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THE DISTRIBUTION OF TYPES OF BRONZE AXES IN INDONESIA

By: R.P. Soejono

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1. INTRODUCTION.

Bronze axes are important products of the Early-Metal period in Indonesia, beside the well-known bronze kettledrums. The first record on bronze axes made by G.E. Rumphius informed on measurements, places of origin and the state of belief of local peoples with regard the magical power which pervaded bronze axes in the eastern part of the Archipelago. Rumphius used the term «donderschopje» (thunder-shoffel) in a chapter on «Ceraunia Metallica» to indicate bronze axes (Rumphius, 1705 : 212 – 217).

Under the scheme of systematic recording of Indonesian cultural property bronze axes fell into the scope of interest of the Royal Batavian Society since the middle of the 19th century. In this period the study on Indonesian Culture History was yet in a stage of interpretative attempts towards accumulating material which enabled historical reconstruction in later periods of scholarly work. The first official record of the Society on bronze axes mentioned the gift of «vreemdsoortige koperen wapens» (quaint copper weapons) by the resident of Priangan, West Java (N.B.G., 1864 : 315) which in fact are ceremonial bronze axes of the halberd type. A similar type from Rembang, Central Java, was termed «chandrasa», a word adopted from the wayang terminology (N.B.G., 1977 : 98 – 99), and which is still used in a record of other specimens from Priangan (N.B.G., 1902 : 9, 17). Later records described these type specimens as «ancient weapons of copper or bronze» (N.B.G., 1896 : 7; 1898 : 100; 1909 : 166). Another type of ceremonial bronze axe found at Landu (island of Roti) and usually denoted as «Roti axe» has been described as being «a very strange product which shows some resemblances with halberds and which has never been encountered before in the Archipelago». (N.B.G., 1875 : 44, 64). Common types of socketed bronze axes were occasionally described under obscure term like «bijlijzer» (probably iron axe-head) and copper fragments (N.B.G., 1872 : 96) or metal instruments (N.B.G., 1909 : 166). However the term «bronzen bijl» (bronze axe) was introduced as early as 1871 (N.B.G., 1871 : 72) and remained settled in most of the later records, although one was still not fully acquainted of its cultural significance.

In later periods of study interest was focused towards the most elaborate sorts of bronze axes like «chandrasas», axes from Makassar, Roti and West Irian. Especially motives of decoration of these peculiarly shaped axes were subjects of speculation on artistic achievements and religious conceptions (Stutterheim, 1936 : 163 – 167; v.d. Hoop, 1949; Bernet Kempers, 1959 : 28 – 31). Simpler forms of bronze axes, considered as «leitfossil» of the Indonesian Bronze Age culture and specified as «schoenbijl» (literally «shoe-axe», but usually translated with «socketed axe») have not been subjected to profound observation. Explanations on these simple types of axes pointed to general characteristics of form, the technique of casting and the way of hafting (Stein Callenfels, 1934 : 100 – 104; v.d. Hoop, 1938 : 61 – 87). Records on finding places and ways of discovery of these axes are rather punctual, but descriptions which could picture types or variations of forms are almost lacking.

The bronze axes have been divided commonly into categories of:
1. socketed axes, 2. ceremonial weapons and 3. hoes or shovels (v.d. Hoop, 1941 : 184 – 201). Some specimens are indicated as slender types and some others as samples showing swallow-tail shaped shaft-ends. H.R. van Heekeren has presented a more extended classification, but still points to the most prominent exemplars of axes. He distinguishes several types of bronze axes, namely: 1. common types of socketed axes, 2. trowels and spades, 3. votive axes and

4. ceremonial axes (v. Heekeren, 1958 : 8 – 11). It is known in general that many variations of bronze axes occur in form as well as in dimension and that certain types appear locally.

2. CLASSIFICATORY BASE.

Observing the extended collection of Indonesian bronze axes one is inclined to conclude incomprehension of the obtained classification as it overlooks specific features of a number of specimens which imply to distinctive types or type-varieties beside the fixated categories of axes. Ceremonial axes and varieties of shovels are well defined in their spread and fashions, but the simple types as the most dominant component. of the group of axes and which occur widespread seem an inextricable mass yielding divergent forms and dimensions. Profound observation of this unsorted mass makes clear, that certain varieties have been manufactured in confined areas and some others became preferable elements in the distributive context of bronze axes. Obtained results on the bronze axe complexity on the whole can be considered as too general and inadequate to draw clear-cut outlines of typology and diffusion.

The author intends to clarify typological aspects and interconnections of types in bounded areas of distribution. A re-classification which includes specific specimens so far unnoticed in previous classificatory schemes and which sub-divides determinated types is a necessity. The author's recategorization uses the following principles as bases of working: the entire material of bronze axes has to be subjected to selection which singles out divergent forms of axes. Especially characteristic features of shaft and blade are applied to determinate types and varieties of types. Minor deviations in shapes are not observed to avoid complicacy in the classificatory system. The usage of terms of certain types of instruments (halberd, chisel, hoe) points to resemblances in outward appearances of those instruments. In this scheme proper function of types is not being contemplated, for this classification aims to sort out typical shapes in order to acquire an elementary basis of the classificatory plan. As for the purpose – either practical or sacral – of different types one could only speculate on the ground of firstly, the circumstances in which objects have been discovered (burial sites, settlements, etc.), and secondly, the state of completeness of discovered objects. The term «ceremonial votive» is avoided as many intact samples – without demonstrating retouches of usage – of the simple types which in general tend to be objects of practical usage are part of the collection.

The studied material mainly consists of the collection of the Central Museum of Culture in Jakarta which comprises about 179 specimens. Other samples are taken from collections of the head-office of the Archaeological Institute in Jakarta (29 specimens) and its branch offices in Central Java (5 specimens) and Bali (10 specimens) and from museums in Central Java: «Sono Budojo», Yogyakarta (2 specimens), «Radyo Pustoko», Surakarta (1 specimen) and in Bali: «Bali Museum», Denpasar (10 specimens). Recent discoveries of bronze axes (13 specimens) obtained through excavation in West Jawa conducted by the Archaeological Institute and the Foundation for Study of Asian Problems fall into the scope of this study. A small collection of bronze axes and axe moulds of the Geological Museum at Bandung has not profoundly been observed, but specimens fit into the scheme of classification. Published reports of bronze axe finds (about 10 specimens) in eastern part of the Archipelago (Flores, Molucca, West Irian) so far available are included in this study (Rumphius, 1705 : 212 : 217; Verhoeven and H. Geldern, 1954: 683 – 684; Verhoeven; 1956 : 1077 – 1079; Galis, 1956 : 217 – 285; 1960:270 – 278; de Bruyn, 1959 : 1 – 9). It must be certain that specimens, though few in number, are in private hands (these being untraceable to date yet) and that new discoveries are to be expected, so that involving additional categories into the proposed classification is feasible. The studied

material covers at least 262 samples which have been recorded up to the present.

