

## Introduction to the New Worldwide Food System Do We Choose Food or Does Food Choose Us?

*"One who doesn't know the truth is ignorant. But one who knows the truth and denies it is a criminal!"*

BERTOLT BRECHT

### INTRODUCTION

When eating is compared with smoking, it seems at first sight that eating is a natural act while smoking is not. The fact that we eat to feed ourselves makes it a "necessary" biological act, something "evident and daily" that does not merit reflection, and hence the complexity of food is hidden turning it natural. However, one thing is the biological and natural act of eating and another, the characteristics of the food we eat. The manner and ways as well as the foods and beverages we intake thus depend on our social relationships and interactions, and consequently, we must admit that not the same food has been eaten at all times and places.

It is well known that throughout the history of humanity, traditional food systems and dietary patterns have been inherent to social, cultural and economic life, as well as to the identity of every country. In our Argentine, an ethnic melting pot, we can mention at a glance the traditional Italian pasta, the Basque sea bream, Argentine locro and the foods that have accompanied crucial moments of our life: champagne to celebrate the New Year, cake with candles for birthdays, and coffee for funerals.

Even when these dietary patterns established a long time ago rarely provided, if they ever did, ideal nutrition, they were related to low rate of obesity and chronic diseases, and could be easily improved introducing changes that respected the tradition, culture and regional and national resources.

However, the present food system is devoted to the quest of a single goal: large scale production for export, with specialized focus, such as soya in Argentina, which generates large profits. Thus, we can see that Western European countries import the beef and pork that they consume or export to the rest of the continent. The development of emerging countries (China, India and others) has increased the demand for meat, and consequently, the need of agricultural lands to grow fodder to feed the cattle, as occurs with soya exported from Argentina to India and China. For example, in China, the annual meat consumption has

increased 55% in 10 years. From the total world area dedicated to agriculture (4810 million hectares), 68% (3400 million hectares, 25% of which are worn out) are pastures to feed livestock, while from all arable land (1410 million hectares) 35% is dedicated to fodder. Therefore, 78% of the world's agricultural land is allotted to cattle. (1)

The yield of meat production does not balance that of cereals, since a minimum of 7 kg of cereals is required for only 1 kg of beef, 4 kg for 1 kg of pork and 2 kg for 1 kg of chicken.

Policies and practices of multinational food and beverage corporations, most of whose products are ultra-processed and whose headquarters are almost invariably in USA or Europe are steadily and constantly substituting traditional food systems in all the world.

This substitution is not merely commercial but also ideological.

Economic globalization, privatization as a system, and almost uncontrolled flow of international capitals, have tipped the balance between corporations and governments. Nowadays, governments and institutions tend to relinquish their main task of protecting public interest to huge multinational corporations whose primary responsibility is the profit of their stock-holders. Prevalent politics and economy, together with commercial practices and controls, have also allowed these corporations the freedom to expand beyond frontiers. As a consequence, leading food and beverage corporations are now huge business companies. Their brands are sold all over the world in points of sale ranging from big hypermarkets to gas stations and from restaurants to kiosks. The annual revenue of the biggest corporations is as high as the annual gross domestic product of medium-sized countries and, different from many national governments, these corporations are able to strategically plan and distract or invest thousands of millions of dollars in new technologies and markets.

### WHAT ARE "ULTRA-PROCESSED INDUSTRIAL FOOD PRODUCTS" AND WHY DO THEY EXPAND WORLDWIDE?

Multinational corporations and other big companies which control the production and distribution of ultra-processed products throughout the world are called "Big Food" (Great Food Companies). These products are generated from whole food extracted or refined substances such as cheap meat cuts or animal

remnants, non-expensive ingredients as “refined” starches, sugars, fats, oils and hydrogenated oils, stabilizers and other additives, with little or no whole food, with water extraction to promote durability on the store shelves and decrease transportation costs, but also increasing the number of calories per each gram of ultra-processed food.

