



## Anthropology of Food: An Essay on Food Transition and Transformations in Brazil

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### Abstract

**Context:** Food as a natural and ritualistic daily act is showcased in the Brazilian context to illustrate how historical and technological changes have impacted food systems, their transformations and consequences and how such external forces have impacted food consumption and the nutrition transition process in this developing country.

**Case report:** Much research has been done to understand the impact of this phenomenon on urban areas of different Brazilian geographic regions but research has also demonstrated that these transformations are also encroaching on remote rural areas where the urbanization and globalization of feeding patterns are shifting from unprocessed natural food and to a new age of industrialized goods, where the manipulation of food is forgotten and food is turned into a commodity. The effect of this is that their diets have low diversity and rely on low-quality processed food staples at the same time that nutrition and food insecurity is quite high in the region.

**Conclusion:** These transformations end, in turn, modifying a way of life and production, mainly through the rural exodus and the configuration of chaotic urban centers. New expectations arise while food choices must be more in line with the new lifestyle, unfortunately lacking nutritional contributions from the previous dietary pattern. Therefore, it is necessary to know, recognize and understand these changes in order to modify the relationship between individuals and food.

**Keywords:** Anthropology of food; Dietary patterns; Food consumption; Food habits

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### Introduction

Food is an essential and fundamental part of culture in human society, in its physiological and cultural compliance. The historical and cultural scenery are essential to understand how the theme has been elaborated in its national and international perspectives. In human nutrition, nature and culture meet, since eating is a vital necessity, what, when and with whom one eats are issues that are features of a system that attributes meaning to the act of eating [1,2]. Throughout the history of Anthropology as a scientific discipline many lines of thought have been designed [3]. Food was an object of analysis just like other cultural aspects

of studied societies, such as kinship. The first approaches centered on evolutionary and ethnocentric analysis, focusing on the study of rituals and traditions determined as “foreign” by the researchers, but that were essential for the understanding of the social complex. Anthropology, in this respect, has fluctuated between studying human beings according to their biological aspects and explaining cultural characteristics independent of the relations with the environment. The Anthropology of Food ended up analyzing its object in an interdisciplinary manner, since interactions happen socially, ecologically and biologically, provided that human groups constitute themselves by their way of life and by techniques related to the environment. After all,

the difference between eating, a social activity, and nurturing, a biological activity is perceptible where food is crucial to human survival, as vital necessity. Therefore, it is shaped by culture and an outcome of the social structure in a given age [1] being able to change over time. The biological and social aspects become a product of Anthropology of food and food habits are the main themes in social research [3]. According to Contreas and Garcia [4] food space is not just a totally social phenomenon anymore but a totally human phenomenon, which is a consequence of both biological and ecological phenomena just as much as a structuring factor of social organization, positioned in same level of importance, or even higher, as sexuality or kinship.

The evolutionist approach, being the pioneer in these studies, searched for explanations related to religion, giving emphasis to taboo, totemic, sacrifice and communion. They usually seek rational justifications, while searching for logic to social institutions and classified the social groups as savages, barbarian or civilized in a complete ethnocentric context. The Functionalism ultimately leads to a re-contextualization of beliefs and rituals in analogy to an organic system, in which food functions as a basic system to individual socialization and, consequently, to the perpetuation of society. Food, therefore, can be considered an institution because it is fundamental for individuals to socialize and for norms to be transmitted; in addition to determine the nature and activities of a certain social group, covering and implementing physiological and social needs. Through food, the social function of nutrition is emphasized in the manifestation of feelings that contribute to the socialization of individuals as members of their community [4]. Its main function is to contribute to the maintenance of social structure and, as consequence, the social system, so its value is more social than religious. Culturalism is another approach that is basically interested in how culture could be present between subjects and how this aspect guides behaviours. Food habits are studied, including, this way, psychological research related to anxiety and abstinence, as an example. In addition, issues related to obesity and anorexia start to gain attention, being, treated as socially constructed pathologies [4,5]. What is also interesting is the strictly social role that food can exert and how the cultural system might determine food practices, since the individuals have to adjust to social pressures. It is possible to equate meals to a communication system, being traditions and symbols manifested in social relations, such as the structuralist approach ads. At this moment, food is similar to language, since this practice defines ways of life. It is then that the kitchen becomes a subsystem of culture, constituting a language in which each culture unconsciously translates its own structure [4]. Therefore, looking at the food system as a structure it is possible to comprehend preferences and food abominations, like the consumption of dog meat in some places and prohibition of cow meat in others; being, in this respect, consequences of religious or circumstantial conformities.

