This issue of *Public Health Nutrition* appears in the month of the 2004 WHO World Health Assembly, at which member states may make the most important decision affecting public health as determined by nutrition for half a century. Will they, or won't they, endorse the WHO global strategy on diet, physical activity and health¹? And is the strategy in its final form as prepared by the WHO secretariat rational and progressive, or have WHO executives eviscerated it, in response to intense pressure from the Bush administration and from the sugar industry^{2–5}?

Barrie Margetts writes the editorial in this issue setting the scene⁶, and on other pages I summarise the strategy and its vital importance⁷. Below in this column, I indicate why Big Sugar, as the transnational sugar industry is known, is the most malevolent enemy of strategies to improve public health by means of good food, drink and nutrition, and also tell the tale of the agony of the government of Brazil, the world's biggest sugar exporter, faced with the decision to support or oppose the strategy.

The Bandit

First though, a lighter note. For me a privilege of attending international meetings is the opportunity to pay respect to and talk with great nutrition scientists. I first met Nevin Scrimshaw at the Latin American Nutrition Society (SLAN) congress held in Guatemala City in 1997. In San Diego in 2000, at the meeting of the US experimental biology societies (FASEB), I paid my homage to Mark Hegsted, mastermind of the 1977 *Dietary Goals for the United States*, also known as the McGovern Report⁸. And I got to know Leonardo Mata at the 2003 SLAN congress⁹.

I had dinner with Leonardo in Acapulco. We found a back-street seafood restaurant. He called for more limes, not only for the tequila but also to kill the bacteria on our prawns. My first reason to drink some toasts to Leonardo was personal. In the late 1970s, some years before Caroline Walker and I met and worked together 10, she met him at the London School of Hygiene, affectionately dubbed him 'the Bandit', and came close to moving to Guatemala to work with him 11.

This was the time of publication of his epic *The Children of Santa María Cauqué*¹², which 25 years later is still shifting thinking about maternal and child health. As stated in a celebration of this 10-year study edited by Nevin Scrimshaw¹³, many of its results 'were either new, poorly understood, controversial, or unbelievable when communicated to the scientific community'. For example, contrary to conventional wisdom, it was not lack of food that caused disease and death of infants and young children in this Cakchiquel Maya village in the highlands

of Guatemala, but infections and infestations, whose effects were much more likely to be serious and lethal when children were not breastfed.

Do Leonardo's findings have universal significance? He says yes. 'The problem in the world today is not hunger. It is lack of appetite. The main symptom of infection is anorexia. The issue is not food. The issue is health. With health, children have appetite, and thrive'. In Santa María Cauqué there was always enough food. When children recovered from infection they consumed 25% more calories. In his view it is an axiom of settled peasant communities, even in the most marginal environments, that there is always enough food farmed and stored for all seasons. (He was of course not referring to catastrophes like desert encroachment and dislocation caused by famine and war.)

So what about food aid programmes? His view is dismissive. 'For endemic malnutrition they are not justified. Nothing happens. All they do is produce overweight children and women. When women know their children will get food aid, they stop cooking. But food aid and supplementation programmes are very strong politically, they are used to get votes. Aid workers know this but they keep quiet because they do not want to lose their jobs'.

The restaurant was closing. Leonardo got up, went out, came back from a shop in the street with bananas and pears, and charmed the owner into making them into a dessert laced with more tequila. He also bought a *toranja*, rather like a grapefruit, the juice of which drunk every day for five days will, he says, dissolve kidney stones.

At the 2003 meeting of the UN Standing Committee on Nutrition in Chennai, Irv Rosenberg and I lamented the fact that scientists nowadays usually have little interest in work done more than 10 years ago. Nevin, Mark and Leonardo should be celebrated in *festscrifts* and also in biographies for the intelligent lay reader showing that public health nutrition, practised by scientists with vision, courage and persistence, can and does transform the quality of life on earth.

Big Sugar

I now turn to one aspect of the WHO global strategy on diet, physical activity and health. In January, the sugar industry – Big Sugar – was identified as seeking to block the strategy due to be presented that month at the meeting of the WHO Executive Board¹ and to force WHO to repudiate its 2003 expert report on *Diet, Nutrition and the Prevention of Chronic Diseases*, numbered 916 in its technical series, the scientific underpinning of the strategy¹⁴.

In the *New York Times*, Marion Nestle of New York University said that the Sugar Association was lobbying its friends in Congress to call for the US to withdraw its US\$406 million annual contribution to WHO³. *The Observer* ran a story titled 'US sugar barons "block global war on obesity", pointing out that Jose 'Pepe' Fanjul of Florida Crystals and other industry moguls in electorally sensitive US states have made major contributions to George Bush's 2004 presidential campaign^{4,5}.