Most of these products are manufactured, publicized and sold by great international corporations. Many of them, although legal, are in effect forgeries, made to look and taste as if they were healthy foods. *“For example, Strawberry Splash Fruit Gushers has only an insignificant amount of strawberries (from a concentrate) probably for marketing purposes. The product contains highly processed ingredients never before present in food offer, including 7 kinds of sugar and partially hydrogenated fat”.* (2)

They are formulated and packed to be durable and have long life in store shelves. Don't you ask yourselves: why don't apples have the same taste of our childhood?; because the vast variety we had *“has been restricted to half a dozen: Fuji, Braeburn, Granny Smith, Golden Delicious and maybe a couple more. Why only these? Because they are attractive, we like their lustrous, immaculate skin and they have a taste that for most people is indisputable, but also because they can withstand being transported for long distances and their skin is not damaged if they are shaken during the trip from the farm to the supermarket rack; besides, they tolerate the shining techniques and the compounds that keep them attractive on the shelves, they are easy to harvest and respond well to pesticides and industrial production. It is not us who choose on our own account as, not even in the supermarket do we plan our menu from what we choose, or the season or country we are in, nor by the wide variety of foods and existing flavors, but submitting to the power of food companies”.* (3)

As ultra-processed foods are ready to eat they eliminate the need of preparation and cooking, they are tasty, they deceive the satiety mechanisms that control hunger and promote the overconsumption of energy and hence obesity. *“For example, British children have the possibility of choosing among 28 cereal brands for breakfast, whose marketing directly targets children. The sugar content in 27 of these brands exceeds the government recommendations. Nine cereals for children contain 40% sugar. Thus, it is not at all surprising that in the United Kingdom 8.5% of children over 6 years and more than one out of ten 15 year-old children are obese. And the levels are increasing.”* (3)

The characteristics just described put them in a situation of great commercial advantage to substitute food systems and dietary patterns based on whole or slightly processed foods, which are fresh and perishable, with less fat, sugar and salt. Consequently, the production and consumption of ultra-processed foods is rapidly growing worldwide and mainly in develop-

ing countries of the Southern hemisphere, particularly in Asia, Africa and Latin America where they are displacing regionally established dietary models which are more socially and environmentally adequate.

These ultra-processed products may be eaten anywhere, instantly or almost instantly, and often without need of a table, chairs, plates, cutlery and cups. Hence, they are often called fast food. (4)

Some processed products, such as bread and cold cuts have been part of the dietary pattern in many countries even before industrialization. Others, such as burgers, chips, cookies, “nuggets”, energy bars and carbonated and other sweet or sweetened beverages are more recent, at least in the amounts manufactured today. These products are typically dense in energy, have high-glycemic content, they are low in fiber and micronutrients and high in different kinds of unhealthy fats, free sugars and sodium. When they are consumed in small quantities together with other healthy foods, ultra-processed foods produce no harm. However, their intense flavor (achieved by the high fat, sugar and salt content, as well as other food additives), their presence everywhere, the sophisticated and aggressive marketing (as the reduced price of super-sized portions) make the modest consumption of ultra-processed foods impossible and their massive imposition substitute fresh or slightly processed foods.

Since the eighties, “Big Snack” – the multinational manufacturers of long-life snacks, conceived to substitute foods – have greatly increased their penetration, first in large income and now in lower income countries.

The greater energy density of ultra-processed foods has been evaluated in Brazil. A popular meal served in a Brazilian chain store, consisting in bread, burger, fries and mayonnaise followed by ice cream has a total 3 kcal/g energy density, while a traditional Brazilian meal (rice, beans and beef with salad and oil followed by fresh fruit) has an average energy density of 1 kcal/g. Even if “premium” ultra-processed foods were consumed (which, of course, are going to be more expensive, such as whole grain bread, “low-fat” burger, fries free of trans fats, “low-fat” mayonnaise and “light” ice cream) they would still have double energy density (2 kcal/g) than the traditional meal. (5)

#### **THE CHANGE IN THE TREND OF FOOD CONSUMPTION THAT HAS OCCURRED IN ARGENTINA AND THE WORLD**

The changes in agriculture during the last 50 years have increased the power of providing food to all the world population. This has been achieved by increased productivity, greater food diversity and less seasonal dependence.