3. TYPOLOGY.

The main criterion for type determination is either the shape of the axe-shaft or of the axe-blade. Combined features of both are sometimes applicable norm to reckon types. Depending on particular diversions of established norm types can be divided into varieties.

> The basic pattern of the Indonesian bronze axe (PL. 1) is as follows: «the shaft is hollow, the socket has a lenticular or oval cross-section and inverted sides, the blade is broadened ending in a convex cutting-edge, on one surface the outersection of the shaft is elevating towards the extreme bladepoints or in stead of it one pair of ribs runs from the top of the shaft towards the extreme points of the cutting edge».

From this basic pattern many variations of bronze axes have been fashioned comprising some elaborate specimens of which only primal elements of the basic pattern are recognizable.

Eight distinctive types, several of which reproducing varieties, are observable (Fig. 2).

Type I or the *general type:*

This is the closest in shape to the basic pattern. The shaft which is usually flat has a lentoid cross-section, the shaft-end (axe-top) is concave or occasionally straight.

Variety A. (PL. 2,3). The shaft is comparatively long, the shape of the cutting edge varies from semi-circular to slightly convex. Various dimensions exist between the largest of 19,8 × 12,4 × 2,8 cm and the smallest of 4,6 × 4,4 × 1,3 cm. A single specimen with long shaft and semi-circular blade is an enlarged form and measures 31 × 16 × 3,5 cm. Another large and ornamented specimen, well known as «Macassan axe» has a hollow blade. This elaborate sample measuring 70,5 × 45 × 8,3 cm is considered as ceremonial object. (PL. 4, 4a – b).

Locality:

South Sumatra, West Java, Central Java, East Java, Central Sulawesi, South Sulawesi, Selayar, Bali, Flores, Molucca.

Variety B. (PL. 5). Both sides of the axe are deeply inverted. Shaft and blade are almost equally long, also top and cutting edge are almost equal in width. These features give a broad outlook to this type variety. The largest specimen measures 12,6 × 9,2 × 2,4 cm, the smallest 4,6 × 4,3 × 9 cm.

Locality:

West Java, East Java, Madura.

Variety C. (PL. 6). The shaft is relatively long, the shaft-end deeply concaved. Both extreme points of the cutting edge are curved upwards or are slightly scrolled. The average is of small size measuring about 8,5 × 6,6 × 1,8 cm. An extended specimen is the «Sentani axe» of which points of the cutting edge transformed into remarkable scrolls shaped as wheels; the measurement is 22,1 × 18,7 × 2,2 cm.

Locality:

West Java, West Irian.

Type II or the *swallowtail type:*

The shaft is shaped conforming to the split tail of the swallow and lentoid in cross-section. Varieties can be distinguished in respect of differences in design of shaft and blade.

Variety A. (PL. 7,8,9). The shaft has straight sides. The split at the top is shallow. The blade is usually less in length than the shaft. The cutting edge has rounded corners. Dimensions

of this type variety vary between the largest of 24,5 × 13,6 × 3,5 cm and the smallest of 5,4 × 4,3 × 1,2 cm. Some of the large specimens' corners of the cutting edge are continuing into scrolls (PL. 9).

Locality:
South Sumatra, West Java, Central Java, South Sulawesi, Bali, Flores.

Variety B. (PL. 10,11). The shaft has a relatively deep split at the top. Towards the joining of shaft and blade, the shaft runs smaller, while from this point the flattened blade is widened attaining the shape of a convex based truncated cone. In this way the axe shows deeply inverted sides. Shaft and blade are nearly equal in length. This fashioning gives a slender appearance to axes of this type variety. The average measurement is about 24,1 × 11 × 16 cm and only a few samples are smaller in size. Specimens approaching this type variety are those with straight sided shaft and shallow split on the shaft-end; these are included in type variety IIA.

Locality:
West Java.

Type III or the *chisel type:*

The shaft is several times longer than the blade. The short blade in some occasions decreases in broadness tending to lose its flanks. This type comprises few specimens.

Variety A. (PL. 12,13). The sides of the long and narrow shaft are straight, the shaft-end is split shallowly. The blade is fan-shaped. The largest is 12,2 × 5,8 × 1,7 cm in size, the smallest 7,6 × 4,6 × 1,8 cm.

Locality:
West Java, East Java.

Variety B. (PL. 13,14). The shaft is somewhat broad at the top, the sides are slightly narrowing towards the blade. The convex cutting edge exceeds the width of the shaft-end. Dimensions vary from the largest of 12,6 × 5,8 × 1,2 cm to the smallest of 5,4 × 3,6 × 1,3 cm.

Locality:
West Java, South Sulawesi, Molucca.

Variety C. (PL. 14). It comprises two samples. One specimen which measures 9,1 × 1,5 × 1,3 cm has a long shaft which narrows from the top ending into a slightly convex cutting edge. The join of shaft and blade is almost untraceable. A similar specimen (found in West Irian) has a short but broader shaft measuring 6,5 cm in length and 6 cm in width.

Locality:
West Java, West Irian.

Type IV or the *hoe type.*

The shape resembles the present-day hoe. The socketed shaft is short, the blade flattened. The shoulders formed at the conjunction of shaft and blade are usually straight.

Variety A. (PL. 15). The blade is trapezoid fashioned. The shaft is slightly curving towards the blade. Only two samples are found in the collection. One measures 15,7 × 9,6 × 2 cm, the second which has a long shaft with extremely concave shaft-end and sloping shoulders measures 13,4 × 6,5 × 1,6 cm.

Locality:
East Java, South Sulawesi.

Variety B. (PL. 15). The shaft-end is straight or concave. The blade is semi-circular shaped. The average size is about 13,5 × 10,8 × 3,5 cm. Some other samples are rather larger or smaller in size.

Locality:
Bali.

