-Poynter, 1972), published in the US as *Sweet and Dangerous*. He also wrote a popular dieting book, *This Slimming Business* (Penguin, 1970), which gives much the same 'high-protein, high fat, very low carbohydrate' advice as Robert Atkins in his *Dr Atkins' Diet Revolution,* first published two years later.

7 Yudkin J. Note of reservation. In: Department of Health and Social Security. *Diet and Coronary Heart Disease*. Report of the advisory panel of the Committee on Medical Aspects of Food Policy. Report 7. London: HMSO, 1974.

8 Lustig R, Schmidt L, Brindis C. Public health: The toxic truth about sugar. *Nature* **482**, 2 February 2012, 26-29. doi:10.1038/482027a

9 Bremer A, Mietus-Synder M, Lustig R. Toward a unifying hypothesis of metabolic syndrome. *Pediatrics*, March 2012. www.pediatrics.org/cgi/doi/10.1542/peds2011-2912

10 Patel R. Abolish the food industry. *The Atlantic*, 6 February 2012.

11 The term 'addiction' is not used in the *Nature* commentary. Elsewhere Robert Lustig says that the behavioural and biochemical criteria that identify tobacco and alcohol, and some illegal drugs, as addictive, often apply also to added fructose.

12 See also Brownell K, Frieden T. An ounce of prevention – the public policy case for taxes on sugared beverages. *New England Journal of Medicine* 2009, **360**,18, 1805-1808.

13 www.youtube.com/watch?v=dBnniua6-oM.

14 Taubes G. Is sugar toxic? *New York Times Magazine*, 13 April 2011. As an author as distinct from a reporter, Gary Taubes takes a much more sweeping position than Robert Lustig. In his most recent book, *Why We Get Fat and What to do About It* (New York: Knopf, 2011), he supports and develops the Yudkin and original Atkins regimes (6, 16).

15 Lustig R. Fructose: Metabolic, hedonic, and societal parallels with ethanol. *Journal of the American Dietetic Association* 2010, **110**, 1307-1321.

16 Bray G, Nielson S, Popkin B. Consumption of high-fructose corn syrup in beverages may play a role in the obesity epidemic. American Journal of Clinical Nutrition 2004; **207**, 79, 537-543.

17 Bray G. Fructose: How worried should we be? *Medscape Journal of Medicine* 2008; **10**, 7, 159.

18 Bray G. Soft drink consumption and obesity: it is all about fructose. *Current Opinion in Lipidology* 2010, **21**, 1, 51-57.

19 I won't give a whole bunch of references here. Go google! Note, 'independent'. Big Sugar has very effectively influenced research and judgements on sugar and disease. It is the most powerful bloc within the food and drink production, distribution and manufacturing industries.

20 Atkins R. *Dr Atkins' Diet Revolution.* New York: Bantam, 1972. As said, in this first phase, like John Yudkin, Robert Atkins was hostile to all forms of carbohydrate and championed diets very high in animal protein and fat.

21 Atkins R. *Dr Atkins' New Diet Revolution*. New York: Avon, 1992, paperback 1999. Although he never explicitly repudiated his initial position, Robert Atkins later narrowed his attack to refined carbohydrates and in particular added sugars.

22 This is perhaps over-simple. The 1990 report (2) says 'Other reasons for limiting intakes of free sugars have been cited, including concerns about the development of obesity… but there is little evidence that sucrose or other free sugars have specific effects that would warrant a lower intake than that recommended to minimise the problem of dental caries'. The 2003 report (3) identifies 'high intake of energy-dense nicronutrient-poor foods' and 'high intake of sugars-sweetened soft drinks' as convincing or probable causes of weight gain and obesity.

23 Pollan M. Industrial corn. [Part 1]. *The Omnivore's Dilemma. The Search for a Perfect Meal in a Fast-Food World*. London: Bloomsbury, 2006.

