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A Preliminary Report on a Hafted Adze and Some Adze Handles from Archaeological Excavations on Huahine Island, French Polynesia

Yosihiko H. Sinoto

Bernice P. Bishop Museum, Hawaii

ABSTRACT

A hafted adze and wooden adze handles from the Vaito'otia and Fa'ahia excavations on Huahine Island, French Polynesia, are described. Found in a waterlogged context within a site complex that dates to A.D. 850, the handles represent archaic East Polynesian forms and are different from those of the later ethnological collections.

Keywords: FRENCH POLYNESIA, SOCIETY ISLANDS, HUAHINE, ADZE, ADZE HANDLE, LASHING.

Since 1973 the Bishop Museum has been excavating a waterlogged site complex on Huahine Nui, Society Islands (Sinoto and McCoy 1975, Sinoto 1979). The site is located on the grounds of the Hotel Bali Hai Huahine in Fare, the capital of Huahine, and is situated along the coast facing Ava Moa Pass, an opening in the fringing reef. During the course of excavations, the site area was found to extend across two present land divisions, which run inland from the coast; therefore, there are two designated site names, Vaito'otia on the south and Fa'ahia on the north.

The excavation began in Vaito'otia in 1973, as the result of the accidental discovery of a whalebone *patu* (Sinoto 1974) during hotel construction. Later the excavations moved to the Fa'ahia area, where work is still continuing (Sinoto and Han 1981). The site area is a low coastal plain, that was probably built up by natural deposition of coral, sand and other debris, completely blocking the former lagoon. The area has been modified by hotel construction, which has involved excavation to create ponds and to remove sand to fill in low areas. The site complex extends over 60,000 square metres and includes a habitation area, manufacturing areas for adzes, fish hooks, shell tools, tapa and canoes, as well as an area for storage houses. There is essentially one major cultural layer, which is now submerged when the tide is high and after heavy rains. The site complex was probably destroyed by tidal waves and covered by beach sand, leading to its abandonment. There is, however, evidence of habitation and religious use for a short time after the tidal waves. A number of radiocarbon dates indicate that the initial occupation started about A.D. 850, and the area was abandoned about A.D. 1100.

The waterlogged nature of the cultural deposit has favoured preservation of perishable vegetal material — pandanus pods, coconut shells and plants — as well as wooden objects, sennit and pieces of net and mat.

In 1981 we re-excavated and expanded the area where we had found side boards and a steering paddle from a large canoe in 1977 (Section 3; Sinoto 1979). We found that the area also contained a great number of wooden objects and artefacts of shell and stone, lying in a stream bed about two metres below the present surface. Apparently, this debris was washed into the stream by the receding tidal waves. The hafted adze and most of the handles described here were found in this context.

