WN *Columns*

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What do you think?

Geoffrey Cannon



Art inspired by tree forms, a modern cosmology, a nautilus shell, a diagram of how to grow business, and a fractal – all spiral. Once you look you find spirals here, you find them there and everywhere

Rio de Janeiro, Juiz de Fora, São Paulo. 'The final question of time, is whether we shall live together or die together', says the Mexican writer Carlos Fuentes. 'The West has been in love with its successive linear image of time… It has condemned the past to death as the tomb of irrationality and celebrated the future as the promise of perfectability'. This is quoted in *The Dance of Life* by the US anthropologist Edward T Hall, explorer of the human senses of space and of time, who I celebrate starting on page 772. He lets us realise that our own fundamental sense of where and when and who we are, is just one of others.

Starting on page 777, I become a Big Food Watcher, with guidance from two of the world's most eminent nutritional epidemiologists, Walter Willett of the Harvard School of Public Health, and Carlos Monteiro of the University of São Paulo. The story starts with a packet of Nestlé Nesfit® biscuits I found in the dining room of my host's house in Manaus, Amazonia. Why and how are Nesfit® brand products, including breakfast cereals, projected as slimming aids in Brazil and other countries too, with apparent support from eminent US epidemiologists? The call goes out to Big Food watchers of the world. Polish your magnifying glasses, go to the centre aisles of your local supermarket, and check out Nesfit® products – and here is a clue – 'made with whole cereal'. Plus oil, sugar, salt, additives, of course, and good old white flour, and weighing in at around 450 kilocalories per 100 grams.

My final item starting on page 783 includes necessary correction of a mistake pointed out by my son Gabriel. Plus Nadine Gordimer, Desmond Tutu, Lionel Messi… you have guessed right, it is another item on being better to be short.

Box 1

No, not circles either !



Reality imagined as a circle, as in Tao Yin-Yang, Tibetan mandalas, and the Mayan calendar, implies that nothing really changes. The spiral image combines continuity with progression

The three critical comments I most often hear about this second page of my column are first, surely not more about spirals, second, what's this got to do with public health nutrition, and third, anyway what's the point in going round and round in circles.

Third point first. Spirals are not circles. A circular model of reality has been common throughout history. The three symbols at left above, of the Tao yin-yang symbol, a Tibetan mandala (this word means 'circle' in Sanskrit), and the Mayan calendar, are examples of reality seen as a circle, which implies that nothing – of value, anyway – ever changes. The circular symbol represents The Truth. Astrological charts are another example. The task of the soothsayer (shaman, priest) when consulted, is to understand current events by locating them within the circular map of reality. In his book *The Conquest of America: The Question of The Other*, the French philosopher *Tzvetan Todorov* shows that the Aztec ruler Montezuma was preoccupied with divination as the way to understand who the Spaniard invaders were, and what they meant, and where they could be found in the circular map of reality, and his paralytic indecision was because his advisors, finding nothing prophesied doom. The Aztec model of reality could not accommodate big new events –it went round in circles.

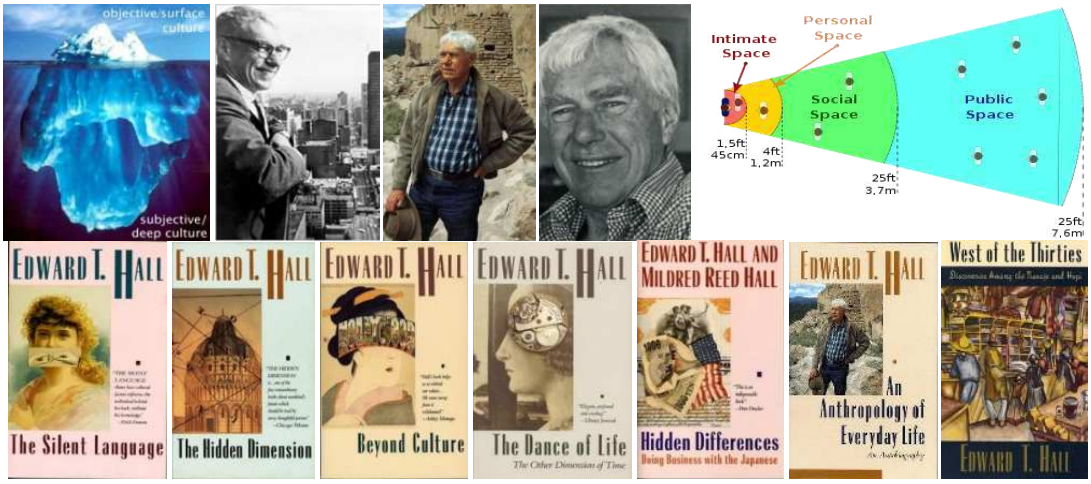
The first and second points can be taken together. The spiral model of reality has nothing to do with public health or with nutrition specifically, in isolation. The issue is bigger than that. The circular model of reality, because it venerates the past, is vulnerable when faced with immediate change or a different future. The linear model of reality, developed in the last 500 years in Europe and now dominant in most countries, is obsessed with the future and with change, and is ignorant of history. To put this another way, circular cultures live in the past and linear cultures live in the future – but in both cases unaware of the model of reality that determines their thoughts, plans and actions, just as a fish is unaware of the water it lives in.

