

AN INDIAN GARDEN AT SANTA LUCIA, GUATEMALA

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A GARDENER OR BOTANIST of north European antecedents accustomed since childhood to associating the orderliness of field crops and of vegetable gardens with industry and thrift, has difficulty in evaluating the native gardens of Central America. Sometimes he does not even recognize them as being gardens. Only gradually does he come to realize that what at first sight seemed to be rather weedy dump heaps are actually efficient and productive. Understanding breeds interest as well as respect. A consideration of these native gardening techniques gives one new insight into the probable history of various cultivated plants and the evolution of agriculture. It also suggests that some of the problems of tropical and subtropical agriculture might be solved by a judicious blending of aboriginal and modern practices. These Indian gardens of Central America therefore seem to be worthy of more than passing mention. The following article attempts to map and describe a fairly typical example and to suggest the bearing of these data on various important problems.

The little town of Santa Lucía, just off the highway between Antigua and Guatemala City, was selected as an effective spot for studying Indian gardens. On the one hand, the town is so Indian in its general aspect that its gardens may be taken as fairly typical of the Guatemala highlands. On the other hand, the presence of one or two Spanish-speaking *finquero* families made it easier to locate gardens to visit and to ask various questions about the plants and their uses than in a purely Indian village. I am indebted to Señor San Salazar for various courtesies on this and previous visits to Santa Lucía and to Dr. Edgar Vestal of the Iowa Research Center for transportation and companionship.

Aside from the homes of a few well-to-do families, practically the entire town is built of corn stalks (*Zea Mays*). The large, sturdy-stalked strains of maize common to the lower parts of the Guatemalan highlands lend themselves so well to walls and fences that one suspects that they must have

been deliberately selected for this purpose over a long period of time. Practically all the fences in town are of corn stalks, as are most of the granaries, the various outbuildings, and many of the houses. The latter are single story, usually with a thatched roof.

The garden chosen for detailed mapping was one of a series which ran between two roughly parallel streets. Though some of the gardens are adjacent to the homes to which they belong, this one was located blocks from the owner's home. Cornstalk fences, about shoulder high, separated it from the street, both in front and in back, and along one side. Along the other boundary was a severely pruned hedge of "chichicaste" (*Urera sp.*), a woody relative of the nettle, used by the Mayans. The garden was longer than wide and was set with fruit trees of various ages, more or less in rows, at right angles to it length. There were two avocados, one of which was very large. Of European fruits there were nearly a dozen small peaches, a plum, a quince, and a fig tree. There was one small-fruited species of *Musa*, the little plantain-banana known locally as "guineo." There were two trees of another species (*Musa ensete*) or "maicena," whose flat green leaves are used like wrapping paper in taking things to and from the market and as a container in cooking tamales, etc. There were several of the distinctive Guatemalan fruits; three trees of *Spondias*, one of *Annona*, and one of the Central American hawthorn, *Crataegus pubescens* or "manzanilla" from whose fruits, the size of a small plum, a delicious conserve is made. There was also one tree of *Casimiroa edulis*, the "matasano," and a single large organ-pipe cactus which was covered with ripening fruit at the time of my visit.

In the sunnier intervals between the trees and in rows parallel to them, were two kinds of maize, one of which had ripened some months before and whose dry stalks served as a trellis for a luxuriant growth of garden beans. The other and much taller variety was just maturing in December. At scattered points about the garden were plants of various scarlet runner beans (*Phaseolus coccineus*), a species whose seeds in brilliant variety are commonplace in the local markets.

Unlike most of the neighboring gardens there were relatively few garden flowers. Along one of the fences a poinsettia was in bloom and a beautiful climbing tea rose was