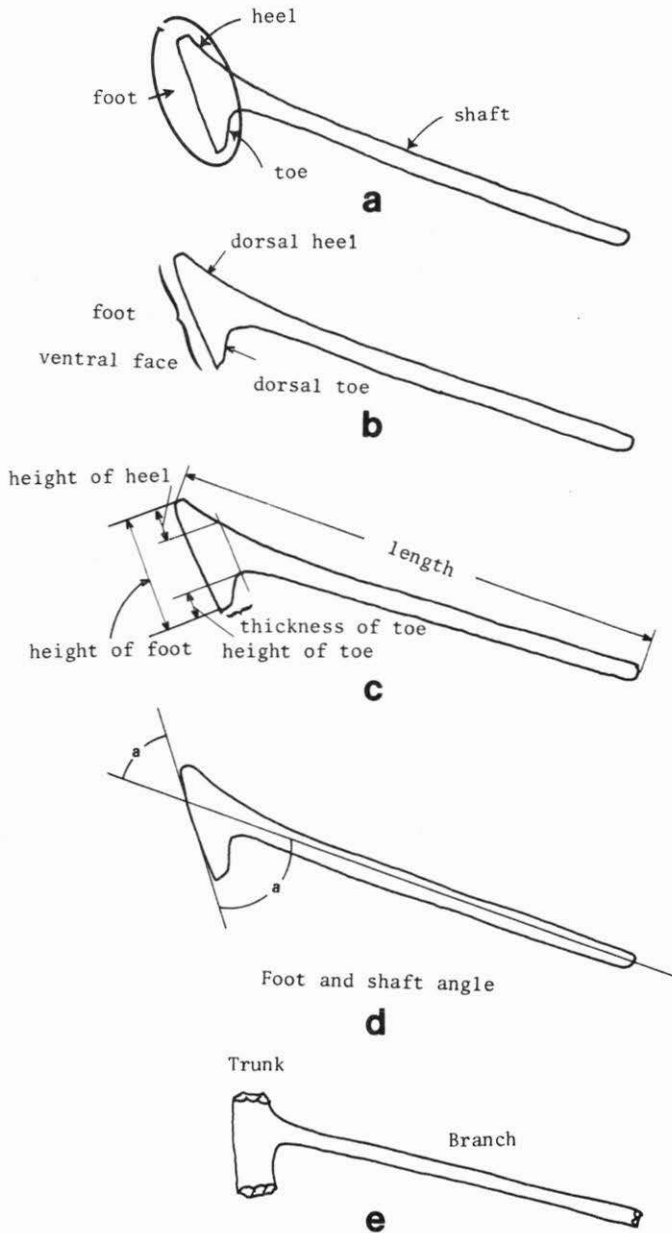


Figure 1: Adze handle terminology and location of measuring points.

Descriptions and measurements are based on field observations and recording, as well as on photographs, since the specimens were sent from the field directly to the Musée de Tahiti et des Îles, Tahiti, for conservation treatment. Because of the quantity of wooden objects and the constraints of field time, limited measurements have been made of only one-half of the adze handles. Other pieces of adze handles probably will be identified from among the more than 2000 pieces of wood now being treated at the Musée. Detailed study and analysis of this material will begin after the completion of the conservation work, sometime in late 1982.

There are 36 numbered adze handles. Eight are finished; three of these are complete, and the rest are foot portions with broken shafts. The remaining 28 specimens are unfinished handles in various stages of manufacture.

The finished handles recorded so far can all be classified as Mead's Type 1 (1972), with a short heel and a slightly longer toe. According to Mead, "Type 1, a branch and trunk handle shaped somewhat like a leg and foot, is probably an old Oceanic type that can be traced ethnologically to New Guinea" (Mead 1972:727). More detailed typological analysis of adze handles is needed, but is deferred for the time being. Brief descriptions of the Huahine adze handles are given below.

TABLE 1
AVAILABLE DIMENSIONS OF EIGHT FINISHED ADZE HANDLES FROM HUAHINE

Specimen No.	Handle length mm	Shaft diameter mm	Height of foot mm	Width of foot mm
1	390	22	81	c40
2	550	28	75	30
3	570	37-50	158	42
4	(380)	30	100	40
5	—	38	145	69(max)
6	—	—	110	50
7	—	—	160	60
8	—	16	110	50

TERMINOLOGY AND MEASUREMENTS

It was necessary to develop a more detailed terminology for description of adze handles than that used by Buck *et al.* (1930). Figure 1 illustrates the terms used in this article and shows the attributes measured. The length of the handle was measured from the ventral face of the foot to the end of the shaft. Heel and toe heights are difficult to measure unless the dorsal bases of the heel and toe meet the shaft at a distinguishable angle. Since toes generally have a more distinct angle than heels, if the heel base is not recognised the measurement can be taken from the point directly above the toe base (Fig. 1c). The foot and shaft angle was measured between the shaft and a line extended from the ventral face (Fig. 1d). Measurements which could be taken on most handles are shown in Table 1.