Consciousness of models of reality, and acceptance of the spiral model, is transformative. The awareness itself brings us into a better state of being. The spiral is the shape constantly shown in nature, whereas circles and lines are human constructs. The circular model is static, inward-looking, and inflexible. The linear model is dynamic, outward looking, and flexible, and for these reasons is now dominant. But ever since mass industrialisation and obviously since the second half of the last century, it is wrecking the living and physical world and the biosphere, within which threat nutrition and public health has a place.

Once practitioners of public health and of nutrition understand and accept the spiral model of reality, which gives balanced value to the past, present and future, and enables real learning that turns data into theses, knowledge into wisdom, they will play a full part in the preservation of the world. Until then they will not. This is why I bang on about spirals. By the way, nothing here is original. The two spirals on the right, above, are from the work of *Clare Graves* and *Kurt Lewin* and their followers in the human consciousness movement, who work with leaders in government, business, sport and public affairs. It is time to catch up.

Food and nutrition, health and well-being

What they believe: 10. Edward T Hall Secrets of behaviour



After living and working in Near Eastern and Mediterranean countries, Latin America, Japan, for many years among the native peoples of New Mexico, and within the 'modern' US, Edward Hall gained a deep and broad understanding of the 'Anthropology of Everyday Life'. This includes the 'Hidden Dimensions' of space and time, and other inherited usually unconscious drivers of behaviour

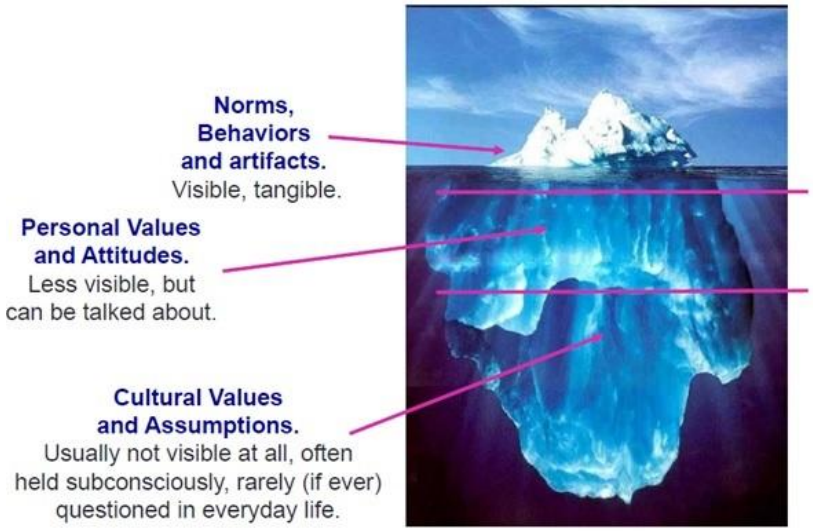
As one of the advocates of nutrition as a multi-dimensional discipline, I have an omission to admit and a confession to make. After the pioneering work that produced the 2005 *Giessen Declaration,* it is generally agreed that the discipline of nutrition, fully understood, has social, economic and environmental as well as biological dimensions. It makes a lot of sense to add a political dimension too. But that is not all.

What is missing, so obviously that I for one cringe, is the behavioural dimension. This includes all the personal reasons why people eat and drink what they do. It does not include the biological consequences of these actions, and it stops short of the social (though perhaps not the cultural) reasons.

Above the surface

The behavioural dimension is represented by the 'iceberg' graphic above, shown more clearly below. This has been developed from the work of the US anthropologist *Edward T Hall* (1914-2009), 'my hero' who is celebrated here.

Almost all discussion about food and drink acquisition and consumption relies on the concept of choice. This is usually seen simply as free choice, which adults with access to food they can afford to buy are assumed to have, or else restriction or absence of free choice, which applies to everybody else.



Some of the reasons why people do what they do, are obvious and visible to them and those who know them. Other reasons are 'hidden below the surface' and are often unknown and unconscious

The usual discourse is that free choice can be amplified by information and education – 'better' labelling, for instance – and maybe also by making good food more accessible and affordable, and bad food less so. This far so good, we may think. But what about everybody else?

Discussion tends to stop short here, with an implied 'gosh, there is a limit to what anybody can do' – which is true. But the model being used is the all too simple one of 'choice'. People who obviously are less able to choose tend to that extent to be seen as inferior. There is a vast industry dedicated to aiding people seen as not knowing what is good for them, or not able to help themselves. We, who are able, have a duty to help those who are not able. That's how the story goes.

