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## **International and Public Health Group Symposium on 'Feeding the world in the future'**

### **Diet, health and globalization: five key questions\***

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The present paper explores possible implications of the globalization of the food system for diet and health. The paper poses five key questions to clarify the relationship between food and globalization. The first question is what is globalization. The paper suggests that it is helpful to distinguish between economic, political, ideological and cultural processes. Globalization is also marked by internal oppositional dynamics: there are re-localization and regional tendencies which counter the global. The second question is whether there is anything new about globalization. Food has been a much traded commodity for millennia. The paper concludes that what is new about the current phases of globalization is the pace and scale of the change, and the fact that power is being concentrated into so few hands. New marketing techniques and supply-chain management consolidate these features. The third question is who is in control of the globalization era and who benefits and loses from the processes of globalization. It is argued that modern food economies are hypermarket rather than market economies, with power accruing to the distributor more than has been recognized. The fourth question concerns governance of the food system. Historically, systems of local and national government have regulated the food supply where appropriate. Now, new international systems are emerging, partly using existing bodies and partly creating new ones. The final question is of the future. Globalization is a value-laden area of study, yet its implications for dietary change and for health are considerable. The paper argues that dimensions of change can be discerned, although it would be rash to bet on which end of each dimension will emerge as dominant in the 21st century.

#### **Globalization: Food policy: Food supply: Food culture**

The present paper explores some possible implications that the globalization of the food system might have for diet and health. This issue is immensely complicated and made all the more potentially confusing by our participation in the process. Every time we travel, we can both note the diffusion of dietary habits and at the same time contribute to that process. By travelling, we take our likes, dislikes and food expectations to cultures which previously perhaps did not share them. No one is immune from the impact of the immense changes in how food is grown, processed, distributed, marketed and sold around the world. With a transformation of the food system being engineered before our eyes at such speed, it is sometimes difficult to attain let alone retain perspective. Yet this task is critical for all food-

related sciences, and especially nutrition, because the cultural context within which they operate and which they try to study is being altered in the new globalization process. For example, the spread of functional foods as dietary 'fixes' for health problems or needs would be unthinkable if the companies developing them were unable to enter foreign markets. Successful product launches in one country often quickly lead to swift diffusion in others (Heasman & Mellentin, 1998).

Another pressing reason for nutrition and food sciences to reflect on globalization is that the commercial and policy world to which nutritionists and food scientists contribute is being reformed by the globalization process. Governments, for example, have become reluctant to intervene in food

**Abbreviations:** Codex, Codex Alimentarius Commission; GATT, General Agreement on Tariffs and Trade; WTO, World Trade Organization.

\*This paper draws on a current project on diet, health and globalization, and adapts earlier reports by Lang in Shetty & McPherson (1997) and Lang (1999).

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markets in the name of public health, preferring to rely mainly upon health education strategies. These messages are individualist rather than collectivist, and place considerable responsibility for action on the consumer. It is not surprising therefore that a case can be made that globalization weakens the capacity of governments to act for the good of public health (Labonte, 1998; Lang, 1998). It could be argued that the sooner governments withdrew from food governance the better health would be (North & Gorman, 1990), but this would be short-sighted. The entry of governments into food and nutrition policy (largely a post-Second World War effort) is surely one of the 20th century's great civilizing legacies in the world of food. Only in this century was there a systematic effort to tackle the age-old challenges such as hunger and production shortages. Only in this century, with the founding of the Food and Agriculture Organization and its creation of the World Food Programme, was there a sustained global attempt to raise security of food supply above the lottery of birthplace, class, climate and sex (Boyd Orr, 1953).

We should not be intimidated by the challenge of globalization. Rather, we should be clear that, if the changes are as extensive as almost all observers suggest, we might need to re-think our basic assumptions about the socio-economic variables that affect food and nutrient intake. In the rest of the present paper I want to explore the policy implications of changes due to globalization. My appeal to the nutritionist community is to begin asking questions. The first task is to clarify what is meant by globalization.