Type V or the *crescent-blade type:*

The flattened blade is fashioned in the form of crescent which is either broad or narrow and rounded at both extreme corners. The shaft narrows from the broad top towards the blade. The shoulders are curving slightly upwards.

Variety A. (PL. 16). The blade looks like a broad sickle tending to a triangular shape. The sides of the shaft curve deeply towards the blade. The average measurement is around 16,5 × 15,6 × 3,4 cm.

Locality:
Bali.

Variety B. (PL. 17). The blade is narrow. Specimens from Bali are small in size. Both corners of the shaft-end extended into long fragile points. The blade is in fact a crescent shaped thin plate. The length including the pointed extension of the shaft of this type variety varies between 4,5 to 8,7 cm, while the width of the blade varies between 5,2 to 6,2 cm. Specimens from West Irian are rather different shaped. The sides of the shaft run straight towards the blade, curving smoothly outwards to join the shoulders. The blade is rather thick. From several samples the largest measures 15,5 cm in length and 18,7 cm in width and the smallest respectively 7,2 cm and 11,9 cm. (Fig. 3 – upper).

Locality:
Bali, West Irian.

Type VI or the *heart-blade type* (PL. 18):

The blade is heart shaped and flattened. The shaft is long, the shaft-end concave; it narrows slightly towards the blade with sides curving smoothly towards the rounded corners of the shoulders. There are different sizes of specimens varying from large to small. The size of the largest sample is 39,7 × 16,2 × 1,5 cm. Samples of medium and small sizes have a similar form, but the corners of the shaft-ends continue into long fragile points resembling those of type-variety VB. Specimens of medium and small sizes measure on the average respectively 18,3 × 9,3 × 1,1 cm and 13 × 7,2 × 0,6 cm. Varieties of this type have not been found.

Locality:
Bali.

Type VII or the *halberd type* (PL. 19):

The long shaft has a broad shaft-end which is either slightly or extremely concave. The sides of the shaft curve slightly towards the flat blade which extends asymmetrically into opposite directions. One flank of the blade is extremely long and narrow, while the opposite flank is short. Both extreme points of the blade are bending downwards. Most of the specimens are fragmentary, missing the extreme end of the long flank. This type includes specimens of various sizes. The large samples have an average length of the blade of about 133,7 cm and the small of about 37 cm.

Locality:
West Java, Central Java, East Java.

Type VIII or the *mono-casted exquisite type* (PL. 20):

This type is in fact a complete representation of an exquisite type of axe which is attached to the curved handle. On top of the handle is a disc mounting the proper axe. The whole is casted into one flat piece. Two exemplars of this peculiar type show the same way of axe mounting. The proper axes are of different shape. The first sample shows the form of an axe which has a circular shaped blade with an oval hollow on each side of the shafts close to the

conjunction of shaft and blade. The second sample of axe shows a very broad fanshaped blade with rounded corners. Both samples are decorated very elaborately on both surfaces, so also on the handle and disc. A fragment of an axe is found in West Irian consisting of the lower part of a socketed shaft attached to the disc-shaped blade (Fig. 3 – lower). Decorations are shown on the blade. This fragment could be part of the «hache-ostensoir» (Galis, 1956 : 273).

Locality:

Roti, West Irian.

4. DECORATIVE APPLICATION.

Ornamentations are shown on specimens of types I (A-B-C), II (A-B), VII and VIII. The decoration is applied usually on the shaft, but the blade is decorated too on specimens of types IA, IC, and VII and VIII. Popular motifs are geometric figures like circles, triangulars, spirals, further oblique lines, wavy lines and dashes. Some other motifs less in use are hexagons, the cord motif, transformed triangulars and others. The eye motif is shown on specimens of types IB, IIA and IIB, the mask or head motif on the big «Macassan axe» (IA), «Sentani axe» (IC) and both «Roti axes» (VIII). An exclusive motif of a flying bird holding a halberd type of axe provided with the handle in its claws is shown on the blade of one of the specimens of type VII. The picture of attaching the halberd to a serrated discoid object on top of the curved handle is identical to the composition of axe mounting of the «Roti axe». Other exclusive motifs are human figures (on type VIII), the whirl motif (on type VIII), and the wheel motif (on type IC, VIII). The decorations are carried out in low relief (See Plates 4a – b, 6 – lower, 9a, 11 – right, 19a – b, 20a – b – c, 21).

5. CONCLUDING REMARKS.

1. The multiplicity of shapes and dimensions of bronze axes has caused some difficulties in settling a sound classification. Incorporating peculiar types into the fixed categories proceeded with meticulous recognition. The present classification is as yet a result of preliminary attempt.

2. According to defined localities of finds it seems that types IA and IIA have the most widespread diffusion and could be considered as the distribution type par excellence. The remaining types are chiefly typical local forms in particular the types IB, IIB, VIB, VA, VI, VII, and VIII. Type IA which is the simplest in form must be the basic type from which other variations have been derived. Compared with the common type of the Indonesian neolithic adze as a product of a preceding developing stage, it clearly shows a developed character which has exceeded a predictable transitional form. This affirms conclusions of the late influence of the so-called Dongson Culture in Indonesian regions.

3. Java is the densest place of bronze axe distribution, particularly West Java where the largest number of axes have been discovered. As compared with other localities, Java also produced most of the types of axes, namely five types out of the eight. Bali stands in the second place as the most fertile site of bronze axe discoveries. On the other hand, regions outside those productive areas brought forth the most elaborate and attractive specimens. This concurs with the fact that also in eastern localities far from the fertile centra the most beautiful specimens of bronze kettledrums have occured. The influence of a developed stage of bronze culture in these areas is very remarkable, proving its profound penetration over an extended area up to West Irian (Fig. 1).

4. The Central Museum for Culture in Jakarta possesses three Chinese specimens in its bronze axe collection consisting of one chisel-axe of which the shaft has a rectangular cross-section (found in South Sumatra) (PL. 13 – right) and two varieties of dagger-axes or «Ko» (found in South Sumatra and West Java). These exemplars indicate direct contact ever established with mainland Asia, in particular China, in the proto-historic period.

5. Local techniques have created multiple characteristic forms as well as specific motifs of decoration. Though terracotta moulds of bronze axes have repeatedly been found mainly in West Java – indicating the use of the bivalve method in bronze casting (PL. 22) – those peculiar forms which are not found in wide context even in regions of the Archipelago demonstrate local fabrication. Local invention and craftsmanship were highly stimulated by social – religious conditions in which social status and devotion to ancestors have been the spiritual basis for the production of many variations of unusual shaped bronze axes.

