

World Nutrition

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Commentary. World Nutrition

The year of 2012. What next?



Geoffrey Cannon; Roger Hughes, Roger Shrimpton, Elisabetta Recine,
Barrie Margetts; Jean-Claude Moubarac; Geof Rayner, Tim Lang;
Philip James; Carlos Monteiro; Enrique Jacoby, Patricia Murillo;
Vivica Kraak; Kelly Brownell, Mark Gold; Harriet Kuhnlein; Juan Rivera,
Sonia Hernández Cordero, Fabio Gomes, Leonardo Garnier,
Cecilia Castillo, Marcela Reyes; Renata Bertazzi Levy, Rafael Claro

Introduction

This is the 30th issue of *World Nutrition*, which since its launch in May 2010 has published over 1,500 pages – averaging just over 50 pages an issue. This modest pagination includes a cover and initial pages, an editorial, one or two commentaries, sometimes short communications, and also correspondence. *WN* normally does not

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include results of original research; for this we recommend the international journal *Public Health Nutrition*.

Here following, are extracts from some of the leading commentaries published in *WN* in 2012: twelve in all, one for each month, with 24 authors. These are a fraction of the number of contributors of commentaries, short communications and correspondence during the year; and since its beginnings, *WN* has published contributions from over 100 authors, from all continents.

We hope that you enjoy these extracts, which have been lightly edited, and find them valuable. The extracts do not include references. If you wish to read (or read again) the whole commentaries, with their references, links are provided below to their pdfs, and also to associated editorials.

Our big picture

The commentaries selected here, are organised in three groups each of four months. Between January and April, these are on the story of *World Nutrition* until its 18th issue at the end of 2011; the development of competency standards for the profession of public health nutrition; the methods food and drink manufacturing corporations use to make their ultra-processed products alluring; and nutrition seen as a branch of public health in the grand tradition.

Between May and August the commentaries concern what evidence should be accepted as relevant to nutrition policies and actions; the definition of ultra-processed products; the best food on earth with Peru as the first example (continued in August); and actions governments do, can or should take to protect population nutrition, with special attention to *trans* fats.

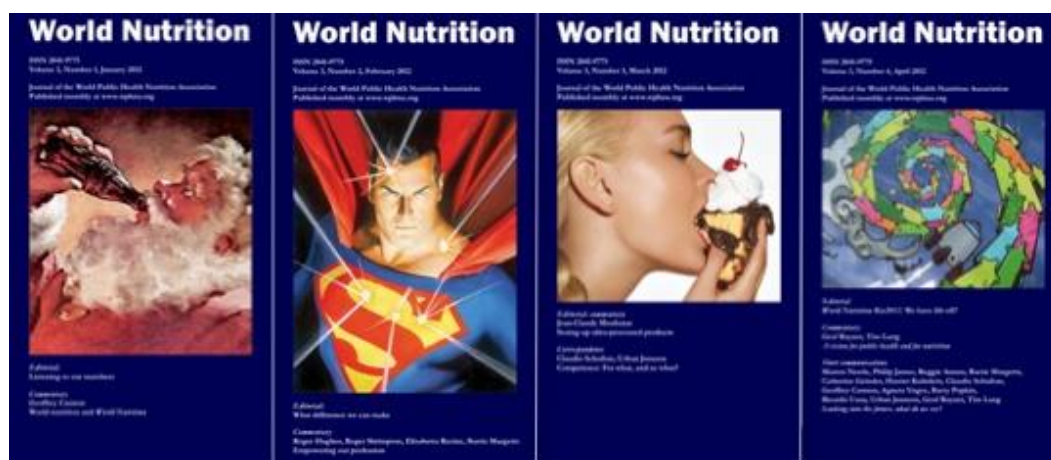
Between September and December the themes are the highly charged topic of addiction to processed food products; the nutrition, health and environment of Indigenous Peoples; government action (and inaction) in Latin America to promote healthy food in schools; and the impact of what is now the global food system controlled by transnational corporations, on pandemic obesity and related chronic non-communicable diseases.

Many other themes are discussed in the commentaries not included here, and in the *WN* correspondence sections. We are still missing major contributions from Asia, Africa, former USSR and the Arab world. We hope to be making a difference. By itself a journal can do so only inasmuch as it inspires action.

The editors

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WN Volume 3, 1-4. January-April 2012



Above are the covers of *World Nutrition* published between January and April 2012. In January we told the story of *WN*, from the time when it was first planned in 2009 then launched in May 2010, up to December 2012.

Roger Hughes, Roger Shrimpton, Elisabetta Recine and Barrie Margetts were the authors of the February commentary, on needed professional competencies for the public health nutrition profession, especially in under-resourced parts of the world.

In March Jean-Claude Moubarac, trained as a social scientist, covered a new aspect of ultra-processing. This is the advertising and marketing techniques used by manufacturers to make ultra-processed products alluring. This commentary is the latest in a series. In November 2010 we published what has turned out to be far and away the most accessed *WN* commentary, by the team at the University of São Paulo, Brazil, headed by Carlos Monteiro. This concerns the impact of ultra-processed food and drink products on obesity and related chronic non-communicable diseases, and broader social, economic and environmental issues. To date this and the following commentaries published regularly in 2011 have been accessed well over 100,000 times.

April 2012 was the month of *Rio2012*, our conference held in partnership with the Brazilian national public health organisation Abrasco. We published a series of 14 short communications by Association members including *Rio2012* speakers, and also by Geof Rayner and Tim Lang, by way of introduction to their commentary which set out their vision for public health and nutrition.

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January

World Nutrition & World Nutrition



Geoffrey Cannon

World Public Health Nutrition Association; editor, *World Nutrition*
Juiz de Fora, Minas Gerais, Brazil



WN is, we hope, attractive. Above are four of the covers published in our first year of 2010, projecting commentaries on universal vitamin A supplementation; Indigenous Peoples' nutrition and environment; the purpose of conferences and other professional gatherings; and the much-accessed theme of ultra-processing as the key cause of obesity and related chronic non-communicable diseases.

Somebody, it may have been Albert Einstein, once said that the duty of the scientist is to present data and ideas as clearly, simply and attractively as possible, while always preserving their essential meaning. Let's take this wise advice some stages further. First, it is surely everybody's responsibility, all of the time, to be as clear as possible. Second, outstanding researchers may or may not be good at communicating their findings. It is very rare for one person to have all relevant skills. Most scintillating science, like theatre, is teamwork.

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Words and pictures

Third, words are essential, but have limitations. Presentation, in the form of editorial structure and projection, design and art direction, and use of apt graphic material, is not merely illustrative. It can convey meaning more effectively than words. This is apparent in the most highly-gearred scientific journals, such as *Nature* and *Science*, and more popular journals, such as *Scientific American* and *New Scientist*. When Barrie Margetts and I first planned *WN*, we had the style of journals like these in mind.

Also, the highest-impact academic journals whose contents overlap with ours, such as *The Lancet* and the *New England Journal of Medicine*, now convey their material by use of many editorial and graphic devices, such as boxed background or technical information, digested summaries, and take-home messages, together with vivid comment, invited or written by the editorial team. Below are four *WN* covers published in 2011. These project commentaries on food guide pyramids; ready-to-use therapeutic foods (RUTF); the best height as well as weight for humans; and the developmental origins of health and development (DOHaD).