24 Monteiro C. The big issue is ultra-processing. [Commentary] *World Nutrition*, November 2010, **1**, 6: 237-269.

25 What about meat and dairy products, which taken together are the main sources of saturated fats in industrialised food supplies? Intensive breeding of cattle, pigs and poultry greatly increases the volume and proportion of fat and saturated fat in carcasses and therefore in food supplies, as well as making beef, cow's milk and eggs cheap products. There's a fair case to say that feedlots and batteries turn beef, pork and chicken into ultra-processed products

My living world (5)

Not gathering but hunting?



Our Siamese (or so they seem) brothers, age one and four months. Cute eh? Why are cats cruel killers, and what does this tell about us and who we are?

In my January column I celebrated the work of Lynn Margulis, whose general theory, contradicting that of Darwinists (though not Charles Darwin himself) is that evolution works by cooperation, not competition. One implication is that we are descended not from hunter-gatherers, but gatherer-hunters.

But now I have been observing our two new young cats (above) and am shaken. They were given to us when a month old. Athough they show as Siamese, they are half street cats. It's said that mongrel blood toughens the race. At the age of eight weeks one of these loveable cute pussykins scored his first bird kill – a *sabiá* (thrush). The next vicious prank was to torment a *vaga-lume* (fire-fly) that had flown into our sitting room and was illuminating a sofa.

So yes, the behaviour of animals does make us think twice about the theory that evolution comes about not by means of 'nature red in tooth and claw' but by cooperation. Animals kill if they can, and while I much prefer cats to noisy smelly messy grovelling dogs, the way that domesticated cats play with their prey surely feels like gratuitous cruelty. Was this behaviour originally bred into them, to amuse sadistic owners? Or do all types of wild cat torment their prey?

Cannon G. My hero: George Orwell, Straight thinking, straight writing, and other stories. *[Column]*. *World Nutrition* March 2013, **3**, 3.

George Orwell
Thinking and writing straight

> A human being is primarily a bag for putting food into; the other functions and faculties may be more godlike, but in point of time they come afterwards. A man dies and is buried, and all his words and actions are forgotten, but the food he has eaten lives after him in the sound or rotten bones of his children. I think it could be plausibly argued that changes of diet are more important than changes of dynasty or even of religion....Yet it is curious how seldom the all-importance of food is recognized. You see statues everywhere to politicians, poets, bishops, but none to cooks or bacon-curers or market gardeners.
>
> *George Orwell, 1903-1950*
> *The Road to Wigan Pier (1)*

George Orwell also says: 'When there is a gap between one's real and one's declared aims, one turns as it were instinctively to long words and exhausted idioms, like a cuttlefish spurting out ink' (2). He is the master satirist of the type of speaking and writing that uses language to disguise and pervert reality.

Thus in a recent speech, Vladimir Putin explained how, as the incoming president, in succession to his puppet he put in place to succeed himself as previous president, he will purge corruption and injustice, and ensure that Russia becomes a beacon for participatory democracy within which jobs and pensions will be safe and health care available for all on demand.

In our own field, we need to examine language, for example when we read about 'lifestyle' (of widowed African mothers forced to grow cash crops?) or 'developing country' (of China and Korea, after six millennia of continuous civilisation?). We should also think about the term 'public-private partnerships', which gets squirted into official documents. This conveys a sense of down-home folks from say the US State Department and GloboChow, sharing witty jokes and vintage wine in Davos with chums from the family farms of Kenya and Nicaragua and the shanty-settlements of Mumbai and Detroit, and then together making open and free agreements (for is this not what 'partnership' signifies?) for the good of all.

But if the 'public' is UN agencies starved of disposable funds, and the 'private' is transnational corporations whose interests are antagonistic to the public good, stuffed with money and offers of luxury locations and trained secretariats, where is the 'partnership'?

Cannon G. My hero: George Orwell, Straight thinking, straight writing, and other stories. *[Column]*. *World Nutrition* March 2013, **3**, 3.

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2 Orwell G. Politics and the English Language. *Horizon* April 1946; **13**, 76, 252-265.

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Cannon G. My hero: George Orwell, Straight thinking, straight writing, and other stories. *[Column]*. *World Nutrition* March 2013, **3**, 3.