

all over the country, and even Mexico, to hire costumes, for their ceremonial dances, from a man called Miguel Chuj (El Moreno), who has a large store crammed full of all sorts of paraphernalia for that business that he has inherited from his father and grandfather, who in their time carried on the same trade. The shop is stocked with masks of all kinds; clothes of every variety that are used in the dances, with especially gorgeous velvet suits and wigs for personages representing Don Pedro de Alvarado and his principal aides, about whom some of the dances are performed. The dance costumes rent anywhere from a dollar a set to perhaps as high as one hundred dollars for a complete outfit; it depends upon whether the costumes are much ornamented or not, or if the dance consists of many performers or few."²⁵

During the intermission everyone had dispersed, most of the crowd going down the street to the scene of the rooster pull. At 3:40 the cocks were cut down for the day. Dancing began again at 3:45. The "crowns" led, and following them were the "tricornes," deer, etc., with the *monos* last. One line went to the northeast and the other to the southeast corner and, in diagonal lines, crossed in the center of the plaza, turned back and repeated the figure. This movement lasted for thirteen minutes and was followed by a five-minute recess. Then the participants lined up along the west side of the church plaza and stood for five minutes facing the two tall crosses. They stopped dancing, all was quiet, and then one after another the "crowns" and two of the "ricorns" addressed prayers toward the crosses, while lifting the right hand in a gesture of throwing something toward them.

(To Be Continued)

25. Osborne, 1935, p. 85.

MODERN JACALES OF PRESIDIO

By DONALD J. LEHMER

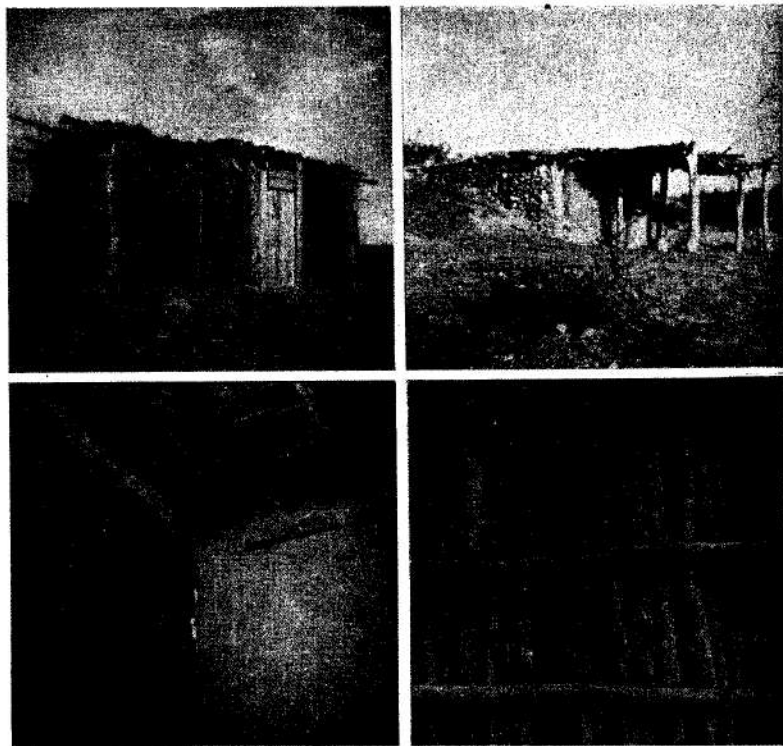
MUCH OF THE archaeological work done in the Southwest in recent years has dealt with the type of structure commonly known by the Mexican name *jacal*. There are certain regional variations in the interpretation of the word but it usually connotes a structure with walls composed of wattle plastered over with mud.

In the section of the Rio Grande Valley which forms the Big Bend of Texas, particularly observed in the Presidio area, *jacales* are built today which appear to be direct lineal descendants of those made by the Indian population several hundred years ago. Models of the latter have been constructed on the basis of material obtained during the work of the La Junta Expedition in the area.¹

The modern *jacales* are made largely of native products with the exception of such manufactured articles as nails, wire, hinges, and a few planks. Aside from labor, the average *jacal* costs between three and five dollars.

In making such a building, the section which is to be the floor is first cleared, and often cut down from a few inches to over a foot below the surrounding ground level. The four corner posts are then set up in holes. They are cottonwood and vary in diameter from six inches to over a foot. Additional wall posts are set to give added strength. The ridge pole and beams connecting the tops of the wall posts are then raised to complete the frame. They are usually set in crotches at the tops of the posts, but when these have not been left they are nailed and lashed in place. The lashings used may be wire, rawhide, or one of the native creepers. Horizontal poles are then tied to the wall posts at inter-

1. The La Junta Expedition of 1938-1939, in operation near Presidio, Texas, was sponsored by Sul Ross College of Alpine, Texas, and the School of American Research, Santa Fe, N. M. Mr. Lehmer was field supervisor under the direction of Charles J. Kelley.