### Question 1: what is meant by globalization?

In recent years the word 'globalization' has become part of the everyday lexicon, yet it carries different meanings. Analysis of globalization is subject to value positions. For instance, politicians warn their citizens that their control over the economy is no longer what it was because of trade liberalization and the internationalization of decision-making. Globalization, they argue, imposes new disciplines at work and in economics; jobs for life are going, to be replaced by flexibility and portfolio careers. While this message may be perceived as threatening job security for some individuals, at the same time information and cultural theorists are offering a more positive image of globalization. They celebrate the worldwide and fast transmission of words, images and tastes in music, arts and fashion via satellite and the Internet. Globalization may be breaking old social orders, they admit, but it is enabling new social solidarities too. We may not know our neighbour but we identify with, and are intimate with, visual strangers who share our interest miles away. From this perspective globalization is synonymous with choice. Environmentalists, on the other hand, are more cautious. Arguably the first 'one-worlders' of the post-modern world, they warn of the impact of climate change, and developing nations warn of the lop-sidedness of current trading patterns giving rich countries the wealth to clean up their environment whilst encouraging poorer countries to despoil their own in pursuit of wealth. Globalization, they propose, threatens the very chance of human survival and a socially-just progress.

Such divergence over how accepting of, or opposed to, the forces of globalization it is possible to be is perhaps inevitable. The term globalization has been much analysed and used by social scientists (Sklair, 1991; Robertson, 1992; Castells, 1996). Many disciplines (political scientists, economists, sociologists and cultural theorists) and many schools of thought, ranging from post-modernist to marxist, all use the term. They use it to refer to both a process of unfolding history and to a state of existence. If the term globalization is to be useful in analysis of food and nutrition policy, some conceptual clarification is in order.

Globalization, as applied to the food system, is used with at least five discrete meanings (Lang, 1999).

The first refers to an economic process of trade liberalization, tariff reduction, harmonization of standards and deregulation or self-regulation. As barriers to trade between nations are reduced, a new international division of (food) labour is emerging (Watkins, 1991; Lang, 1996; McMichael, 1998). It may be increasingly simple to source food globally through commodity markets without being taxed at point of entry. In this process, what is meant by a food 'market' is being redefined (Sklair, 1991; Raven *et al.* 1995; Goodman & Watts, 1997). A market used to be primarily a local economic phenomenon, then became national and regional, and is now increasingly global. Britain, which due to its early industrialization and colonial empire had long ago stopped feeding itself, is perhaps a forerunner of a pattern now emerging elsewhere. Within the EU it is less and less useful to talk of specific national food markets as discrete entities.

While it would be absurd to deny the continuity of food cultures and traditions, we should also recognize that the powerful food corporate sector is fast rationalizing production, brands, recipes and sales lines across the entire European region. Barnett & Cavanagh (1994), for example, have reported how large food companies market goods globally. Another aspect of this economic process is the opportunity now afforded to the implementation of new scientific controls over food processes (Goodman & Redclift, 1991). The application of genetic engineering technology to foods and crops, for instance, would barely warrant the immense investment it has been given unless companies could anticipate global markets. The tension between the EU and the USA on this issue illustrates the point.

The second meaning of globalization concerns an ideological process in which political and corporate leaders sell a view that there is no alternative to the politico-economic package of reform. The argument here is that citizens, companies, sectors and whole societies have no option but to accommodate the new international division of labour. They have to obey this new reality or face withering prospects. Patterns of work, eating, and lifestyle will inevitably change, but it is said that there is no alternative to adaptation. The new economic realities require a change of mindset. Thus, in the food world, farmers are encouraged to expand and to increase the size of their holdings or herds not just to compete with other farmers locally but globally, and to sell produce globally as well. Farmers are declining in numbers, and for the first time in human history there are now more urban than rural dwellers.

Third, there is a political process within globalization. New institutions are being created or adapted which are already having a dramatic effect on how the world of food is (or is not) governed. Social theorists have acknowledged that as barriers to trade between nations come down, so the old disciplines and political realities of international relations are re-structured (Sklair, 1991; Hirst & Thompson, 1995). A lively debate has ensued as to whether this process has weakened the capacity of national governments to act in the public interest (particularly in the case of the environment), as opposed to the corporate or state interest (Lang & Hines, 1993; Hirst & Thompson, 1996; Karliner, 1997; Mander & Goldsmith, 1997; Gray, 1998). In the case of food, this debate came to a head with the completion of the 1994 Uruguay Round of the General Agreement on Tariffs and Trade (GATT).

