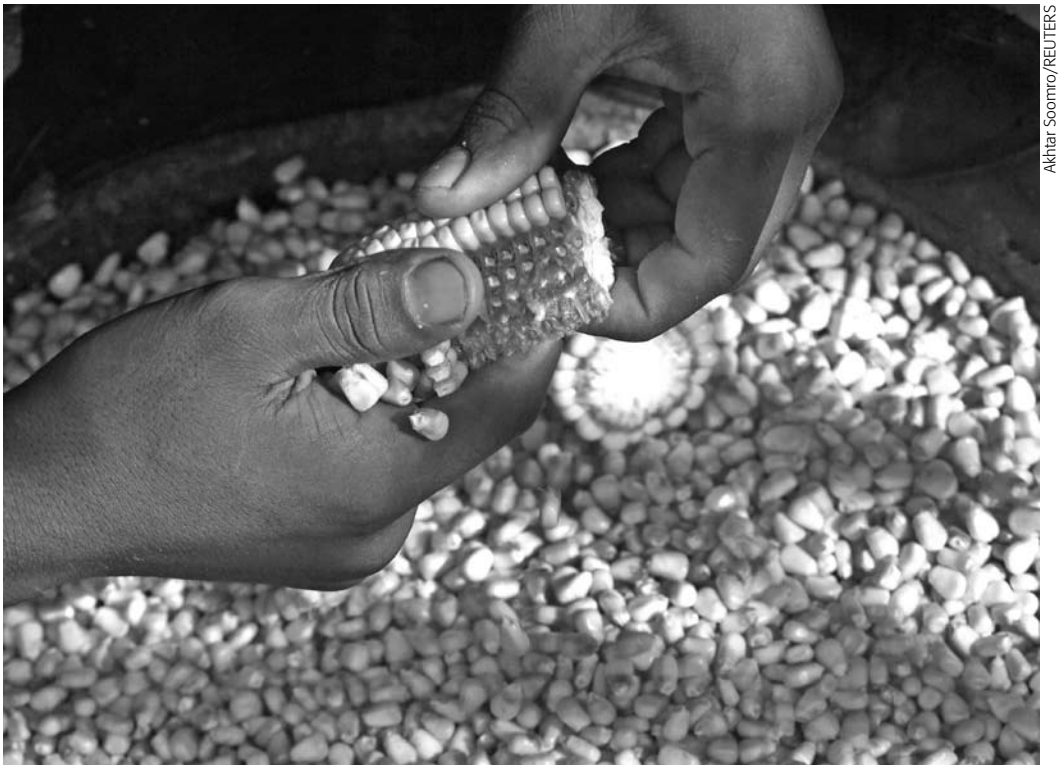
Eating Patterns in Mexican and U.S. Marginalized Groups in the 1940s

Bernardo Olmedo Carranza*



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Introduction

"Mesoamerica has been the origin and center of genetic diversity of some of humanity's most important food crops. Suffice it to mention just grains like maize and beans, plus other crops like tomatoes, chili peppers, squash, amaranth, cacao, vanilla, different cacti, and foods made from insects and edible mushrooms as merely a sample of the food and nutritional wealth our region has contributed to the world."[1] A 1940s study of the poorest population in the United States contrasted with a similar one using the same research and analytical parameters but among residents of an indigenous community considered among the poorest in Mexico reveals the wealth of Mesoamerican eating patterns. The indigenous community located in the semi-desert area of the Mezquital Valley in the central Mexican state of Hidalgo, with its particular consumption patterns and cultural identity, is contrasted with the eating patterns constructed in U.S. society, a prism of diverse cultures that also generates a specific way of eating that is not only low in nutrients, but particularly harmful.

The six-decade-old study of the United States showed the detrimental effects of eating habits based on what today is known as "junk food." The Mexican sample, on the other hand, revealed the beneficial effects of a food culture based on the consumption of natural foods in accordance with the Mesoamerican food economy, apparently "austere," but suited

*Researcher at the UNAM Institute for Economic Research. bolmedo@servidor.unam.mx.

to this population's basic needs, using fundamentally white maize and its derivatives, beans, chili peppers, tortillas, and *pulque* (a beverage made from fermented agave sap).

Unfortunately, due to a process involving both imitation and marketing-induced subjection and disinformation by huge multinational corporations, particularly from the United States, the benefits of an ancient Mesoamerican tradition have been severely transformed. Second only to the U.S. population, Mexico's inhabitants are the world's most obese, with the corresponding negative impact on their individual health and the country's development.

According to this study, the diet of one of the poorest sectors in Mexico was highly nutritious and resulted in good teeth with none of the problems of obesity, high cholesterol, triglycerides, glucose, or other harmful substances. Neither was there any hypertension, colon cancer, diabetes, obesity, or caries. The indigenous population studied did not have deficiencies —but rather even excessive natural production— of calcium, vitamin C, and other nutrients derived from the consumption of vegetables and meat, even if it was of tiny species like insects, with high protein content.