Despite food availability has increased as a consequence of growth in the income levels and a fall in food price, the global food system is not satisfying the needs of the world's diet, as nearly 1000 million people do not have enough to eat, while another 2000 million are overweight. (6) A common factor

underlies both situations of poor nutrition in almost half of the world population: the food systems are not focused in providing an optimal human diet, but in maximizing profit. Poor people suffer both situations which mean being excluded from the developed world with the consequent food insecurity, or eat low-cost, highly processed foods, with no nutritional value and rich in sugar, salt and saturated fats, with the resulting overweight and obesity.

To understand this process, we should ask ourselves: who establishes the rules for the global food system? Generally, the so-called “Big Food” (Great Food Companies), in reference to the great multinational food and beverage companies, having the power of a huge and concentrated market and achieving high profit ratios. In USA, the top 10 food companies control more than half of food sales which worldwide account for 15% of sales, and this share is growing. (7) More than half of carbonated soft-drinks worldwide are produced by two American imperialist companies, mainly Coca-Cola and PepsiCo. The world food market is not a competitive market of small producers but an oligopoly. What people eat is more and more dominated by a handful of multinational food companies, which is quickly leading the developing countries to a diet linked to non-communicable diseases (NCDs). (8)

Even 50 g/day of the current processed meat we eat has been found to increase the risk of death by 18% (95% CI 11% -25%) in a 12.7-year follow-up of 448568 men and women between 35 to 69 years in 10 European countries. (9)

It has been estimated that 3.3% (95% CI 1.5 – 5.0) of deaths could be prevented if all participants consumed less than 20 g/day of processed meat.

A significant association has also been found between 50 g/day of meat consumption and cardiovascular diseases (30% increase, 95% CI 17 – 45), cancer (11% increase, 95% CI 3 – 21) and other forms of death (22% increase, 95% CI 11 – 34). Chicken consumption has not been associated with mortality. (9)

There have been considerable changes in food consumption, globally, in different regions of the world and in Argentina in the last 50 years that are necessary to know and investigate.

This evolution in food offer and consumption can be obtained from individual or family repeated cross-sectional diet surveys, in nationwide representative samples, which due to their cost and maintenance over time are carried out only in some Western developed countries. In our study, we will use the “food balance

sheet” built by FAO (Food & Agriculture Organization of the United Nations).

Food balance sheets are built from national accounts of food supply and utilization and are calculated for produced and imported foodstuffs minus the quantities exported, those fed to livestock and in any other way unavailable for human consumption, divided by the population size. Thus, it provides information on the average food supply per capita (not the effectively consumed amount of food, so it will invariably be an overestimation). (10)

It shows the annual evolution of the national food supply, revealing the changes that have taken place in the type of consumed foods, starting with the first balance sheet in 1961. It allows understanding the dietary pattern of the country as a whole, but cannot provide information on the regional variability or between different socio-demographic groups. However, only food balance sheet data can show long-term evolution of food supplies for a large number of countries, since they are available for each country of the world and for each food item. (11)

We can start with the world average of total kcal per capita per day that significantly increased by 16% (400 kcal per capita per day, from 2411 to 2789 kcal) in the last 30 years of the XX century, similar to that of industrial countries (13%) from 3046 to 3446 kcal per capita per day. The developing countries increased it even more (26%), from 2111 to 2645 kcal (Table 1).

Countries in “nutritional transition”, with growing urbanization, fertility decline, population aging and less heavy physical work, consume more fats (specially animal fats), sugars and vegetable oils and less fibers, using more processed foods which lead to obesity, diabetes and cardiovascular diseases despite a total calorie reduction of 13%.

During the last 30 years, Argentina has maintained the per capita intake of calories at the same level, concealing behind total calories the changes produced in food composition.

While between 1963 and 2003, developing countries greatly increased calorie intake supplied by meat (119%), sugar (127%) and vegetable oils (199%), industrial countries only had a significant increase in vegetable oil intake (105%) during these four decades. (11) In Argentina there was a moderate decrease (-26%) of energy supplied by meat and a more significant increase of sugars (69%) and vegetable oils (31%) (Table 2).

