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EXCAVATIONS AT 40LK1, A MISSISSIPPIAN SUBSTRUCTURAL MOUND IN THE REELFOOT BASIN, LAKE COUNTY, TENNESSEE

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ABSTRACT

40LK1 consists of the remnant of a large Mississippian substructural mound and an associated habitation area. The uppermost intact summit of the mound was investigated, revealing the remains of a large wall-trench building. Several restorable ceramic vessels were associated with the structure. Radiocarbon assays suggest a construction date of approximately A.D. 1280 for the building.

Introduction

The Reelfoot Lake Basin is a large expanse of alluvial floodplain within the Mississippi River meander belt in northwest Tennessee and southwest Kentucky. Drainage is provided by Bayou du Chien, formerly a major tributary of the Obion River, which flows south across the Reelfoot Basin from its headwaters in southwest Kentucky. In recent times the Mississippi River captured Bayou du Chien at Hickman, Kentucky, creating an underfit, beheaded stream (Glenn 1933:6). Much of lower Bayou du Chien is now submerged beneath Reelfoot Lake. The lake itself occupies several meander scars (Fisk 1944; Russ 1979; Shelford 1963) and covers over 6,000 ha; Indian and Reelfoot creeks are major feeder streams. Flanking the eastern edge of the Basin are the steep loess bluffs that are characteristic of the Mississippi River valley.

Prior to logging and clearing for agricultural purposes, the lake margins supported a cypress-ash forest, with walnut also present. An oak-hickory forest occupied the slightly higher elevations surrounding the lake, while the upland bluffs were characterized by a tulip-oak climax forest (Shelford 1963). Today, the floodplain is planted primarily in row crops, but prior to the construction of levees in the early 1900s lower lying portions of the

Reelfoot Lake Basin were seasonally inundated almost every year and subject to silt deposition and scouring.

Reelfoot Lake is located on the Mississippi Flyway and serves as a stopover for several hundred thousand waterfowl annually. The lake is also noted as a winter breeding ground for bald eagles. Both sport and commercial fishing have a long and productive history. White-tailed deer, raccoons, turkeys, and several species of aquatic mammals are common throughout the Basin.

Although the archaeological importance of the Reelfoot Basin has long been recognized (Donaldson 1946; Funkhouser and Webb 1932; Thomas 1894), little systematic research was conducted in the region until fairly recently, with the exception of several limited contract projects (Dickson and Campbell 1979; McNerney and Nixon 1980; Schock 1986; Smith 1979). This point is underscored by the conspicuous absence of data from the Reelfoot Lake area in the syntheses of Morse and Morse (1983), Phillips et al. (1951), and Phillips (1970). In the mid-1980s, the Tennessee Division of Archaeology (TDOA) initiated a long-term program of surveys and limited excavations in the region (Mainfort 1989; Mainfort et al. 1986; Mainfort and Kreisa 1988; Moore and Mainfort 1988), and the University of Illinois conducted research in the Kentucky portion of the Reelfoot Basin (Kreisa 1988, 1990; Lewis 1986; Stout 1986). To date, over 140 archaeological sites have been recorded throughout the Basin (Mainfort 1989).

Archaeological Investigations

The Haynes site (40LK1) consists of a Mississippian substructural mound and a surrounding habitation area located near the west bank of the northern portion of Reelfoot Lake (Fig. 1). The present channel of the Mississippi River lies approximately 4 km to the west. Situated on agriculturally productive Tiptonville silt loam (Brown et al. 1969), the relatively low elevation of the site (285' amsl) made it subject to seasonal flooding prior to the construction of levees along the Mississippi River.

In 1946, R. C. Donaldson, a noted local historian and relic collector during the 1930s and 1940s, described the single extant mound: "a square mound stands out as a landmark, on which a barn has recently been built by the owner. This measures 150 feet on each side and is 11 or 12 feet tall. Portions of the top were once covered with burnt clay" (1946:78).