As a result, Anthropology of Food can be organized in definitions of food systems; on pressure over food choices; in what involves conformation of food practices; in what is considered edible or not by different societies; in health; and on technologies involving food. We do not eat the amount of nutrients and

calories only to keep the body functions in an adequate level, because a long time ago anthropologists affirmed that eating involves selection, choice, occasion and rituals, it overlaps with sociability, with ideas and meanings, with interpretations of experiences and situations. To be eaten, or be edible, food has to be eligible, referred, selected and prepared or processed as culinary, and all this is cultural material [1]. Food, therefore, as a natural and ritualistic daily act, will be considered here in its more distinct aspects, and showcased in the Brazilian context. The goal of this review is to highlight the anthropology of food as an important interdisciplinary science and to show how historical and technological changes have impacted food systems, their transformations and consequences and how such external forces have impacted food consumption and the nutrition transition in Brazil.

### **Anthropology of food and food systems: organization and functioning of the complexes**

Eating food is a daily activity of an individual regardless of their society. It is a phenomenon that covers physiological issues as well as social, political, economic and aesthetic aspects. Consequently, the subject, beyond their nutritional needs, ends up organizing themselves to secure food. Differing from other consumption aspects, food makes physical limits more accurate and results in satiety, while goods and commodities work as an icon, many times, insatiable, which is not applied to food. From this context, Anthropology began contributing to the study of food bringing many references and points of view for constructing a theory on anthropology of food, as well as the central aspect of survival of societies and the sociable load created around food. In general terms, Anthropology of Food can be defined as "the set of representations, beliefs, knowledge and practices inherited and/or learned that are associated with food and shared by individuals of a certain culture or social group" [4]. Socio-anthropology asks questions to collaborate with the studies, in which the French anthropology tradition used nutritional discourse to elaborate and transform relations into reference to social norms. In turn, another contribution refers to understanding the act of eating in itself; before anything it is necessary to understand the meaning of eating. Food practices contain the cultural identity, social condition, family memory expressed in procedures related to selection and preparation of food and to its consumption, manifesting itself in the daily experience by means of what is eaten, how it is eaten, preference for certain kinds of food and preparation, the place where you eat, and ways to prepare food [1,6].

Apart from the definition of Anthropology of Food, the concept of a "Food System" has been inserted to understand the processes involved in feeding [4]. In other words, it refers to technological and social structures, starting from harvesting food, going through the transformations before delivering the product to its consumer, up to the kitchen - production, distribution and consumption of food with the intention of meeting food needs. In this respect, it is possible to see a transformation movement from the natural environment to society. The Food System ends up regrouping actors involved in these transformations, from

production to consumption, including agents who participate in this movement. Moreover, it is interesting to note that these actors have different logics. The holistic approach to food systems proves to be useful, in the sense that tracing the chain from production to consumption helps in understanding combinations that depend on related factors, including of the biological, economic, political, ecological, cultural or technological order. On the other hand, this suggests that evolution of models plays a direct role with these contingencies, and in this regard avoiding undervaluing historical descriptions of food systems.