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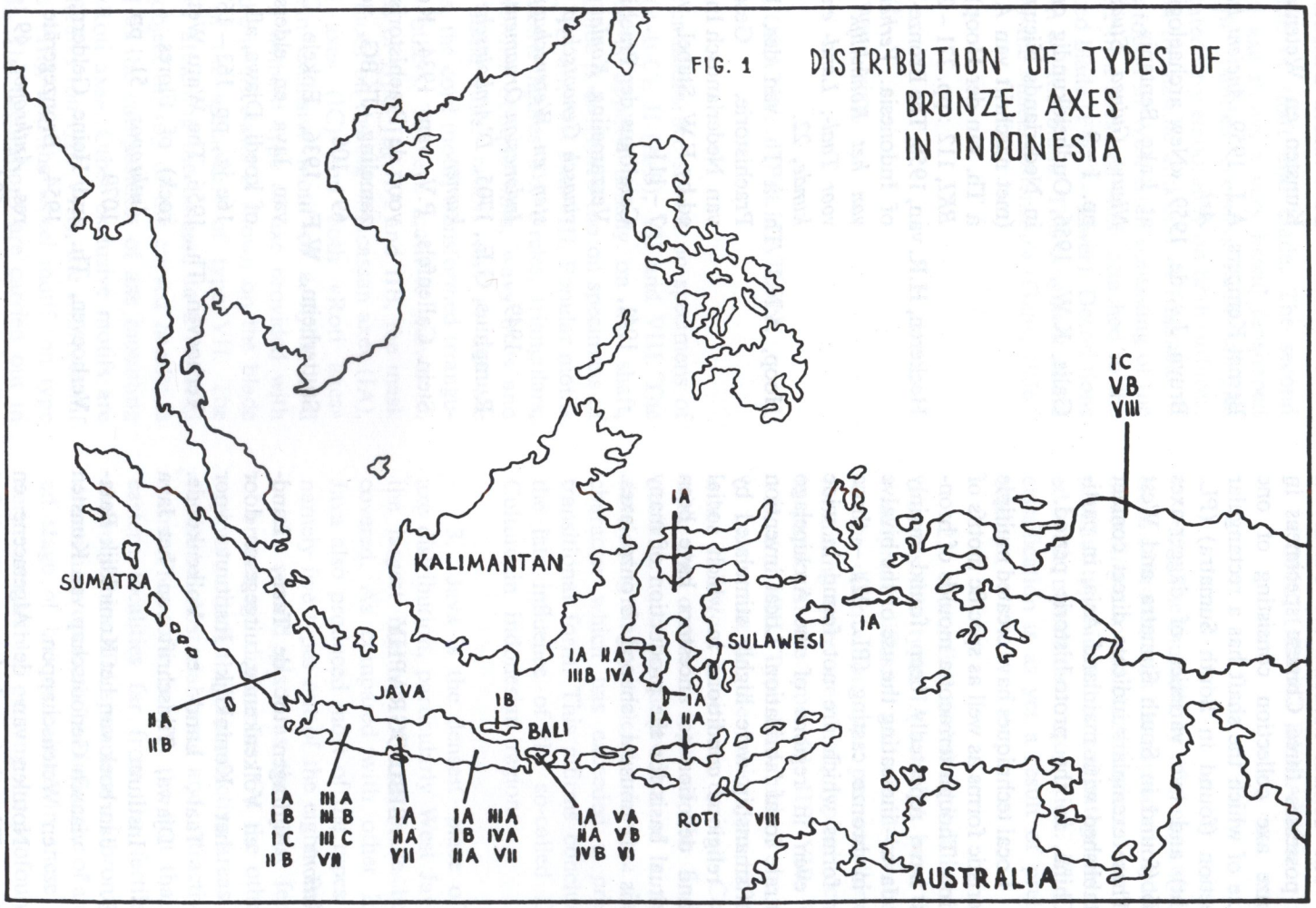
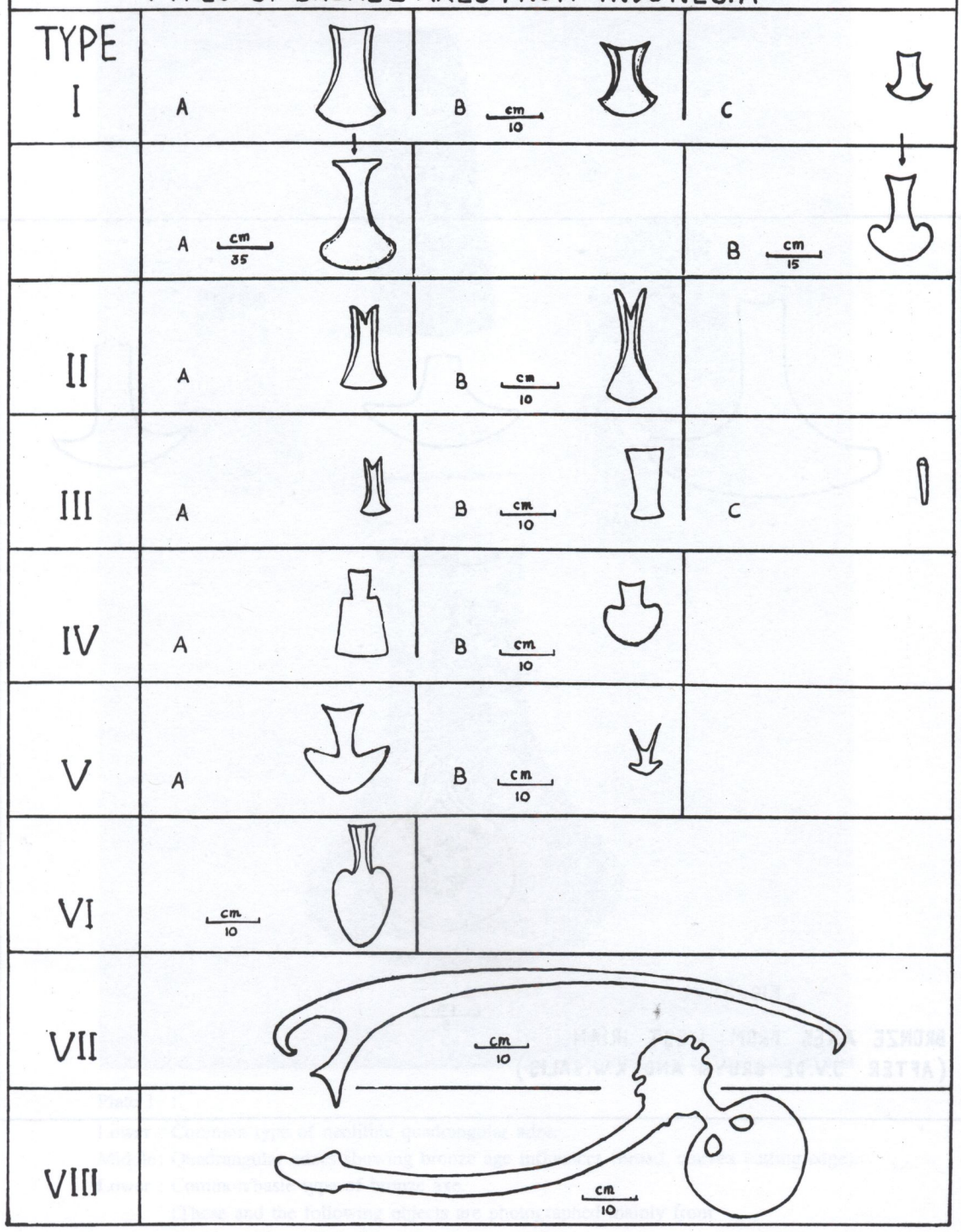