In developing and industrial countries and in

	1969/71	1979/81	1989/91	1999/01	Dif. %
World Average	2411	2549	2704	2789	+16%
Developing Countries	2111	2308	2520	2654	+26%
Industrial Countries	3046	3133	3292	3446	+13%
Transition Countries	3323	3389	3280	2900	-13%
Argentine Republic	3277	3210	2964	3239	-1%

**Table 1.** Evolution of total food consumption per capita (kcal. per capita per day) [built with Alexandratos (12) and FAOSTAT (personal) data]

Argentina, there was a decline in calories supplied by vegetables between 1963 and 2003, more marked in Argentina (-64%) reaching an extremely low 9 kcal per capita per day.

The increase in calories as a result of wheat consumption only increased significantly (87%) in developing countries, although it did not reach the level of industrialized countries (50% higher), or of Argentina (100% higher).

Argentina was the only country with a significant increase in rice (70%); however, it was half the increase of that reached in industrial countries and 9 times less than that of developing countries. (Table 2)

**Cereals:**

Cereals still remain the most important source of food in the world but their contribution to energy intake varies markedly between developing and industrial countries. In developing African and Asian countries, cereals can provide up to 70% of the total energy, whereas in industrial countries their contribution is only nearly 30%. In Argentina they accounted for 33% of the average energy intake between 2000 and 2004 (1028/3106 kcal). (Table 3).

Wheat consumption has grown faster than that of all other cereals. This growth is explained by its marked increase in developing countries, 87% in 40 years (Table 2, 1963-2003) and even more sharply by its increase in China and India, reflecting larger harvests since the green revolution, accompanied by a steady growth in wheat imports, especially of non-producing countries.

**Meat:**

Meat has covered a significant part of the diet throughout most of our human history and is still the centerpiece of most foods in developed countries.

There was a significant increase (about 60%) in the available meat consumption worldwide since 1963, the greatest increase occurring in developing countries, which doubled the amount (Table 2, 119% between 1963 to 2003). A significant amount of this growth reflects the increase in countries such as Brazil with a threefold rise, and China with a dramatic increase of 9 times in overall meat consumption.

**Eggs, milk and other dairy products:**

The level of egg consumption has doubled around the world with a higher increase in developing countries compared to industrial countries.

Although milk consumption has grown in many developing countries, especially in Asia, it has declined abruptly in the U.S.A. in recent decades, reflecting the growth of carbonated beverages and juices.

**Fish:**

While fishing is increasing throughout the world, fish existence is being depleted due to over-fishing. Fish are an important source of good quality protein and are low in fat (except fatty fish which are a very good source of long-chain polyunsaturated fatty-acids)

**Fruits, vegetables and legumes:**

While fruits and vegetables do not contribute significantly as macronutrients, they make an important contribution to dietary fiber. Legumes are important in the nutrition of developing countries.

Legume consumption has declined worldwide, mainly in developing countries (Table 2, - 41% from 1963 to 2003), also in Argentina (Table 2, - 64% between 1963-2003) and much more in China with a ten-fold drop from 30 gr. in 1963 to 3 gr. in 2003.

Fruit intake, which is 50% higher in Mediterranean European countries compared to Northwestern Europe and Argentina (with similar fruit consumption), have shown a moderate 20% increase over the past 40 years. (Table 3).

While vegetable energy consumption is stable and low in Argentina, it has been equaled by the twofold increase of Northwestern European countries, and both are surpassed twice by Mediterranean Europe, which has increased by 50% (Table 3, from 1961/65 to 2000/04).

**Energy Suppliers:** vegetable oils, sugars and animal fat.

Vegetable oil consumption has increased significantly worldwide, 3 times in developing countries (Table 2, 199%), twice in industrial countries (Table 2, 105%) and moderately in Argentina (slightly over 30%, Tables 2 and 3). This increase has been more

		Meat %	Sugar %	Veg. %	Veg. oils %	Wheat %	Rice %
Developing countries	1963	147	75	167	80	245	580
	1983	210	128	113	145	453	694
	2003	369 <b>119</b>	170 <b>127</b>	99 <b>-41</b>	239 <b>199</b>	457 <b>87</b>	655 <b>13</b>
Industrial countries	1963	833	349	40	241	592	188
	1983	929	337	29	385	559	145
	2003	958 <b>15</b>	328 <b>-6</b>	37 <b>-8</b>	494 <b>105</b>	627 <b>6</b>	153 <b>-19</b>
Argentine Republic	1963	647	271	25	238	951	44
	1983	553	393	10	304	824	34
	2003	480 <b>-26</b>	459 <b>69</b>	9 <b>-64</b>	311 <b>31</b>	924 <b>-3</b>	75 <b>70</b>