The concept of a Food System has been used by different anthropologists of many anthropological currents, sometimes being analyzed in a simplified and detailed way. With this, it is possible to establish some general characteristics in regarding usage, ingredient combinations and food preparation. Among them, (i) food cultivation, (ii) the process of production in final production, (iii) the cooking process, (iv) consumption and (v) cleaning of the workstation can be added as part of the operation of the Food System. Beginning with this basic model, some authors defined different objectives inside the object of analysis. According to Contreras and Garcia [4]: Sánchez Parga defines the system as national economic; Fischer indicates it as related to techniques and ingredients associated with culture; Khare analysed the food system as a complex of cultural communication caring for food security and collective survival. Food systems might be considered dependent of social and cultural actions; a dynamic reality that maintains aspects from traditional food systems, while other characteristics underwent major transformations. The organization and functioning of food systems allow different interdisciplinary analysis. Taking into consideration all the arrangements of the food system, from cultivation to food consumption, it can be stated that food is cultural when produced [7], because the individual manufactures and transforms it through technologies. The relation to nature is clear; however when transformed and prepared, food becomes a byproduct of human activity, which implies representation and social imagination that involve choices. Food is decisive when composed of human identity and as a communication instrument; and as noted by Montanari [7] "mankind mastered the natural processes, using them for their own benefit", Food systems are envisioned as symbolic systems, in which the social codes perform and function as relations between subject and nature.

From the organization of food systems, another important factor to understand identity construction is culinary, usually referred to as a set of elements in tradition and articulated towards its constitution as something personal, singular, recognizable before other cuisines [1], having some specific identity references but, at the same time, susceptible to constant transformations. In addition, as Montanari [7] pointed out culinary can be interpreted as an artifice that not only promotes the products, but also rectifies and corrects them, in a way to adjust food to human taste, developed according to what culture establishes as acceptable.

The development of culinary accompanies the historic-cultural process, since that context and specificities should be factored

in. Therefore, in a formerly colonized country, like Brazil, the development of the culinary has taken distinct paths, but having important influences from the colonizers who imposed their habits and their food requirements on the habits, ingredients and techniques that mixed together resulting in new food system models. Culinary practices can therefore express the ways to see and express a determined lifestyle that is particular to a single group. What is placed on the plate serves to nourish the body, but also indicates belonging, serving as a social recognition code.

### **Transformations over time: from natural to artificial food**

The act of feeding underwent great changes over time. From use through nature-benefiting from the seasons and weather—to use of nature-manipulating climate and soil, the individual can grow and produce his own food, as a counterpart to what was completely natural. Nowadays individuals have the potential to find fresh goods throughout all seasons, applying the world-system as production and distribution area [7] where the present agricultural societies cherish diversification to feed the local population, while monocultures serve the industry, being the result of a combination of economic and political interests. The industry has succeeded in production and conservation of goods for long periods. To maintain stock of products for rural feeding, cereals and vegetables were selected for being easier to store. For modern and perishable goods, the elaboration of new techniques was fundamental to preserve the food. In ancient times, preserving food was done by isolating food from oxygen or enclosing and sealing it in clay [7]. Besides that, dehydration by sun or salt became characteristics of a society that could not rely on small stores and, even less, on weather variations. In turn, during the Middle Age, sugar was used as a conservation technique. Furthermore, temperature was used as a conservation method, respecting the nature of food, since the use of salt and sugar modifies the flavor. In 1876, the first refrigerator was patented and, years later, it became possible to transport meat to Latin America and Europe [3]. A great change in feeding habits occurred, once these innovations reached households in the 20<sup>th</sup> century, making, at the same time, the restaurant industry a feasible activity. Invention is not born only from luxury and power, but also from necessity, poverty and deep within, this is the fascination of food history: discover how mankind, through work and fantasy, seeks to transform hunger pangs and misery's anguish in potential opportunities of pleasure [7]. New technologies however, provide positive and negative aspects. They make the historical process rationalized, industrialized and functional for food; however, they bring, to the food context, environmental contamination through the use of packaging and chemical products, and vertical market relationships, among others.

It is in this context of changes that food, then, gains a new form. Sugar is the item with the greatest growth in this scenario. In a historical perspective, sugar was used to sweeten drinks like coffee, tea and cocoa, replacing honey, resulting in radical economic and dietary changes. Also, during the colonization of the New World, sugar was the commodity with the largest

market flow. Other items of modern nutrition are coffee, chocolate and tea. Referred to as "drug-food" [3], these have been used as stimulants. Mainly cocoa, as it was also used as an exchange currency and consumed by the elite, related to the divine and also to sexual appetite. Coffee, on the other hand, attained positive cultural traits of vigilance and attention, being symbol for rationality, clarity and freedom of thought. It was, in addition, considered a medicine and, later, a symbol of sobriety – therefore, typical of the bourgeois.