The 1994 GATT brought food and agricultural commodities under the world system of trade rules which was first set up in the 1940s. The GATT is an international agreement based on free-trade principles. The completion of the Uruguay Round of the GATT coincided with the demise of the Soviet Union. The triumph of the Western economies was followed by a rapid increase in the number of countries signing up to the GATT. Currently, only China is an economic force of any significance to remain outside the GATT, and it too is likely to join soon. Under the 1994 treaty a new world regulatory body, the World Trade Organization (WTO), was set up with considerable power over commerce. The WTO is already a powerful feature of food politics. In 1998, for instance, the WTO pronounced on key food disputes such as fishing and wildlife protection, the safety of hormone residues in meat, and the right of the EU to impose tariffs on Latin American and US bananas in order to protect small banana producers in former colonies of some EU member states such as France and the UK.

Besides creating new bodies such as the WTO, the globalization process is redefining existing institutions. The World Bank, for instance, is entering social policy areas it previously avoided, such as education, health and nutrition. At an international level, these areas had hitherto been the preserve of United Nations bodies such as UNESCO, which deals with science and education, the Food and Agriculture Organization and WHO. Between these bodies there is some tension over responsibility and primacy in the area of food and nutrition policy. Although nutritionists are familiar with the WHO and Food and Agriculture Organization, they will increasingly have to relate to and note the powerful presence of the World Bank. If power stems from money, this is a competition the World Bank is likely to win, but changes in the leadership of the WHO suggest that the United Nations bodies might modernize and refine their foci in the face of its challenge.

The fourth meaning of globalization refers to a cultural process. This process has been fertile ground for general analyses within social and cultural theory (Featherstone, 1990; Robertson, 1992; Castells, 1996). Surprisingly, there has been comparatively little exploration of its application to the world of food. One exception of particular importance for nutrition and health policy and research is what Popkin and colleagues (Popkin, 1994; Drewnoski & Popkin, 1997) have called the nutrition transition. This transition is the

transfer of diets, tastes and health profiles from region to region, and especially from the rich West (or 'North') to the poorer South. The key question raised here both for academics and public policy is whether patterns of food-related degenerative diseases, notably CHD and some cancers, are likely to follow in the wake of the nutrition transfer (Lang, 1997a; World Cancer Research Fund, 1997; Shetty & Gopalan, 1998).

The direction of the nutrition transfer is important. Although trade liberalization facilitates the transfer of foods and tastes from South to West, the overwhelming trend is for branded processed Western foods and commodities from overproducing Western regions (mainly the USA and Europe) to flow southwards and to penetrate hitherto more regionally self-reliant markets (Lang, 1997a). The most obvious expression of this cultural process is the ubiquitous 'burgerization' and spread of US-style fast-food chains. What is important here is less the existence of speedy food (all cultures have it) so much as the commercialization, branding and appeal through advertising. In some senses, such food globalization is actually Americanization.

These cultural aspects of globalization are important and ought to offer fertile collaborative research opportunities for nutritionists and social scientists. Important questions beg to be explored. One concerns the implications of the global spread of pre-cooked and processed foods. 'Ready-to-eat' food is now the norm (Stitt *et al.* 1997). Does this imply a decline or erosion of slowly-evolved culinary practices, based upon local or regional provision? If there is, does this matter? Who is gaining, and does anyone lose? Nutritionists tend to speak about such issues only on a personal level, arguing that nutrients are culture-neutral. However, food is not just a matter of nutrition. From Rowntree's studies of York (Rowntree, 1902) to the present day (Acheson, 1998), research has shown that health is in part a function of the distribution of food both within society and within households. This situation is a matter less of physiological needs than of social structures and roles. Taxation and the willingness of governments to intervene in social distribution of wealth have a direct impact on diet. So if globalization affects this process, its importance for nutrition is considerable. The widening of inequalities between the richest and the poorest is being noted both within societies (for example, see Thurow, 1993; Acheson, 1998) and between societies (Wilkinson, 1996). In the 1960s, the combined incomes of the richest fifth of the world's population were thirty times those of the poorest fifth. By the 1990s, incomes were over sixty times greater (Cavanagh & Broad, 1994). Another impact is the alteration of the role of women by the transition from rural to urban food systems and by the entry of increasing numbers of women into waged labour forces.