SPECIMENS

Specimen 1

A complete hafted adze (ScH1-2-Q43-2; Figs 2b and c) was found in the stream bed deposit, at 145 cm below surface (Fig. 2a). The wood is probably *Hibiscus tiliaceus*; it is polished, with some adze cutting marks visible at the end of the shaft, and the

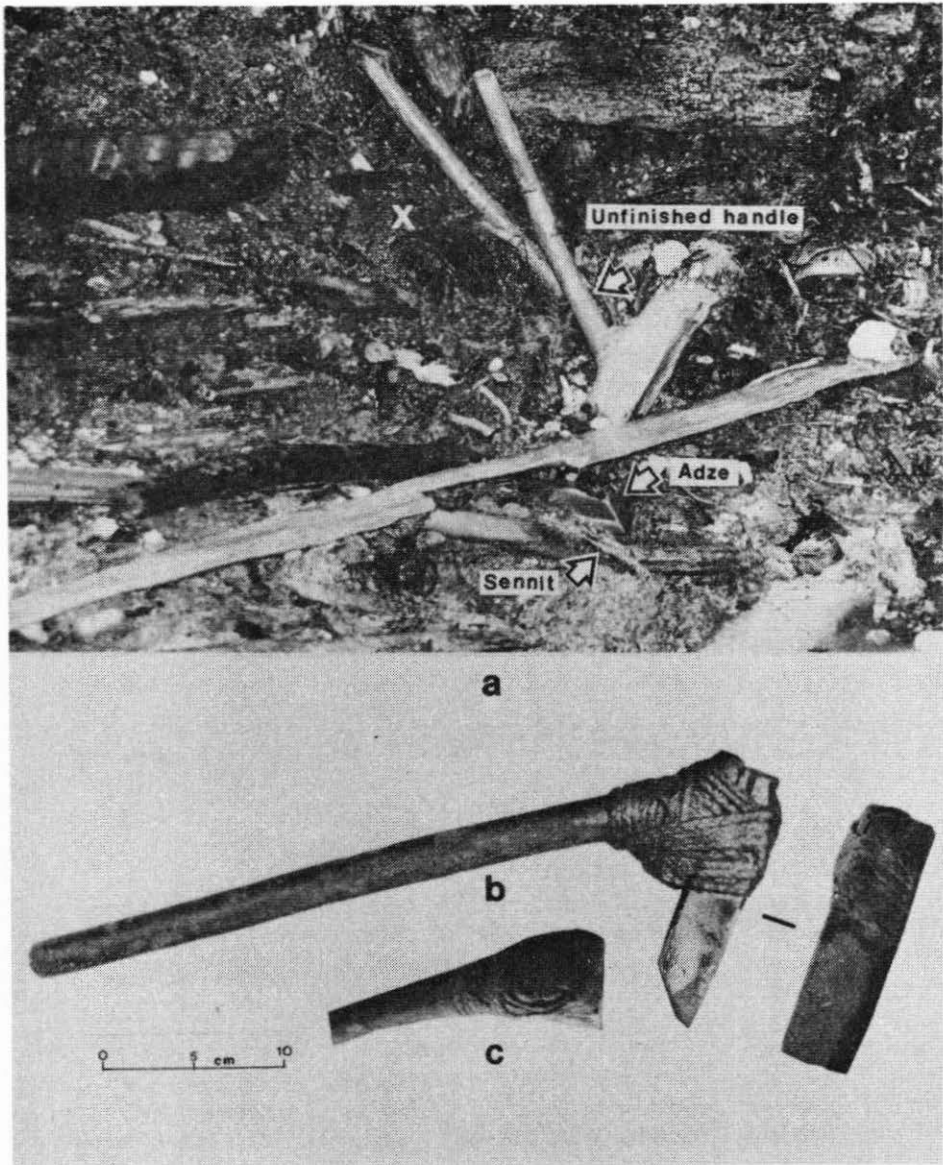


Figure 2: Exposed artefacts and the hafted adze in the Fa'ahia site (ScH1-2). a. Exposed objects, including an unfinished adze handle, an adze, sennit and debris, in the east wall of pit, Grid Q43. The hafted adze was found soon after this picture was taken, in a horizontal position in the wall (X on photo). b. Hafted adze (Q43-2). c. Top view of heel end and butt. Note wooden peg, placed between the foot and the adze head.