Local residents generally confirm Donaldson's description, noting that the earthwork was formerly much larger, with steep sides and a flat top, and earlier inspections by TDOA staff recorded the presence of large quantities of daub and charred wood on the surface. Presumably, one or more associated ramps were once present, but neither local traditions nor our excavations pro-

vide evidence of such a feature. Based on the structural remains discussed below, the mound was oriented toward magnetic north. Unfortunately, the earthwork has been severely damaged by agricultural utilization. Mound fill has been borrowed on several occasions to fill nearby low-lying areas, which, coupled with continued plowing, has reduced the mound to a low, somewhat oval remnant measuring approximately 51 m north-south by 44 m east-west, with a height of approximately 1.25 m (Fig. 2).

Notes recorded by Donaldson on catalog cards for his collection, now housed at Reelfoot Lake State Park, indicate that “bones of several skeletons (were) plowed up” some “25 feet north” of the large earthwork. The existence of this apparent cemetery cannot be confirmed at this time.

Surface collections obtained from 40LK1 during a period of over 20 years are all of modest size and provide little evidence of an associated habitation area. This suggested that redeposited sediments from flooding had largely masked the occupation area surrounding the mound, so a 2 by 2 m test pit was placed west of the mound to determine if habitation deposits were present. Below a 25 to 30 cm layer of sand and silt alluvium (presumably deposited by floodwaters from the Mississippi River), an intact Mississippian midden approximately 30 cm thick was disclosed. No architectural features were encountered, but the artifact assemblage suggests contemporaneity with the nearby earthwork. Additional testing would probably demonstrate the presence of a fairly substantial habitation area.

Since continued agricultural use of the site will eventually result in the total destruction of the mound, TDOA conducted limited salvage excavations in March 1990 for the purpose of recording the structure presumed to be present on the uppermost intact summit. Initial testing with a split-spoon sampler revealed a structural surface beneath a thick layer of daub at a depth of approximately 60 cm below surface near the center of the mound and immediately below the plowzone along the northern margin of the earthwork.

A total of 41, 2 by 2 m units were completely or partially excavated to this summit, revealing the remains of a wall-trench building with interior dimensions of approximately 13.8 m by 12.5 m (Fig. 3). Complete exposure of the building was not possible due to time and financial constraints.

Although the northwest corner of the building had been destroyed by plowing, the remaining three corners were identified by right angle turns in the wall trench; the corners were not open. Based on the locations of the three intact corners, the structure interior encompassed roughly 172 m². Wall trench fill consisted of a 30 cm deep deposit of yellowish brown clay that sharply contrasted with the surrounding dark grayish brown clay matrix. The clay used to fill the wall trench is quite plastic when moist, but dries to a state of considerable rigidity, providing a firm footing for the upright

posts. These properties were almost certainly recognized by the builders, and the clay apparently was brought to the site from some distance specifically for use in construction.

The northern wall was defined by a wall trench 30 to 50 cm wide, in which a series of 28 carbonized, upright posts averaging 14.5 cm in diameter were located; some posts on the western end of this wall trench were destroyed by plowing. Preservation of the extant posts was generally excellent, allowing the recognition and easy separation of annual growth rings in cross-section. Wood samples from these posts have been identified as ash (*Fraxinus* sp.) and elm (*Ulmus* sp.) (David Stahle, personal communication 1990). The outermost growth rings of one post in the northern wall trench yielded an age of 690 ± 60 B.P., which calibrates to A.D. 1264 (1281) 1385 (TX-6858). Providing additional support for the upright posts, a number of logs averaging 10 cm in diameter were placed horizontally in the wall trench. Similar Mississippian construction techniques have been recorded at the roughly contemporary Lilbourn and Snodgrass sites in Missouri (Cottier 1977:129; Price and Griffin 1979:31-34).

A portion of the east wall, including a continuation of the wall trench and the in situ bases of eight posts, was also disclosed, but subsequent construction and/or destruction has destroyed most evidence, as discussed below. Limited excavations in the vicinity of the south wall suggest at least one rebuilding episode during the lifetime of the structure. The two exposed wall-trench corners are not properly aligned for a symmetrical building and a line of posts in N102/E98 align with the corner to the west, but not the one to the east. Several posts, daub, and roofing material in the southernmost units may represent the remains of an outer structure attached to the large building, but additional excavation would be necessary to adequately interpret these remains.