Considering coffee's role, tea had a similar cultural role. Beyond sobriety, this drink was linked to protestant countries, having, this way, a religious role in addition to a cultural one. Furthermore, tea became popular among the working class since the drink has detox properties, in contrast to alcoholic beverages. "Drug-foods" also constitute fermented alcoholic beverages (refers to drinks such as beer, wine or spirits), functioning as complementary nutrition or used initially as medicine. In the 12<sup>th</sup> century, they were important due to economic aspects and lead to its mark as a symbol of national identity. However, the significant rise in consumption of these alcoholic beverages (according to the data from the WHO [8], worldwide total per capita (15+ years) consumption of alcohol is estimated to be 13.5 g/day) eventually resulting in the development of several chronic disorders, such as cancer, cardiovascular diseases, diabetes mellitus and obesity in the population [9]. The Great Wars of the 20<sup>th</sup> century also brought global transformations in feeding patterns. These nutrition changes transformed habits with the production of rations for soldiers. The industry, in turn, brought conservation techniques using glass and cans, which made it easier to store, transport and stock food produced industrially. However together with this excessive rise in food production and, indirectly proportional, the growth of underfed populations, hunger, misery and poverty has exploded. And more recently, the same way as obesity as a public health issue and anorexia and bulimia becoming "paradigmatic diseases of unhappiness in relation to nutrition and both are products of the society of abundance" related to body image [3]. According to Pollan [10] we no longer eat what our mothers used to in their childhood or, in this case, what our mothers gave us to eat when we were children.

Today's food environments exploit people's biological, psychological, social, and economic vulnerabilities, making it easier for them to eat unhealthy foods that reinforces preferences and demands for foods of poor nutritional quality, furthering the unhealthy food environments as discussed in the Obesity 2015 issue published in the Lancet journal. Experts all around the world attribute this epidemic to changes in the dietary pattern of the general population, which in the last four decades has shifted traditional food from each country-mainly cereals, vegetables and meats-to ultraprocessed food rich in saturated fats that make it last longer. In developing countries, an additional aspect should be taken in consideration that, for so long, were under colonial rule, started to produce commodities to the detriment of basic food. Moreover, these places are, many times, subjected to fluctuations of the international Market, resulting in a malnutrition crisis [11]. The United States feeding model, based on the substitution of complex carbohydrates like

starch, by simple carbohydrate like sugars and fats, and in the expansion of carnivore diets, is symbolized by the expansion of fast-food restaurant chains. This western diet has transformed feeding habits and many modern societies seem to converge to a standard diet, rich in saturated fats, refined sugars, and poor in fibre. The replacement of locally produced food with industrial and processed products has been called the human nutritional transition [12]. Much research has been done to understand the impact of this phenomenon in urban areas of the Western World, and more recently some studies in developing countries, such as in the immense Brazilian territory, have demonstrated that this nutritional transition is also encroaching on rural areas where the subsistence economy is being replaced by the market economy [12-17]. The radical change that rural communities suffer has been noticeable, when it comes to nutrition, and, therefore, being alterations in self-consumption production and local feeding habits. These transformations end, in turn, modifying the way of life and the production, mainly by the rural exodus and the configuration of chaotic urban centres. A number of the aforementioned studies demonstrating how the nutrition transition processes have been established in recent decades in the Brazilian rural-urban environments determined carbon and nitrogen stable isotope ratios in fingernails of inhabitants from both urban and rural settings together with dimensions of nutrition and food securities as a proxy for their main diet patterns in order to contribute further information on the nutrition transition phenomena and its importance for certain policy decisions in Brazil. Studies on food patterns inferred from carbon isotope measurements in contemporary populations are based on the well-known difference between the  $\delta^{13}\text{C}$  of C3 plants (the majority of cereals such as wheat and rice as well as vegetables and pulses) and C4 plants (which comprise mostly maize, sugar cane, and African grasses) and on the fact that  $\delta^{15}\text{N}$  varies according to the source and the food's position in the food chain [18]. These studies reached the conclusions that as access to a market economy and urbanization rises, there is a dramatic shift from a diet based on C3 plants to one based on C4 plants. As a consequence, there is a rise in  $\delta^{13}\text{C}$  values in human tissues since urban diets in Brazil are primarily based on C4 sources having a strong C4 signal [18,19], but also access to a market economy and urbanization increases, there is a decrease of  $\delta^{15}\text{N}$  values in human tissue due to a change in complexity of the food chain when an urban-like diet is chosen that has lower values of  $\delta^{15}\text{N}$  compared to a rural-like diet. One of the outcomes is the homogenization of feeding habits and culture, changing the consumption pattern and its own production. This homogenization, consequently, indicates the standard consumption not only in urban centres but also in rural centres. What may follow from this major change in the production system and consumption could jeopardize the maintenance of local life but it could also turn out that the relationship between rural and urban translates into different modes of relationships related to the market, as well as the varied historical contexts and the accessibility that each group has over food [1-4].