The simple division between people who choose, and people who can't or won't choose, makes discourse feasible for those who know or care little or nothing about why people do what they do. But it is at best a crude approximation to reality. Actually our behaviour, however educated and intelligent we may be, is driven in ways we are aware of but which are at least to some extent beyond our control, or else of which we are unaware.

By analogy, the model of bodies as machines, such that metabolism of dietary energy is assumed to be the same as in a bomb calorimeter, or as in a steam engine loaded with coal, makes it easier to write about energy metabolism, at the cost of being basically and seriously wrong. Humans – and animals also – are not machines.

Now please look at the 'iceberg' above. By definition, choice is conscious. What is above the surface represents what humans usually know or are aware of, which therefore shapes actual choice. This includes spoken and written language, a sense of

what is desirable, sensible and feasible, consideration of others close to us in our everyday lives such as family and friends and of special occasions, and explicit rules of diet which may be religious, ethical or for reasons of health. These are aspects of choice that we can think about – although some, like rules of diet or that come with living in a family, are not readily altered.

Senses of temptation and of restraint are also usually conscious, while impulses and cravings for food products formulated to be irresistible, and even some will say addictive, can overwhelm real choice. When people say 'I couldn't stop myself eating the whole packet of biscuits' or 'I need a sugar fix', they may well not be just joking, and really mean what they say.

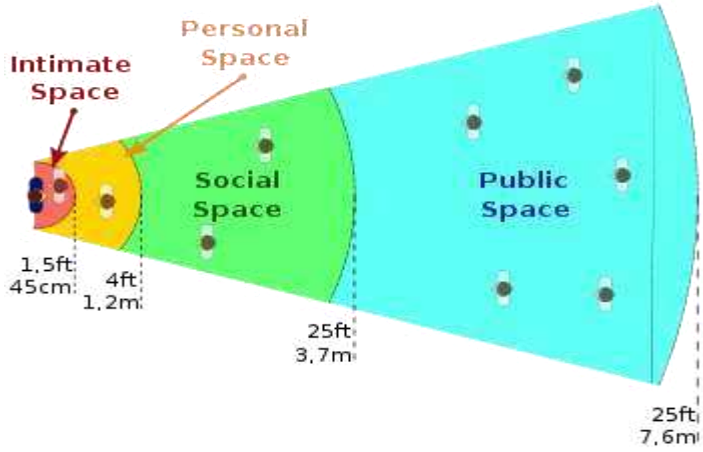
Below the surface

That's above the surface. Below the surface, as represented by the iceberg image, are values, attitudes, susceptibilities and vulnerabilities that may or may not be conscious. These include the values of parents and their forebears, ideas about health and disease and the nature of the human body, the sense of what is clean and wholesome or unclean and disgusting, ideas about right and wrong ways of acting and being around others. People also may not be aware of compulsion and addiction. Inasmuch as these aspects of personality are below consciousness they are not part of free choice, and by definition addiction is liable to overwhelm real choice.

Deeper below the surface is what is usually not at all conscious. People commonly associate such concepts with Sigmund Freud or Carl Gustav Jung. But the insights of such thinkers, valid or not, are of only some aspects of the non-conscious mind. Others, including some identified by Edward Hall, are some of the drivers of the food people acquire and consume. These include the culturally determined ways in which we perceive time and space, our sense of our status and of what is reliable or doubtful, our interpretation of feelings and sensations, and our general perceptual framework and sense of being in the world. All these can be brought above the surface, but usually stay hidden.

Hidden persuaders

For anybody concerned with food, nutrition and health, these observations are not academic. Much of what shapes our behaviour, including the food and products we acquire and consume, can be brought to consciousness. Even people who are most aware, usually assume that such aspects of personality are immutable and even part of the human condition. *Edward Hall,* after work done in many countries outside the US, such as the Middle East, Latin America and Japan, and in the US among middle class people and also the Navajo and other native peoples, shows that this is not the case. In doing so, he proves that typically, conscious rational choice in a real sense of this concept is only one determinant of behaviour.



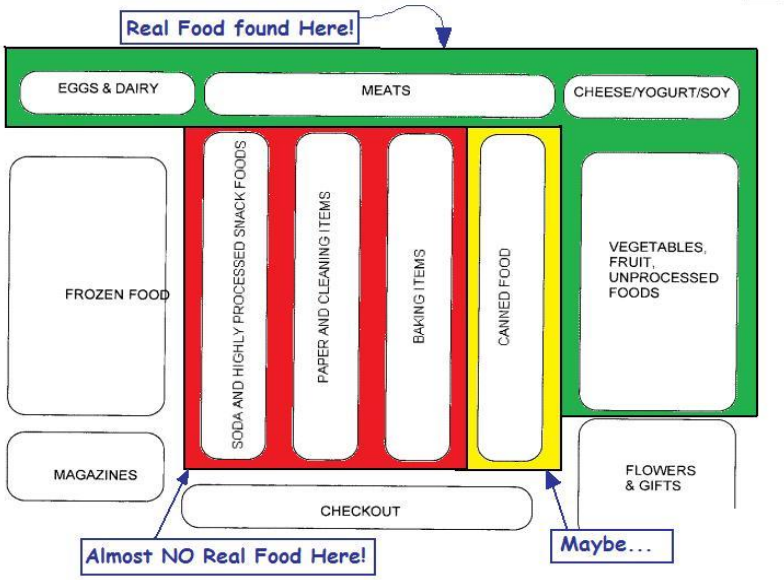
The sense of the boundaries of intimate, personal, social and public space, as shown in this scheme, varies in different cultures, and can be manipulated to shape choice, as Edward Hall shows