Additional post holes ($N = 17$) were recorded within the excavated portion of the interior, but it was often difficult to determine the actual level of origin. Some probably represent interior support posts, while others may be intrusive from subsequent building episodes. Interior post holes were generally represented by circular holes in the compact floor, filled with unconsolidated daub rubble. The presence of daub in these holes, as well as the paucity of posts in some sections of the wall trench, suggests that many posts were removed for reuse prior to the destruction of the building.

The structure floor was partially covered with daub from the collapsed walls and well-preserved, carbonized organic remains. Charred logs and poles lying horizontally on the floor probably represent collapsed roofing timbers. Quantities of grass thatch and cane matting were also recovered from various localities on the floor. All of the carbonized organic material appears to have been burned rapidly, but was extinguished prior total

interior partition, although it may have served to define an area within the structure.

Partially superimposed on Feature 4, Feature 2 was an irregularly shaped basin lined with clay. Large quantities of daub, charred cane fragments, and grass thatch were included in the feature fill; a fragmentary wooden vessel and most of a Mississippi Plain salt pan were located near the base.

The wooden vessel was manufactured from a very large ash (*Fraxinus* sp.) bole, most likely green ash (*Fraxinus pennsylvanica*) or pumpkin ash (*Fraxinus profunda*) (Lee Newsom, personal communication), both of which commonly occur in the central Mississippi Valley bottomlands (Shelford 1963). With an orifice diameter of approximately 40–50 cm and a relatively shallow depth (Ann Cordell, personal communication 1991), a pan or trough-like vessel form is suggested. The orientation of the growth rings indicates that the vessel was carved from a longitudinal section of the bole, rather than a cross-section, i.e., the rim edge was located toward the center of the tree and the base was located near the bark or outer surface. This orientation has the advantage of preventing separation of the vessel along the annual growth rings, which could easily occur if the rings were exposed in cross-section. The piece of wood selected for carving most likely represents a section of waste wood, perhaps obtained as the byproduct of canoe manufacture.

Severe leaching prevented restoration of the Mississippi Plain salt pan, but partial reconstruction of the rim suggests that this vessel was shallow, with a diameter of roughly 40 cm. No indications of fabric impressions are observable on the exterior.

Feature 5 was a roughly circular fired-clay surface on the structure floor, covering an area approximately 1.6 m in diameter. There were no associated artifacts, but the feature probably served as a large hearth.

Intrusive from the subsequent building stage, Feature 3 was a deep, straight-sided cylindrical pit measuring approximately 75 cm in diameter. The pit originated in what is now the plowzone and reached a depth of 55 cm. The walls exhibited considerable discoloration from exposure to heat, and a quantity of charcoal was found at the base. A large Mississippi Plain, var. *Mississippi* jar, measuring 75 cm in diameter and 31 cm deep rested on the charcoal deposit. The rim is straight, with a pair of opposed strap handles (Fig. 5). Interestingly, the diameter of the pit (Feature 3) was almost precisely large enough to accommodate this vessel. A 425 g sample of carbonized shelled corn was recovered from the interior of the jar and discoloration of the vessel interior indicates that corn occupied approximately one third of the total vessel volume. A hardwood charcoal sample obtained from beneath the large jar within Feature 3 returned a radiocarbon age of

The two remarkably consistent radiocarbon determinations on samples from two distinct proveniences suggest that the excavated structure at 40LK1 was constructed around A.D. 1280. It seems virtually certain that a minimum of two higher summits were totally destroyed prior to the investigations described here, so occupation of the site probably extended well into the fourteenth century A.D. No sites of demonstrated comparable age have been recorded on the west side of Reelfoot Lake (Mainfort 1989), a situation partially attributable to depositional conditions revealed by off-mound testing at 40LK1. Ceramics and a single radiocarbon date from the Sassafras Ridge site (15FU3) to the north suggest that the two sites were partially contemporaneous (cf. Lewis 1986).

We believe that the assemblage of whole and partially restorable ceramic vessels from 40LK1 represents the best temporal and contextual control for a mid to late thirteenth century occupation in northwest Tennessee and the Mississippi River counties of Kentucky. The assemblage is clearly associated with two sequent episodes of mound construction and use during a relatively brief time period. In contrast, most radiocarbon determinations (and, hence, inferences about the chronological positions of various ceramic types) from roughly contemporary sites in western Kentucky are derived from mound fill contexts and long-term habitation areas in which associated ceramics often represent incidental inclusions in house basins (e.g., Lewis 1986; Wesler 1991).