FIG. 1 DISTRIBUTION OF TYPES OF BRONZE AXES IN INDONESIA
SUMATRA
KALIMANTAN
SULAWESI
JAVA
BALI
ROTI
AUSTRALIA
IA
IC VB VIII
IA IIA IIIB IVA
IA IIA
IIA IIB
IB
I A I B I C II B
III A III B III C VII
IA IIA VII
IA IIA IB IVA IIA VII
IA VA IIA VB IVB VI
VIII

FIG. 2 TYPES OF BRONZE AXES FROM INDONESIA



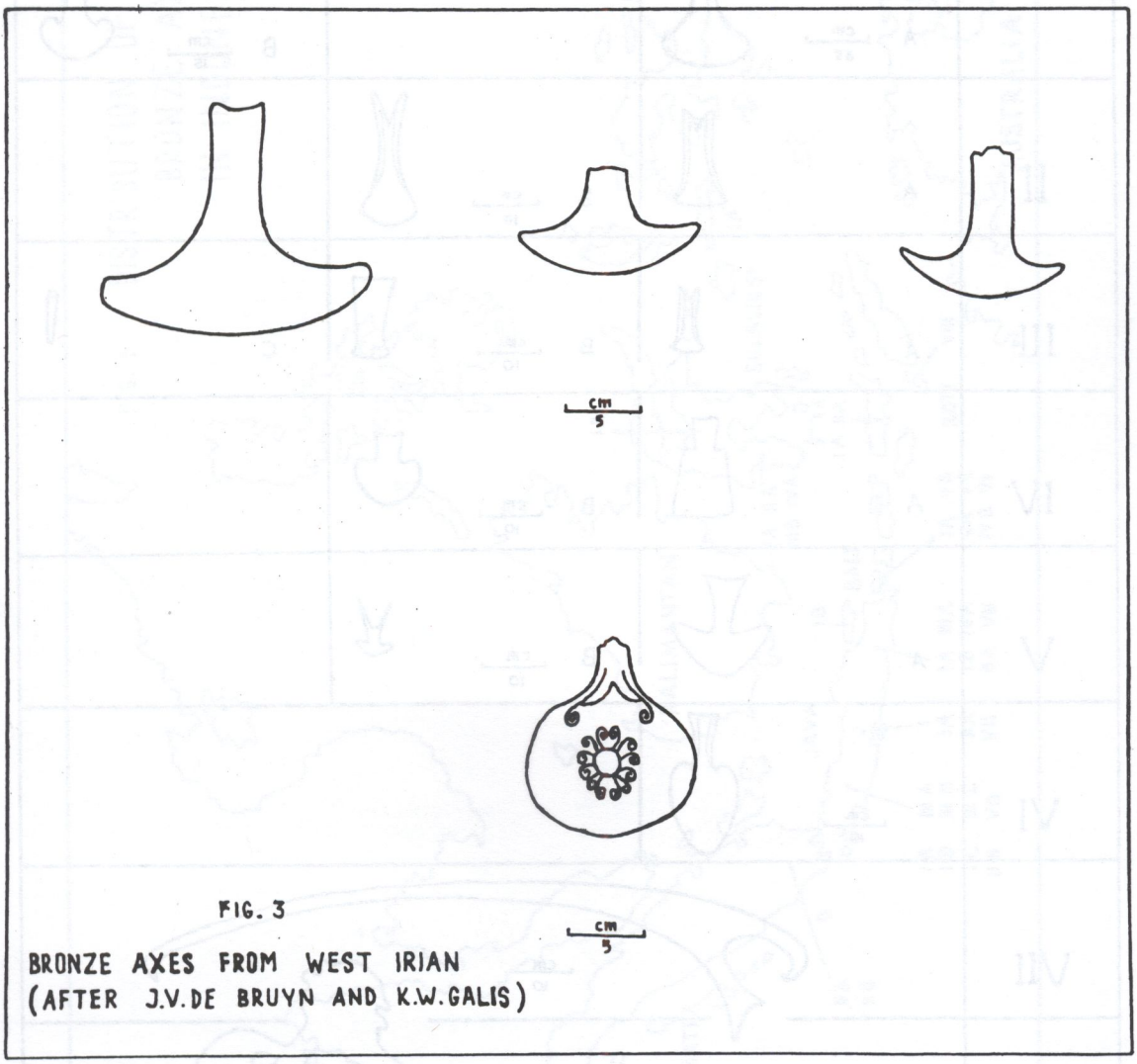


FIG. 3

BRONZE AXES FROM WEST IRIAN
(AFTER J.V.DE BRUYN AND K.W.GALIS)