**Table 2.** 40-year calorie evolution (kcal per capita per day) according to food type (built by FAOSTAT; <http://faostat.fao.org/site/368/Desktop.Default>)



	Mediterranean Europe		Northwestern Europe		Argentine Republic	
	1961/65	2000/04	1961/65	2000/04	1961/65	2000/04
Cereals	1279	1083	811	874	811	874
Meat	148	354	281	481	281	481
Animal fat	95	132	402	226	402	226
Fish	25	45	41	21	41	21
Fruit	120	135	79	104	79	104
Vegetables	73	110	27	59	27	59
Olive oil	115	127	2	13	2	13
Legumes	73	49	15	20	15	20
Nuts	28	34	8	16	8	16
Vegetable oils	244	418	174	330	174	330
Sugar and sweeteners	226	329	466	416	466	416

**Table 3.** 40-year calorie evolution (kcal per capita per day), according to food groups [prepared with data from Da Silva et al, (13) and our own data from FAOSTAT].

marked in Brazil, China and India, thus contributing markedly to the increase in calories as a result of food availability.

The consumption of sugars have increased significantly; more than twice among developing countries (Table 2, 127%), especially in Asia and India and to a lesser extent in Latin America. In Argentina it grew 69% from 1963 to 2003 (Table 2) while in industrial countries it dropped slightly (Table 2, -6%). In countries such as those of Northwestern Europe, the high animal fat intake in 1961-1965 dropped by almost half in 2000-04, which implies a lower proportion of saturated fat intake.

### Some food consumption trends in different countries

European countries, especially in the Mediterranean area, have “westernized” their eating habits and they have converged in foods that are not those of the Mediterranean diet as shown in the period from 1961-1965 to 2000-2004. In addition, all European regions showed almost a twofold increase in vegetable oil consumption (Table 3) which, as has already been mentioned, was more moderate in Argentina. This increase was also observed in sugar and sweeteners which in Mediterranean Europe increased by 46%, reaching 329 kcal/day in 2000-2004, and in Argentina by 31%, with an intake exceeding in more than 50 % that of Mediterranean countries (466 kcal/day) (Table 3). Meat also increased nearly twice in European countries, decreasing by 16% in Argentina, while legumes had a sharp decline in Europe, China and Argentina during this period (Table 3).

Regarding the rest of the foods, Northwestern Europe seems to be adopting a healthier diet profile than European Mediterranean countries, since they have markedly increased fruit and vegetable intake decreasing almost by half animal fats, which have increased by 50 % in European Mediterranean

countries. In Argentina animal fat has traditionally remained low compared with European countries. In the 2000-2004 period, European Mediterranean and Northwestern countries consumed twice and thrice the amount of animal fat, respectively, of Argentina (Table 3). Almost all countries in the world are below the recommended fruit and vegetable intake level of 400 g/day. Countries which had the highest adherence to the Mediterranean diet have experienced the greatest decline, adopting an ever increasing “western” style diet. Argentina has a Mediterranean diet adequacy index similar to that of industrialized countries such as U.S.A., UK, Germany and Denmark (10).

### GLOBAL TENDENCIES AND MECHANISMS OF UNHEALTHY FOOD

Comparison of the tendency in the last 13 years (1977-2010) between High Income Countries (HIC) and Middle and Low Income Countries (MLIC), with a Gross Domestic Product of US\$ ≤ 12.500, has shown that in developing countries (i.e. with MLIC), the annual growth has been higher in oils and fats (1.6%/year), processed food (2.0%/year), soft drinks (5.2%/year) and packaged food (1.9%/year), with little or no growth in industrial countries (i.e. HIC), which already have a saturated market. (14)

The acceleration of unhealthy food consumption in many MLIC is happening faster than the historical growth in HIC and will converge in 3 decades. Because the population of MLIC is 5 times higher than that of HIC, a greater amount of processed food will continue to be consumed in MLIC.