In addition to the recovery of important information about Mississippian public architecture, the data obtained from our limited investigations at 40LK1 should be of considerable value in resolving some of the nagging problems of Mississippian chronology and ceramics in the central Mississippi Valley alluded to in recent summaries by Lewis (1990) and the Morses (1990).

Acknowledgments

We particularly wish to thank Messrs. Jack Haynes and Jack Haynes, Jr., for permission to conduct excavations at 40LK1 and for altering their spring planting schedule to accommodate our work. Paris Stripling produced figures 1 through 3, while Shawn Chapman prepared the ceramic vessel illustrations. Lee Newsom (Florida Museum of Natural History) graciously analyzed the wooden vessel from the site. David Stahle (University of Arkansas) identified additional wood specimens. Mary Kwas reviewed a draft version of this paper and made a number of useful suggestions. An earlier version of this paper was presented at the 1990 Southeastern Archaeological Conference, Mobile, Alabama.

Tennessee Division of Archaeology

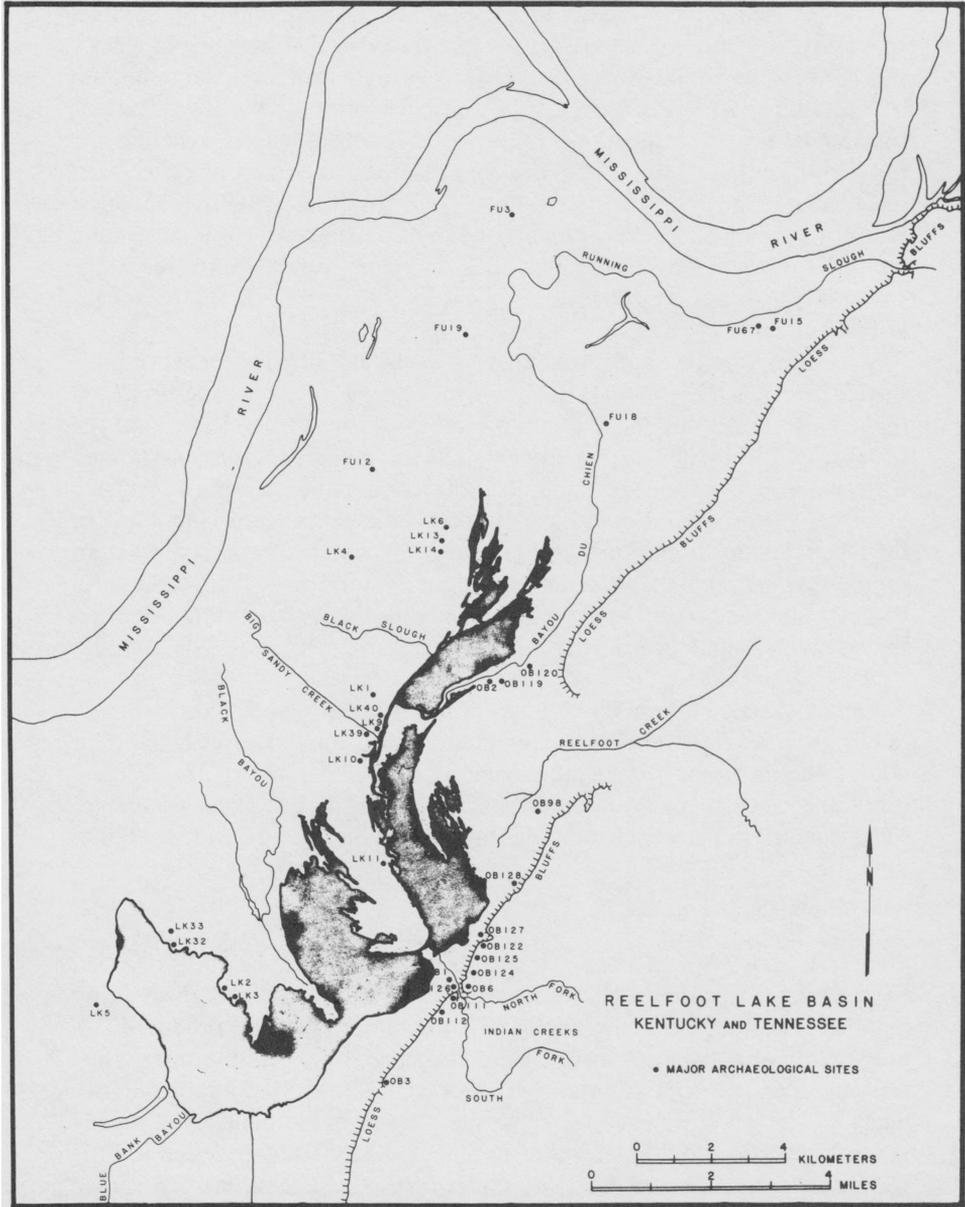


Fig. 1. Major archaeological sites in the Reelfoot Lake Basin.

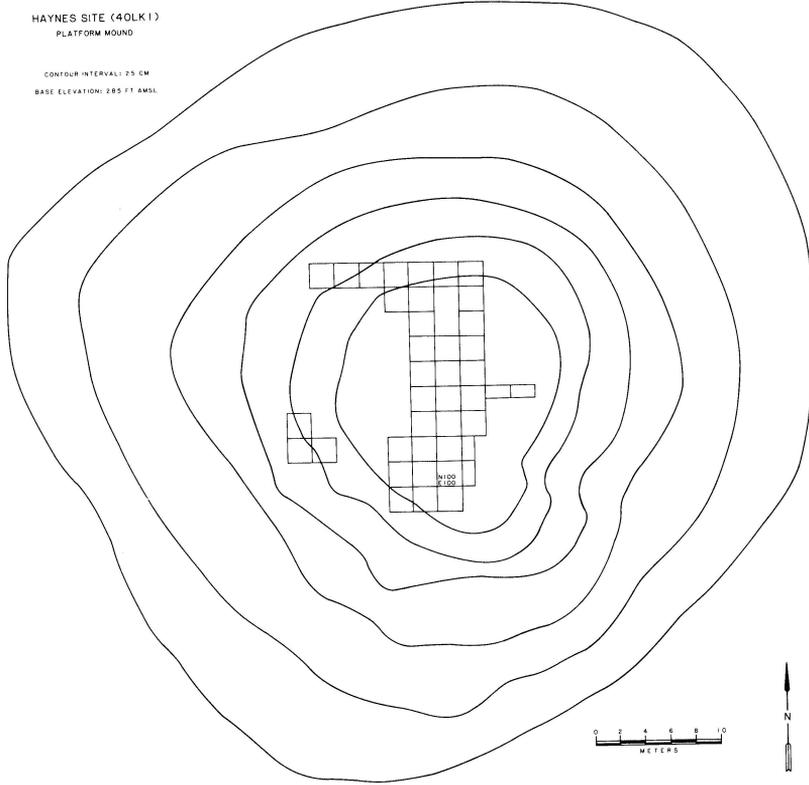


Fig. 2. Substructural mound, 40LK1.