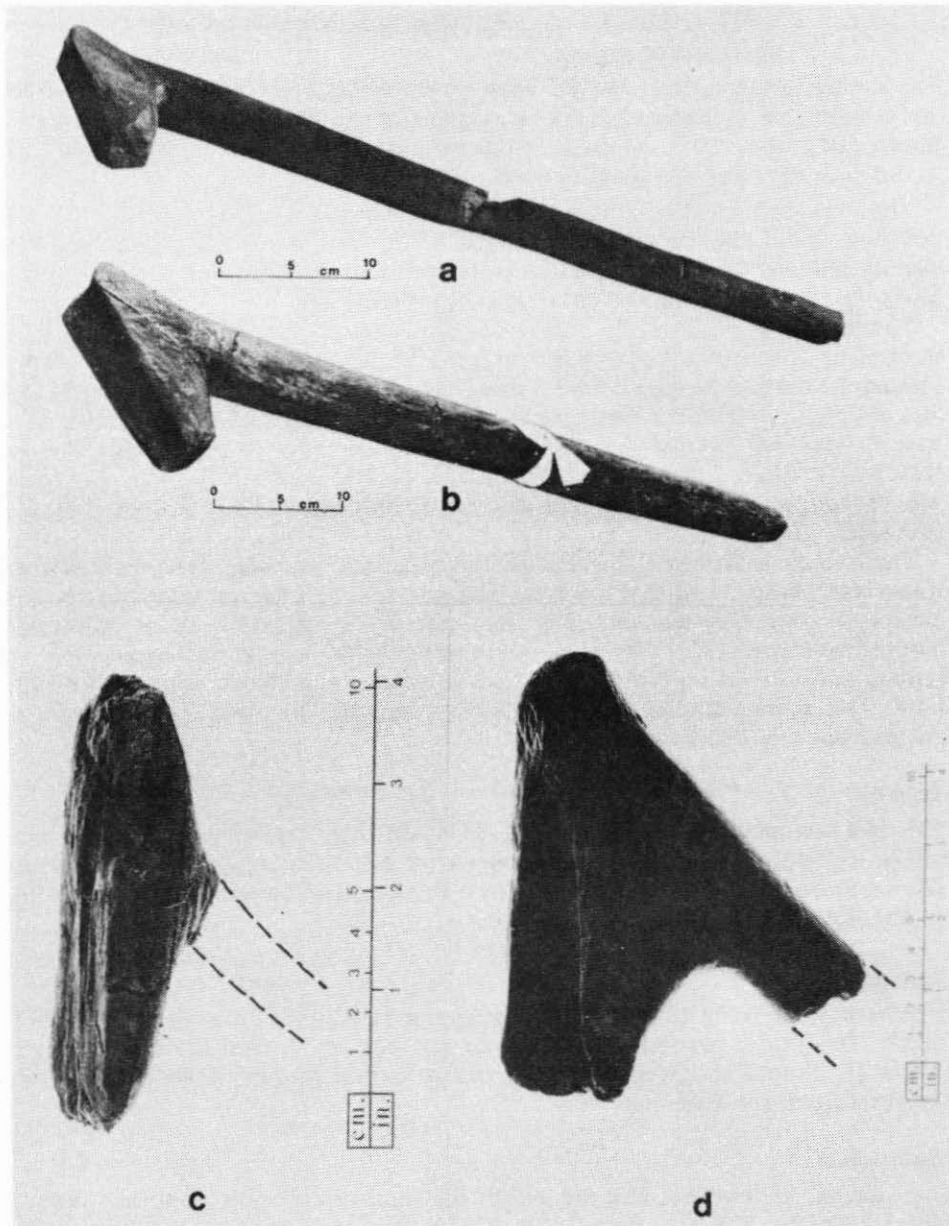


Figure 3: Completed adze handles and foot pieces from the Fa'ahia site (Sch1-2). a. Q43-20. b. O43-13. c. 156. d. N44-24.

face of the foot is flat. Measurements, other than those in Table 1, are as follows:

Height of heel	about 16 mm (under lashing)
Height of toe	about 31 mm (under lashing)
Thickness from ventral face of foot to dorsal base of toe	about 25 mm (under lashing)
Shaft and foot angle	50 degrees

The handle is smaller than I would have expected, judging from the size of the adze and ethnological collections. However, the size of the handle may have depended on the type of cutting work required. In this case, the heavy head may have been easier to use with the relatively short handle.