Since early last century, creative minds have been bent on persuading citizens to become incessant consumers. Countless thousands of advertising, publicity and 'public affairs' professionals have been and now are dedicated to promoting not the substance but the sizzle of every sort of product, from popcorn to politicians.

This is blatantly the case with all sorts of ultra-processed food and drink products. Their advertising and marketing are designed to induce a fake sense of belonging and family, glamour and success, in which such real experiences that come from love, friendship and work are replaced by hits of instant bliss. As my colleague Jean-Claude Moubarac recounts *in a WN commentary*, developed in *an accompanying editorial*, the most insidious 'hidden persuader', Edward Bernays, was the nephew of Sigmund Freud. In his 1928 book *Propaganda,* he writes:

> The conscious and intelligent manipulation of the organized habits and opinions of the masses is an important element in democratic society. Those who manipulate this unseen mechanism of society constitute an invisible government. .In almost every act of our daily lives, whether in the sphere of politics or business, in our social conduct or our ethical thinking, we are dominated by the relatively small number of persons...who understand the mental processes and social patterns of the masses. It is they who pull the wires which control the public mind.

We are pulled, too. We may not like to admit that we also are among those who are manipulated. But we are. Edward Hall's most original contributions to the understanding of the shapers of behaviour are his explorations of what he calls 'the hidden dimensions' of the sense of time and of space. His work on the sense of space, indicated in the diagram above, has become the behavioural science of 'proxemics'. He shows that the sense of what is intimate, personal, social and public space varies from culture and also – to come to the point about shapers of food habits – can be and is manipulated.



Manipulation of our sense of intimate, personal and social space, so that we are drawn constantly to buy food and drink products as if magnetised, explains design of supermarkets and their shelf spaces

Now you can begin to become aware of why the space within the shells of supermarkets are designed in the ways they are. Accumulatively, many billions of dollars have been spent making aisles and shelves into *purchase magnets.* It is no accident that children scream and shout in supermarkets when sugared products are displayed in their line of sight, within their personal and even intimate space. The concept of magnetic use of space also explains the techniques that 'glue' children to video advertisements for ultra-processed products.

Do not imagine that it is only children and less educated and informed adults who are drawn to buy ultra-processed products. Take a look at the packages of such products that you or members of your family have consumed. Think back to the point of purchase. What was it that induced you to take the items from the shelves and check them out? When you think about this, you will be on the way to being truly educated and informed, thanks to pioneers of whom Edward Hall is a leader.

Box 1

Books by Edward T Hall

'Anthropology of Manners' (article in *Scientific American*), 1955. *The Silent Language*, 1959, *The Hidden Dimension,* 1966. *Handbook of Proxemic Research,* 1974. *The Fourth Dimension in Architecture: the Impact of Building on Man's Behaviour* (with Mildred Reed Hall), 1975. *Beyond Culture,* 1976. *The Dance of Life. The Other Dimension of Time*, 1976. *Hidden Differences. Doing Business with the Japanese* (with Mildred Reed Hall), 1990. *Understanding Cultural Differences – Germans, French, and Americans,* 1990. *An Anthropology of Everyday Life*, 1992. *West of the Thirties*, 1994.



WN *Big Food Watch*

The Nestlé files: 1. Nesfit® and Snow®

Access June 2010 AJPH Monteiro, Gomes, Cannon on The Snack Attack here
Access September 2013 Big Food Watch on Nestlé shared value here
Access May 2014 Big Food Watch on Nestlé Ben Na Na here



Two of the Nestlé ultra-processed brands designed to teach the world to snack: Nesfit®, and Snow® Flakes. Both are promoted with health claims, citing studies by leading US scientists

This story began as a two-pager on Nestlé Nesfit® biscuits and Snow® breakfast cereal, above, found in Manaus, Amazonia. When away from home I browse supermarkets, and take pictures. So does *WN* colleague Jean-Claude Moubarac. Recently in Miraflores, Peru, he took the picture shown 4 pages on of a mind-melting array of breakfast cereals. 'You can't do that', said a manager. 'Why not?' asked Jean-Claude. 'I am a citizen'. Besides, he had done that. Now my story is seven pages…

Ultra-processed slimming aids?

