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Correspondence. Food processing **Don't knock the food industry**

Sir: I continue to find many papers and reports, and also contributions to the Association's website and to **World Nutrition**, that are apparently hostile to the food industry and also to food processing. This tendency must stop!

I declare an interest here. First, I am a trained food engineer with a PhD in food science and technology. Second, for many years I worked for UNICEF, whose work with communities and in particular mothers and children in Africa, Asia and elsewhere will always depend on constructive relations with the food industry. The same is true of the work of the UN World Food Programme. In this context, the rather unscientific and sometimes directly misleading understanding of 'food processing', and 'food industry', and the labelling of the food industry as 'conflicted' have unpleasantly surprised me.

The benefits of processing

Any textbook on food science and technology is likely to tell us that 'food processing' simply refers to the transformation of raw ingredients into food, or of food into other forms. In this sense human beings from the first day that any type of cooking was used, have processed fresh or raw food. Methods include slaughtering, fermenting, drying, preserving by salt, smoking and baking. Food processing

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therefore contributes to making raw food material into edible, useable and palatable food. It also increases seasonal availability of many foods, and helps in preservation.

Increasingly food processing has saved time previously taken for domestic preparation and cooking. The many technical innovations in agriculture and food processing both at home and in industry have tremendously reduced the time and efforts people and families (including young children) need to ensure their food security.

Take my own native country of Sweden. Now, only about 5-7 per cent of the population is required to feed the whole country. This extremely dramatic change is basically a result of the technical and industrial development of agriculture and the whole food industry, and has made far more time available for people to study, care for their children, improve their quality of life, and to be citizens.

I also detect what is plainly a naïve populist position of romanticising ‘traditional food systems’. This also must be rejected. Northern Sweden, my home area, can be taken as an example. During the 1940s to the 1960s, this area, together with Northern Finland, whose food supplies and dietary patterns were similar, had the highest prevalence of cardiovascular disease in Europe and possibly in the world, as a result of a highly unsuitable traditional diet, which had emerged during the previous decades when lumber and mining work normally required a massive intake of 5,000-8000 kilocalories a day. At the same time, I well remember that one of the nutritionally best items in this generally highly undesirable diet was our traditional Swedish version of the hamburger, meat-based of course, very tasty and not too fat.

Industry is not conflicted

The notion that in today’s world, ‘the food industry’ in general should be regarded as ‘conflicted’ is absurd. Food technology, including food processing, is a crucial contribution to the feeding of a growing world population. The whole development of industrialisation was based on adoption of new technology that dramatically increased productivity. This included new forms of food processing developed for the benefit of the consumers.

This process took different forms, from being very exploitative of labourers in for example England, to much less exploitative forms in for example Sweden – using exactly the same technology!

Of course there are some specific food products that should be controlled, in particular as far as marketing is concerned, breastmilk substitutes being the best

example. Similarly there are specific food industries that exploit their workers, but that has nothing to do with food processing as such.

A basic reading of history and of materialism tells us very clearly that available and improved productive forces can be used for good or can be used for bad. Electricity, trains, atomic energy, cloning, and 'globalisation' are all examples of productive forces. Whether these are used for good or for bad, depends on the existing relations of production, including the ownership of the means of production, and the structure of society.

Food processing is a productive force! If we want to change society, let us focus on the power structures and the exploitative processes in society – not on its productive forces.

Urban Jonsson

Dar es Salaam, Tanzania

Chief of Nutrition, UNICEF, 1990-1994

Regional director, UNICEF

South-East Asia, then Eastern and South Africa, 1994-2003

urban@urbanjonsson.com

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Correspondence. Food processing **Knock knock, who's there?**

Carlos Monteiro and Geoffrey Cannon reply:

Sir: Our esteemed colleague and fellow Association member Urban Jonsson touches on a number of important issues. He makes some points similar to those commonly made by representatives of the food manufacturing and associated industries. This does not therefore mean that he is wrong! We feel that his letter merits a substantial response.

During informal discussions at the *Rio2012* conference in April, and then more recently, we learned that the concerns he expresses are in part addressed to our work, published in *World Nutrition* (1-2) and elsewhere (3-5). So we should state

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immediately that when Urban says that it is nonsense either to attack the food industry as a whole, or to criticise food processing in general, he and we are in complete agreement. To be ‘anti-industry’ or ‘anti-processing’ is foolish, mistaken, makes no sense, and is counterproductive. There, we hope that is clear enough. We have been making these points for a long time now. We encourage Urban to read and digest what we have written.

He refers to sub-Arctic dietary patterns of half a century and more ago, in the north of Sweden where he grew up. (See the map below, with the Arctic Circle shown in bold. The northernmost parts of all Nordic countries other than Denmark, and of Russia, are within the Circle).