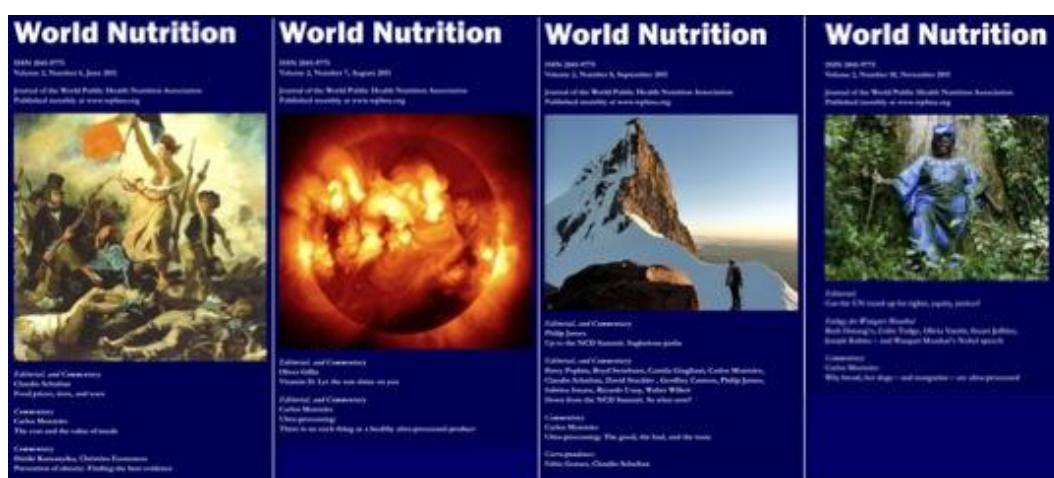
WN is different from other nutrition journals, which with partial exceptions simply present the findings of original research, presented in standard formats. There is nothing wrong in this, and it does allow busy senior scientists to edit such journals. Outstanding research presented and published in this way can and does influence the profession addressed. The obvious limitation though, is such journals are usually not designed to be of interest to professionals in other while associated fields, and are certainly not going to be read by policy-makers and opinion-formers in national governments, industry or the media, unless they happen to be specialists in the field covered.

Sometimes it's said that *WN* is 'journalistic'. But is this a real criticism? We see our task to include ways of editing and presentation that are as attractive, arresting and accessible as possible, but which also faithfully convey the meaning of the topic and the intentions of the authors. Yes, there is an issue of balance. We do not feel that *WN* contributions are over-simplified. But even if some are, we think this is a 'good fault'. It would be better than publishing over-technical pieces understood only by specialists and inaccessible to readers outside – and also within – our profession.

Reaching out, making alliances

Like money, nutrition is important intrinsically, and also because of its impact on so many aspects of life. It follows that we have a constant duty to convey our ideas, insights and knowledge to readers who are not formally trained in nutrition. These include members of professions allied with ours, and workers in public interest and other civil society organisations, who we welcome as Association members.

Below are four more of the *WN* covers published in 2011. These project commentaries on food riots, wars and revolutions; the best sources of vitamin D; the UN high-level meeting on the prevention and control of chronic non-communicable diseases; and the *WN* eulogy to Wangari Maathai, the Nobel prizewinner who understood how trees are essential for nourishment and nutrition.



Box

The WN Manifesto

A first contribution to *WN* is its manifesto. Summarised, it makes four main points.

First, the nature of *WN*. As mentioned, we had agreed that there are plenty of journals of nutrition whose main purpose is descriptive, and to report original

research. Specifically, we had no intention to compete with what we see as our sister journal *Public Health Nutrition*. 'Typically, nutrition journals are mainly concerned with information, and seek to describe their world as it is. *WN* respects facts, and at the same time it is mainly concerned with ideas... The need is for a journal whose contributors have scope to think and reflect on the significance of established and emerging experience and evidence'

Second, our vision is in keeping with the *Giessen Declaration*,² devised in 2005 and signed by a large number of Association members. 'The vision of *WN* is of nutrition as a social as well as a biological science, guided by ethical, ecological and evolutionary principles, and with economic, environmental and other dimensions... Nutrition does have a foundation in biochemistry, but is relevant and meaningful only inasmuch as it recognises and promotes family, community and population health, and other public goods. The work of everybody concerned with the health, welfare and well-being of populations has social, cultural, economic, environmental and political contexts'

Third, the purpose of *WN*, which is also a purpose of the Association generally. 'The perennial crisis of undernutrition illustrates the need to see the big picture. Food and nutrition security is fundamental to human health, welfare, potential, and progress. So are regional, national, and local independence and self-determination, and that of communities and families. In emergency and acute situations, adequate nutrition is often necessarily supplied, if not sustained, by external intervention. But populations whose communities and families are sometimes, often or usually hungry, or who lack nourishment, have rights to more than that. Good health, in all societies and at all levels, begins at and before birth. It is protected by exclusive breastfeeding, freedom from incessant infections and infestations, adequate and varied food supplies, and reliable sanitation and safe water. It is sustained also by public goods such as primary health care accessible to everybody, universal basic education, and the empowerment of people as citizens'.

Fourth, publishing and editorial policy. 'Debates, commentary, challenges to conventional wisdom – these are the kinds of contribution that *WN* will carry... *WN* will also embrace the richness and variety of human experience and culture. It will pay attention to the points of view of societies and communities, in high-income as well as low-income regions and countries, that are impoverished or excluded, or that do not equate development with more cash, or whose ways of life are traditional' And finally: 'The views expressed within *WN* are not those of the Association, unless this is explicitly stated. They are the judgements and opinions of the authors, who usually are Association members. Contributions will always invite and often will need responses, sometimes from alternative or opposing points of view'. Written and agreed by the Association's Council in early 2010, we think that our manifesto still stands up well.

February. Professional competency

Empowering our profession



Roger Hughes

School of Public Health, Bond University, Gold Coast, Australia

Roger Shrimpton

Independent consultant, Olhão, Portugal

Elisabetta Recine

Department of Nutrition, University of Brasília, Brazil

Barrie Margetts

Faculty of Medicine, University of Southampton, UK

Public health nutrition has been a developing field of public health theory and practice for decades. However, it has only relatively recently been seen in the context of workforce development as a strategic component of building capacity for effective action. This focus, initially directed at under-nutrition, has more recently been applied as a gradual response to public health priorities such as non-communicable diseases (particularly cardiovascular disease) and more recently, obesity, diabetes and preventable cancers. This increase in focus in high-income countries, in response to the unsustainable burden of over-nutrition, has grown in parallel with a recognition that workforce capacity is a critical missing link in scaling up nutrition actions in order to accelerate the reduction of maternal and child under-nutrition in lower and middle income countries, many of which face the double burden of disease.

Workforce development

Workforce development is needed at a global level in order to create a workforce and a broader capacity that is central to achieving gains in population health in both higher- and lower-income countries. The development of the public health nutrition workforce, and a designated professional workforce tier, has been a priority capacity building initiative in a limited number of high-income countries (such as Australia, New Zealand, Canada and the US). In the main however, there is considerable

diversity of workforce capacity, with most countries having under-developed workforces to address public health nutrition issues.

The emphasis on developing designated public health nutritionists as a workforce and professional group, distinct from clinically orientated dietetics or medical nutrition workforce models, recognises that population-based and promotional-preventive actions are required to address malnutrition in both forms. This requires different work that complements clinical practice and consequently requires additional competencies, the knowledge, skills and attitudes to perform this work.

Box

Functions of competency standards

Competencies serve an overarching function of providing the architecture for workforce development by codifying the knowledge, skills and attitudes necessary to effectively practice or work (perform) in the field. These provide a structure for:

- Curriculum design and evaluation. By ensuring competency development through teaching and learning corresponds with agreed competency needs
- Credentialing. By providing standards that can be used as benchmarks for practitioner recognition or registration.
- Performance review. By providing standards which enable employers and practitioners to review practises and development needs.
- Recruitment. By providing a framework for articulating the competency and qualification expectations in position descriptions (duty statements, selection criteria).
- Career planning. By providing direction for individual practitioners' considerations about further development needs.

March. Ultra-processing

Sexing up ultra-processed products



Jean-Claude Moubarac

Centre for Epidemiological Studies in Health and Nutrition

University of São Paulo, Brazil

We all surely know that just as the US presidential candidate who gets elected is usually the one that has most money to spend on the campaign, the food or drink corporation with the biggest spends on promotion, usually sells the most products. These days this is done globally, with smart phones and the internet, as well as with the older methods of broadcast and print media, to get the messages across.