Both tobacco and alcohol consumption follow a similar, though less pronounced pattern, so it will take four decades to achieve HIC levels. (14)

Another way of looking at the same phenomenon is by saying that in the next five years the consumption of soft drinks will double in Vietnam and India and will increase by nearly 50% in Egypt, China, Tunisia,

Cameroon and Morocco.

In MLIC such as Brazil, China, India, Mexico, Russia and South Africa, the participation of multinational food companies is as significant as in the U.S.A. Packaged food in the top 10 companies has 32.8% of the market share in the U.S.A, while in these six countries oligopolistic concentration is similar in Mexico and Brazil (33.0% and 32.7%), only slightly lower in Russia (22.0%) and China (27.6%) and markedly higher in India (41.7%) and South Africa (57.3%).

In each of these countries one of the two market leaders is an imperialist transnational company and all countries, except China, have Nestle among the top 3 companies. (14)

A note to consider is that in countries with high alcohol and tobacco consumption there is also high intake of snacks, soft drinks, processed and other unhealthy foods. This means that there is a high positive correlation between tobacco and alcohol and unhealthy food consumption, perhaps due to similar underlying risk behaviors in an aggressive market, the state regulatory mechanisms and the existence of free trade agreements. (14)

Even though there is a strong association between economic development and increased consumption of these unhealthy goods, some countries do not follow the general correlation associated with a higher Gross Domestic Product (GDP) per capita, indicating that the higher food intake and unhealthy drinks is not the lethal and unavoidable result of economic growth. For example, soft drink consumption in 76 countries in 2010 shows that countries such as South Korea, Finland and Sweden have a relatively low intake level with respect to their GDP and this is equivalent to economies with a third of their GDP as for example, Brazil. Conversely, Mexico is clearly a marginal country exceeding any other country in the world, with an average consumption of 300 liters per capita/year. Argentina is in the first group (the 4th place worldwide, slightly below the U.S.A and Germany) with 230 liters per capita/year. (14)

The influence of "fast food" outlet density (in Subway restaurants per 100000 inhabitants) on the proportion of obese men and women over 15 years (BMI  $\geq 30$  kg/m<sup>2</sup>) was analyzed in 26 countries with advanced economy. (15) Countries with the highest density of Subway restaurants such as U.S.A. and Canada (7.5 per 100000 inhabitants) had the highest obesity prevalence in men (31.3% and 23.2%, respectively) and women (32.2% and 22.9%, respectively). At the other end, countries with relatively low Subway density as Japan (0.13 per 100000 inhabitants) and Norway (0.19 per 100000 inhabitants) had the lowest obesity prevalence in both men (2.9% and 6.4% respectively) and women (3.3% and 5.9%, respectively). This correlation was even higher when adjusted for other covariates. (15)

Contrary to previous findings, urbanization is no longer positively correlated to the exposure of

unhealthy food, perhaps due to the effort made in recent decades by multinational corporations, which have secured the penetration of their products in rural areas.

Increased market integration, indicated by higher levels of foreign direct investment (FDI) as a fraction of GDP, is strongly correlated with a higher degree of exposure to processed foods, soft drinks and alcohol. In turn, in relatively low FDI periods (<2% of GDP) a significant association between GDP and processed or packaged food and tobacco was not observed, while soft drinks tended to decrease. This suggests that the population's income growth with a limited penetration of multinational corporations in the domestic economy does not necessarily increase unhealthy goods consumption. (14)

Another contribution to test the hypothesis of diet dependence is that the analysis of MLIC countries having free trade agreements with the U.S.A and the WTO show higher levels of soft drink consumption (63% higher consumption per capita) than those without trade agreements. (14 -16)

An emblematic case study shows the implications of trade liberalization for diet and health in recent years in Central America. (17)

The region has conducted growing trade liberalization in the past two decades, culminating recently with the free trade agreement CAFTA (US-Central American Free Trade Agreement). This reduced the average customs rate in Central America from 45% in 1985 to 6% in 2000. In line with this, total food imports increased from 4.5 million tons in 1990-1992 to more than double (9.6 million) and food imports from U.S.A. more than tripled. For example rice import from U.S. increased 10 times while domestic production fell, resulting in a higher offer with an increased availability in all countries. The imported component of rice consumption grew from 39% to 69%.

