there were already other and faster ways of reducing the Indian population had they wished to do so.

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A CARVED WOODEN AX HANDLE FROM NICARAGUA

M. W. STIRLING

ABSTRACT
A well-preserved carved wooden ax handle was recently found on the Chiltepe Peninsula, Lake Managua, Nicaragua. The upper portion is in the form of a king vulture. The specimen is unique, since wooden objects in this area are rarely preserved. It was probably the work of the pre-Columbian Mangue Indians.

THE PENINSULA of Chiltepe juts into Lake Managua just north of the city of Managua. Near the beautiful little crater lake Jiloa on the peninsula is the Ceramic Chiltepe, which manufactures building blocks and tiles. The pits from which the clay is obtained are near the edge of Lake Managua about a half mile north of the factory. In the latter part of 1962, one of the workmen digging for clay encountered a beautifully carved wooden ax handle. A woman employee of the factory acquired it and gave it to her young son, Frank Jarquina Anaya.

FIG. 1 [STIRLING]. Carved wooden ax handle from Nicaragua. Three views. Length 14 inches.

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The curator of the Managua Museum, Señorita Crisanta Chaves, had befriended the boy, and he presented the specimen to the Museum.

In March, 1963, we were in Managua, saw the ax handle (Fig. 1), and photographed it. It is made from a hard, dark-brown wood and is so well-preserved that it still retains most of its polish. One side, presumably that on which it lay in the ground, is somewhat eroded (Fig. 1 b).

The handle proper is decorated in two zones with a "woven" design, while the head is in the form of a bird roosting on a perch. Although conventionalized, the carving is skillfully done, and the bird can be recognized as a king vulture.

With the stone celts in place, the bird faces away from the bit. The butt of the handle is somewhat expanded. At about the point where it would be gripped, the handle is perforated fore and aft with a long narrow slot (Fig. 1 c) probably for the attachment of a thong or decorations. The specimen is exactly 14 inches long.

We visited the clay pits where the find was made but saw no indications of an occupation site. As the Indians living on the Chiltepe peninsula at the time of the conquest were the Mungue, it is not unlikely that this handle is an example of their art work.

In Costa Rica and Panama the king vulture was a common decorative motive, both in metallurgy and ceramics, and it is interesting to find its use this far north.

Since archaeological specimens of wood are rarely preserved in this region, the object is of special interest.

Smithsonian Institution
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AGRICULTURAL TERRACES IN CHIBCHA TERRITORY, COLOMBIA

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Abstract

Reinvestigation of terraces first reported by Haury and Cubillos indicates that they were made by man, although some natural formations exist that resemble terraces. The terraces near Tocancipá and Facatativá are probably prehistoric, but those at the Chocontá, Tunja, and Soacha localities are of a different type, consisting of ridges designed to carry drainage ditches. Such ditches have been built in recent years and thus far have no prehistoric associations.

AGRICULTURAL TERRACES in Chibcha territory were first reported by Haury (1953: 77) and Haury and Cubillos (1953: 83–6, Fig. 1). Hillside terraces without stone facing were noted at eight localities: Tunja, Tausa, Chocontá, Zipaquira, Tocancipá, Guatavita, Facatativá, and Soacha. A prehistoric date, that is, before 1537, was suggested on the basis of the following arguments: (1) such terraces are no longer built; (2) modern peasants say that they were made by "los indios"; (3) modern property-line trenches crosscut them in some instances; and (4) evidences of preconquest occupation were found on some, particularly probable house-platforms at Pueblo Viejo (Facatativá). The precise function of the terraces remained in doubt, the dominant suggestion being that they were intended to control soil erosion. Their existence was interpreted as indicating that the valley floors were not available for agricultural use because of the presence of marshes and lakes, and that the Chibcha were forced to cultivate steep hillsides. This factor was used to support a proposed downward revision of preconquest population estimates. It was argued that the terraces did not necessarily call for a vast reservoir of well-organized labor, but could have been built by means of mere neighborhood cooperation between small farmers, each family terracing its own land and making its own terraces continuous with those on adjoining farms.

In the course of a year's field work in this area (February, 1960, to February, 1961), I had an opportunity to re-examine most of these terrace localities and to note similar phenomena at other points. Preliminary reconnaissance made it clear that a careful examination of each reported instance was desirable because there were several types of natural terraces, some of which may be confused with man-made terraces. Surface slumping sometimes forms scattered, terracelike cuts in a steep slope. Rock strata close to the surface may break away in a steplike pattern if the fracture planes are horizontal, and vegetation lines following horizontal fracture planes often look like terraces from a distance even if actual steps are not present. Hillsides used for cattle pasture commonly develop a pattern of narrow terraces because the animals tend to move back and forth in an approximately horizontal plane, but the resulting path lines are so narrow that they can be readily distinguished from any kind of functional agricultural terrace.

Further investigation of the reported terraces revealed that they are of more than one type. In particular, those at Tocancipá and Chocontá differ notably in form, associated artifacts, and distribution with respect to the terrain.

The terraces near Tocancipá consist of steplike concentrations of earth about 10 m. wide and up to 100 m. long, the face of each step being 3 m. or more high. Since the earth is not held back by stone retaining walls, the outer face of each terrace — the riser, so to speak — shows a decided batter; likewise, the working surface or "tread" of each step is not absolutely horizontal but tends to follow the slope of the hill. Nevertheless, they represent considerable modification of the normal surface. They frequently cross natural gullies and, as reported by Haury and Cubillos (1953: 84), subsoil is often visible on the uphill side of the near-horizontal portion. These facts appear to vitiate any possibility that the features are the result of natural erosive forces, and they are far too wide and high to be cattle paths. Numerous sherds were collected from the surface; a few, mostly found near modern houses, were of the distinctive modern peasant