A fifth and final meaning of globalization is the oppositional dynamic which globalization unleashes. New forces are emerging which question or even oppose globalizing tendencies in general (Raghavan, 1990; Mander & Goldsmith, 1997; Martin & Schumann, 1997; Gray, 1998), and the food dimension in particular (Lang, 1992; Magdoff *et al.* 1998). This final interpretation of globalization refers to the dynamic of globalization itself. The oppositional dynamic posits that while most commentators brook no alternative to globalization and almost imply that it

is an unstoppable force, there is already a considerable internal tension within the globalization process. Change creates its reaction; for instance, it would be restrictive to describe the spread of fast-food chains as inexorable, because there is opposition. As globalization is human-created, it can also be resisted and deflected by the population into different directions. Who knows whether there will be a reaction to 'globo' foods? Certainly there is already a considered effort to rebuild and articulate local food systems in the heartlands of Western countries (Henderson, 1998; de Selincourt, 1998).

One particular touchstone is the issue of genetic manipulation of foods. Specific food campaigns, such as that conducted by consumer and small-farmer Non-Governmental Organizations against the application of gene technology to food (particularly seeds) has tapped into a critique of modern techniques also mapped by academics (Goodman & Redclift, 1991; Ho, 1998). With a speed which has surprised many, campaigns against food biotechnology in general and some companies in particular (Ecologist, 1998), have expressed a critique of globalization while not retreating to petty nationalism (Middendorf *et al.* 1998). It is possible, they argue, to be internationalist while not accepting the dominant globalization package. It remains to be seen what the outcome will be of this twist in the dynamic. Positions range from principled opposition to calls for a moratorium.

### **Question 2: what is new about this phase of globalization?**

In the world of food, it could be argued that there is nothing new about globalization. The history of humanity since settled agriculture began is one of exchange (Smith, 1995). For millennia trade has spread foods, processes and diets around the world (Tansey & Worsley, 1995). Over and above this process there have been periods akin to seismic shifts in which dramatic and lasting change was ushered in comparatively speedily. One such period was the 16th century 'Columbian exchange' in which the Old World 'discovered' the New World. Another period was the era in the 18th and 19th centuries when European colonial empires forced exchange by military might. Thus, rhubarb (*Rheum rhaponticum*) and tea, for instance, came to be part of the 'British' diet. (The Chinese were forced to export rhubarb to England and import opium.) Throughout history (but with particular rapidity in periods such as those previously described) seeds, diets, recipes and products have percolated throughout the world (Salaman, 1949; Mintz, 1985; Hobhouse, 1992).

One aspect to note in this circulation of food is that foods can be a means for social status. Taste and cultural predilections for foods are made, not given. The tomato may have a treasured place within Italian cuisine, but it only arrived a few centuries ago with the 'Columbian exchange'. In ancient Greece, and particularly classical Athens, social relationships could be traced through the food eaten and by whom it was eaten (Dalby, 1996). One era's delicacies can become its successor's normal food. Pizza and curries are now routine items on 'British' menus. The Arabs brought oranges to the Mediterranean (Bianchini *et al.* 1988); today

they are common throughout Europe and the world. Salt, too, has been a prized traded commodity (Adshead, 1992). Coffee, cocoa, sugar, tea, spices, potatoes and tomatoes have all travelled far from their botanical origins, their so-called Vavilov centres. In the last half millennium, these plants have become global commodities (Rowling, 1987; Winson, 1993).

Despite this previous experience it would be wrong to conclude that there is nothing new about globalization of foods. What is new about the current phase of globalization is the pace and scale of change, and the systematic manner in which control can be executed. In the case of wheat, a handful of companies already dominated the world market decades ago (Morgan, 1979); today's globalization period marks further intense concentration. One company (Cargill) now dominates the world grain market (Kneen, 1995). Today, companies are able to organize the planting and distribution of crops in a more regulated manner and more speedily than previously (Thrupp, 1995). Studies of the international lettuce, strawberry and vegetable markets, for instance, have shown how extensive this global reach can be, and also how their routes developed from farm to consumer (Feder, 1977; Friedland *et al.* 1981; Thrupp, 1995). The contemporary interest in globalization should not disguise the fact that the process has been unfolding for decades (George, 1976), and arguably is but another phase in the two-centuries-old industrialization of agriculture (Clunies-Ross & Hildyard, 1994).