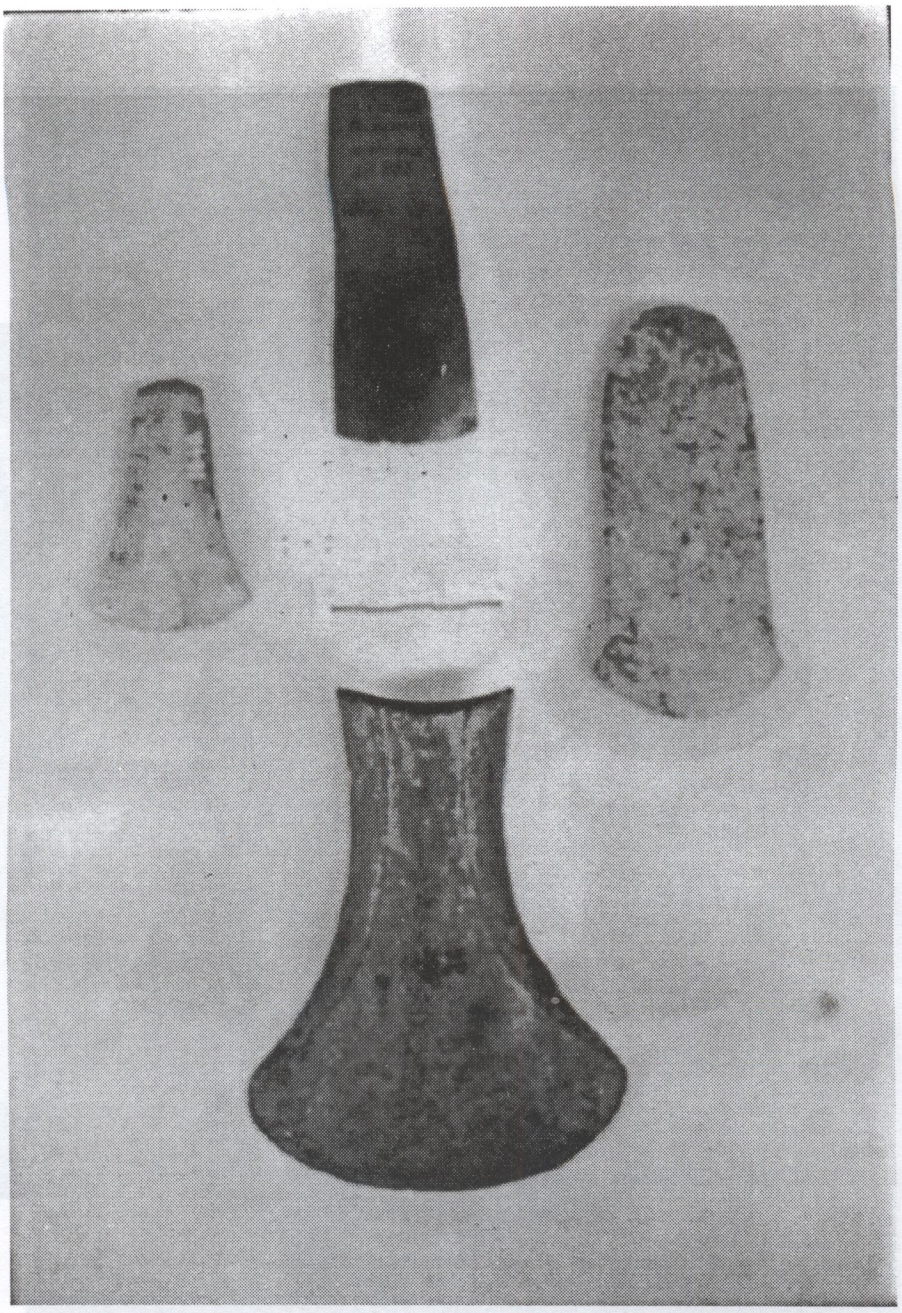


Plate 1 :

Lower : Common type of neolithic quadrangular adze.

Middle: Quadrangular adzes showing bronze age influences (broad, convex cutting-edge).

Lower : Common/basie type of bronze axe.

(These and the following objects are photographed mainly from the Nat. Mus. Coll. Jakarta).

Plate 2 :
Bronze axes of type I–A.
(general type, var. A).