Big Sugar is fronted by the International Sugar Organisation (ISO), the World Sugar Research Organisation (WSRO), national equivalents such as the US Sugar Association and the UK Sugar Bureau, by international and national food and drink manufacturers' trade bodies, and by other organisations whose connections with sugar are not immediately obvious. Big Sugar is very big business. It is effectively made up from most transnational food and drink manufacturers, whose current products and processes depend on sugars and syrups, as well as sugar producers and refiners. These collectively bankroll its trade and front organisations, determine its global policies at a global level, systematically fund institutions, scientists and politicians, lobby for sugar production and trade subsidies, and mobilise governments of countries for whom sugar exports are important.

On public health, the position of the sugar industry has always been to insist that the role of sugars in dental caries is controversial, and vehemently to deny that sugars and syrups consumed in any quantity have anything to do with any other significant disease¹⁵. Generally speaking, until now this strategy has succeeded.

The reason that Big Sugar is now on the rampage is because the 2003 WHO 916 report, the product of a joint FAO/WHO consultation, identifies high consumption of added (also known as free or extrinsic) sugars and syrups as a likely independent cause of obesity. The previous WHO 797 report on the same subject, published in 1990¹⁶, identified high-fat diets as the chief villain. But the new report cites research showing that people who consume a lot of added sugars and syrups as contained in energy-dense foods, including children who drink a lot of sugared cola and other drinks, are for this reason liable to become overweight; and also showing that diets low in added sugars enable weight loss.

Obesity is now epidemic all over the world. Itself a cause of disability, obesity is also a cause of diabetes, cardiovascular disease and some cancers. Unhealthy diets and physical activity are now estimated by the Centers for Disease Control and Prevention to cause 400 000 deaths every year in the USA, on a par with the numbers caused by smoking¹⁷. Once high consumption of sugars and syrups is seen as a cause of obesity, it is implicated in the major killer diseases. In response, the relentless strategy and tactics of Big Sugar are reminiscent of those of Big Tobacco a generation ago.

Four hundred years of globalisation

Can one section of the food industry derail what Kaare Norum describes² as a strategy of 'paramount importance...for the whole of the world'? You better believe it.

My own experiences with the sugar industry began 20 years ago, when I co-wrote with Caroline Walker a book promoting the UK National Advisory Committee on Nutrition Education (NACNE) report, which included the now standard recommendation that added sugars consumption be limited or cut to 10% (or <10%, or \leq 10%) of total energy $^{10,18-20}$.

I wrote a series of articles for *The Times* to coincide with publication²¹. The letters editor was amazed by the scale of the response, which included what (from our careful reading) was obviously an orchestrated series of attacks using stock-format agreed texts and buzz-phrases, from a dozen or so people with academic titles who turned out on investigation to be UK-based scientists funded by the sugar industry, or executives of the sugar industry and its trade organisations with honorary titles from institutions funded by the sugar industry.

This reminded me of a statement made at a meeting of the WSRO in Durban, South Africa, by John Reid, Deputy Principal of the University of Cape Town, a year or so before I had been assailed in response to my articles in *The Times*. His talk was on the benefits to the sugar industry of the funding of scientific research. He said candidly: 'There is a hidden agenda in the research support business. Those who accept your support are often perceived to be less likely to give you a bad scientific press...this hidden effect is powerful – more powerful certainly than we care to state loudly, either from the point of view of the honour in science or in industry. It takes a lot to bite the hand that feeds you: a muzzle is a good insurance against unwelcome bites', 22.

These snippets have a deep context. Economic globalisation did not begin in the 1990s, but in the 17th century, with the establishment of the triangular trade between England, Africa and the Americas in cloth, slaves and sugar. Sugar became, as it remains, the cheapest and potentially most profitable legal cash crop after tobacco, and the triangular trade fuelled the European empires and was an engine of capitalism and consumerism. In the 19th century the ascendancy of the free trade doctrine, always adopted by rich countries when this is in the interests of their dominant class, dumped sugar on Britain and made sugar-producing countries impoverished dependencies. Consumption of sugars and syrups in all their manufactured forms, often in combination with fat, became a function of production, availability and price^{23,24}. In his classic study, Sidney Mintz writes: 'Sugar led all else in dramatising the tremendous power concealed in mass consumption,24. This remains true.

At the January meeting of the WHO Executive Board (EB), William Steiger, leader of the US delegation, having

(for reasons explained later⁷) attacked the 2003 report as unsupported by science in crucial aspects and as not credible in a 28-page letter sent to WHO Director-General Lee Jong-wook²⁵, gained the support of other EB member state nations, including sugar producers, to stall endorsement of the global strategy and to extend the period of consultation until the end of February²⁶. Of the 32 EB members in 2004, Colombia, Cuba, Ecuador, Eritrea, Ethiopia, Gabon, Grenada, Guinea, Guinea-Bissau, Myanmar, Nepal, Pakistan, Philippines, Sudan and Vietnam are impoverished countries for whom the production and export of sugar is economically important.