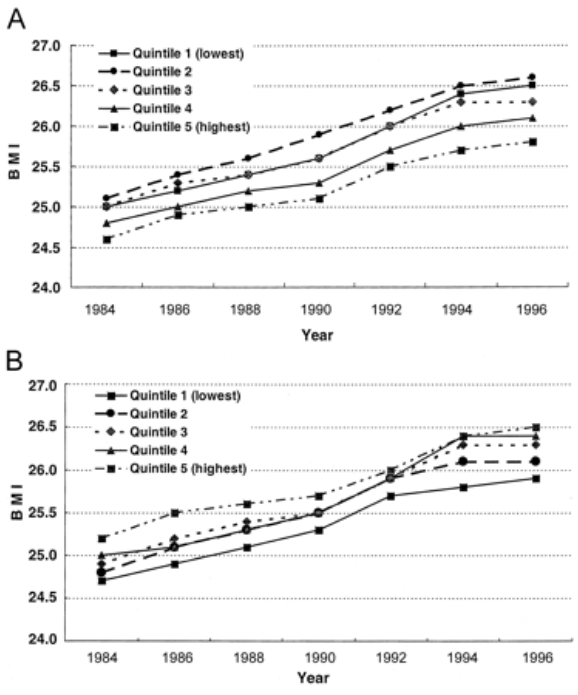
Nestlé has an annual turnover of around $US 90 billion and close to 350,000 employees. It merits special attention. Nesfit, whose breakfast cereal variation is branded in other countries as Fitness®,with the tagline 'Whole Grain Cereal. Good for your line' is promoted *on its Brazilian website* as great stuff for humans and also for pets. At 450 kilocalories per 100 grams, the energy-density of Nesfit biscuits is much the same as that of any fatty or sweet biscuit, other than those stuffed with cream. But the brand (above) projects the silhouette of an active young woman. My host, the big lady of the house where I was staying, picked up the pack from a table in her dining room, explaining that the biscuits are designed to reduce weight. This is because although their main single ingredient is refined white flour, they also contain wheat and rye flour identified as wholegrain, as well as oil, sugar and salt. The nutrition label tells me that if I ate 5 packets of Nesfit biscuits a day, I would achieve the daily value for dietary fibre.

What I had also noticed was that one whole side of the packet stated: 'Scientific studies confirm that women with healthy food habits and a balanced diet who regularly consume wholegrain cereal, tend to gain less weight than those who do not do so'. The reference is to a 2003 Harvard School of Public Health study published in the *American Journal of Clinical Nutrition.* Here below is the statement as also shown on the Nesfit website:

> *Estudos científicos comprovam que mulheres com hábitos de vida saudáveis e uma dieta balanceada que inclua regularmente cereais integrais tendem a ganhar menos peso do que aquelas que não os consomem*.*
>
> **O Nurses Health Study de Harvard (75.000 mulheres) mostrou que as mulheres que consumiam maiores quantidade de cereais integrais constantemente pesavam menos que as demais. Ref.: Liu S, Willet WC, Manson JE, ET AL. Amer. J. Clin. Nutr. 2003; 78; 920-927*

Enter my colleague and *WN* contributor, the renowned nutrition epidemiologist Walter Willett. Archives of old papers in the *Am J Clin Nutr* are freely available for downloading, and you can *access the Harvard paper here*. It does indeed find what the careful phrasing of the Nestlé statement says. Specifically:

> Intakes of both total and saturated fat, in terms of the percentage of total energy intake, have been declining in the United States since 1960s. In contrast, in the same period, an increase in the intake of refined carbohydrates in the form of processed grains, soft drinks, sugars, and refined flours in the US food supply has been reported to parallel the increased prevalence of obesity and diabetes. Consistent with these reports, our data indicate that the intake of refined grains is directly associated with dietary glycemic load and index, which suggests that an overemphasis on a low-fat diet might have contributed to an increase in intake of high-energy and high-glycemic-load foods.



And above are the results. Over a 12 year period between 1984 and 1996, participants in the Nurses' Health Study were divided into quintiles, as shown. In this period, all averaged an increase in weight. But whereas (upper graph) the women who consumed the highest amount of whole grains increased from BMI 24.5 to 25.75, a 1.25 increase, those who consumed least, increased from BMI 25 to 26.5, a 1.5 increase, this statistically significant trend consistent across all quintiles.

What wholegrain products are

My question to Walter, who is chief investigator for the Harvard Nurses' Health Study, was: Do you think that the statements made by Nesfit biscuits and breakfast cereal are justified by the findings of your paper cited on the Nestlé website and on the packet of Nesfit biscuits that I found in Manaus? In reply, he told me – bearing in mind that the Nesfit (or Fitness®) brand is also used for breakfast cereals:

> It seems there are two issues here. First, are these truly whole grain products? Many such products have a small amount of whole grains along with some refined grains and an abundance of sugar. Second, if they are truly mostly whole grains, these may be better than most commercial breakfast cereals, which are mainly refined grains and sugar. However, they are not an optimal breakfast, which would be less refined, such as oatmeal or steel cut oats, together with some fruits and nuts.