We have no first-hand knowledge as Urban has, of the genuinely traditional food systems and dietary cultures of that part of the world at that time. But we think it is not likely that most consumers of the increasingly industrial and to that extent therefore non-traditional diets of North Sweden and Finland in those days, were miners or lumberjacks in energy balance at 5,000 or so kilocalories a day. (Anything much above that amount, as an average over time for any occupational group, apart from heavy athletes in training, is fanciful (6.7), but that’s by the way).

Food industrialists as benevolent

In Europe throughout the time of the industrial revolution and up to the middle of the last century, the main public health issues related to food and nutrition were deficiency and infectious diseases. This was the heyday of modern nutrition science in Europe. In that period food industrialists were often seen as benevolent producers and suppliers of plentiful food – in the form of produce high in dietary energy, mostly, with other foods that are good sources of the vitamins and minerals whose functions were then known. At that time and in those circumstances this was understandable. Collaboration between governments and the food industry to ensure secure food supplies for workers, soldiers and the general population, played a key role in the 1939-1945 war, as it did in previous wars. Emphasis on the need to ‘fill

up' on fatty or sugary energy-dense products still remains a preoccupation of many policy-makers and health professionals mainly concerned with nutritional deficiencies and with food and nutrition security.

We tentatively suggest that Urban's own personal and professional experience, at first growing up in a relatively impoverished district in the mining and forested region of northern Sweden, and then as a specialist in child health in Africa, has given him what is now a most unusual view of public health nutrition. This does not, we suggest, translate well into other settings, including those of much of Africa now.

Urban mentions the rise in the rates of cardiovascular disease in northern regions of Nordic countries that began to become evident after the end of the war in 1945, and which became epidemic in that part of the world as from the later 1950s (8,9). It is most unlikely that this rise, or the severe epidemic of the 1960s and 1970s that followed, had anything to do with traditional diets, such as those of the established settlers of the northern Nordic regions of Norway, Sweden, Finland and Russia (not to mention the original Lapplanders or Sami people). In the usual sense of the word 'traditional' these would have derived from long-established food systems with associated culinary cultures. These are now being studied and developed in Scandinavia notably by teams led by Arne Astrup at the department of human nutrition at the University of Copenhagen, as part of the OPUS project and the Europe-wide Diogenes project (10,11).

The impact of war and postwar

In common with Pekka Puska and his group, generally reckoned to be the best judges (12), we think it is far more likely that the cause of the explosive epidemic of cardiovascular disease in northern Nordic countries and most of all in Finland, was very different from what Urban surmises.

Except among relatively wealthy people, it probably was because of the rather sudden displacement of traditional relatively frugal dietary patterns (which have no association with high rates of chronic diseases), made more meagre by the privations of war (less so in Sweden, more so in Norway, much more so in Finland) with relatively plentiful early versions of mass-produced industrialised dietary patterns, together with rapidly rising rates of smoking. As food became plentiful again, postwar diets would have included a lot of fatty animal products and also much more 'store food': degraded and tinned food and packaged products such as table fats – hard margarines high in *trans*-fats as well as butter.



***Swedish meat-balls, precursors of burgers, with onions, salads, berries (left).
Modern burger (right): same name, degraded product, not the same thing***

Urban celebrates the traditional Swedish ‘burger’ of his youth. So he should. Meat-balls and such-like products (see above, left) have indeed always been part of the traditional Nordic diet, especially in the northern regions. We are all for delicious home-made meals, dishes and snacks. We are also all for those that are fatty, sugary or salty, when they are enjoyed occasionally, at weekends and on special days, as part of diets mainly made up of meals made from fresh and minimally processed foods together with culinary ingredients. We guess that if Urban had eaten ‘burgers’ every day when he was young, whether as home-made meat-balls as he did, or as ‘happy meals’ as so very many children do now, he would not remember the pleasure they gave him. We remember what is unfamiliar.

Urban is nostalgic about what he ate in Sweden when young. Let’s though look at what he is writing about. The picture (above left) is of a traditional (yes!) Swedish meat-ball dish, the meat prepared with lard and a rich sauce, this one served with fried onions, pickled cucumber slices, and fresh berries. It would probably be accompanied with boiled potatoes. In working class households such very fatty dishes (over 60 per cent calories from fat, mostly saturated) would be a centerpiece of the special family meal at weekends. The meal as a whole would not be exceptionally fatty, depending on how much potato or other vegetables were consumed. Traditionally (yes!) it was made from fresh and preserved foods produced around the house or on the farm and surrounding countryside. Everyday food and therefore the diet as a whole would be less ‘rich’ – less fatty.