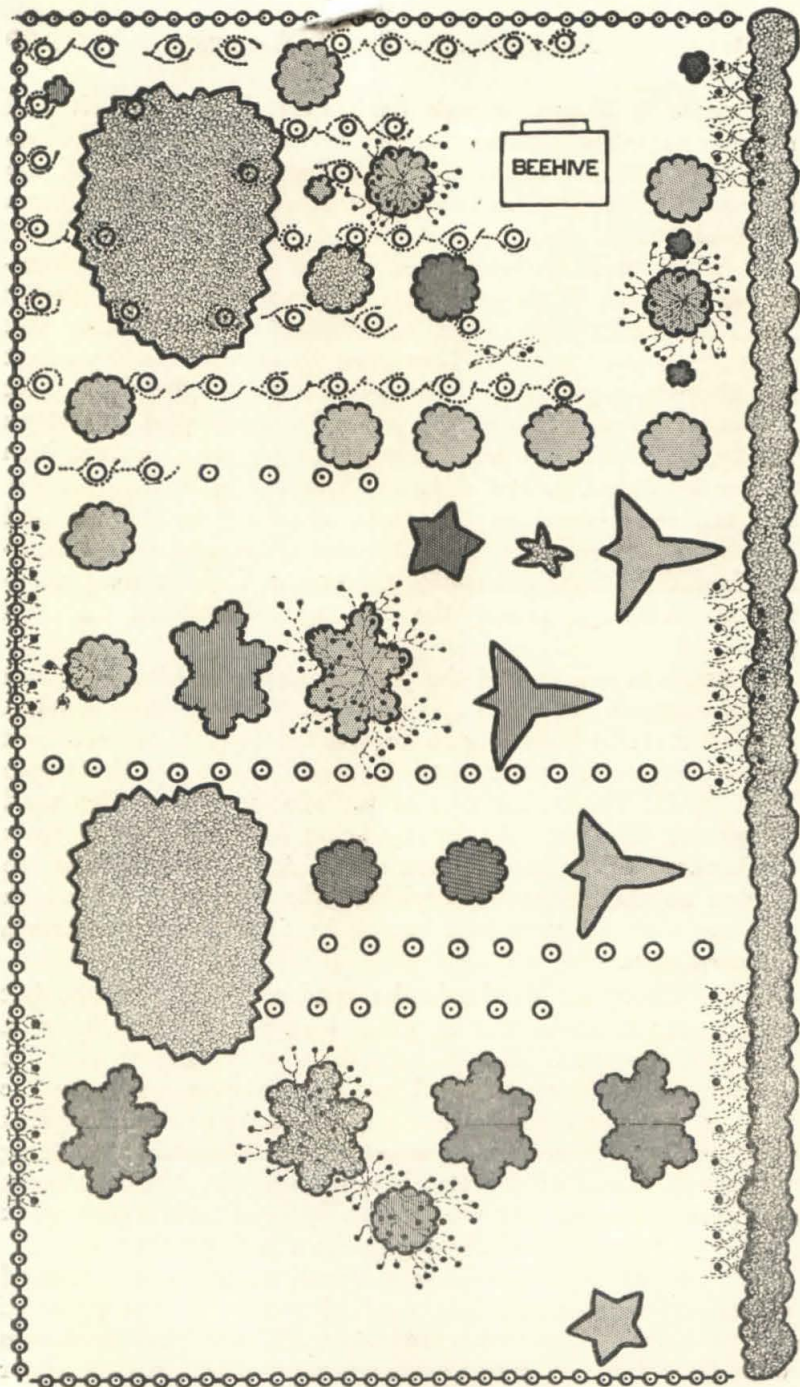
covered with bloom, though fresh cuts showed that it had recently supplied flowers for the market or the home. Two good-sized coffee bushes were growing in the shade of the larger trees. There were two plants of rosemary, one of them of considerable size.

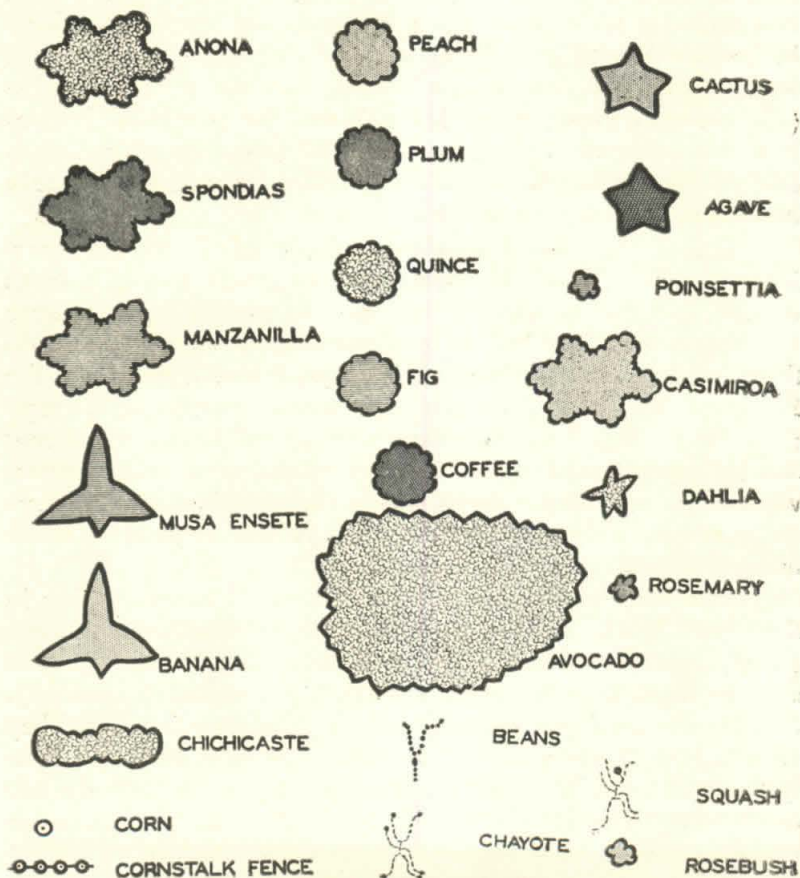
All of these various trees, shrubs, and vegetables formed the backbone of the garden, a framework which practically from one end to the other was draped with climbing and scrambling cucurbits. In December these were so luxuriant that the whole garden had the aspect of a tangled bower. At one point I saw leaves of the perennial cucurbit, *Cyclanthera pedata*, the "caiba" whose large fruits are an important item in the local diet. Large vines of "chayote" (*Sechium edule*) had covered several of the trees, climbing to the top and hanging down on every side. At least three species of cucurbits including the black-seeded *Cucurbita ficifolia* were growing in the hedge, among the bushes, and between the corn plants.