Here is what Walter says about breakfast in his admirable book *Eat, Drink and be Healthy*, which includes no recommendation specifically about biscuits (cookies):

> Make a habit of starting the day with a bowl of whole-grain cereal. If you're partial to hot cereals, try old-fashioned or steel-cut oats… If you'd rather have cold cereal, look for one that lists whole wheat, oats, barley or other grain first on the ingredients list

So what about Nesfit® in the form of biscuits? It does not contain a lot of sugar – almost all its dietary energy comes from flour (a little under two-thirds) and oil (just over one-third). Are they tasty? Of course – Nestlé is in the business of formulating delicious products. No, I have not eaten one, this researcher has his limits.!

Brazil is Nestlé's fourth biggest market, after the US, China and France, and sales of its breakfast cereals are projected roughly to double from $US 263.3 million in 2010 to $US 513 million in 2015. Nescau® is one of Nestle's 20 brands that globally turn over more than $US 1 billion a year. Snow® Flakes, a Nestlé breakfast cereal, is relatively new. It comes in all sizes from '4 serving' 120 gram shiny packets, liable to be eaten as snacks like a sweet version of fatty or salty snacks, to the regular and monster pack sizes. Breakfast cereals may be in 9, 10 or 11 serving 270, 300 or 330 gram packs, to the relatively newly marketed family 'economy size' 20 serving 570 or even the huge 24 serving 700 gram packs.

The name 'snow' could not be registered in English-speaking countries, so I deduce this is a brand for the tropics – ironic, given that I found Snow® on a sweltering day

in Manaus, where snow falls only on television and in the movies. It is marketed to children, with a branded cartoon-type character that may be a lion or a dog or a bear.

Do children need fortified breakfasts?

'Begin the day with whole cereals!' proclaims the Snow® Flake website, in line with Walter Willett's guidance above. But this does not exactly apply to Snow Flakes. Like other breakfast cereals, the product is around 40 per cent sugar. A little under half the flour used is stated to be wholegrain. It is also 'fortified' with a spectrum of B vitamins, and iron, calcium and zinc.

This explains the 'important information' on the label that 'essential nutrients such as vitamins and minerals that are not consumed at breakfast generally are not supplied by other meals in the day. This is one reason why breakfast is a FUNDAMENTAL *[stress theirs]* meal for balanced nutrition'. And yes, there is a reference, to another 2003 paper, in the *Journal of the American College of Nutrition,* 'The effect of breakfast type on macronutrient type and body mass index of Americans', by Cho *et al.* Sungsoo Cho was at the time chief nutritionist at Kellogg's. The corresponding author is Gladys Block, the distinguished epidemiologist from the University of California at Berkeley.

This *J Am Coll Nutr* study used data from the standard US NHANES survey from a little while ago – 1988 to 1994. It analyses 'breakfast categories' into 'skippers', 'meat-eggs', 'ready-to-eat cereal', 'cooked cereal', 'breads', 'quick breads', 'fruits-vegetables', 'dairy', 'fats-sweets' and 'beverages', and finds that people who ate ready-to-eat cereal, cooked cereal or quick breads for breakfast had lower body mass than those who ate meat and eggs, or nothing ('skippers'). So: 'This analysis provides evidence that skipping breakfast is not an effective way to manage weight. Eating cereal (ready-to-eat or cooked cereal) or quick breads for breakfast is associated with significantly lower body mass index compared to skipping breakfast or eating meats and/or eggs for breakfast'. How this relates to the vitamins and minerals and macronutrients in the Snow® Flake 'important information' is unclear.

Big Food Watch can only scratch at some activities of some transnational food product corporations, and only occasionally glimpse hidden depths. A proper job would require a network of investigators in many countries. Are the statements and references used in Brazil by Nestlé, also used in high-income countries in North America, Europe and elsewhere? Somehow I doubt this. References to single papers published in the US a decade ago would probably be seen as unimpressive by shoppers and regulatory authorities in such countries. Walter Willett tells me that manufacturers are free to boost their claims by reference to published papers.



Ready-to-consume breakfast cereals are now very big business in Latin America. My fellow sleuth Jean-Claude Moubarac found this, including Fitness®, in a supermarket in Miraflores, Peru

The Harvard carbohydrate-fibre ratio test

Now I am thinking of the big lady in Manaus who thinks that Nesfit® biscuits are some sort of slimming aid. Consumers like her may eat such products on top of everything else they eat. So, think of all people all over the world who buy sugared breakfast cereals that make health claims, for themselves, and their families including children. Here is what Walter Willett concludes, about many types of sugared breakfast cereals – not just those manufactured by Nestlé:

> These products are not fit for human consumption, and will contribute to risk of obesity and diabetes. They are mostly refined starch and sugar, and will have just the opposite effect of true whole grain, high fiber foods. One clue is to look on the label at the ratio of carbohydrate to fiber: true whole grains will have a ratio of less than about 8 to 1, that is unless they are adding fake fiber, as is now often being done.