Hidden persuasion

Individual leading transnational food and drink product corporations such as Nestlé, PepsiCo and Coca-Cola, have annual turnovers much the same as the annual gross domestic product of middle-order countries such as Sri Lanka, Slovenia or Tunisia, and far more than most sub-Saharan African countries. They also each spend well over \$US 1 billion a year on advertising – and a multiple of this if all forms of promotion are included. This money, together with vast human and other material resources, is almost all spent with the purpose of persuading the public, and also policy-makers, that ultra-processed products are healthy, which they are not.

This impedes and thwarts rational choices and decisions. As summarised in the boxed text below, for well over half a century in the US, then soon afterwards in Canada, the UK and other countries, and then worldwide, food advertising and marketing techniques have derived from Sigmund Freud's theories of the irrational and unconscious individual, group and mass mind. These use methods deliberately adopted by Josef Goebbels, the head of the propaganda ministry of the Nazi regime, and later by the masterminds of the campaigns of recent and current candidates for political office in countries identified as democratic. They 'sex up' the product – in a generic sense of the word 'sex', and also specifically.

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Box

Hidden persuasion: the masterminds



Edward Bernays (left), Ernest Dichter (right): the Austrian-American 'hidden persuaders' who used Freud's theories to mastermind advertising and marketing

Processed food and drink advertising and marketing strategies were developed in the US as a result of the vision and energy of two men: Edward Bernays (1891-1995) as from the 1920s (left, above), and Ernest Dichter 1907-1991) as from the 1940s (right, above). Both were originally Austrian. Both applied Sigmund Freud's theories of the irrational and unconscious mind and its influence on beliefs and behaviour (Bernays was Freud's nephew). They are now generally seen as the founding fathers of the modern methods of advertising, publicity and public relations originated largely in the US and now used worldwide. These are used to shape consumer behaviour, and also to manipulate citizens.

In his book *Propaganda*, Edward Bernays wrote: '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'. Ernest Dichter had a comparably enormous impact on the development of modern methods of advertising and marketing. Like Bernays, he used methods designed to induce people to buy products by addressing underlying desires, wants and emotions.

The advertising, marketing and public relations agencies used by food and drink product manufacturers continue to develop strategies that play on unconscious and irrational drivers of behaviour. These techniques also include what's now commonly termed 'sexing up': the distortion, exaggeration and manipulation of information to persuade and influence consumers away from making rational choices.

April. Public health and nutrition

Our vision: where do we go?



Geof Rayner

Tim Lang

Centre for Food Policy, City University, London, UK

Public health nutrition is a central part of public health. It now faces huge challenges.

- ***The nutrition transition***
The restructuring of food systems and supplies, and so dietary patterns, with rises in incomes, driving increased obesity and associated diseases worldwide.
- ***Food insecurity***
The increase of hunger, after decades of improvement.
- ***Distorted food markets***
Not just distortions from subsidies, but also distortion of human needs by the marketing of powerful corporate interests.
- ***Environmental impacts***
Not just climate change, but a web of threats, to water, land use, forest cover, soil fertility, and biodiversity.
- ***Insecure employment***
The majority of the world lives by farming, now threatened by international supply chains and the power of oligopolistic commodity markets.
- ***Energy reliance***
Food systems are based on petroleum, a fossil resource which is increasing in cost and on which farming, and therefore nutrition, depends.

More is not better

So far, responses to these series of crises have mostly restated the claim that all will get better as more is produced. Like many others, we cannot agree. Here are five reasons why. First, there are gross inequalities of access and power which magnify

the ill-effects of unhealthy food systems on incidence of serious diseases. Second, there is already a surplus of food energy (calories) in the world. Third, transnational and other vast food and drink corporations are penetrating lower-income countries with their fatty, sugary or salty ready-to-eat or to-heat energy-dense ultra-processed products – as shown by Carlos Monteiro and his colleagues in this journal. Fourth, food is being diverted to energy for biofuels, particularly in North and South America and Europe. Fifth, this analysis downplays the serious complications and crises for world and national food systems and supplies caused by environmental change and biodiversity stress.

The net result is gross mismatch between food systems, natural ecology, commercial practice and public governance, and the state of public health. It would be unwise for nutrition scientists to ignore this mismatch or merely hope that it disappears.

Table

**Transitions that shape public health:
their concepts, exponents, dynamics, and impact**

<i>Transitions</i>	<i>Concepts</i>	<i>Exponents</i>	<i>Dynamics</i>	<i>Impact</i>
<i>Demographic</i>	Rapidly reducing mortality, birth rates and extended longevity, leading to the rise of populations, with industrialisation	Malthus Notestein Landry Davies	Industrialisation and modernisation improve living conditions and allow birth rate to fall	A map of progress in which a description of past experience is assumed to be a general prescription
<i>Epidemiologic</i>	Societies move from an age of pestilence and famine to one dominated by degenerative disease	McKeown Omran Caldwell Fogel	Disease patterns follow economic growth, improved living standards	The focus of public health switches from infectious to chronic diseases
<i>Urban</i>	The move from rural to urban-based existence alters living conditions and modes of life	Mumford Geddes Harvey Davies Jacobs	Migration to cities concentrates populations and changes social dynamics	The sanitation and social milieu are reshaped by growing towns and population intensification
<i>Energy</i>	Cheaper and higher output energy sources underpin societal and economic development	Jevons Harberl Fouquet Smil	The pursuit of cheap energy is shaped by the desire to replace human & animal labour	Changes in energy sources transform heat, light and power which underpin modern living
<i>Economic</i>	There is a shift in modes of production with higher inputs and outputs	Smith Marx Veblen Rostow Boulding	Progress is defined by the accumulation and distribution of wealth	Economic development defines the scope of public health
<i>Nutritional</i>	The shift from traditional to modern societies is characterised by changes in diet and physical activity	Trowell Burkitt Popkin Fogel	Plentiful food transforms physiological growth and body size	Problem of mismatch of physiological requirements and dietary patterns

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<i>Biological, ecological</i>	Microbiological and natural ecological life are both being altered by human activity	Darwin Wallace Haeckel Curie Koch Tansley McMichael	Human activity is eroding biological and natural ecological processes on which civilisation depends	Public health needs to respect human dependency on the natural world and biological processes
<i>Cultural</i>	A shift from traditional society characterised by fixed social location to modernity offering widened and displaced cultural possibilities	Simmel Mead Bourdieu Putnam Foucault	Peoples' habits and everyday rules for living have enhanced health consequences	Public health has to engage with how people think and conceive of themselves
<i>Democratic</i>	Systems of governance in the commercial and public spheres become more accountable, rule-based and nominally democratic	Mill Dewey Rawls Sen	Tensions emerge over priorities and how health governance shapes health outcomes	Public health as a force for democracy Tensions are between prevailing governance and citizens and civil society movements

Big problems in public health are usually systematic. They have always required systems thinking, even if such thinking is resisted. This involves ecological, multi-level, multi-sector analyses and responses. We believe that what we term 'ecological public health' is the way through this complexity. Seeing it as the culminating great traditions of public health thinking – all of which have nutritional aspects, all with champions – explains where history has led us.

Ecological thinking should unify and extend the relationship between knowledge, policy and action, and indeed the ways in which we live, including around food. Its vision works in our times and in response to current threats. It provides an intellectually omnivorous conceptual framework, for thought and action. No one outlook or profession or discipline is on top; all have potential value. Public health seen as an ecological discipline provides a strong and resilient intellectual framework for defining and developing the politics of health. Rally round it.

WN Volume 3, 5-8. May-August 2012



May was the month immediately after our *Rio2012* conference. Two *WN* commentaries looked ahead to *Rio2012*: What next? – hence the crystal ball on our cover above (left). One was the second compilation of 14 short communications mostly from Association members and others who participated in the conference. Here we include an extract from Philip James’s magisterial commentary ‘Coming to judgement’, on what types of evidence are appropriate as bases for recommendations, policies and actions in the public interest.

In June H el ene Delisle continued the theme of public health nutrition professional competency, in the Francophone countries of sub-Saharan Africa that she knows best. Our main commentary returned to the theme of ultra-processing, Carlos Monteiro and Geoffrey Cannon, the senior members of the University of S ao Paulo team, addressed the basic question of: what are ultra-processed products.