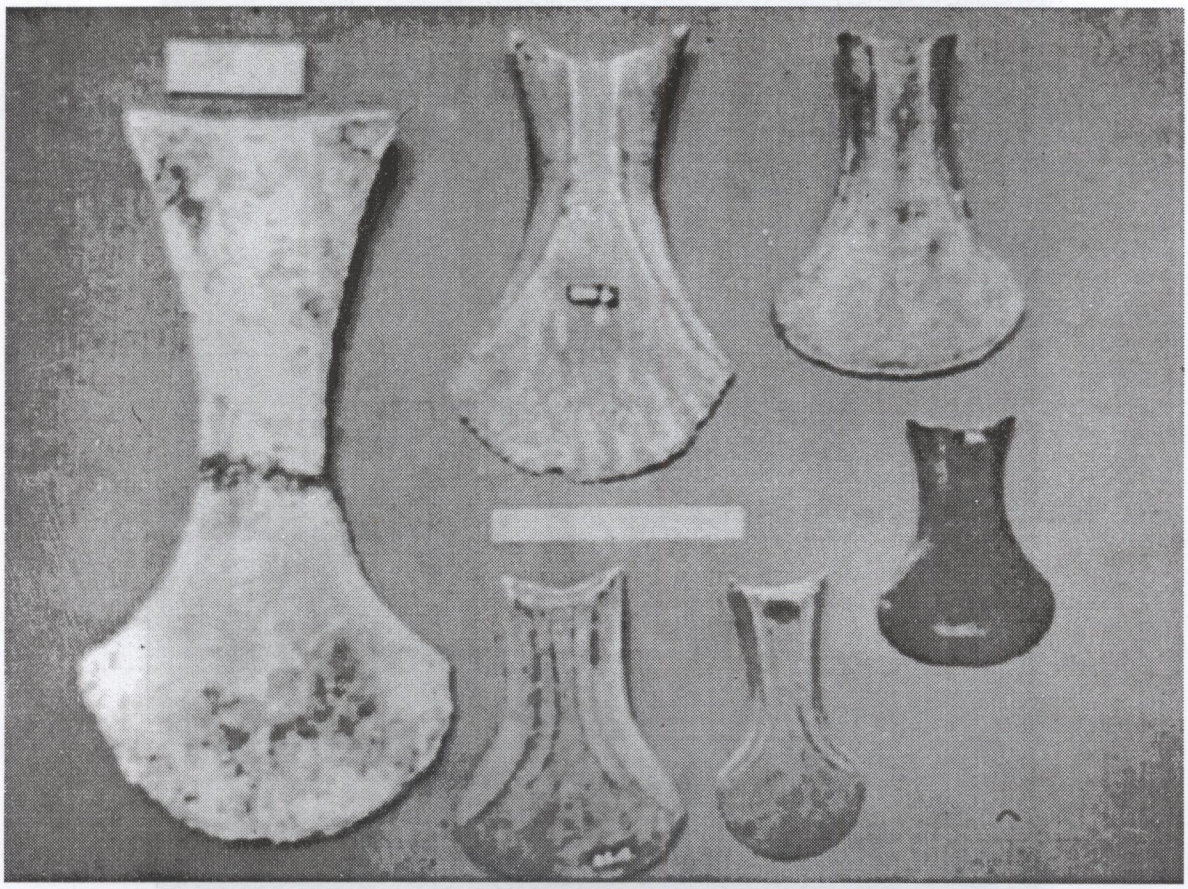


Plate 3 :
Bronze axes of type 1–A.

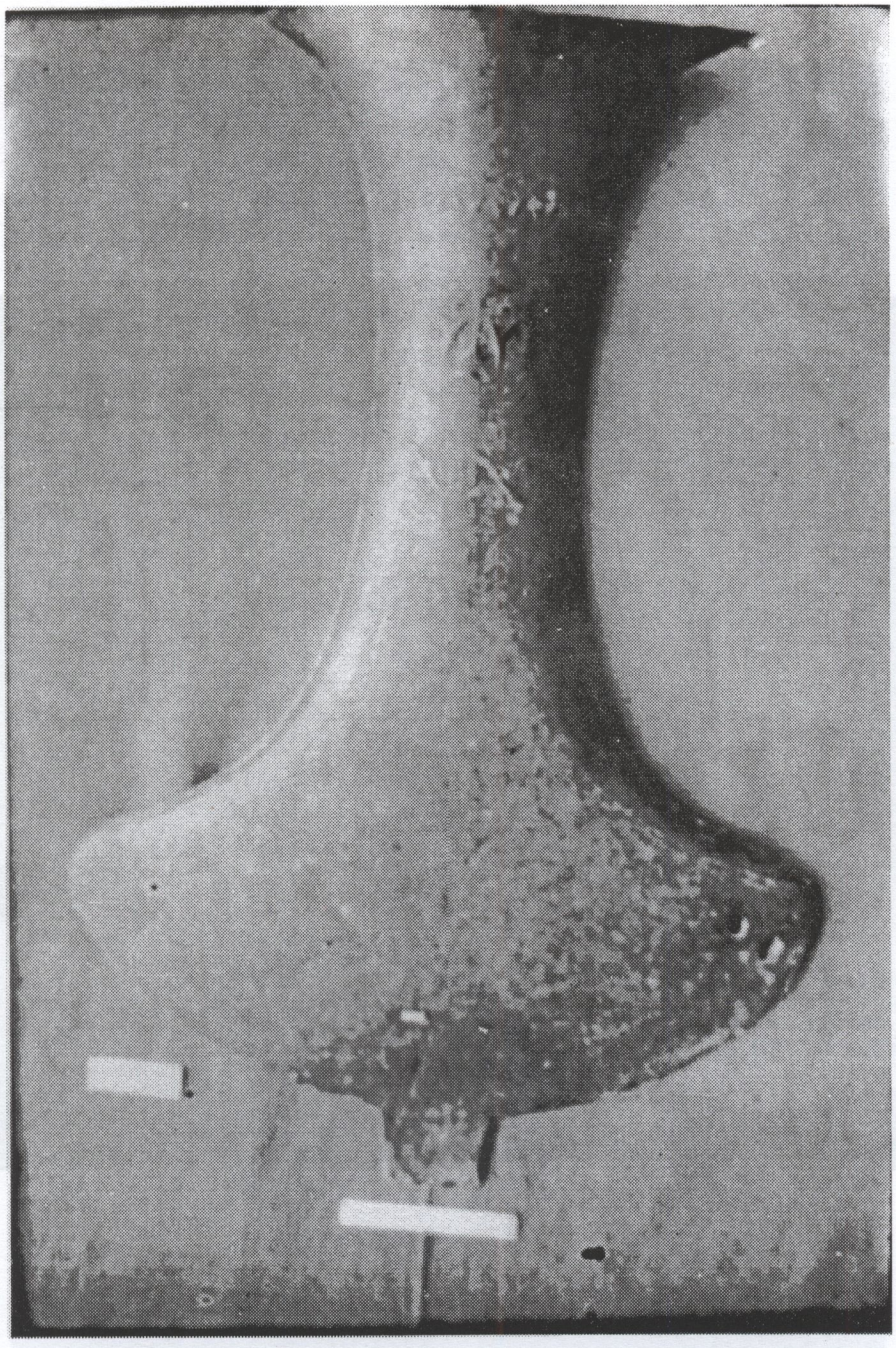


Plate 4 :
"Macassan axe" or ceremonial vessel.

Plate 4a :
Mask motif applied on "Macassan axe" (front).

Plate 4b :
Eye motifs applied on "Macassan axe" (back).