He added in a note to me: 'It might be nice to note the ratio of carbohydrate to fiber in these two products'. So I did. Nesfit (the biscuit) is 18 grams of carbohydrate and 1.2 grams of fibre: a ratio of 15 to 1. It fails the Willett test. Snow contains 25 grams of carbohydrate and 1 gram of fibre: a ratio of 25 to 1. To be fair, it doesn't exactly claim to be a wholegrain product. The front of its pack blazons 'Source of iron'. Next is a green circle with a white tick-shape, in which is the symbol for wheat, repeated on the back of the pack, with the statement quoted above and the nutrition list, and pictures of milk and an apple, with the statement 'a balanced breakfast helps with attention at school'. The top of the back of the package says 'Nestlé cereals are made with whole grain and can contribute important nutrients to a balanced diet'.



Nestlé breakfast cereals are big business in Brazil. Sales between 2010 and 2015 are projected to double. Above is a supermarket centre aisle display of two leading sweetened brands for children

It would be more accurate to say. 'Nestlé cereals contain whole grain' – though parents might still think that Snow will help their children at school. (Nescau® cereal shown above, whose extruded products look like pet chow, contains no wholegrain).

Had my quest come to an end? Could I hand over exploration of ready-to-consume breakfast cereals to a team of methodical researchers? Not yet! After Amazonia I travelled to São Paulo and to the chic Jardins district close by the School of Public Health of the University of São Paulo, to work with my colleague Carlos Monteiro and his team, and to commune with Michael Pollan on his first visit to Brazil. When here (as I write this), I lunch and shop at Luzita on Oscar Freire, which combines a supermarket for discerning educated customers with upstairs, a truly wonderful *per quilo* restaurant. Roaming the aisles downstairs, I found Nesfit® breakfast cereals in a 'standard' 300 gram 10 serving pack, in different varieties. Like other brands they are an alliance between the 'cereal partners' Nestlé and the US corporation General Mills. Their sugar content is a relatively modest 18 per cent. Unlike the children's brands they are not rocket fuel. So right now I open the silver foil seal and graze on them. Very tasty of course – a sweet brown version of corn flakes.

The pack includes both the health claims above, backed with references to Liu S *et al* (the Willett study) and to Cho *et al* (the Block study). Below is the front and back of the pack. The nutrition label states that portions of 30 grams contain 20 grams of carbohydrate and 4 grams of fibre: a 5:1 ratio. So Nesfit® breakfast cereal seems to pass the Willett test as a Harvard-attested wholegrain product. But even if it does, said my colleague at the University of São Paulo Carlos Monteiro, it is around 15 per cent sugar. No such product should be able to state or imply healthfulness.



Nesfit® in its breakfast cereal form, as marketed in trendy middle-class districts in São Paulo, is projected at weight-conscious women who want to look like the model here styled like a winsome wife

Walter was more emphatic. Having double-checked with US Department of Agriculture data, he told me: 'The numbers they are using can't be correct. Pure whole wheat has a carbohydrate-fiber ratio of about 5:1. This can't be diluted by a factor of three and still come up with the same number'. So it seems that the nutrition information panel of Nesfit contains an inadvertent whoopsie.

We have not ended! See the pack puff above to 'fortification' with 5 B vitamins and calcium, iron and zinc. *A report on breakfast cereals* from the Environmental Working Group, Washington DC, says that children could overdose on some micronutrients at levels contained in 'fortified' products – not specifically Nesfit or Nestlé products, and in particular to vitamin A (not added to Nesfit) and to vitamin B3 and zinc.

Teaching the world to snack

Thorough monitoring of just one transnational corporation, or even just one leading product brand, would require a constantly updated website, tracked over time and compared with activities of other corporations, and with other broader activities, public and private. Such work is not and never will be done.

Nestlé will have thousands of executives and staff employed full time on their corporate strategies, including brand development. It seems to me to be obvious that this is part of a grand plan, in parallel with other transnational corporations, to teach the world to snack from birth to death. An assertion such as that made in the previous sentence could not be proved by epidemiological investigation. But if you doubt that transnational food and drink corporations have grand plans, please hould read their annual reports and trade journals, use common sense, and explore centre aisles of supermarkets

A thesis could be written about the meaning of breakfast cereal labels. Five centuries from now, archaeologists rummaging in landfill who find a Snow pack, might deduce the quality of the culture of early third millennial *Homo* not very *sapiens*.

Human size
More on small is best

Access July-August 2014 Thomas Samaras papers on human size
Acess July-August 2014 Geoffrey Cannon on human size
Attached August 2014 Thomas Samaras Journal of Scientific RR on human size here




Left: South African Nobel prizewinners Desmond Tutu, 82, 1.60 metres (5 foot 3) and Nadine Gordimer (who has now died at 90) 1.48 metres (4 foot 10). Right: friends Bernardo and Gabriel, both 10, respectively 1.32 metres (4 foot 4),24 kilograms; and 1.53 metres (5.0 foot), 43 kilograms

Tom Samaras has sent me *another paper.* This is a summary of his findings on human size and longevity, written in the confident style of a campaigner who senses that his time has come – which for Tom, is after 40 years of thought, research and writing.