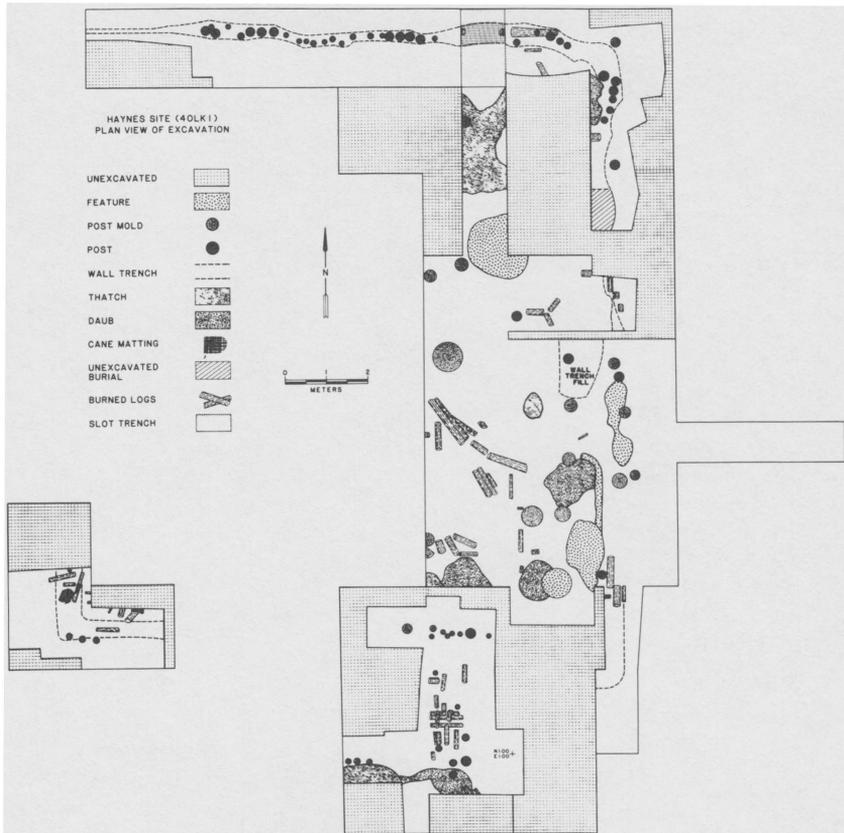


Fig. 3. Plan view of excavated structure at 40LK1.

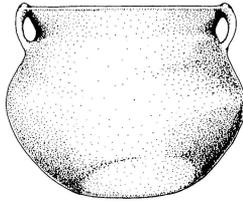


Fig. 4. Mississippi Plain jar (one-fourth actual size).

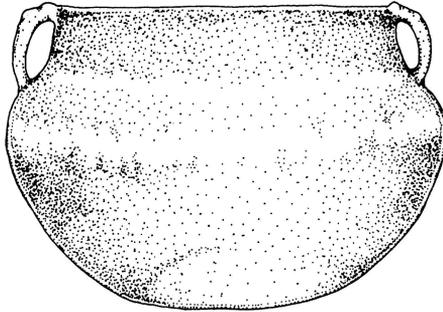


Fig. 5. Mississippi Plain jar from Feature 3 (one-tenth actual size).

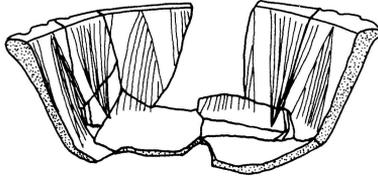


Fig. 6. O'Byam Incised bowl (one-fourth actual size).

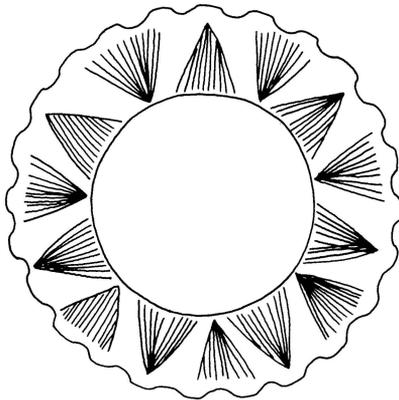


Fig. 7. Artistic reconstruction of O'Byam Incised bowl (one-fourth actual size).

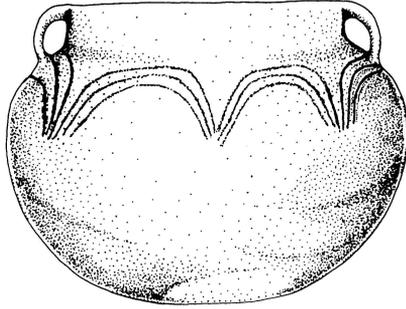


Fig. 8. Matthews Incised, *var. Matthews jar* (one-tenth actual size).

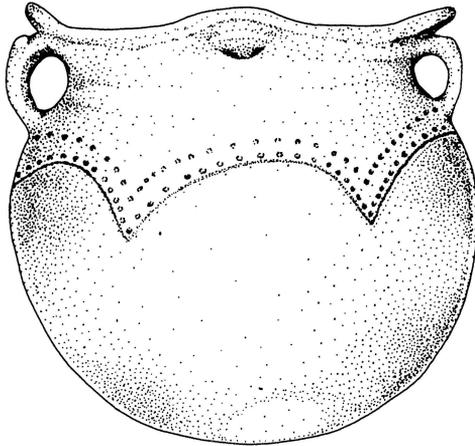


Fig. 9. Matthews Incised, *var. Manly jar* (one-fourth actual size).

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