One striking feature of the new era is the application of marketing techniques to systematic moulding of taste. The speed with which the burger culture, for example, has been introduced into Asia in the 1990s is matched by the extent of its impact (Lang, 1997a; Ritzer, 1998). Centuries-old diets are being altered comparatively speedily, resulting in changing health profiles. So-called 'Western' degenerative diseases (CHD and some cancers) are emerging in more significant numbers in cultures which lack the medical facilities to treat them (World Cancer Research Fund, 1997; Shetty & Gopalan, 1998).

Barnet & Cavanagh (1994), in particular, have strongly argued that this cultural dimension (the moulding of taste by giant corporations) is now a central feature of the new era of food globalization. Cultural flows can of course be two-way. Few affluent Western societies have not been heavily influenced by immigrant foods: north African cous-cous in France; curries in Britain; Mexican food in the USA; Chinese food everywhere. Yet the more powerful flow is generally assumed to be in the other direction, from West or North to South. As processed food styles are exported from North to South, consumers in the developing world are encouraged to think of food and drink as coming not from farmers or the earth but from processed food corporations (Norberg-Hodge, 1991). After a comparatively short exposure to Western brands, 65 % of the Chinese population now recognize the brand name of Coca-Cola; 42 % recognize Pepsi and 40 % recognize Nestlé (Gallup, 1995). The global reach of large food corporations is now a major 'driver' behind dietary change. Brand marketing is facilitated by dramatic improvement in distribution and production within and between continents.

### Question 3: who is sovereign; farmer, processor, retailer or consumer?

The main cited advantages of the neo-liberal package for food consumers are increased choice and keener prices. The ceaseless search for the competitive edge ensures a 'win-win' situation: consumers are saved unnecessary cost, and producers are kept on their toes. Certainly, a hyper-market with 20 000 items is a cornucopia of choice and range, but questions about how important or superficial these advantages actually are has been a hallmark of the new food movement almost everywhere. Consumer critics in particular have argued that choice at the cost of environmental, cultural, safety and health considerations is a false choice (London Food Commission, 1988; Jacobson *et al.* 1991; Durning, 1992). There is an old critique of consumerism up-dated (Gabriel & Lang, 1995). The more delicate questions are not whether there is a downside to the new era of globalization or to the modern food revolution (there obviously are, particularly in the form of externalized costs such as healthcare costs stemming from food-related diseases, notably heart disease, some cancers and food poisoning), but who benefits and who is in control? The answer to the former question is partly philosophical and partly dictated by evidence. The answer to the latter question is pretty clear. Power is becoming concentrated in the hands of a few, and is crossing borders.

North American observers of food globalization tend to argue that the main beneficiaries are what they term 'agribusiness', the corporate sector which trades on primary food commodities (Krebs, 1992; Kneen, 1995). In Europe, partly due to its fragmented agricultural sector, this term lacks the same resonance. In Europe retailers too have consolidated power over the food sector as a whole. Retailers have learned to search the globe for new, cheaper and all-year-round sources. Countries with cheap land and labour have quickly become sources to feed affluent markets (Thrupp, 1995). Supermarkets' power through the food chain stems from their supply-chain management (Trienekens & Zuurbier, 1996). The supermarkets are able to place contracts with distant suppliers as easily as with local ones. Information technology and modern management systems enable them to monitor supply constantly and to minimize storage costs. The distance that food travels has increased markedly, both nationally and internationally (Paxton, 1994). Not only is the food travelling further between farmer and consumer, but the consumer is travelling further to shop.

The current phase of globalization is characterized by concentration at regional, national and international levels (Heasman, 1997). The UK food industry, for instance, is one of the most concentrated in Europe. In 1995, three companies (Unilever, Cadbury Schweppes and Associated British Foods), accounted for two-thirds of total capitalization in UK food manufacturing. These companies also compete on the world stage, and their plant investment decisions involve comparisons between locations able to serve the whole European market. Nineteen of the top fifty European companies are British, and British companies are second only to those of the USA in the level of their foreign

direct investment in other countries (Heasman, 1997). Although the UK's food manufacturing sector is highly concentrated, half the world's top 100 food-sector companies are US owned. Currently, the top 200 groups worldwide have combined food and drink sales of £700 billion (broadly half the world's food market). Private estimates by industry anticipate that the global food industry will come to be dominated by up to 200 groups which will account for approximately two-thirds of sales.