NUTRITION AND CULTURE

Appropriate nutrition, plus efficient, broad health coverage, creates a less costly public health system because it produces a healthier population. Thus, we underline the importance of local food cultures —in this case the anthropologically delimited and broadened out Mesoamerican one— as opposed to the standardized, homogeneous Western pattern of consumption disseminated as a result of the internationalization and transnationalization of food production and consumption.

Generally speaking, our local cultures are not improvised: they are the result of diverse factors and have generated their own forms of survival and development using the resources available. A culture generally depends on what it finds around it in nature. Due to the development of communications and trade, some cultures adopt aspects of others, but these do not become predominant. Paradoxically, these same advances have left local cultures extremely vulnerable and, in certain cases, deprived of their originality, or worse, having lost their identity altogether.

Today, this phenomenon is strikingly evident in the case of Mexico. We must not forget the close historic link between ancient Mexican culture and the nutritional prototype of the American Way of Life, disseminated worldwide: so-called junk food. It has been proven that this kind of transnational eating pattern causes malnutrition, disease, and other new evils in previously local cultures.

For the purposes of this essay, we will cite some results of a survey on nutrition done in 1943 and 1944 in the Mezquital Valley by American Richmond Anderson.[2] His study produced rather surprising results, since the region where it was carried out is historically one of the country's poorest and most backward.

This study came after another done shortly before in the United States that sampled marginalized sectors of the population. That is what made it seem possible to compare it with Mexico. However, the enormous difference is that the Mexican target population had an ancestral food culture history: the Otomís from the Mezquital Valley, a region lacking certain resources, among them water, but where the population's diet was made up of foods found in their semi-desert surroundings.

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Since pre-Hispanic times, these people have consumed an apparently small variety of foods, basically of plant origin. The study omits products of animal origin since what it found was very small species (small animals and insects) that still exist, but are less and less common. It should be pointed out that some of these have become highly prized, costly gourmet products.

THE RESULTS

The survey is very revealing. In terms of caloric consumption, the social group studied in Mexico was slightly below that reported in a similar poll done at the same time in Mexico City, but curiously on a level closer to what was found in certain regions of the United States. However, the average

calorie intake of Mezquital Valley residents was higher than that of Afro-Americans in the regions studied.

Given the fact that the Otomí indigenous people are slender and short of stature, on the average, their calorie intake was higher than their basic requirements. The energy they consumed came from a diet relatively high in carbohydrates and low in fats and proteins —although the protein count is quite debatable after looking again at the importance of insects as an enormous protein source. A substantial part of this energy came from a pre-Hispanic beverage that, despite its production and consumption having dropped, can still be found in Mesoamerica: *pulque*. It is derived from an agave plant related to the one used to make tequila, mescal, and innumerable other beverages, but with a much lower alcohol content and different nutritional characteristics.

The average protein consumption of the Mexican indigenous group was 80 percent of what the U.S. National Research Council (NRC) recommended at the time, even though only 4.8 percent was of animal origin. Not even pregnant or nursing women had serious protein deficiencies.

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Generally speaking the protein nutrition of the Mezquital Valley Otomís was good. Their main source was tortillas (75 percent), followed by beans and *pulque*. It was thought that the insufficient growth of these people may have been due to deficiencies in the quantity or quality of the protein they consumed.

Few clinical signs of vitamin A deficiency were found. Their thiamin consumption was even higher than NRC recommendations, despite the high consumption of carbohydrates. Nevertheless, their riboflavin and niacin consumption was low —only 41 percent of the recommended amount for the former— but without dropping to such a serious level that they were in danger of getting pellagra (today we know that niacin is produced by corn when mixed with calcium oxide slaked with water to soften it in what is called the *nixtamalización* process).

Average vitamin C intake was, on the contrary, quite a bit higher than the recommended amount (142 percent); in adults, this was due to *pulque* consumption. Blood tests showed adequate results compared to those habitually found in the United States. Anemia was uncommon, indicating that iron consumption was rather high. Today we know that high levels of iron are compensated by high levels of vitamin C intake, and the traditional diet, a reflection of the food culture of the social group studied 65 years ago, was already part of their wise daily food equilibrium.

On the other hand, average calcium intake was 85 percent of that recommended at the time by the NRC, a level then considered adequate. This is why no cases of rickets or other calcium-deficiency-related diseases were found. The average consumption of phosphorus was adequate, as was the calcium-phosphorus ratio. Both elements came specifically from tortilla consumption.

The researchers considered at the time that it was not necessary to measure vitamin D consumption among the indigenous group given their great exposure to sunlight, since, as is well known, this is a natural factor in fixing calcium in the human body.

CONCLUSIONS

The diet of the Otomís studied showed very good levels — higher than NRC recommended— of vitamin A, thiamin, ascorbic acid (vitamin C), and iron. Calcium levels were found to be slightly low, but satisfactory.

The consumption of proteins, calories, and niacin was considered slightly low, from the point of view of their quality, particularly the niacin, associated with high consumption of maize. Riboflavin consumption was the only indicator that was insufficient enough to produce clinical signs, although, in summary, only scant clinical indications of nutritional deficiencies were found.

Although the Otomís are short and slender —but not in the extreme— and the children were short and slow to develop, it was not possible to determine if this was due to nutritional deficiencies or it was a racial trait. Given the clinical results, it may well have been associated with the latter or with other factors that had not yet been discovered almost seven decades ago.