Chicken meat consumption increased due to the six-fold rise in imported frozen legs, a U.S.A. byproduct of breast production. Costa Rica imports all frozen French fries it consumes, almost exclusively from Canada, after the Canada-Costa Rica Free Trade Agreement. (17)

#### **WHAT SHOULD THE PUBLIC HEALTH RESPONSE BE TO THE GROWING UNHEALTHY FOOD PRODUCTION BY THE INDUSTRY?**

There are only 3 ways to tackle the problem: 1) Voluntary self-regulation of the industry. 2) Public-private collaboration. 3) Public regulation. (3)

#### **Industry voluntary self-regulation:**

It implies trusting the industry voluntary operation and self-regulation. It is the default position adopted by many governments, the UN and, of course, is the industry's preferred method.

The explanation is as simple as naive, market forces (called free) managed by the individual

choice of informed individuals, will correct, on their own, the negative health outcomes caused by high consumption of processed food. Any state interventions, even proscription of advertising unhealthy food for children (who certainly cannot be considered informed consumers) are considered counterproductive. In their advertisements the two major global soft drinks producers (Coca-Cola and PepsiCo) recommend physical activity for children and build basketball courts in schools in poor neighborhoods. Finally they argue as Antonio DeMaria (JACC director), when he writes in a recent editorial: "My feeling is that most people who carry unhealthy lives accept, at least tacitly, the consequences of their state of life." (18), claiming that the choice of eating unhealthy food is an individual right that every citizen can have.

These are the same arguments which for years refused to prevent cigarette advertising to youths or opposed the regulation of smoke-free spaces. Hence, due to the delay of all these years, millions of smokers and even of nonsmokers kept on dying.

*"There are, therefore, significant limits to the compatibility of public health industry interests. Food companies, for example, have two basic options when it comes to enhancing shareholder revenue: to persuade consumers to eat more or to increase profit margins.*

*As much higher profits come from processed compared to fresh food, promoting the latter, advising people to eat less or eat more healthy contradicts the core business models of many food companies.*

*It is unsurprising, therefore, to find that the tactics employed by the largest food and alcohol companies to sell their products and influence the regulatory environment closely mirror those employed by the tobacco industry. They include focusing on personal responsibility, claiming that government intervention infringes individual freedom, vilifying critics, labeling studies contrary to their interests as "junk science" using corporate social responsibility to enhance reputation and promote brands, opposing effective binding regulation and promoting self-regulation via voluntary codes."*(19)

### **Public-private partnership:**

This second interaction model is the public-private partnership, which is based upon the idea that the supplementation with the industry would lead to a more successful outcome than with the state acting independently.

It is argued that the conflict of interests with the tobacco and alcohol industry seems very clear, but that the situation with the food industry is much more complex, since the former are non-essential cultural habits, whereas food is a biological-natural process. We all need to eat and drink and besides, not all ultra-processed elements are unhealthy. Thus, the partnership with the public food, with little "fat" or little "sodium" or the addition of "nutrients". However, this reformulation allows them to advertise and

promote some of these less unhealthy products as healthy; for example, low sodium foods (but still with high energy density), without trans-fat (but still with high saturated fat) or artificially sweetened snacks and soft drinks (but still with no nutrients), which in low-income countries end up increasing the overall consumption of ultra-processed foods.

We know from experience that this approach to tobacco prompting cigarettes with filters, low tar, and then low-nicotine, justified the extension of public movie regulation decision and ended adding millions of new "slow deaths". (20)

Corporations promote private-public collaboration, whether with professional associations such as the International Diabetes Federation, or with the state, with which Nestle has recently announced a 3-year partnership (21), as a means of co-opting public health.