Above (right) is a ‘meal’ that is superficially similar, and whose nutrient content is comparable, except that it has less fat and saturated fat. But this ultra-processed burger is made mostly from mass-manufactured degraded items. We here leave aside the impact of transnational corporations like McDonald’s on the environment and on the food systems of countries that supply soya for cattle and cattle for patties, not

to mention their destruction of the family meal and commensality. A specific nutritional problem with this ‘meal’ is that it is eaten with chips (French fries), shakes and Coke™, and – perhaps the key point – is typical of the type of food eaten daily in industrialised settings all over the world. So the ‘meal’ is likely to be part of a dietary pattern that is very fatty, sugary and salty.

It is wrong to attack industry

As emphasised above, we support Urban when he objects to wholesale condemnation of ‘industry’ or ‘the food industry’. Yes, this is wrong. Yes, some colleagues do speak and write negatively about ‘industry’. At best this is unhelpful and misleading shorthand, which provokes negative reactions from all those who rightly point out that it makes no sense to attach value judgements of any kind to industry – or to technology – as a whole.

In our own work we discriminate. The phrase ‘conflicted industry’ used by many colleagues as well as by us, does not refer to industry as a whole. It refers only to that section of the food and drink and associated and allied industries whose profits depend on products which, when consumed in what are typical quantities, are harmful to health and which specifically cause obesity, now pandemic and out of control, and also chronic diseases such as diabetes, heart disease and various cancers. In terms of public health, the phrase in particular refers to ‘Big Food’ or ‘Big Snack’, the transnational corporations whose profits depend on ultra-processed products (3,5).

Also as stated above, we have the same view as Urban when he objects to wholesale criticism of food processing. In our work (1,2) we and our co-authors state that this is wrong, and we agree that some colleagues who should know better, do make negative statements about processed foods as such. Again, we encourage Urban to read and digest what we have written. We state that many types of food processing are harmless, or else directly or indirectly beneficial. We make a point of stating that processed culinary ingredients, when combined with fresh or minimally processed meals into meals and dishes – or snacks like the home-made meat-balls of Urban’s youth – are healthy or harmless.

Our concern is with what we term ‘ultra-processed products’. We define these (1,2). They are mostly energy-dense intensely palatable fatty, sugary or salty ready-to-consume branded and aggressively promoted ‘fast’ foods and snacks. Preliminary research suggests that ultra-processed products become a public health issue when they supply more than around 20-25 per cent of total calories. When they supply a high proportion of dietary energy, they are, we believe, the prime dietary cause of obesity and serious chronic non-communicable diseases.

Who is aiding whom?

We now turn to the linked issues of food aid, and food production for a rapidly increasing world population. Urban has a distinguished record as a senior UNICEF executive working in Africa and Asia. He will understand from his long first-hand knowledge, the need to be very careful with food aid, lest impoverished populations become dependent on aid (or indeed on dumped surplus often degraded products) and lose the ability or potential to feed themselves. We are not convinced that the giant foreign corporations that supply food for trade and aid have the interests of the impoverished populations uppermost in their minds (13,14).

We are very surprised that Urban glides over the issue of the most dangerous ultra-processed product of all – baby formula, an exceedingly profitable ultra-processed product which, as he knows, sharply increases the risk of illness, disease and death of infants and young children in all settings (15,16). Although the effect of replacing mashed fresh vegetables and fruits with sweetened expensive weaning foods, and whole cereals by ‘cereal bars’, is less dramatic than replacing human milk by artificial ‘maternised’ formula, in essence they represent the same phenomenon.

Urban has vast experience of city life in sub-Saharan Africa where he has lived for many years. Yet he seems not to be noticing the penetration of ultra-processed snacks, drinks and other products designed to be consumed at all ages into Africa, and the consequent steep rise in obesity, diabetes and other chronic non-communicable diseases. This is all happening in countries which are also beset by food insecurity, deficiency and infection, and often devastated by HIV-AIDS as well.

We end with a good-humoured reproach. Urban says it makes no sense to refer to industry, or food processing, as bad, because no such things can be all bad. He is right to say this. By the same token, no such things can be all good. But he then comes fairly close to characterising industry, and food processing, as altogether good. Inasmuch as he is saying this, he falls into the trap that he has set for others, but not with any good reason for

Carlos Monteiro

Geoffrey Cannon

Centre for Epidemiological Studies in Health and Nutrition

School of Public Health, University of São Paulo, Brazil

Biographies posted at www.wphna.org

Email: carlosam@usp.br

Geoffrey Cannon here writes in his capacity as co-author with Carlos Monteiro of the ‘Big Issue’ commentaries published in World Nutrition, and other papers, some referenced below.

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