READING 14-1

V.W. von Hagen 1957. The Ancient Sun Kingdoms of the Americas, The World Publishing Company, Ohio

Aztec Milpa Fields

Aztec life revolved around the *milpa*—the cornfield. And for good reason. No other civilization that has left its footsteps on the road of time has been predicated on the use of a single plant such as Indian corn (*centli*). Earlier than 3000 B.C., the cultures of the Middle East—Assyrian, Sumerian, Egyptian—were cultivating such leguminous plants as pulses, peas, lentils, vetches, whose high protein content made storage easy in semidesert lands. As for cereals such as wheat, "that most important extra-tropical grain," [emmer, an early wheat, has been found in Troy II (2300 B.C.)] it had been cultivated in India since Mesolithic times."Wheat ... barley, rye, millet, panic-grass" were all part of the diet and economy of all who flourished in the Fertile Crescent. Yet none of these aforementioned civilizations depended solely on one plant as did those of Mexico and Yucatin.

The Egyptians, to give one pertinent example, according to the Papyrus Harris (Dynasty XX, *c*. 1200 B.C.) knew over thirty types of bread—the Aztecs had one. The Egyptians' diet was varied: peas, lentils, watermelons, artichokes, lettuce, endive, radishes, onions, garlic, leeks. They had fats, both vegetable and animal—the Aztecs had none. They had beef, honey, dates, as well as milk and cheese and even butter, which was unknown to the Aztecs until A.D. 1525. The stomach led in this refusal of man to accept his environment as fixed—it is from the kitchen that so many technical operations have sprung, e.g., furnaces, ovens, preservation, fermentation, grinding techniques. Independent inventions in the kitchen can be easily discerned by comparing the Egyptian women making unleavened bread, as shown in the drawings on the wall at Thebes circa 1900 B.C., with the Aztec method of making corncakes in A.D. 1520.

Corn made settled life possible in Mexico. Since these people had but one such grain, it is understandable why it played so great a part in ritual and in practice. The origin of this grain is enveloped in botanical controversy. Although some geneticists believe that the greatest diversity of varieties comes out of Mexico, this is disputed. Paraguay is suggested as the point of dissemination by some, challenged by others. For the moment, "present evidence points to a dissemination in all directions of the early forms from an unknown center." In the beginning of the twentieth century, it was easy to state that maize—(the Awarak-Carib name for corn)—developed out of *teosinte*, which was considered by most to be the ancestor of corn much as wild grass was the ancestor of wheat. Today the botanical applecart has been upset by findings that point to a hybrid between a species of tripsacum and maize as the original corn, (both *teosinte* and tripsacum will cross with maize); and one of our great geographers who is not easily stampeded into accepting the idea of Asiatic contacts has stated—to make it still more complex—that the origin of maize "cannot even now be attributed with certainty to the New World as long as certain matters concerning Southeastern Asia remain unsolved." Whatever the distribution centers, well-developed corncobs two inches in length have been found in graves on the desert coast of Peru, radiocarbon-dated 2500 B.C. Since one must begin at the beginning as Alice did in her Wonderland, we can begin at that date and allow those who wish to follow the maze of maize to pursue it. The starting point is in the bibliography.

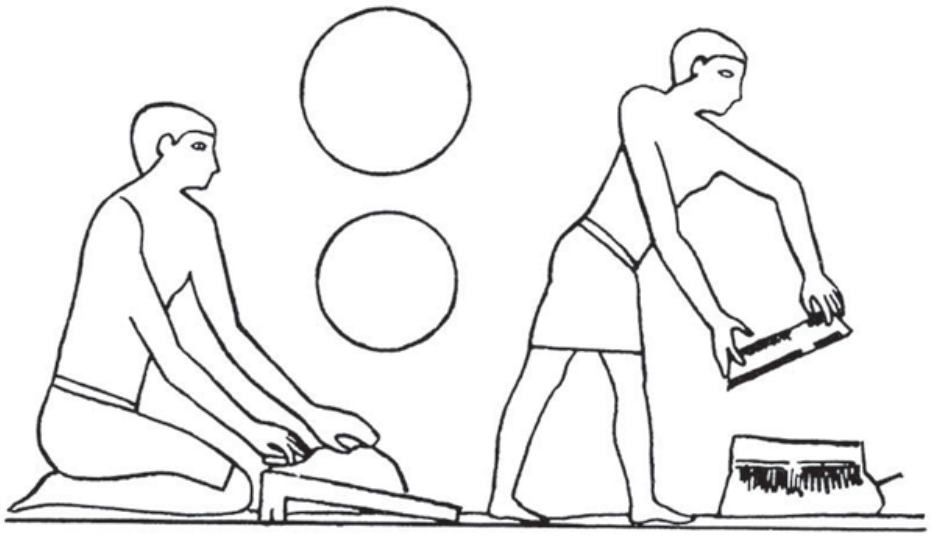
Milpa culture has remained unchanged for three thousand years. What is true of Aztec farming technique is true of all others in this milieu. Milpas were located two to fifteen miles from the dwellings. If the land was forested, trees were ringed a year before and felled with ax-shaped stone celts. The bush and trees being burned, the ash was turned into the soil; larger trees were allowed to rot with time and provide humus. The earth was turned over and prepared by means of a digging stick (*coa*). March was the planting time. Corn kernels were placed in holes four to five inches deep; in temperate zones beans and squash were put in at the same time; corn, growing faster, acted as host plant for the vines. April brought rain, and if the desired rain was withheld by the gods, sacrifice was made to Tlaloc, the rain god. Of the eighteen months of the Aztec year, almost every one had its ceremonies and dances connected with the growing and harvesting of corn. The corn ripened in July and there was a feast for the Goddess of Young Corn (see The Festival Days, page