This process is already underway. Since the mid 1990s, there has been a worldwide wave of mergers and acquisitions in the food manufacturing sector. Between 1993 and 1995 there were almost 1500 mergers and acquisitions within the food and drink industry reported worldwide (approximately 500 per year). The majority of mergers and acquisitions are recorded within the dairy, bakery, beverage, meat and ingredient sectors. Ice cream, fruit and vegetables, oils and fats, and beer were among the most active sectors in terms of the number of deals recorded in 1995.

Despite this high concentration, it would be a mistake to describe the British as entirely fed by corporate giants. UK and European food companies are highly segmented. According to Heasman (1997), at the end of the 1980s there were in excess of 264 000 enterprises in the EU, of which 92 % employed less than twenty people. These small firms accounted for almost 30 % of employment, but only 15 % of turnover. At the other end of the scale, 656 firms with >500 employees (0.2 % of the total number of enterprises) produced approximately 40 % of turnover and employed 27 % of the food and drink sector workforce. In the UK, manufacturing units with under twenty employees numbered less than 7500 in 1991 (or 70 % of the total) but only employed under 8 % of the sector's workforce. In 1991–5 the number of production units fell by 24 % and jobs shrank by 7 %.

The food sector in rich areas such as Japan, USA and the EU are characterized by highly-sophisticated companies and products. The street markets which tourists like to visit on holiday are an anachronism to these companies' way of thinking. The production and marketing of food by these companies is closer to the production and distribution of clothes or cars than to peasant market products. Food is but another output of the so-called post-Fordist economy. Even a humble snack-food item like a potato crisp can come in myriad shapes, tastes, forms, colours and prices. Food factories are marked by 'flexible specialization' systems of production, and intensive use of information technology renders the distributor rather than the producer sovereign (Hughes, 1994). Raven *et al.* (1995) have called this transition the shift from market economics to hypermarket economics. In a market economy, as the classical economists noted, efficiency is achieved by the many suppliers vying for the attention and cash of many consumers. In the hypermarket economy, highly-sophisticated systems of contracts and specifications and tight managerial control through the use of information technology allow the retailer rather than the primary producer or consumer to control and monitor the entire supply chain (Trienekens & Zuurbier, 1996).

Throughout this transition, and despite its obvious complexity, public policy has been dominated by the trade liberalization model of economics which marginalizes other perspectives (Lang & Hines, 1993). Until recently, the social, cultural and health features of this changing food system have not received the emphasis they deserve from decision-makers (Fine *et al.* 1996). However, pressure to do so now stems from the evidence about widening world inequality and fragmentation of social fabrics (UNICEF, 1998; United Nations' Development Program, 1998). Far from being a cause for unalloyed celebration, the new globalization of the food system raises questions about equity (Lang, 1992, 1997b; Watkins, 1996). New tensions stem from unprecedented centralization, intensification and concentration, which have direct effects on developing and marginalized economies (Watkins, 1997). This 'downside' of current globalization has to be faced, since to deny it could open the door to avoidable environmental and public health threats.

Being aware of the immense power and influence of those corporate and state interests which dominate the world food system should not blind researchers to the fact that these interests also face immense problems. Even for today's giant food businesses, uncertainty rules. It is estimated that 10 000 new products are launched in the EU annually, of which only 10 % survive the first year (Longfield, 1992). Considerable problems may be caused by tensions between manufacturers and retailers, the complexity of contracts, and the difficulty of balancing margins and costs. Whole sectors, such as the liquid-milk business, are being changed radically in a matter of a few years. In the UK, doorstep delivery of milk has been a tradition since industrialization, but over a period of a few years consumers are following the US model of purchasing milk at the supermarket. In other parts of the world rice eaters are being persuaded to become wheat eaters. The implications of such changes for producers and supply chains are formidable. Such tensions and changes are inevitable, and inevitably pose genuine commercial risks for investors, but the new globalization era raises the stakes by its sheer scale.

In addition to these 'old' business pressures, there are also entirely new concerns on the horizon which could destabilize world food markets. Such issues include: climate change with its concomitant pressure on productive land (McMichael, 1993); the impact of population change (Dyson, 1996); the arrival in world markets of China as a buyer of commodities (Brown, 1996); the fragility of public trust due to health concerns (Lang, 1998); the instability of Eastern Europe and particularly Russia; the uncertain political outcome of reform of the Common Agricultural Policy (Dahlgren *et al.* 1997); turmoil in financial markets; the perennial problem of overproduction leading to price wars.