### Anthropology of food in Brazil

Themes approached over decades will be outlined and summarized for a general understanding about how the

Anthropology of Food underwent social, industrial and political development over time in Brazil. Since the 1940s until the mid 1960s it dominated social orientation of food in state policy and in the performed studies. This tendency reversed to a technical orientation, between 1964 and 1972 as the outcome of political, economic and power structure modifications in the Brazilian State, with repercussions on the contributions from social scientists, social nutritionists and from the anthropology itself. In this period, the Social Sciences Group from the National Study of Household Expense, performed by the Brazilian Institute of Geography and Statistics, developed family research, a national scope, with the objective of extracting data on household budgets and food consumption and, thus, the nutritional status of these families. The research performed between 1974 and 1975 reported the budget distribution, taking into consideration the expense priorities of each group. Therefore, with the calculation accomplished by the research, it is possible to disclose the nutritional values ingested by each member [20]. The cultural dimension on studies about the Anthropology of food in Brazil was important for approaching empirical and descriptive aspects [21]. The first studies in the 1950s centered on the so-called "traditional" communities focused on the cultural dimension expressed in all social sectors such as the beliefs or ideas of some people. However, like the evolutionist understood, the "traditional" was seen as a delay or obstacle to changes, separating "traditional" and "modern" cultural patterns. In this initial moment, as Canesqui [6] stated, cultural studies regarding nutrition intended to describe supply sources, subsistence economy, dietetic composition and its ways of food preparation, as well as habits and taboos related to food, but also as Antônio Cândido (1964) did when he began his work in the 1940s, seeking to understand the country's society, using the economic problems and, as a point of support, the subsistence. In addition, the importance of woman's role in food preparation was noticed and, with that, the centrality they exercised at the time in the kitchen. Therefore, taboos related to femininity and nutrition appeared and categories between "hot", "cold", "light" or "heavy", among others, explained the relation between social and belief. Although these categories encompass regional and individual variability, the cognitive regularity of categories in the popular theory that embodies the relation between food system and organic system, extensive to diseases and cosmologic categories (day, night; sun, moon; rational, emotional, and others) is subject of many criticisms [6,22]. These studies provided a better understanding of taboos and beliefs that impose certain rules for the moment of food consumption, like the constraint of food for pregnant or menstruating woman. When it comes to the religious context, in the Catholic religion the period of Lent and the restriction of meat consumption can be identified, just like the importance of culinary practices in rituals covered in symbologies like Candomblé and Umbanda, which "feeds the links between gods and mankind and the believer's own beliefs" [1]. Those studies concluded that the food supply of the subsistence economy and the income identified different caloric values for different social classes, namely, diets with proper protein and vitamin levels, for example, only