The adze head, of grayish basalt, is quadrangular in form. The entire body is well-polished, and it may be incipiently tanged, as the butt face is not ground and has a slightly reduced thickness. Based on observation of the butt end, the butt portion has a slightly reverse-trapezoidal cross section (Fig. 2c).

The lashing is of three-ply coconut sennit, about 6 mm wide and about 2 mm thick (wet). It seems that a fibrous strip from the base of a coconut leaf was wrapped around the butt of the adze before lashing to keep the lashing from slipping. There is also a flat, trapezoidal, oblong piece of wood placed against the foot face, at the base of the side of the butt to hold the adze securely in place (Fig. 2c). Unfortunately, when the adze was exposed by spraying water, the lashing on one side was broken, and we could not tell whether a wooden piece had also been used on that side.

The lashing pattern may be classified as a variation of Mead's Type 2, complex transverse. Mead stated that this type, along with Type 1 (simple transverse lashing) occurs all over Oceania and thus does not tell us anything about cultural relationships (Mead 1972:730). However, the age of this specimen indicates that this lashing pattern was an old form in East Polynesia and that it continued through time. The more complex triple-triangle or multiple-diamond lashings were developed later, in different localities.

Specimen 2

This is a complete adze handle, ScH1-2-Q43-20 (Fig. 3a), of unidentifiable wood with a well-polished finish. A quadrangular or a flat-rectangular adze (Forms 1A, 1B, 2A as defined by Sinoto and McCoy 1975) could be hafted to this handle (Figs 4a and 4b). For measurements, see Table 1.

Specimen 3

Specimen ScH1-2-043-13 (Fig. 3b) has a ventral face that is grooved along its entire length. The groove has flat sides and a concave bottom. A vertical rectangular adze (Form 3B; Sinoto and McCoy 1975) could be hafted to this handle (Fig. 4d). For measurements, see Table 1.

Specimen 4

One side of the foot face and the end of the shaft are missing from this specimen (ScH1-2-P42-6). The foot face has a groove similar to that of Specimen 3. For measurements, see Table 1.

The following specimens are finished handles of which only the foot portions were found.