In July, and also in August, Enrique Jacoby and Patricia Murillo launched what we intend as the first of a series on the world’s most valuable traditional long established food systems and cultures, featuring their own country of Peru, and with a preface by Colin Tudge. In July we also published a commentary by Boyd Swinburn on why the lead to prevent and control obesity must come from governments.

In August, the commentary by Vivica Kraak examined what governments are doing to protect public health nutrition, and in particular to limit or eliminate *trans* fats from food supplies, ranging from Denmark, the US and Australia, to the UK.

May: Rio2012. What next

It is time to speak out, and act



Philip James

International Association for the Study of Obesity
London School of Hygiene and Tropical Medicine

Box

Archie Cochrane and the Cochrane Collaboration



Archie Cochrane (1909-1988) a wonderful epidemiologist and public health expert, used to visit the Medical Research Council Epidemiological Research Unit (ERU) in Jamaica in the 1960s when I was there, and regaled Jean my wife and me with his life story and views. I met him because we lived in the special ERU apartments even though I worked for the Tropical Metabolism Research Unit dealing with complex studies in malnourished children.

Archie gave us vivid accounts of the time he was an ambulance driver in the Spanish Civil War, and a medical officer of health in wartime prison camps. He also continued to blast the stupid ways of medical practice that still persisted in the early days of the UK National Health Service. Oddly enough I had told my boss, Max Rosenheim (later president of the Royal College of Physicians of London, and then a Lord) that I had quit the UK for the same reasons, seeing 'clinical opinion' of the type that reigned supreme in those days as little better than witchcraft.

So Archie and I got on extremely well. During his time working for the Medical Research Council in Wales, he became an authority on the miner's disease pneumoconiosis. Arising from this and other careful work on diseases caused by pollution and infection which ravaged working class populations, he championed

randomised controlled trials (RCTs) (24). After his death, in his honour, research centres called Cochrane Collaborations were set up, to champion the RCT method.

RCTs are now used appropriately for trials of drugs, and also in study of the types of disease that Archie himself specialised in, where a relatively few key factors are involved. They are also used inappropriately, and to be frank stupidly, for studies of food, nutrition and disease. Archie himself would be horrified now to discover the rigidities and limited thinking involved in some Cochrane Collaboration analyses. He would for sure have said that the definition of any question to be answered with a 'Cochrane' analysis, must take into account a wide range of knowledge, and not simply used as a crude recipe which often – and indeed usually, in our field – leads to misleading and even meaningless conclusions. .

I believe that we in the public health and nutrition professions must now speak out collectively. Action in the public interest is now being thwarted on practically all public health issues, including those that are most menacing.

UN officials are under intense pressure to be ever more scientifically rigorous. This sounds right, but can have the effect of narrowing the basis of their decision making. At the same time, UN agencies are being pushed into so-called 'public-private partnerships' where the private 'partners' are international corporations whose interests conflict with those of public health and where profit is paramount. Our task now as professionals in the field, is to help public-spirited UN officials. We need to urge them to keep conflicted interests out of policy-making and to engage such interests only in the practicalities of implementation. We also need to expose and denounce the fact that more and more national governments are apparently now only interested in policies and actions that are backed – or initiated – by the corporations responsible for the energy-dense, fatty, sugary or salty highly processed products that are a main cause of the crisis.

We also have to guard against self-serving scientists demanding ever more research money for their own work, as well as commercial interests that also sabotage policy development. If these forces are not countered, then policies and actions that really could improve population nutrition and public health will continue to be thwarted.

The counter-forces need to include us who are engaged in public health knowledge and policy. We have to be as erudite, robust, and respectful of evidence as the most rigorous of those blocking progress. We also have to change the dimensions of debate, and weigh the potentially major costs of doing nothing, with inevitably incomplete data and any possible chance of doing harm. Our challenge is to make sure that policies are agreed at the right speed. It is also to return policy-making to an appropriate, intelligent analysis of all relevant available evidence.

June: Ultra-processing

What are ultra-processed products



Carlos Monteiro

Geoffrey Cannon

**Centre for Epidemiological Studies in Health and Nutrition
School of Public Health, University of São Paulo, Brazil**

Problems with ultra-processed products

1 Confections of ingredients

Practically all foods are processed in some way, and many now are highly or heavily processed in any normal sense of these words. The defining characteristic of ultra-processed products is that they are confections of ingredients, including chemical preservatives and often cosmetic additives, with little, very little or even no fresh food. Typical examples are packaged and branded snack products and soft drinks.

2 Varying quality

Most categories of ultra-processed products include a range of quality. Bread, as a clear example, may be of relatively execrable or admirable quality. There is an obvious contrast between wrapped ‘plastic’ bread that is only palatable when spread or stuffed with what are often fatty items, and fresh bread made with wholegrains that is delicious eaten by itself or as an accompaniment to meals. The same sort of point can be made with other products. But usually there is no clear dividing line within categories, and we maintain that it is best to keep the classification simple. A detailed guide will make necessary qualitative distinctions.

3 Additives as adulterants

Ultra-processed products are not modified versions of real fresh or minimally processed foods. They are fabrications. They are formulated in all sorts of ways meant to make the products alluring. Their intense sensory appeal floods the mechanisms that normally regulate appetite control, and thus what and how much is consumed. In a real sense many ultra-processed products are ‘fake foods’ or as one commentator puts it ‘edible food-like substances’. Preservatives aside, the main purpose of chemical additives in these products is to make them look, smell, feel and

taste like real food. The issue of toxicity of cosmetic and other additives is probably far less important than their use as adulterants.

4 *Usually but not always industrial products*

Ultra-processing developed in two main stages. The first was as an aspect of the industrial revolution, as a result of which products like cakes, biscuits, processed meats and soft drinks became mass-manufactured. The second has been a consequence of economic globalisation, privatisation, and deregulation, as a result of which vast transnational corporations have massively increased worldwide production and distribution of what is now a colossal range of packaged and branded ultra-processed products. Some such products predate industrialisation.

5 *The central place of transnational corporations*

The main products of transnational food and drink manufacturers are ultra-processed. This is because they are very profitable. The main ingredients of most leading products are extremely cheap. They are formulated to have a long ‘shelf-life’. Many are advertised and marketed relentlessly all over the world. They are also labelled in ways designed to induce ‘brand loyalty’ often across whole ranges of products designed to be consumed throughout life. Transnational corporations undermine and displace traditional long-established food systems and dietary patterns, and as a result push population consumption of their products up from a relatively small percentage to half or more of total dietary energy.

6 *The issue is one of quantity*

Ultra-processed products are mostly harmless consumed in relatively small quantities. But they are often formulated so as to be intensely palatable and habit-forming and there is no clear line between this, and addiction. However, research conducted so far suggests that when ultra-processed products altogether amount to under 25 per cent of dietary energy, the overall nutrient profile of the diet is consistent with a low risk of obesity and other nutrition-related chronic diseases. The problem now though, is that in countries such as the US and UK, ultra-processed products supply well over a half – indeed, over 60 per cent – of all dietary energy.

7 *Ultra-processed products are like alcoholic drinks*

Ultra-processed products are harmful, but should not be categorised with tobacco. They also should not be categorised with fresh or minimally processed food, or with culinary ingredients, neither of which are harmful in normal circumstances. Ultra-processed products are similar to alcoholic drinks. They are not harmful in small amounts. They are however habit-forming and some would say often at least quasi-addictive. They do displace healthy meals, dishes and foods and thus are liable to cause obesity. In excess – which in the case of countries like the US and UK means consumed in typical amounts – they are an important cause of serious diseases.

July. The best food on earth. Peru As good as it gets



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Box

Peru in brief



Peru, a republic since July 1821, is the third largest country in South America, with an area of the UK, France and Germany combined. See map above, right. Almost one-third of its 30 million people live in the coastal capital of Lima. What is now Peru was the centre of the highly developed Inca civilisation and empire, which in the 150 years before the Spanish conquest stretched along the whole Andean region that now also includes Bolivia, Ecuador, much of Chile, and part of Colombia and western Argentina. See above, left.