Towards one end of the plot, a simple beehive had been fashioned from old boxes and tin cans. Near the other a small pit had recently been dug to harvest the large nutritious root of the chayote, a rather tasteless vegetable, one of the staple local foods. The tender tips of the vine itself are also used for greens. The pit was already being filled with waste from the house, corn husks and corn stalks. At the other end of the garden as the beans were picked, the cornstalks on which they were borne were half buried in crude furrows between the corn rows.

By European standards the garden was disorderly, but productive; helter-skelter in general aspect but intelligent in its basic patterns. It was simultaneously an orchard, a vegetable garden, a medicinal garden, a flower garden, a bee yard, a garbage disposal unit and a compost heap. It was a continuous performance, constantly in use, continually being replanted. Some of the peach trees were in bloom, though the maize harvest was only partially complete. Every week in the year would find the garden in actual production.

In a garden such as this it is easy to see how cultivated plants and weeds could have evolved as soon as any group of people became reasonably sedentary. If the first gardeners were fisherfolk, as Sauer has suggested (1947, p. 75), their





Legend for preceding figure.

On the
opposite page

Diagram of an Indian Garden at Santa Lucía, Guatemala.

refuse heaps would have automatically provided an open habitat in which weedy plants could have survived and in which chance hybrids, instead of being selected against, would have been at an evolutionary advantage (Anderson, 1949 p. 69). A suspicious number of the most anciently cultivated plants in the New World have the aspect and characteristics of refuse weeds. Such certainly are sunflowers, both the annual complex (*Helianthus annuus*, *sensu latiore*) and the perennial Jerusalem artichoke, such are the weedy and semi-cultivated *Cucurbita foetidissima*, and *Cucurbita ficifolia*, as well as the grain amaranths and chenopodiums.

Though the clean-crop agriculture of European-Americans my date backs to classic and Egyptian times, it gives no such suggestions for the evolution of gardening techniques and the unconscious breeding of weeds and weed-crops as do these Indian garden-orchard-trash heaps. It would seem as if the European agricultural pattern (garden, orchard, single crop) must be a much later and more specialized development and that the purposeful but helter-skelter mingling of fruit, flowers, vegetables, and staple crops which characterizes southeastern Asia, Africa, Polynesia, and the New World stem from much earlier origins.

At a time when the disastrous effects of over-cropping in the New World are of national and international concern (Vogt, 1948), these balanced and productive Indian gardens deserve more than passing attention. They conserve humidity, they reduce erosion to a minimum, they keep up fertility. They certainly seem more similar to natural vegetation, more likely to produce a permanent agricultural pattern than do our clean crop methods. Though they do not, at first sight, seem well adapted to modern mechanized farming, it would seem that if these old techniques were given a little more respectful consideration, then someone with imagination could work out efficient patterns for large scale combinations of field, orchard, and garden crops. It would be interesting to have detailed studies of the actual productivity per man hour, per acre, per year of one of these multi-purpose gardens.

It is commonly said that "Time means nothing to an Indian" and north Europeans are apt to be contemptuous of the way an Indian budgets his day. This would seem to be one of those cases where (when we take the trouble to go to