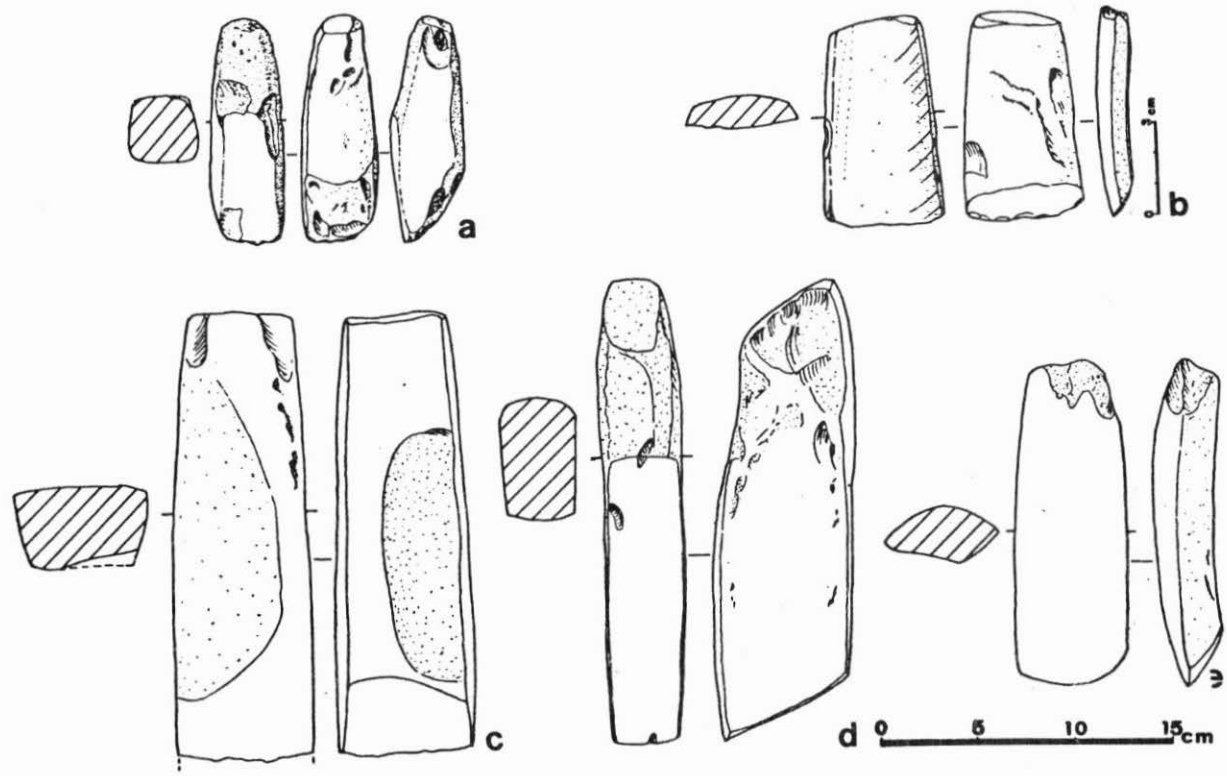


Figure 4: Adzes from the Vaito'otia site (ScH1-1). These forms appear to fit the handles found at Fa'ahia. a. Form 1A. b. Form 2A. c. Form 3A. d. Form 3B. e. Form 5. (After Sinoto and McCoy 1975.)

Specimen 5

The heel is narrower than the toe on this specimen (ScH1-2-N44-24; Fig. 3d). The ventral face of the foot has a deep groove, 38 mm from the top of the heel and 15 mm deep at the toe end. A lenticular adze, such as Form 5, could be hafted to this handle (Fig. 4e). For measurements, see Table 1.

Specimen 6

This specimen (ScH1-2-043-13) displays a foot similar to Specimen 5, with a concave groove. For measurements, see Table 1.

Specimen 7

Specimen ScH1-2-P45-4 also has a foot similar to Specimen 5. For measurements, see Table 1.

Specimen 8

This is a small handle (ScH1-2-156; Fig. 3c) with a flat foot face. A small Form 3A adze could be hafted to this handle (Fig. 4c). For measurements, see Table 1.

Despite the fact that we have a number of large, heavy adze heads as well as large unfinished handles, the finished handles that we have found so far are rather small. However, the collection includes adze heads of types and sizes that easily fit all of the finished handles.

UNFINISHED HANDLES

There are 28 unfinished handles in various stages of manufacture, but the majority are in the first stage, as cut branches with portions of cut trunk (Fig. 2a). Some of these still have intact bark. Usually the adze cutting marks are visible around the edge of the trunk (Fig. 1e), where it would be shaped into the foot of the handle, the next stage of manufacture.

Three complete specimens range in length from 74 to 88 cm and in shaft diameter from 3 to 4 cm. The trunk sections are 18-23 cm long and 6-8 cm in diameter. The eleven other trunk sections range from 9-23 cm and 4-7 cm in diameter.

DISCUSSION

The Huahine handles have a low heel and high toe, whereas later Tahitian handles from ethnographic collections have a high heel and no toes (Emory 1979:215). The unfinished handles from Huahine were also cut with a low heel, even though the trunk sections are large enough for a high heel to be carved out. There is no evidence so far of handles without heels (Mead's Type 2).

Any additional recovery of missing pieces from incomplete handles, after the conservation work is finished, will be valuable to our understanding of the early form of East Polynesian adze handles.

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