Peruvian food systems, and its traditional and more recent food culture and cuisine, are functions of climate, terrain and history. Despite the subjugation and reduction of the native peoples after the Spanish conquest, original influences and customs,

including food systems, survived, and about four-fifths of the population is of mixed native and European blood, or native. Peru's astounding terrain includes the Pacific Ocean, a relatively arid coastal strip, the Andean highlands with peaks of over 6,000 metres, and Amazon rainforest. Thus Machu Picchu, Peru's most celebrated highland Inca site (picture below) became known internationally only a century ago.

Although Peru is tropical, the climate is cooled by the oceanic Humboldt Current and rivers flowing from the Andes. The variety of Peruvian terrain and climate accounts for a staggering biodiversity of plant and animal life, estimated at over 20,000 species, that also has largely survived.



A country's food traditions offer a wonderful platform for good nutrition. They provide profound connection between the natural world, food, people eating at the table and cultural identity. But now that transnational industries are penetrating countries throughout the global South, in Asia, Africa and Latin America, it is unlikely that protection and promotion of healthy eating can succeed unless it is coupled with the creation of an infrastructure of healthy eating. This involves resisting the invasion of ultra-processed products, regulation and restriction of the advertising and marketing of such products, creating incentives to make whole food agriculture and allied markets, flourish and grow strong. That infrastructure provides the basis to build the common good in nutrition. This is something that the so-called 'free market' will never provide: its concern is short-term satisfaction of the individual consumer in order to maximise profits.

Precious food systems need protection

Almost without exception, countries undergoing the penetration of ultra-processed products made by transnational manufacturers and associated industries have suffered a quick and steady dismantling of whatever infrastructure existed in support of traditional cuisines and good public health nutrition. In our opinion, the tradition of Peruvian food culture, and the current boom of Peruvian cuisine, will not of itself be sufficient protection. What is critical –and sooner rather than later – is concurrently to build an infrastructure of healthy eating and wellbeing. This is where public health nutritionists – and the World Public Health Nutrition Association – can help our country and what it represents.

August: Food supplies. Trans-fats

Government policies and actions to protect public health



Vivica Kraak

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At the end of May 2012, New York City Mayor Michael Bloomberg proposed a ban on the sale of supersized portions of sugar-sweetened drinks over 16 ounces (480 ml) in public venues. The proposed ban is part of a comprehensive strategy to improve the health of the more than 8 million New Yorkers.

Mayor Michael Bloomberg as hero

Within days of the Mayor's announcement, a food and tobacco industry-financed front organisation paid for a full-page advertisement in *The New York Times* branding Bloomberg 'The Nanny'. It accused him of overstepping his authority and proposing a policy measure that infringed the right of individuals to choose whatever they want to purchase and consume. My thought was, as the elected highest official policy-maker responsible for protecting the health of his citizens, isn't Mayor Bloomberg simply doing his job?

In 2006 the City banned the use of *trans*-fats in foods and meals prepared by restaurants. New York was also the first US city to ban smoking in public places, including bars and restaurants. Another first was the 2003 support for calorie labelling disclosures in restaurants. This created the momentum for a federal law passed seven years later in 2010 to require calorie labelling in chain restaurants. New York City legislators the pioneers in the US have continuously re-defined what is possible and achievable to improve public health outcomes.

The official campaigns are now sometimes almost as powerful as those now used to warn people against smoking. In 2009 New York City initiated a 'Pouring on the Pounds' counter-advertising campaign to encourage citizens to choose drinks with fewer calories, warning them not to 'drink themselves fat'. This was followed by

Cite as: Cannon G, Hughes R, Shrimpton R, Recine E, Margetts B et al. World Nutrition. The year of 2012. What next? [Commentary] *World Nutrition* January 2013, 4, 1, 8-45

other campaigns that raise awareness of the consequences of excessive food portions and a national campaign called 'Life's Sweeter with Fewer Sugary Drinks'. In September 2013, Michael Bloomberg's terms come to an end, and New York City voters go to the polls. Will the next mayor maintain these public health initiatives? Perhaps so, but probably without such boldness and flair. We will wait and see.

Figure

The intervention ladder. How many steps?

Government actions to create healthy food and eating environments

The 'intervention ladder' is a way to classify actions that governments can take to improve public health nutrition outcomes. The bottom steps are politically easy and least effective. The higher steps are more challenging, especially when powerful opponents criticise them as attacks on people's right to choose, but they are often the most effective for improving public health nutrition outcomes.

Step 1. At the bottom of the ladder. This is the safest political move. Governments do nothing, or only monitor a public health crisis.

Step 2. This provides information to guide peoples' choices through health education or social marketing campaigns.

Step 3. This involves alliances or collaborations which for example encourage industry to change processing, such as product reformulation, or marketing practices. These changes may be unknown to or not perceived by consumers.

Step 4. This intervenes, for example, by making fresh fruit or vegetables preferred side dishes instead of french fries (chips), and non-caloric drinks such as water the preferred drinks instead of sugary products, in worksite canteens and schools.

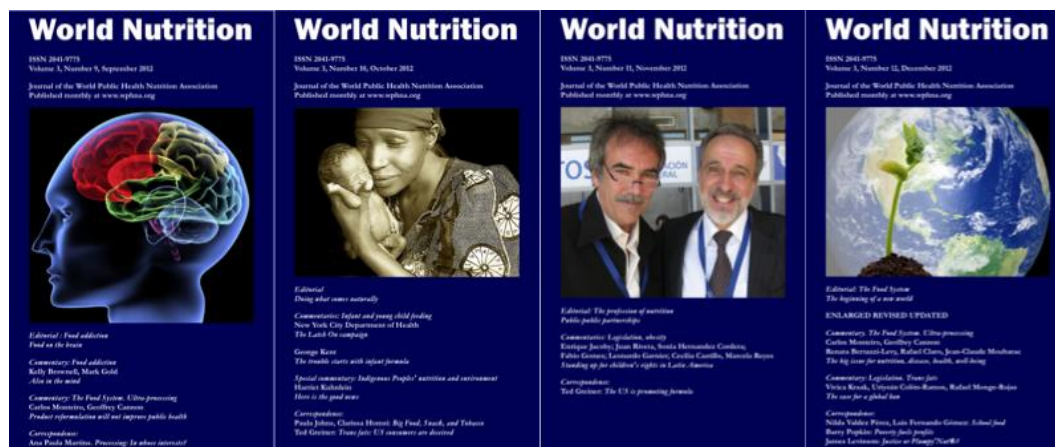
Step 5. This encourages healthy decisions by offering manufacturers tax breaks for reformulating products or for making pledges to improve their product ranges; or subsidising healthy foods; or undertaking well-funded and sustained social marketing campaigns to change purchasing and eating habits over time.

Step 6. This discourages healthy decisions, for example, by passing taxes on energy-dense and nutrient-poor products, or by making unhealthy products unappealing by use of counter-advertising campaigns.

Step 7. This involves statutory legislation whose purpose is to reduce unhealthy ingredients, including salt, fat, added sugars and *trans*-fat, from specific food or drink products or in the overall food supply.

Step 8. The top of the ladder is the strongest level of government intervention. This step involves passing legislation designed to eliminate unhealthy products, for example by prohibiting *trans*-fats in food products or preparation, or not allowing supersized sugary drinks to be sold in public places. These types of interventions are the most effective and broad in their impact on public health nutrition goals.

WN Volume 3, 9-12. September-December 2012



In September the main *WN* commentary broke new ground. Kelly Brownell and Mark Gold examined the evidence that many food products are not merely super-palatable and habit-forming but are actually addictive. In the same month the University of São Paulo team published a commentary challenging the generally accepted belief that reformulation of ultra-processed products will benefit public health.

In October we began what will become a regular series of commentaries and communications on breastfeeding. We also published a ‘special commentary’ – a republication of Harriet Kuhnlein’s June 2010 commentary on nutrition, health and environment of Indigenous Peoples.