97). In August the rain which had been petitioned in April had to be held back; the Aztec somehow had to cajole the gods not to send rain which would spoil the harvest. So, another sacrifice, this time to a mature woman representing the Goddess of Ripe Corn.

What did all this yield the Indian in food? The studies made among the Mayas can apply approximately to the Aztecs, even though Maya agriculture in the hotlands had slightly more yield. An acre gave twenty bushels of husked corn, a bushel being fifty-six pounds, which, fortuitously, coincides with a "cargo," of what a man could carry on his back. The average size of a milpa in Yucatán was ten acres; it would have been slightly less in the land-hungry Aztec territory. This gave an Aztec family a yield of two hundred bushels of corn yearly, or 11,200 pounds. To fell, plant, weed, and harvest this land with the aid of his wife and, say, four half-grown children, the Aztec farmer would have to expend about two hundred days. In the same field he would also plant beans, squash, pumpkins, adding to the yield of the field and also to be included in the produce of these two hundred days. Now since the average consumption of corn for tortillas is one and a half pounds a person a day, the family consumed only one third of what it produced, or 3,380 pounds' consumption a year as against 11,200 of yield, allowing a surplus for barter, trade, work taxes, and religious taxes. With a surplus of 165 unused days unless he was called to battle, the Aztec could use these in his particular craft, making grass mats, fiber sandals, canoes, weapons, etc. These he bartered for needed things at the markets.

Corn was the "basic." What else? Beans (*etl*) were grown in the same milpa, using the cornstalks for support, and squash and pumpkins, all of the genus Cucurbita, as well as the crooked-necked variety (*ayote*) were planted in between.

The Aztecs never had the other "basic," the potato, which nourished half of prehistoric South America; as a cultivated plant it was unknown throughout Mexico *until it was brought to them by the Spanish*. It first was carried to Spain, then it appeared in Europe as an article of diet for the poorer man, being introduced into England by Sir John Hawkins in 1565; then it returned to America. In Mexico it appeared "as an item of European diet," and in present day Mexico, the potato is grown only for sale to those of a higher social position. Moreover, the potato was nowhere cultivated in Mexico or North America until after the Conquest. This is curious because wild tuber-bearing *solanums* are found as far north as Colorado. When the potato arrived, the Aztecs did not even have a name for it; they called it pelon-camoti, "the Peruvian sweet potato." As will be seen *there was never any direct communication between Peru and Mexico* until the white man appeared.