Illnesses like hypertension and others that by then the U.S. population was already suffering from were practically

non-existent among Otomís and *mestizos*. Their teeth were excellent and problems of gingivitis were associated more with the almost non-existent use of toothbrushes than with their nutrition. Almost 50 percent of adults had perfect teeth, and the rate of pyorrhea was low.

Even though their diet was high in carbohydrates, they consumed practically no sugars. Their intake of meat, dairy, fruit, and vegetables was extremely low, but their food culture, based on tortillas, *pulque*, beans, chili peppers, and other plants available in the arid, sterile soil of the Mezquital Valley, was generally adequate and sufficient, and their noticeable deficiencies easy to remedy. From this we can conclude that the food culture of these indigenous people, which is fundamentally the same as that of the Mexican people as a whole, enriched in the different regions by other foods available in each locality —vegetables and animals— has been appropriate, balanced, healthy, and wise.

The case of tortillas and the corn dough with which they are made is unique in the world. Corn by itself does not have great nutritional value. However, it is the *nixtamalización* process it undergoes that enriches the end product. Even though its carbohydrate count is high (about 45 percent of its total weight), these are unrefined carbohydrates, and even when tortilla production is mechanized, "whole" corn kernels are still the raw material. Recently, in the process to make the corn dough, other nutrients have been added like prickly pear cactus flour made from this highly nutritional plant with excellent digestive properties. Tortillas are also very moist (about 40 percent moisture), with high levels of proteins and fiber and low fat levels. They also have phosphorus, calcium, magnesium, iron, zinc, copper, magnesium, sodium, potassium, thiamine, riboflavin, niacin —the latter was not very easily detected in the 1940s when the comparative study was done— folic acid, pantothenic acid, and vitamin B6.

Beans are an important source of vegetable protein, complemented with maize and a small amount of chili peppers. Suffice it to mention that no matter what the variety, fresh or dried chili peppers contain proteins, carbohydrates, calcium, thiamin, riboflavin, niacin, retinol (vitamin A), very few fats, and are an important source of vitamin C. The effects of this particular variety of *capsicum* give it wide-ranging, diverse effectiveness for problems stemming from rheumatism and rheumatoid arthritis.

In summary, the results of the survey are surprising and lead us to a reflection about the need to recuperate much of our forgotten Mesoamerican culture, to keep alive practices that fortunately still survive, like the production and consumption of tortillas, beans, chili peppers and *pulque*, for the benefit of Mexican society. We should rediscover, recover, and preserve our ancestral, traditional food culture; take advantage of the healthiest aspects of other non-traditional foods both from Mexico and abroad; promote the consumption of whole-grain products; and create a counterculture that will steer us away from transnationalized eating patterns based on high consumption of fats, salt, carbohydrates, and refined sugars and/or sugar substitutes, as well as other highly harmful agents. We must give our natural foods the status of "appropriate for healthy consumption," to favor individual health and that of society. It is important to underline this, which is linked to the concluding reflection of Anderson's study: "You get the impression that, despite the sterility and poverty of the region, over many centuries, its inhabitants have developed eating habits and a way of life adapted to that environment. Any attempt at changing it would be a mistake as long as their economic and social conditions are not improved and truly more favorable conditions achieved."[3]

Our purpose is precisely to reproduce the traditional food culture on all levels of Mexican society, both in Mexico and abroad, through the so-called "magic foods,"[4] "ethnic and nostalgia products,"[5] particularly sought out by those who have migrated to the United States, and to avoid products that are bad for the health of both the individual and the collective. VM

NOTES

[1] Octavio Paredes López, Fidel Guevara Lara, and Luis Arturo Bello Pérez, *Los alimentos mágicos de las culturas indígenas mesoamericanas*, first edition (Mexico City: FCE/SEP/Conacyt/CAB, 2006), p. 9.

[2] *Revista de Investigación Clínica* 2, vol. 45 (March-April 1993), Mexico City, published by the Instituto Nacional de la Nutrición Dr. Salvador Zubirán; Bernardo Olmedo Carranza, "El Valle del Mezquital: ¿nutrición inadecuada? *El Financiero* (Mexico City) May 19, 25 and 26, 1993; Margaret Mead and C. E. Guthe, "Manual for the Study of Food Habits," *Bulletin of the National Research Council* (Washington, D.C.), 1945. Margaret Mead has been cited as the author of one of the pioneering works on food habits in the United States. See also Míriam Bertrán Vilá, *Cambio alimentario e identidad de los indígenas mexicanos* (Mexico City: Programa Universitario México Nación Multicultural/Coordinación de Humanidades, UNAM, 2005), p. 20.

[3] *Revista de Investigación Clínica*, op. cit.

[4] Octavio Paredes López et al., op. cit.

[5] For more on "ethnic and nostalgia" products, see another article by Bernardo Olmedo, "Latin American Migrant Markets in North America. 'Ethnic and Nostalgia' Products," *Voices of Mexico* 86 (Mexico City), pp. 57-60. [Editor's Note.]