Action – and alas, blocked action and inaction – in Latin America, designed to protect the nutrition and health of schoolchildren, was the theme of the November commentary.

We returned to the theme of trans fats in December, with a commentary proposing that the most rational and effective action will be a global ban.

September. Food products. Addiction

Also in the mind



Kelly Brownell

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We believe it is critically important to connect science with public policy, such that science is communicated effectively with policy-makers and scientists can respond rapidly to the need for studies that can inform policy. There are many positive signs that this is occurring. More can be done.

Discourse about food and addiction may well play a pivotal role in determining how government will now deal with diet, nutrition, and problems such as obesity. The public now believes that foods can act in addictive ways, and this is without widespread knowledge of the available science. It is a short jump to then become angry with industry for manufacturing such foods and promoting them so aggressively. This can mobilise groups like parents, health professionals, and public interest non-government organisations to work together with government officials for change. Elected leaders, aware of public sentiment and concerned with high rates of obesity and diabetes, may be less likely to yield to industry pressures and may create policies to foster a better food environment.

Corporations will strike back

Food manufacturers and their allies have not yet begun a vigorous effort to address the issue of food products and addiction. We think it is just a matter of time until they do. Once the science becomes more public and is discussed in policy circles, manufacturers will be put on the defensive and are likely to act in predictable ways. The behaviour of the tobacco industry, and also the response of food manufacturers to damaging evidence thus far on other fronts (for example, links of sugared drink

consumption with ill-health and disease) suggest a likely script, as follows:

- Ignore the issue until it begins to enter public discourse.
- Dismiss the idea and lampoon any suggestions of its validity.
- Hire public relations firms to characterise available studies as ‘junk science’.
- Attack scientists, sometimes personally, claiming they are biased against industry.
- Pay scientists to undertake studies that plant doubt.
- Call in favours from community groups and professional associations it has supported to discount the concept.
- Begin a public relations campaign to counter the concept.
- Make self-regulatory pledges to care for the public good and issue promises to change business practices such as marketing certain products to children.
- Spend massive amounts to lobby against policy changes that would alter its ability to continue business as usual.
- Work to have industry figures or supportive political figures installed in key regulatory agencies in order to stall, subvert or weaken regulatory action.

So far food manufacturers have reacted much like the tobacco industry, as evidence has emerged about the damaging impact of some food products. In the case of tobacco, industry misbehaviour delayed and even prevented public policy actions that could have saved millions of lives. This history must not be repeated with food.

October. Indigenous peoples' food and environment

Here is the good news



Harriet V. Kuhnlein

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This picture, of an Inuit girl and her friend in Pangnirtung, Nunavut, Northern Canada, for me shows what public health nutrition is all about. For me and the team I have been proud and privileged to work with over 30 years at CINE at McGill University, good nutrition is simply part of the good life well led.

It's more than this, too. The work we do at CINE is with the 'original peoples' or 'First Nations': ancient populations and indigenous communities. CINE has this focus for a number of reasons. People who, as we would say 'live close to nature', do not make the distinctions most 'civilised' people make, between the living and the dead, between humans and other living things, or between the living and natural environment. They see food differently from most of us with formal training in biology. For them, their food systems and diets are part of their ways of life, and have profound philosophical, cultural and social significance. Foreign 'experts' may do great damage, by telling them to conform to modern dietary and medical guidelines. If they accept such advice they may be less likely to suffer some nutrient

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deficiencies, but they are also likely to lose the sense of meaning and harmony of their lives in the cultural ecosystems within their communities, which is, I believe, more serious.

The New Nutrition

It's more than this, too. A large number of Association members are associated with *The New Nutrition project*, which recognises that nutrition is a social, economic and environmental as well as a biological science. I agree with this view, and the people I work with don't need to be told something so obvious. One New Nutrition principle relevant to my work is that 'Food and nutrition practices constantly followed in different cultures in history are probably valid – though not necessarily for the reasons given. They do not require proof to be accepted, but disproof to be rejected'. My inclination, and that of very many colleagues, is to have confidence that pre-industrial peoples know what they are doing, and also in many ways they not only know what is best for them better than we do, but also have much to teach us, if we are prepared to pay respectful attention.

WN editor Geoffrey Cannon has an example of this. In Brazil, where he lives and works, there are impoverished regions where vitamin A deficiency remains a public health problem. The usual approach is by use of capsules containing massive doses of vitamin A. But in these very regions there are indigenous trees and bushes whose fruits – *buriti*, *pequi*, and others – are intensely rich in carotenoids. The point here, is that it must be certain that the original Brazilians, who were either exterminated or driven off these lands, will have known of the qualities of these fruits, and will have cultivated, harvested and eaten them – because people who live in nature without electrical power need to see at night. That is to say, the solution to vitamin A deficiency in Brazil is growing on the trees and bushes, in those areas where children are still now suffering. All that is needed here is for public health nutritionists, agriculturists, and civil society organisations in Brazil to pay attention to what is in front of their eyes.

Age-old knowledge and wisdom

This commentary is a celebration. I cannot thank enough, the hundreds and thousands of people all over the world who have made rich contributions to CINE's work. In offering this commentary to *WN*, I am inviting all its readers concerned with public health and with nutrition all over the world, to consider that populations and communities with a long history of living in natural ecosystems, and who revere tradition, have knowledge and wisdom which we need to respect and acknowledge.

It's also more than this, too. I guess that most *WN* readers are, as professionals,

parents, friends, and citizens, intensely concerned about our planet's natural biodiversity – the threat to and survival of animals and plants – the fish, birds, mammals, insects, fungi, lichens, algae, trees and shrubs that provide edible meats, fruits, vegetables, seeds, nuts, roots and other parts— and about our physical environment and the biosphere. So am I. We also need to be intensely concerned about 'other' human communities, who generally remain overlooked, pushed aside, and practically unknown. They do not have seats on the United Nations Security Council, but they do, in my very sincere judgment, understand better how to live on this earth now than do most of us. I hope, in this commentary and in the other work that I share, that I am a steadfast witness.

As public health nutritionists, we are all working to 'make nutrition better' and 'improve lives' of the people with whom we engage; but all too often we are caught up with the bad news, the perspective that health is about medicine and 'fixing things'. Then in our enthusiasm we often approach communities (often cross-culturally) in a way that creates the response '...here they come again, wanting us to do this and do that because our children and families are so unhealthy...' Think about it...put yourself in their shoes.

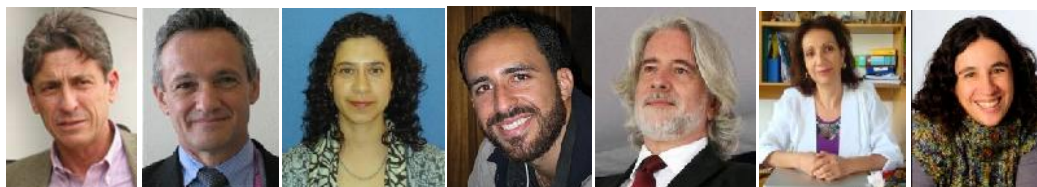
The Centre for Indigenous Peoples' Nutrition and Environment (CINE) based at McGill University in Montreal has been very fortunate to have the participation and guidance over the years of many indigenous leaders, from communities requesting nutrition and health services; individuals who have helped us approach unique and difficult nutrition issues with their communities who have been fighting for hundreds of years to maintain their cultures, including their own food and health systems. The 'mainstream' scientists, often from government offices, are not easily trusted to 'fix' something, especially when these outsiders are deciding what it is that needs fixing

Box

Key messages

- Be open to the views of the people with whom you are working, especially about their foods.
- Remember that the food people eat touches the mental, emotional and spiritual, as well as the physical, sides of their health.
- Balance messages of risk with messages of benefits about the food people are eating. Good news helps – 'You get more with honey than with vinegar'.
- Indigenous Peoples' food systems are filled with unique and biodiverse foods that are nutritionally rich, socially acceptable, economically sensible, and sustainable.
- A good participatory approach to community research is essential for success – start with some good news.