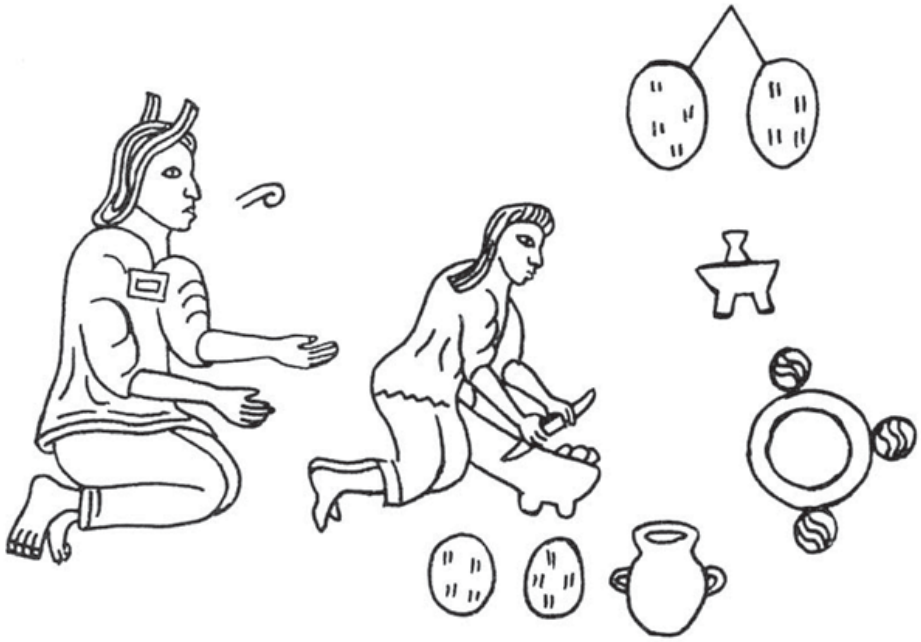


Egyptians making bread; from a mural at Thebes dated 1900 B.C. The meal is ground on a stone mortar, and the unleavened bread is baked on a flat oven. The baked bread is illustrated by the two circles.

The Aztecs had the sweet potato (*camoti*); it grew in the warmer valleys below 6,000 feet. An *ipomea*, a tuber-bearing morning glory, it is one of a great family of over one hundred species found throughout the world. The Chinese had the, yam, which is Old World in origin; they called it *shu*. This yam, which is a *Dioscorea*, is found throughout Polynesia extending down to New Zealand, where it was assiduously cultivated by the Maoris. But one cannot botanically equate the *camoti* with the yam; they are different plants, though they are constantly confused with one another in the United States. Few Europeans are acquainted with one or the other so that when Thor Heyerdahl, the Wrong-Way Corrigan of anthropology, wrote didactically that "Tiki brought ... in the fifth century the Peruvian sweet potato to New Zealand," it is the apogee of botanical ignorance.

The Aztecs developed, if not all the plants, then the names of much which is common on our table today: tomatoes (*tomatl*) grew below the frost line, planted in dormant milpas; the biting hot peppers (*chilli*), all varieties of capsicum, grew beside the *tomatl*, the gelatinous weeds valued as food for infants and the sick; various amaranth pigweeds, which they called *huautli*, were cultivated and made into flat cakes. Pineapples, which originated in the warmer areas from Panama to Brazil, reached Mexico probably from the West Indies and were grown as far north as Jalisco, appearing as high as 6,000 feet altitude. When they could, the Aztecs cultivated them. The very observant Jesuit traveler José de Acosta tasted them in Mexico in 1565 and found them "very coole, full of liquor and of easie digestion and in time of heate, fit to refresh." Cortés sent one to Spain "to our Emperor Charles which must have cost much paine and care to bring it so far ... yet he did not trie the taste."

Avocados—the Mexican word *ahuacatl* evolved into *ahuacate*, avocado—were grown in the warmer valleys of Aztec territory. The chewing-gum tree chicle-zapotl has come directly down to us in name and product. Chocolate (chocolatl), the beverage and the word, came to us from the Mexican farmer who cultivated the tree when his lands reached the lower, warmer areas; it thrived on the Pacific side as far north as Tepic. Everywhere chocolate appeared as an important element in native culture. It was an Aztec passion, sweetened with wild honey, perfumed with vanilla, tinctured with *achiotl*. Moctezuma quaffed it from pure gold cups: "a certaine drink made from cacao…served…with great reverence."



An Aztec girl being instructed by her mother in the art of making corncakes. She grinds on a stone mortar. The circle in front represents the baking device, the cumal. On the wall are the baked cakes. From the Codex Mendoza.

The preparation and working of the milpa cornfield was collective. Members of the clan assisted one another, and when a farmer-warrior was away to the wars, his fields were cultivated by others of his clan. While the number of plants under cultivation seems impressive, agriculture was not as advanced as among the Incas. They did not prepare elaborate terracing as was done in the Andes; they were not soil-makers, except in the expedient of the *chinampas*. They had no fertilizer other than their own feces, where the Incas had bird guano and llama offal. Irrigation was casually developed because of the nature of the land; the run-off of the rain could not be harnessed as was done in Peru. Irrigation techniques, which are inseparable from a developed agriculture, were of a poor order. The Aztecs' dependence on rain is the "reason why" for the ceaseless preoccupation with the appeasement of the gods and with conquests, the wars for more tribute and for more sacrificial victims in order to cajole the rain god into proffering the withheld gifts of rain. As the good will of the rain god could only be sustained by a diet of human hearts, and as these could only be provided by taking prisoners in battle, a long peace was a disaster. Only in perpetual war was there safety.

It was a nightmare.

Aztec cornbins in which the harvested grain was kept. At the right, one woman stores corn grains in a large ceramic urn, another woman holds the tamale, still a popular food after three thousand years.