contemplated economically favored layers. Subsequently, the first studies that looked at culture as a closed, functional and isolated system were developed and better structured. Questions related to survival and the relation of the individual in nature was posed. Culture was perceived as susceptible to transformations, highlighting the development of capitalism and new technologies. In other words, "the formation of taste in different cultures, status, prestige, advertisement pressure, religion, and the many aspects that guide food choices" [2] combine in different contexts and make culture dynamic. The first studies focusing on shifts in feeding habits due to urbanization, development of the agroindustry, and the entry of woman in the marketplace were in the 1960s. It is in this period that Brazil had its greatest boom in national industry, presenting a policy of development and aiming for the implementation of heavy and durable industry [2]. Facing these contextual changes, the aim was to comprehend and monitor structural transformations of the context. By keeping track of variations in the nutrition field, the researchers noted the difficulty in maintaining traditional ways of nutrition. However, it was from the 1970s that studies in urban areas were promoted and developed in Brazil; a period of intensification of the urbanization, modifying the social structure, the formation of metropolises and the development of jobs in urban areas. These aspects were important for the creation of postgraduate courses and broader reflections on the theme in the social sciences. Malnutrition was also another area of interest at the time, motivating government politics of nutrition and food. Government funding agencies and the institutionalization of social sciences and broad academic production consolidated Anthropology and the development of studies related to nutrition. Research that tackled food organizations and consumption within families and, also, focused on survival strategies and priorities of household budget, could pinpoint the importance of nutrition as a basic component facing the organization and decisions of consumption. These studies performed directly with the population under economic bias could describe situations and design projects with the Brazilian government. Other studies include the change of the Brazilian diet, so that Brazilians reduced the consumption of cereals and tubers, replaced carbohydrates with lipids and exchanged vegetable proteins for animal proteins. Traditional rice and beans staple became increasingly less accepted by the population with a 30% reduction over twenty years. In contrast, sales of sausages and ham increased by 50% over a period of two years considering the years 1996 and 1997. In this new configuration, the Brazilian diet included much more soda. Bleil [2] reported a 268% increase in consumption in the state of Rio de Janeiro in twenty years. The result of this diet is an increase in obesity and chronic degenerative diseases. In large urban centers, obesity increased from 50% to 70% in the population. In addition to this, theories about nutrition as a symbolic and cognitive part in a line of thought that defines relations between organisms and food are elaborated. Therefore, feeding habits could be categorized, not globally, like logics related to economic rationality, to access, to food selection, factors which, alone, were insufficient to be explained, since nutrition is a cultural phenomenon, a holder of symbolic and cognitive substance related to social classifications, the perception of a human

organism and the relations between said human and the substances ingested, active by means of a knowledge system and ordering principles that address the relation between food and the organism [1,20]. It is possible, in this way, to see the continuity and progress of the themes deliberated around nutrition according to the course of time and topics in vogue. With this, subject matters on income and food supply were associated with the nutritional value of the studied populations, revealing the precarious living conditions of the working class. The rekindled concerns of those scientists with the deterioration of life and health conditions of the working class, while capitalist expressions in expansion in the country, whose "miraculous" effects (1967-1973) settled on capital monopolization and internationalization, on industrial expansion of selected sectors, on a broader adequacy of agriculture to monopoly capital, affecting the agricultural production pattern and income concentration, to the detriment of the working class.

Interestingly, Bleil [2] noted that not only has food culture been altered over the decades, but it has thus been nutritionally impoverished. In addition to the industrialized products, cassava and maize were also exchanged for the use of wheat, encouraged by the Brazilian government. Along with advertisements, the products sold in big supermarket chains were seducing the population and thus configuring the area of food supply introduced by the Brazilian government. In a country where hunger is still a serious public health problem, this has made the situation of a large segment of the population worse. In addition, the consumer pays more. The price of bread, for example, is proportionally greater than that of cornmeal porridge. It is interesting to note that it has already been suggested to introduce maize in the preparation of commercialized bread, in order to reduce the price. However, portions of the population were absolutely against this measure. They supported wheat without knowing how recently it was introduced in the country's food history. Therefore, with the ever-growing industrialization and globalization, habits and the way food is accessed changed, and a new nutrition pattern was defined one that now is characterized by high quantities of animal fat, protein, salt and sugar, in addition to low quantities of fiber, vitamins, minerals, carbohydrates, among others making food a mere industrial product. Moreover, these industrialized products, rich in fats, are just as harmful to health as to the environment, still being marketed as a symbol of modernity. This is how food and culture - is influenced by the accelerated process of industrialization. These changes affect the quality of the food produced. New expectations arise while food choices must be more in line with the new lifestyle, unfortunately missing nutritional inputs from the previous dietary pattern. The modern mentality affects one's own eating habits, responding to new social pressures, selecting, consuming and using the new produced and available food. Time and aesthetic optimization to those favored groups in Brazil.