#### **Question 4: what will happen to food governance?**

Although the present focus is on globalization, it should be noted that there is an accompanying process of heightened regionalization. Just as Europe has seen increased power accrue to the EU at a regional level, so in other parts of the

world comparable international groupings have been, and are being, set up. Besides the EU, key regional trade groupings with growing negotiating influence in the food system include: the Asia Pacific Economic Conference; Mercosur in Latin America; the North American Free Trade Agreement which links the USA, Mexico and Canada. These groupings are at different stages of development. Regionalization and globalization are accelerating simultaneously. The EU, for instance, is currently negotiating a bilateral agreement with Mercosur. Besides such geographical alliances there are also important political alliances. Notable among these alliances has been the so-called Cairns Group of food-exporting countries which came together in the last GATT round to argue the case for more trade liberalization, and was led by Australia, New Zealand, Argentina and Canada. In the new GATT talks more such *ad hoc* groupings are likely to emerge. One issue in particular is the stuff of international diplomacy: food standards.

One important feature of the 1994 Uruguay Round of the GATT was that it set up a trade-disputes mechanism. This mechanism gave greater 'influence' in adjudication over food standards to the Codex Alimentarius Commission (Codex), the UN food-standards body in existence since 1962. From 1994 the WTO was responsible for implementing the GATT agreements on Sanitary and Phytosanitary Standards and Technical Barriers to Trade. Codex was set up to arbitrate in difficult disputes over issues such as labelling, pesticides, veterinary residues (hormones), additives and genetically-engineered foods. While not all these conflicts post-date the GATT, the trade-disputes system leads signatories to expect that their case will prevail, and they are contractually bound to use the disputes mechanism to resolve disagreements. Tension points include hormones, bananas, labelling of genetically-modified foods and bovine somatotrophin or bovine growth hormone.

Research conducted in 1991–3, before the GATT was signed, raised some new political problems with Codex (Avery *et al.* 1993). Codex is a large system of working parties which submit their recommendations biannually to the full Codex meeting which then ratifies them. In the period studied there were twenty committees with a total of 2758 participants. These participants are implied to have been drawn from government, but the research found that one-quarter of participants were in fact from large international companies. Reviewing a full 2-year cycle of Codex meetings, the study found that:

104 countries participated, as did over 100 of the largest multinational food and agrochemical companies; the vast majority (96 %) of non-governmental participants represented industry; there were twenty-six representatives from public interest groups compared with 662 representatives of industry; Nestlé (the largest food company in the world) sent over thirty representatives to all Codex committee meetings combined, more than most countries; most representation came from rich Northern countries: over 60 % came from Europe and North America, with the poor countries of the South dramatically under-represented (only 7 % from Africa and 10 % from Latin America);

of the participants on the working group on standards for food additives and contaminants, 39 % represented transnational corporations or industry federations, including sixty-one representatives from the largest food and agrochemical companies in the world; of the 374 participants on the committee on pesticide residue levels, seventy-five represented multinational agrochemical and food corporations (thirty-four from the world's top twenty agrochemical companies); only eighty participants represented the interests of developing countries; the USA sent more representatives to Codex than any other country (50 % of them representing industry), and almost twice as many as the entire continent of Africa.

The research concluded that this state of affairs was less than desirable. If there is to be global governance, it should be more equitable. Officials and companies became sensitive to these criticisms, which were followed up by the consumers' movement. Some countries now hold national tripartite pre-meetings with industry, consumer organizations and government officials before formal Codex meetings. This process is a welcome improvement, but a recent review of participation at Codex by the UK Consumers' Association concluded that the imbalance of participation and procedures has changed little (McCrea, 1997). At the 1997 Codex food-labelling committee, for instance, the US delegation comprised eight government officials, three from non-governmental organizations and ten from industry.

Particularly sensitive is the issue of scientific judgement. The GATT stipulated that disputes would be arbitrated on grounds of 'sound science', yet consumer groups argue that science is not the only salient feature, nor indeed is science quite the straightforward arbiter it might be assumed to be (McCrea, 1997). Whose is the research? Who funded it? Is it publicly available? Has it been peer reviewed? What questions framed the analysis? The argument between the USA and the EU over hormone use in meat fattening illustrates the sensitivity of the issue. Since the early 1980s, the EU has implemented a ban on use of hormones. This was contested by the USA, keen to sell its beef in Europe's rich markets. The dispute was referred to Codex and the long-awaited WTO decision was announced in early 1998. Both the USA and EU claimed vindication of their positions (Office of the US Trade Representative, 1998; Commission of European Communities, 1998), but the EU has *de facto* had to revise its ban.