November. Legislation. Children. Obesity
**Standing up for children's
rights in Latin America**



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A recent contribution in this journal welcomes the actions of New York City mayor Michael Bloomberg to protect public health. All credit to Mayor Bloomberg. But no, he is not alone in the Americas. Below the Rio Grande in Latin America, other democratically elected leaders, together with government officials, lawyers, civil society and health professional organisations, are also getting serious about the obesity epidemic that now afflicts the entire American hemisphere. They have decided to stand up for the rights of children, and to call on governments to do their duty to protect public health and the common good.

Statutory regulations designed to control the very rapid rise of overweight and obesity among children are now being considered or are in the process of being enacted, in seven Latin American countries: Mexico, Brazil, Costa Rica, Chile, Peru, Ecuador and Uruguay. We here report on progress and obstacles in four of these countries.

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Obesity: need to act now

It is safe to say that the biological and molecular aspects of obesity are now well understood, and the topic has become an increasingly rich mine for researchers. But the epidemic, which is actually now pandemic, remains out of control. There is also an enormous and burgeoning literature on the prevention and control of obesity, but so far obesity is not being prevented and is not being controlled. Thus we are confronted by a gigantic public health crisis. Obesity is a cruel condition, especially for children and young people: but worse, it is causally related to disabling and deadly diseases, including diabetes, heart disease, and common cancers.

Yet much is known about what drives obesity, from the various perspectives of history and environmental sciences, agriculture, and economics. Most striking is how the rise in obesity runs parallel with the rise in production of junk food, sugared drinks, and electronic entertainment. In addition, in modern cities, choked with cars, congestion and pollution and fraught with insecurity, parents are telling their children to stay out of the streets and keep inside and watch television and play video games.

It stands to reason that people can see changes that happen in one generation. In Latin America, mothers and grandmothers too, perceive the invasion of junk food products as a cause of many maladies from which they want to protect their children. They are well aware of the difference between processed industrial food products, and the home-prepared meals they grew up with. Women are the repository of knowledge of what makes good and diverse culinary traditions. But after a generation of assault from Big Food's advertising and marketing, this knowledge and wisdom gets buried and forgotten.

Need for unified action

What is needed in Latin America, are policies and programmes that will check and reverse these trends. Specifically, new regulatory initiatives that will enable positive and healthy children's food environments, are needed. Examples within schools include making sure that school meals are nourishing and delicious, and reinstating physical education. Examples outside schools in the wider world include clear labelling of ultra-processed products to include warnings when these are high in unhealthy ingredients like hydrogenated fats, sugar or salt, and also restriction of the advertising and publicising of such products to children.

Networks of public health and nutrition institutions in Latin America, together with professional and civil society organisations, are mapping the obesity epidemic in Latin America. One thing is sure. Self-regulatory options, as advocated by transnational food

manufacturers and unfortunately accepted by several governments, notably on food product advertising and marketing to children, give very few if any good results.

Above all what is needed now is leadership. The *Rio2012* Declaration on Public Health and Nutrition, published in *World Nutrition* in June, rightly states: ‘Public health nutrition is both political and technical... It incorporates the underlying and structural causes as well as the immediate causes of disease, health and well-being... [It] is a central part of the public health movement, with lead responsibility in its areas of special knowledge’ The Declaration rightly goes on to state: ‘Governments must gain, retain or recover the capacity to supply high-quality public services, [and] to regulate all relevant actions that impact on public health’.

Now at last, political leaders as well as many professionals, scientists and civil society leaders, are saying that what’s happened and is still happening is unacceptable. They are not willing to give away another decade to industry self-regulatory initiatives or ignore the crisis. They want the best for our children. In doing so these leaders are taking a serious ethical stand – and standing up for our children.

Box

The Mexican school food regulations

Mexico now has for the first time, explicit regulations for food in schools, based on conclusions and recommendations derived from scientific evidence. The regulations are now in their third year of implementation. The proposed foods for daily intake include water, and vegetables and fruits free at all times. The regulations include one meal a day complying with nutrition standards set by an independent group of scholars with no input from food and drink product manufacturers.

- Sugared soft drinks are banned.
- Whole milk is prohibited. Low-fat milk without added sugars is allowed.
- Unsugared juices are allowed, with a limit of less than 125 millilitres.
- Sweetened or salty snacks are allowed once a week as long as they follow the nutritional standards. These include limits to portion sizes, to added sugars, saturated and *trans* fats, and sodium, and minimum amounts of dietary fibre

The standards will be reviewed and updated every four years. An independent evaluation of the whole process is currently in progress.

December. The Food System. Ultra-processing

The big issue for nutrition, disease, health, well-being



Carlos Monteiro, Geoffrey Cannon

**Renata Bertazzi Levy, Rafael Claro, Jean-Claude Moubarac,
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Daniela Canella, at the Centre for Epidemiological Studies in Health
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This commentary is proposing a general theory, in the dictionary sense of ‘a system of ideas or statements explaining something’. As such, it remains work in progress. It is consistent with common sense and everyday observation, and with evidence normally not admitted as ‘science’, such as analyses prepared for and used by industry. The theory fits with the relevant facts and evidence that are known to us and to colleagues also cited here. It is also consistent with the narratives of independent expert reports such as those produced by relevant United Nations agencies, and authoritative national bodies. It has explanatory power and is eminently testable.

Box 1

The value of industry

We are not ‘anti-industry’, any more than we are ‘against processing’. Our position should be obvious from a reading of this and other papers and commentaries. This commentary is not critical of industry as a whole. Any such position would not be meaningful. Nor is it critical of the food industry as a whole, which includes farmers, other food and drink producers, manufacturers, distributors, retailers and caterers, associated industries, and their unions and trade organisations.

Many public statements made about food, nutrition and health refer critically to ‘the food industry’ often without giving any real idea of what is being referred to. This is at best unhelpful. The food and associated industries are not homogenous. In

serious discourse it is a mistake to use key terms loosely, and irresponsible to seem to be demonising industry as a whole.

Besides, industry representatives are right when they say that the development and survival of the human species, and of civilisation in any sense, has always depended on reliable and sustained production of food. Gatherer-hunters prepare food. Peasant farmers cultivate and breed food. The creation and sustenance of towns and cities require food systems. Preservation of rural economies and environment depends on stable farming communities. Trade in food has been part of the creation of empires and cultures.

It is also true that more recently in history, the emergence of most of the populations of many nations from misery, famine, starvation, and deficiency diseases, caused for example by savage rulers, rapacious colonialism, and industrialisation in its most ruthless forms has been achieved by partnerships. These have been led by legislators, public health leaders and public interest organisations, working in appropriate relationships with food producers, manufacturers, distributors, and retailers. Modern methods of production, manufacture, distribution and sale, create secure food supplies for all populations and communities with adequate and stable disposable incomes, all over the world.

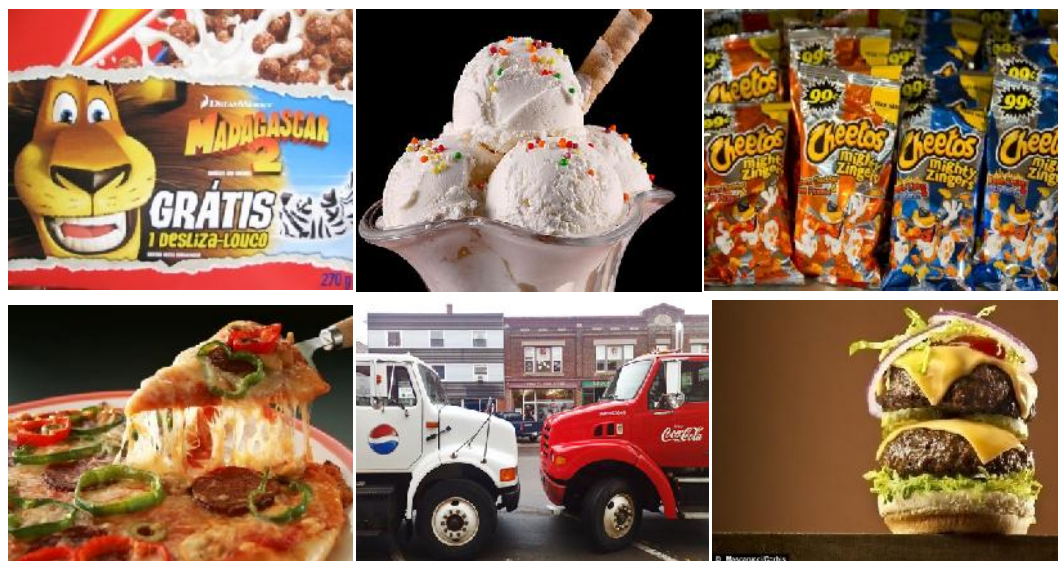
The critical focus needs to be on one albeit the most powerful sector of the food and associated industries. This is the corporations and companies whose profits depend on the manufacture, promotion and sale of products which, consumed at levels now usual in many countries, and projected to be so in most countries, continue to be a major cause of what are now uncontrolled epidemics of obesity and related chronic diseases. Most specifically, the issue is what is now a global food system increasingly dominated by huge lightly regulated transnational corporations whose profits depend on energy-dense, fatty, sugary or salty ultra-processed products.