The studies performed in the 1980s refer, in addition to the issues raised above, to internationalization and industrial food monopoly of the United States of America. Industrialization, therefore, brought frozen foods and fast food to Brazilian metropolises, acquiring a new configuration, giving new meaning

to food in the modern era and translating the new symbolisms in society [22]. The demand for fast food or eating out marks the moment that the labor fragmentation of people lives took control of meal time. Working in new urban centers has distanced people from their homes. Although the development in transport followed the evolution of other sectors, the rigidity of working hours made displacement difficult. Eating became a mechanical and careless action, which prevented the sensual and aesthetic appreciation of food [10]. Therefore, solutions were sought for this problem of time, in which fast food became a reasonable alternative to home-cooked meals, by sacrificing the pleasure of the ritual [2,10]. It was already possible to find frozen, precooked, flavoured, stuffed food in Brazilian grocery stores, characterized by multinational companies, replacing public markets with fresh food. This new model of food marketing demonstrates an even stronger separation between food and consumer, where the food processing becomes a mystery and the population only sees the final product, which means an entirely new view of the world and thus of the way of consuming food. This new model of food marketing demonstrates the even more incisive division between food and consumer, in which food processing becomes a mystery and the population only sees the final product, which means an entire new world view and, therefore, food consumption. However, it is important to emphasize that, currently, organs propose to carry out the meal from eating regularly and with attention, in appropriate environments and with company, in order to improve eating habits and to break with the modern food model. The benefits of adopting these guidelines are many, including better food digestion, more efficient control of how much we eat, greater opportunities to spend time with our family and friends, greater social interaction and, in general, better enjoyment of food [21].

This new food system limits the time dedicated to household supply and, in consequence, the preparation of meals using healthy food. Therefore, this new Brazilian food standard is characterized by an increase in the consumption of industrialized products [2,12-17]. While in the old days, when eating, people ate unprocessed natural food, whereas what they eat today is food-like edible substances; nowadays it is clear that the time factor, allied with the process of urbanization and food industrialization, has contributed, directly, to changes of feeding habits, making people abandon homemade, and traditional, food and stick to what the grocery store provides, in other words, ready-cooked meals, and restaurant chains that serve fast-food [10]. Time optimization becomes a priority of modern life in large urban centres, redefining dining spaces and minimizing the importance of ritual, in which the modern individual exchanges lunch for a sandwich and soda, consuming them alone and standing in a snack bar. The affection existing in the meals among friends and family gives place to the satisfaction due to the quantity of food ingested in front of the television [2].

In addition to studies related to food industrialization, research oriented towards health and diseases that permeated dichotomous notions between weakness and strength, where the weakness was recalled in physical and mental aspects equally. The idea that food should first have to do with the health

of the body is relatively new and, I think, destructive it destroys not only the pleasure of eating, which would be rather bad, but also, paradoxically, our health. In fact, there are no people in the world who are more concerned about health and the health consequences of their food choices than we Americans - and there are no people who have so many diet-related health problems. We are becoming a nation of orthopraxis: people with an unhealthy obsession for healthy eating. Additionally, western medical care started to be emphasized, which makes physical activity and weight loss desired by the population, being for health or aesthetic purposes. In this respect, the aspiration for consumption of healthy, natural food is pursued by the middle and upper classes so they can achieve the desired body aesthetic and individual well-being.