Readers will know his thesis. This is that short light people, other things being equal, tend to be healthier and live longer. This biological finding, which thanks above all to Tom's persistence seems to me to be proved beyond much reasonable doubt, is of great importance. Nutrition science remains biased towards accelerated human growth, and small children in low-income settings with no signs or evidence of any pathology are liable to have their growth pushed with energy-dense products that turn them into short fat older children and adults with all that implies. Social reasons why, include the general tendency (which tends to confuse epidemiological investigations), to favour tall people, as if they are superior to short people.

Small people are economical

The most important argument for the human species to be small, relative to the current average in industrialised countries and settings, is environmental. Here there is no scope for debate. As Tom points out, 'a 33 per cent increase in human weight occurred over the last 100 years. If we assume a current world average of 59 kilograms (130 pounds) this converts into an increase in human biomass from 455 to 605 million tons. This increase has a major impact on the earth's capacity to provide enough food, water and resources'. The general effect of conventional teaching and practice of nutrition has been and still is, to breed an artificially big human species.

Good evidence or arguments for any thesis that improves the prospect for humans and the living and physical world, need to be known and should repeated. But my prompts for this column were mainly not Tom's good new paper. There are three other reasons. One was my visit in June and July to Amazonia, where the difference in height between young and old people is startling. This of course is usually seen as visible proof of progress. Open-minded observers might wonder if it really is.

The second prompt was news of the death of Nobel prizewinner Nadine Gordimer, who died in July age 90. In older age her height was less than 1.50 metres, well under 5 feet. This is evident in the picture above (left) showing her with Nobel prizewinner Desmond Tutu, who age 82 is about 1.60 metres or 5 feet 3, towering over her.

Sport's short stars

My 10 year-old son Gabriel, above (right), who is as I write, 1.53 metres or 5 feet, was the third reason, because I owed him an apology. Last month I said that his friend Bernardo Cipriani, in the picture with him, as a footballer has a stronger shot, and I did not check what I heard said, with Gabriel. Shame on me! No. Bernardo can run faster but Gabriel's shot is harder. Also I got Bernardo's height wrong. Currently he is 1.32 metres in height, or 4 foot 4. Another apology.



Lionel Messi, three times chosen as best footballer in the world, 1.68 metres (5 foot 6 ½) (left) and Sachin Tendulkar (right), universally agreed as best batsman in the world (1.65 metres (5 feet 5)

In general, it is time to stop saying or implying that short people are outstanding in any capacity *despite* being short; or that it is better to be tall, unless there is a physical reason for this, as say, qualification to do well at basketball.. Further, what is termed 'stunting' in children is a marker for infection or infestation, or nutritional deficiency. It is not a disorder or disease; in itself shortness is harmless. The harm done after childhood is caused by prejudice.

For some activities, being short is an advantage, or is necessary. Common examples as well as horse-riding, are gymnastics and acrobatics, and any activity where space is confined, such as space ships, racing cars and fighter planes. There are also two common sports where being short has its advantages. As Eduardo Galeano says in his wonderful book *Football in Sun and Shadow,*

> The Hungarian Puskas was short and fat, like the German Seeler… Two short chubby players, Maradona and Romário, were the stars of the '94 World Cup.

He mentions George Best, Kevin Keegan and Leónidas, and would now also list three-times footballer of the year Lionel Messi, as able to 'slip through impenetrable defences and scurry easily by huge full-backs'. In general, 'whoever believes that physical size and tests of speed and strength have anything to do with soccer prowess, is sorely mistaken'.

Cricket also, I suggest. The greatest cricketing batsman of all time is the Indian star Sachin Tendulkar, who has scored more runs and more centuries during his 24 year career at international Test level and in three-day and also one-day matches, than any other batsman. Here he is above, in an unusual picture – after being dismissed in a Test Match, here against Australia. He is 1.65 metres in height (5 foot 5). His mentor, the great Indian batsman Sunil Gavaskar, is 1.63 metres (5 foot 4). Those who believe Donald Bradman remains the greatest batsman ever, may know he was 1.70 metres in height (5 foot 7). The most successful bowler of all time, with 1,300 Test and one-day international wickets, is Muttiah Muralithanan of Sri Lanka, also 1.70.

Anecdotes and impressions alone are only first lines of evidence for states of population health. Epidemiology is needed, and there is plenty of that, of all types, in Tom Samaras's research, which is now increasingly being supported by other investigators. For me, the most important issue is environmental. Here on the basic point, more research is not needed. There is no need for meta-analyses of randomised trials to prove that small populations tread lightly on the planet. Maybe I am the first person to congratulate Bernardo Cipriani on his height.

Status

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