### Question 5: what is the future?

Lang (1999) has argued that the process of globalization of the food system is characterized by a number of remarkable features. These features include:

- a rapid concentration of power in all sectors, whether through organic growth or by mergers and acquisition;
- a fragmentation of markets;

- comparatively rapid commercially-driven changes in diet and taste;
- intensification both on and off the land;
- transformation of foods and food processes across sectors; not only the nature of farming and storage have been transformed, but even cooking methods;
- the growth of size and influence of the distributors and retailers within the food system, representing a transferral of power from producers to retailers;
- an ideological tension over the state's role and responsibilities both in law enforcement and in public education;
- an unmanageability (volatility and unpredictability) in consumer markets;
- new inequalities within and between countries, creating modern forms of food poverty even in rich countries;
- centralization of decision-making nationally, regionally and internationally, with tensions between all levels;
- a pivotal battle for world markets between the EU and USA.

A number of implications can be drawn. Proponents of globalization see these processes as inevitable, just as its critics see the opposite possibility (if not the likelihood). It is hard to prophesy the future, but for the present discussion it should be noted that there is a battle over what direction the food system should and could take. The revision of the GATT being announced for 1999, together with wider politico-economic considerations such as European and US trade enlargement, are likely to raise rather than reduce global tensions in the food sector. The challenge of how to balance seemingly contrary policy imperatives (health, environment, consumer aspirations and commerce) and how to bridge tensions within the food system (land, industry, retailers, catering and domestic life) is formidable. To accord priority to the protection of the environment, health, consumers' expectations and social justice will require considerable adjustment in policy and food practices, but can society and the environment afford not to do this?

Considering food in the context of current globalization is inevitably complex, but the debate can be illuminating for food scientists as well as students of policy. History suggests that it would be unwise to make unhedged predictions. After recent hiccups (such as the Japanese economic slowdown, Russian uncertainty and Far Eastern and Latin American financial instability), the globalization project could continue to unfold in an unproblematic manner. Equally, it might not. The present article has suggested that tensions are already manifest. It would be wiser to conclude that the future of food is open rather than closed.

Schematically, the future may be represented as tensions between different visions of the future, both being actively pursued and supported by different interests and 'constituencies'. Table 1 (from Lang, 1999) represents some of these tensions, showing those characteristics pursued within the food system driven by globalization *v.* counter trends associated with forces seeking the relocalization of food.

**Table 1.** Open futures: tensions in the food system? (From Lang, 1999)

Globalization	v.	Localization
Urban–rural divisions	v.	Urban–rural partnership
Long trade routes (food miles)	v.	Short trade routes
Import and export model of food security	v.	Food from own resources
Intensification	v.	Extensification
Fast pace and scale of change	v.	Slow pace and scale of change
Non-renewable energy	v.	Re-usable energy
Few market players (concentration)	v.	Multiple players per sector
Costs externalized	v.	Costs internalized
Rural depopulation	v.	Vibrant rural population
Crop monoculture	v.	Crop biodiversity
Science replacing labour	v.	Science supporting nature
Agrochemicals	v.	Organic or self-sustainable farming
Biotechnology	v.	Indigenous knowledge
Processed (stored) food	v.	Fresh (perishable) food
Food from factories	v.	Food from the land
Hypermarkets	v.	Markets
De-skilling	v.	Skilling
Standardization	v.	'Difference' and diversity
Niche markets on shelves	v.	Real variety on field and plate
People to food	v.	Food to people
Common food culture	v.	Fragmented (diverse) culture
Created wants (advertising)	v.	Real wants (learning through culture)
Burgerization	v.	Local food specialties
Microwave reheated food	v.	Cooked food
Fast food	v.	Slow food
Global decisions	v.	Local decisions
Top down controls	v.	Bottom up controls
Dependency culture	v.	Self-reliance
Health inequalities widening	v.	Health inequalities narrowing
Social polarization and exclusion	v.	Social inclusion
Consumers	v.	Citizens

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