Health reassurance contained an argument about the harm of certain food (contaminated, fat, high in cholesterol) on the organism, linking to the origin of cardiac diseases, while the benefits of "healthy eating" refer to ingestion of fruits and vegetables, for their "vitamin" concentrating nature, still validating a slim and thin body, as aesthetic values of middle and upper classes, in contrast to the validation of a fat, "strong" body, always falling back on representations of the body of the working class, according to several studies that mention it [9,21]. Therefore, taking into consideration the desire of acquiring healthy food and also, the concern of sparse access to food, the subject of food security started to grow amongst academic studies and governmental applications. A focal point in this discussion is a reminder that after World War II, hunger started to spread across the planet. Food production increased with the Green Revolution, but that did not result in easier access to food. Issues related to technology and acquisition started, then, to be considered in social studies. In addition to this, ecological disruptions were appearing and crop reductions together with modified climate alerted for dramatic shifts.

From this concern with the social issue, several conferences and groups were assembled over the years to try to ensure improvements. Amongst many governmental initiatives, there was the first Food Conference performed by FAO – Food and Agriculture Organization – in 1974, and the proposal of the National Food Security Act, in 1985, by the Ministry of Agriculture. In addition to those, there was also, the International Conference of Nutrition, held in Rome, 1992, promoted by FAO and by WHO–World Health Organization–that traced the food security term encompassing access, quality, sustainable production and acceptable food (culturally selected). Later on, the Food and Nutrition Security (UNSCN) was introduced to the discussion, concerns about the health of the population and the access to health food. More recently Weaver and Hadley [23] discussed the movement beyond hunger and nutrition in a systematic review of the evidence linking food insecurity and mental health in developing countries reinforcing the significant problem food insecurity is in the developing world, and one that is likely to

increase given the current global food crisis spurred by rising oil prices, conversion of food to biofuels, and reduced harvests in the wake of natural disasters. Moreover, Rodrigues et al. [17] investigated the effect of diet and food consumption with regard to health, environment, and economy in light of nutrition ecology, in urban and rural settings in Central Brazil showing that both urban and rural areas have diets with low diversity and rely on low-quality processed food staples at the same time that nutrition and food insecurity is quite high in the region.

## Final considerations

Eating is a daily activity in the life of an individual regardless of their society. It is a phenomenon that covers physiologic issues, but, in addition to that, social, political, economic and aesthetic aspects. It is an everyday task that has profound impact on physiological and cultural aspects. Considering this, anthropology, as a scientific course, began to focus on the theme in order to study it as a complete social fact, where various schools managed to explain food as an institution or a kind of behavior. Pollan [10] emphasizes that the way one eats is one of the most powerful means that someone has to express and preserve their identity. To make food choices more scientific is to deprive them of their ethnic content and history. It is from food systems, thus, that changes are perceived over time, those being studied through different manners. In conclusion, food systems encompass the process of cultivation for consumption and incorporate various agents. Over the years, the systems altered themselves due to new technologies and historic moments.

Considering the highlighted studies, the same as the topic development, the industry is perceived as the central key. Feeding patterns shift due to urbanization and globalization, that is, the exchange of natural food and its preparation to a new age of industrialized goods, where the manipulation of food is forgotten and food is turned into a commodity such as soybean, maize and sugarcane. The individual who ate to live, now lives to eat in the current consumerism context. The optimization of time inside the capitalist world has become essential, what makes people put aside meals at home, with their family circle and, in exchange, choose fast foods, meals at restaurants or even dinners, which serve processed food and meat and added sugar and fat that characterize the western diet. The new lifestyle is characterized by the comfort of "the 'industrialization'", seen as an 'artificialization' of food, provided space for a persistent idea, and also precise, that we increasingly know less about what we eat. Food is, consequently, not a method for socialization anymore, but individualization, after all, which tends to be no longer an act of fraternization, but the economy of time. Therefore, it is necessary to know, recognize and understand these changes in order to modify the relationship between individuals and food.

## Conflicts of Interest

The authors declare no conflict of interest.

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