*"In 2006 the American Heart Association and the William J. Clinton signed an agreement with Coca Cola, PepsiCo, and Cadbury Schweppes to remove sugary drinks from schools. From the start, public health experts expressed concern that the agreement made too many concessions to companies and would undermine efforts to enact meaningful government regulations. Subsequent modifications to the agreement reintroduced caloric beverages-such as sugary vitamin waters and sports drinks-into schools, thereby limiting the initiative's effectiveness."*(22)

### **Public regulation:**

It is the only model that specifically recognizes the conflict of interests between the promotion and protection of public health and the corporations that derive their profits from the production of unhealthy food.

Because the need for the greatest possible sales growth, which in turn produces higher profits, is the main objective of transnational corporations, those experts who support "public regulation" believe that self-regulation and industry collaboration are not only ineffective, but also counterproductive. (6)

Based upon evidence and experience with the tobacco industry, any interaction of physicians, researchers and public health, should be ruled out if they are not consistent with Article 5.3 of the Framework Convention on Tobacco Control which establishes that the "parts will interact with the industry (tobacco) only if and to the extent strictly necessary to enable them to effectively regulate the industry and products (tobacco)."

As Coca-Cola itself declares *"Increasing public concern about these issues, possible new taxes and governmental regulations concerning the marketing, labeling or availability of our beverages; and negative publicity resulting from actual or threatened legal actions against us or other companies in our industry relating to the marketing, labeling or sale of sugar-sweetened beverages may reduce demand for our*



beverages, which could affect our profitability.” (6-23)

For example the “clean air”, asbestos, tobacco and road accidents legislation was introduced after repeated failure of the industries responsible for solving these problems by self-regulation. Or, for example, the threat of court action by which the Kraft company finally took the decision, which they called voluntary, of making their foods without *trans* fats.

So far, only regulation or the threat of governmental regulation, has been the only way to change the composition of transnational corporation products.

## CONCLUSIONS

Many public health professionals are aware or have either been involved in problems or public health issues related to corporation products, services or practices, and this occurs even with practicing doctors, albeit not consciously.

Wilst proposes that “*the products or services harmful to health are simply a reflection of the structure and function of corporate entities. The corporate entity can only operate to serve its own interests regardless of the harms or benefits. All corporations operate within these parameters. They have no choice when confronted with an alternative between profit and social welfare. Any event other than profit for investors is immaterial.*” (24)

Other authors claim that “*the growing importance of diseases related to for-profit corporations, calls for a change from a paradigm focused on the host to one focused on the corporation. The new paradigm is not based on anomalous corporate behavior but rather on the very nature of for-profit corporation as entities designed to maximize profit for the benefit of their stockholders, so that the aim of their executives and directors is to increase profit in a competitive environment and to leave social and health costs for others to address.*” (25)

The author suggests defining a new category of “corporation-induced diseases” as “*diseases of consumers, workers, community residents who have been exposed in the market place, work site, or community, respectively, to disease agents that are part of the products or processes of corporate activity.*” (25)

He describes the classic public health triad composed by host-agent-environment, as easily applicable when a component of a corporation’s product has been clearly identified as an agent of disease with epidemiological causal criteria. A fourth component is added to the triad, the “*vector*”, which is the organism where the agent is developed, transported to different environments and finally introduced into the host.

If, as proven, smoking kills one in two people who smoke during the course of their life, the consumer is the host and the agent is the cigarette, manufactured by the “*Big Tobacco*” (18), the product vector, which in turn has developed social methods in the environment to increase exposure to its agent targeting susceptible groups through advertisements, peer, actor

or relevant character pressure and even producing addiction.

Because tobacco, alcohol and unhealthy diet produce about 35% to 65% of the overall NCD burden, professional societies should have a strong commitment to uncover and raise to public awareness the unhealthy and harmful effects not only of tobacco and alcohol, but also of ultra-processed food and soft drink manufacture, with a strong critical action to stimulate the necessary changes that allow implementing effective and inexpensive policies to stop industrial NCD epidemic and then reverse it.

Furthermore, it should be unacceptable for its partners to finance or support research, education and prevention programs of the tobacco, alcohol, ultra-processed food and soft drink industry. (4)

Only then would we contribute with our professional ability to modify NCD risk factors in our community. When this happens, society itself will recognize our work, not only at the level of individual relationships but also in our responsibility with the community from which we stem.

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