MODERN JACALES OF THE PRESIDIO AREA

Upper left—Typical One-Room *Jacal*. Upper right—Semi-pit House *Jacal*. Lower left—Detail of Interior Wall and Roof. Lower right—Detail of Wall Structure.

vals of about two feet. Two sets are often used, one on the interior and the other on the exterior of the framework.

The wattle is fastened to these poles with tough creepers. The material used today is almost always *ocotillo* stalks, although willow branches or even small cottonwood poles are used. The wattle is daubed over with adobe either on the interior, exterior, or both. Straw or dried grass is usually added to the mud as a binding material. The adobe is applied from the bottom up. When it has dried a second coat, which is carefully smoothed so as to form a plaster, is often applied to the interior.

Roofs have either a single or double pitch, always very slight. *Vigas* are placed from the ridge pole to the beams connecting the tops of the wall posts. Other poles are then laid at right angles across the *vigas* and are covered with a layer of willow shoots or *ocotillo* stalks. The roof is finished off with a layer of dirt. Floors are either packed earth or adobe.

Simple door frames are made of cut lumber, and the doors of planks. Hinges may be either strips of leather or the manufactured variety. Windows are usually simple rectangular openings in the walls, but in the better-made structures they have wooden frames and glass panes.

There is a considerable variation in ground plan within the area. The simplest one is a single-room structure small enough that no central roof supports are necessary. Larger buildings require the additional supports which are placed at intervals on the long axis. A *ramada* is often built adjoining one side of the structure to serve as a sort of porch under which the family lives during warm weather. More complicated *jacaless* are composed of groups of rooms, usually arranged in a single tier, but sometimes so as to form a rough square.

Several examples of a sort of semi-pit house were observed. Both *jacaless* and structures with walls of cobbles set in adobe mortar take this form. The *jacaless* were constructed in the same way as those previously described,

with the exception of their relation to the terrain. Instead of being built on fairly level ground they were set into hillsides. The side of the hill was cut back in such a way as to leave a level floor. When completed, the house had one side which was open for its full length while the other three were built into the hill so as to give the pit effect.

Furnishings are very simple. The cooking is done on an iron range or over fires in the open. Large porous *ollas* for water storage are either suspended from the roof of the house or the *ramada*, or they may be set on short posts with three prongs at the top. Kitchen utensils are mainly of the "Woolworth" variety. Other furnishings, such as beds and tables, are either made by hand or bought from stores in the vicinity. A little native pottery is used, reported to be made by two families on the Mexican side of the river.

Questions regarding the destruction of *jacales* by fires revealed that they do occur, generally starting on the inside in the roof. The roof and roof supports are usually burned and the walls left partly standing. Occupied *jacales* which are kept in good repair will last for more than a generation. Those which are abandoned go to pieces slowly.

The structures described appear to be direct descendents of those built by the Indians in pre-Spanish times. Aside from the addition of a few manufactured articles in the construction, they vary from the proto-types only in the presence of doorways and the absence of deep pits. The house structures which have been uncovered by the La Junta Expedition were set in pits which ranged in depth from ten inches to several feet. Absence of any indications of an entrance passage or doorway has led to the postulation of a roof entrance.

STALLINGS EXPLAINS TREE RING DATING

A RECENT publication of the Laboratory of Anthropology is *Dating Prehistoric Ruins by Tree Rings*, by W. S. Stallings, Jr., a member of the staff who is a recognized authority on the subject. This attractive bulletin, 20 pages in length, is number 8 in the General Series of the institution. It presents for the first time in such concise form a scholarly explanation of tree ring dating that can be easily grasped by any intelligent layman. Included among several illustrations is a double-page chart clearly illustrating chronology building. This paper fills a need that has existed for a number of years. Copies may be secured from the Laboratory for 50 cents each.

NAVAJO SHRINE EXPLORED

AN EASTERN scientist reported the discovery recently of a remote Navajo Indian shrine believed to be the legendary council chamber of the tribal gods. Dr. William A. Gardener of Columbia University announced the finding of a giant grotto in which were four clay images and a 200-foot "mural" of Navajo ceremonial figures and symbols. The cave was found near Round Rock, 100 miles northwest of Gallup, in rugged canyon country little known to white men.

Gardner and his party were led there by Sam Day, a leathery-skinned resident of the Navajo country, who learned of the cave's existence at a tribal "Night Dance."

In the cave they found votive offerings of turquoise beads, corn and pollen piled in front of the clay images, indicative of the Indians' use of the cave as a holy shrine.

The paintings adorning two-thirds of the cave walls were about six feet high, against a background of hand and foot prints, Dr. Gardener said. Both prints and paintings were in colors—red, blue, green, lilac, yellow, black, and brown.