The significance of the extension of the period of consultation soon became apparent. Big Sugar swung into action. FAO held the annual meeting of its Committee on Agriculture (COAG) scheduled for 9-10 February, whose agenda included an item on how FAO proposed to support the findings of the expert report and 'to shape its work, in its mandated areas of food and agriculture, to the challenges set out,27. But the US government had rubbished the report and stalled the strategy, and all over the world agriculture ministries protect the interests of food producers and manufacturers. At the COAG meeting all hell broke loose. As reported by Associated Press: 'A group of developing countries rejected the science driving the United Nations' effort to fight obesity worldwide, saying the dietary recommendations are based on flawed science and "not worthy of serious consideration",28. But this was not any old group of 'developing countries': this was Fabio Valencia Cossio of Colombia stating that he was speaking on behalf of the 'G77' group of 134 countries.

In a memorandum issued by ISO from its headquarters in London's Canary Wharf²⁹, Sr Cossio was quoted as repeating most of the accusations in the letter from the US government to the WHO Director-General, plus some flourishes: 'The report . . . labels various food items as good and bad. A priori good items are said to be fish, vegetables and fruits and bad items are said to be fat, red meat and sugar. It concludes, without any scientific evidence, that bad food is the main cause of chronic diseases. Mr Chairperson! This arbitrary conclusion, apart from its shaky scientific foundation, is indeed prejudicial'. And so on. Riaz Khan, Director-General of WSRO, which like ISO is an accredited trade body free to present its views at FAO meetings, also repeated a number of the points made in the US government letter, again with a special flavour: 'The FAO proposal...like the Report 916, proposes revolutionary changes in agricultural practices without giving any thought to the social, economic and cultural consequences... Mr Chairman, they cannot be serious'. And so forth.

FAO officials were outraged. In March I was at the Brazilian national congress on food and nutrition security in Recife, as was Hartvig de Haen, FAO Assistant Director-General. He told me, referring to the COAG sugar industry

interventions: 'They misquoted our Director-General as having said that the recommendation on sugar is not based on science. This is absolutely inccorrect. What he said was first, that the recommendation is an average for populations, and second, that research must continue'.

As reported in the ISO memorandum, José Pablo Morán Val of Peru, representing 20 Latin American and Caribbean countries, said 'the Report 916 has no reason to exist', and was supported by Cuba, Mauritius, Sudan and other countries. Brazil, whose sugar exports are valued at US\$2.3 billion a year, and whose own domestic consumption of added sugars amounts to 19% of total calories, was reported as asking 'what about the two billion under-nourished people?' and saying 'Brazil will not support this Report'. The ISO memorandum ends: 'Members...should continue their efforts with their national ministers of agriculture and health to ensure that the WHO Technical Report 916 is neither accepted by the World Health Assembly, nor adopted by the FAO Council as a policy document'.

The agony of Brazil

The evident position of the G77, which includes China, caused consternation within WHO and FAO, and the Brazilian statement caused pandemonium in Brazil. In response to the end of February deadline for further consultations on the global strategy, the Brazilian Permanent Mission to the United Nations in Geneva wrote: 'The final conclusions that will stem from the Brazilian internal process of consultations will be conveyed to WHO in due time'³⁰. At this time Brazil was the G77 chair in Geneva, and the Permanent Mission wrote another note on behalf of the G77 saying that 'further and in-depth consultations [need to be] held with relevant stakeholders and other sectors'³¹.

Meanwhile, the Minister of Health in Brasília was besieged by infuriated health professionals³² and a leader in *Folha de São Paulo*, the nation's most influential newspaper, reported that in January the health ministry had pledged support to the 2003 WHO report and its global strategy, condemned the arm-wrestling between the ministries of health and agriculture, and said that public health must override commercial interests³³. On 5 March the health ministry issued a statement promising to try to persuade other ministries of the 'importance of supporting the global strategy'³⁴. So at the time of writing Brazil is in chaos.

At the Recife conference I spoke with Flavio Valente, now advising the Brazilian government. He reminded me that Humberto Costa the health minister is a politician from Pernambuco where 'you are not elected to *anything* without the support of the sugar producers'. And in Brazil sugar is made into alcohol as an alternative to petrol, so the automobile manufacturers and the sugar producers are... and Flavio linked his forefingers.

A count of the 52 statements from member states sent to WHO by the end of February showed a big majority in favour of the strategy, sometimes with proposals for relatively minor changes³⁵. Thus rich countries such as Canada, the UK, France, Italy, The Netherlands and Germany are in support. Of middle- and low-income countries, China is in support (despite the statement at COAG made on its behalf, as reported by ISO), and so are Indonesia and South Africa. Swaziland is against, and repeats points made by WSRO in Rome. The position of the USA is to be all for the global strategy, providing that it is eviscerated, and in particular that it eliminates any special reference to the 2003 WHO 916 report, with its evidence-based judgements that diets high in sugary foods and drinks are a likely direct cause of obesity.

At the time of writing, it seems all too likely that the final version of the strategy to be presented by the WHO secretariat to the World Health Assembly, now available on the WHO website¹, will be mutilated sufficiently to assuage the USA. In which case, all will depend on the courage and tenacity of delegates from those member states, particularly from the South, whose main concern is the health and welfare of their people, and that of future generations. May the information presented in this issue of *Public Health Nutrition* empower them^{6,7}.

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