Our work undertaken for some years, and regularly published and accepted since 2009, consistently indicates that the phenomenal worldwide rise in the production and consumption of what are identified and defined here as ultra-processed products, typically in the form of snacks, 'fast foods', and soft drinks, have displaced and are displacing dietary patterns mostly based on meals, throughout the world.

This we believe is profoundly significant. The phenomenal and very rapid shift in food systems and supplies, notably since the 1980s, is paralleled by a vast rise in rates of obesity and related chronic non-communicable diseases in the same time period. So far the evidence all points in the same direction towards one judgement, which is that the relationship between the changes in dietary patterns and disease patterns is causal. That is to say, the transformation of the global food system is what above all is driving what is now pandemic obesity and rapid rises in related diseases. This thesis has profound global policy implications

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Ultra-processed products



Group 3 ultra-processed products that are now produced and consumed in vast quantity all over the world include breakfast cereals, cake mixes, 'energy' bars; 'instant' packaged soups and noodles; many types of sweetened breads and buns, cakes, pastries and desserts; chips (crisps), and very many other types of sweet, fatty or salty snack products; sugared milk and fruit drinks, and soft cola and 'energy' drinks. Ultra-processed ready-to-heat products include pre-prepared meat, fish, vegetable or cheese dishes, pizza and pasta dishes, burgers and hot dogs, and French fries (chips), and poultry and fish 'nuggets' or 'sticks' ('fingers'). They also include bread and other cereal products made with wheat flour, water, salt and other ingredients; animal products made from flour and salt with scraps or remnants of meat; and cookies (biscuits), preserves (jams); sauces, meat, yeast and other extracts; ice-cream, chocolates, candies (confectionery); margarines; canned or dehydrated soups; and infant formulas, follow-on milks and baby products.

Corporate drivers of obesity

The significance and impact of ultra-processed products can be fully understood only in a broad economic and political context. Dominant policies of privatisation, deregulation and globalisation of world food systems have concentrated food manufacture, distribution and supply into the hands of a relatively small number of gigantic transnational corporations, some individually with annual sales the size of the gross national products of medium-size countries. Dietary patterns and diets in most countries, now and in the near future, are or are liable to be largely determined by these transnational corporations. Manufacturers use their products as ways in which to penetrate 'emerging markets' in the global South, and also to increase their control of the global food system.

Box 2

Big Food and Big Snack



Big Food and Big Snack advertising. Much of it is aimed at children and young people, designed to build life-long loyalty to branded ultra-processed products

'Big Food' refers to transnational food and drink product manufacturing corporations, that collectively – together with Big Alcohol – now dominate the global food system. An alternative term is 'Big Snack', for most of their products are made to be ready-to-consume, almost anywhere. These corporations include Kellogg's, McDonald's and PepsiCo, owners of the brands advertised above. The Pepsi 'Live for Now' campaign launched earlier this year, is global. They also include Kraft, General Mills, Coca-Cola, Nestlé. Mars, Unilever, and Yum! Brands .

As from the 1980s, as a central aspect of economic globalisation, very large companies became transnational corporations able to operate with unprecedented commercial freedom. World trade laws enable them to mount appeals against decisions designed to protect public health made by national courts of law.

The growth of the transnationals, which by their nature have no national allegiance, and which are free to buy materials, land, machinery and labour in cheap markets, has occurred with phenomenal speed and force. The combined annual sales of the ten corporations mentioned above were, as recorded in 2012, around \$US 400 billion. This is roughly equivalent to the annual gross domestic product of countries such as Austria and South Africa. If the sales of the three leading Big Alcohol corporations, AB InBev, Diageo, and SAB Miller are included, the total figure is well over \$US 500 billion, about the same as the gross domestic product of Switzerland. Annual profits of the 13 corporations combined, as reported in 2012, were over \$US 60 billion. The annual advertising and marketing spend of two corporations, Coca-Cola and PepsiCo, is reckoned in 2012 to be around \$US 6 billion.

While transnationals with similar products are competitive with one another, they also 'hunt as a pack'. They form representative bodies designed to protect their

common interests, which include resistance to statutory regulation, and the formation of 'public-private partnerships' with international agencies and national governments in which they are the private 'partners'. Such bodies are now recognised within the United Nations system as civil society organisations.

Further, the Big Food and Snack corporations are all, seen through the lens of this and associated commentaries and papers, in the same business. Their sales, profits, and share price depend on the manufacture and sale of intrinsically unhealthy products, some of which contain toxic *trans* fats, and many of which are hyper-palatable and habit-forming. Alcohol is both toxic and addictive.

In Box 1, above, we stated that we are not critical of industry as a whole, nor of the food industry as a whole, We are however sharply critical of the transnational and other very large corporations whose profits depend on ultra-processed products and alcoholic drinks. We are also sharply critical of the still prevailing 'free market' political and economic ideology espoused by international agencies and national governments, that has created monstrous corporations whose products, taken together, are demonstrably damaging to public health and also public goods.

The impact of the food and drink product corporations is obvious but often not currently blatant in high-income countries of the global North whose food supplies are already saturated and flooded with ultra-processed products. In the global South the impact is blatant. Big Food and Big Snack are aiming for and achieving 'double-digit growth', meaning sales increasing by 10 per cent or more every year. In this way transnational corporations are rapidly displacing traditional and long established food systems and dietary patterns.

Obesity with all its implications is out of control. It is a global crisis projected to be a catastrophe. With the most relevant classification of food as an essential tool, United Nations agencies and other international organisations, together with national governments at head of state level, need to combine with other actors to protect, support and develop healthy food systems and supplies. These will not be untested inventions. They correspond to traditional and long-established sustainable and appropriate methods of agriculture, horticulture and manufacture that remain in place, though threatened, in many countries.

Wise conclusions are not mechanical. They require common sense and considered judgement. Moreover, there are occasions in public life that are so urgent, important and critical, that action must be taken before all the evidence is in. The impact of the action can then be examined and monitored, and if necessary the action revised. The pandemic of obesity, in particular among children and young people, is such a case.

Conclusion

As stated in its manifesto, *WN* is a journal of ideas and discussion. Its task is to cover world nutrition in the broad sense often indicated in its pages. This includes social, political, economic, environmental as well as behavioural and biological aspects of nutrition and public health.

Indeed, one theme that emerges from contributions to *WN*, including the commentaries extracts from which are published here, is that properly understood, nutrition as a whole is part of public health. Another theme is in effect, the extension of the concept of nutrition to include matters of the mind and heart and also the spirit, as well as of the body, which implies a return to the idea of nourishment from foods, rather than just nutrition from nutrients.

What of 2013? We will see, in a year's time. A further theme this year is that there is not much that the public health nutrition profession can do alone. Resolute allies are needed, from other health professions and civil society organisations; and a lesson shining through many of the contributions here, is that governments at all levels should and must take the lead and do their duty to protect public health and public goods.

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