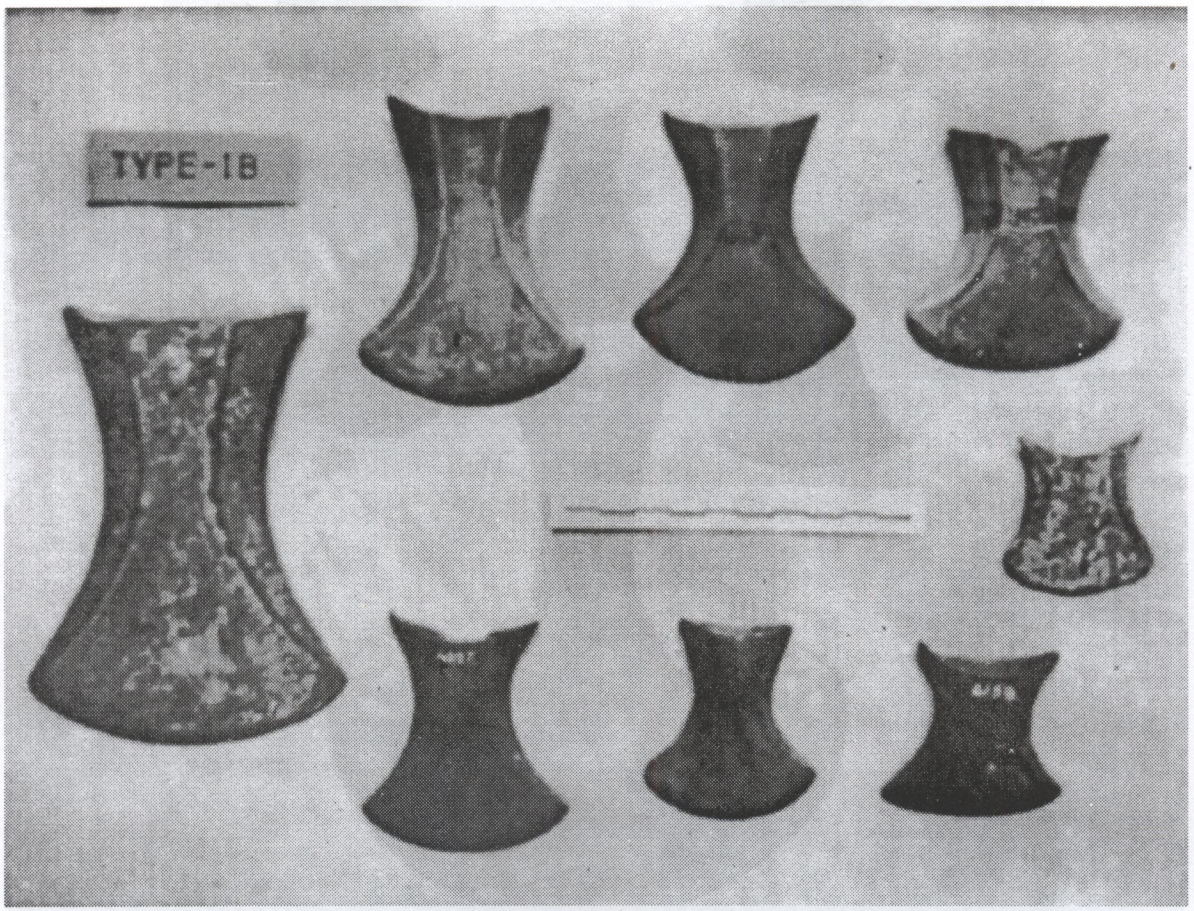


Plate 5 :
Bronze axes of type I–B.
(general type, var. B).

Plate 6 :
Bronze axes of type I–C.
(general type, var. C).
Below : "Sentani axe".

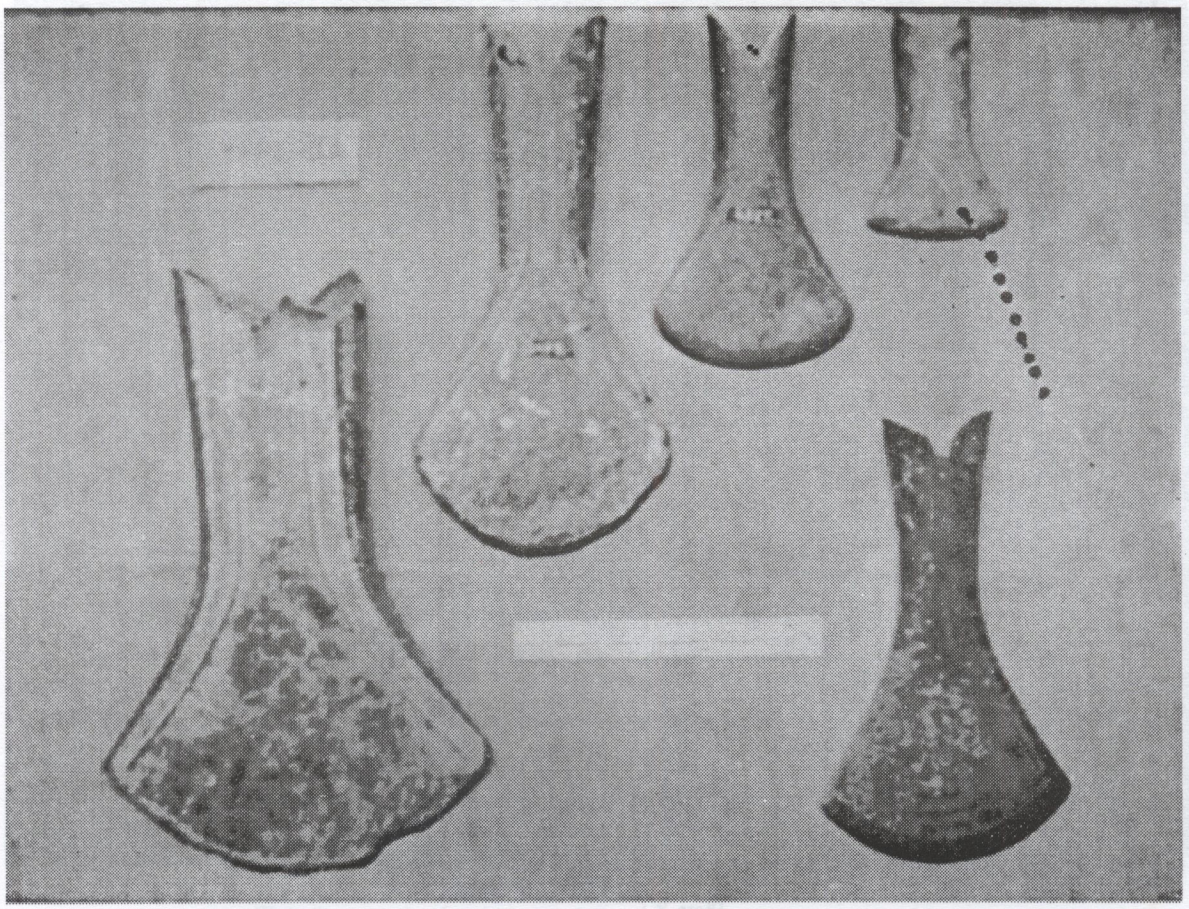


Plate 7 :
Bronze axes of type II–A.
(swallow tail type. var. A).

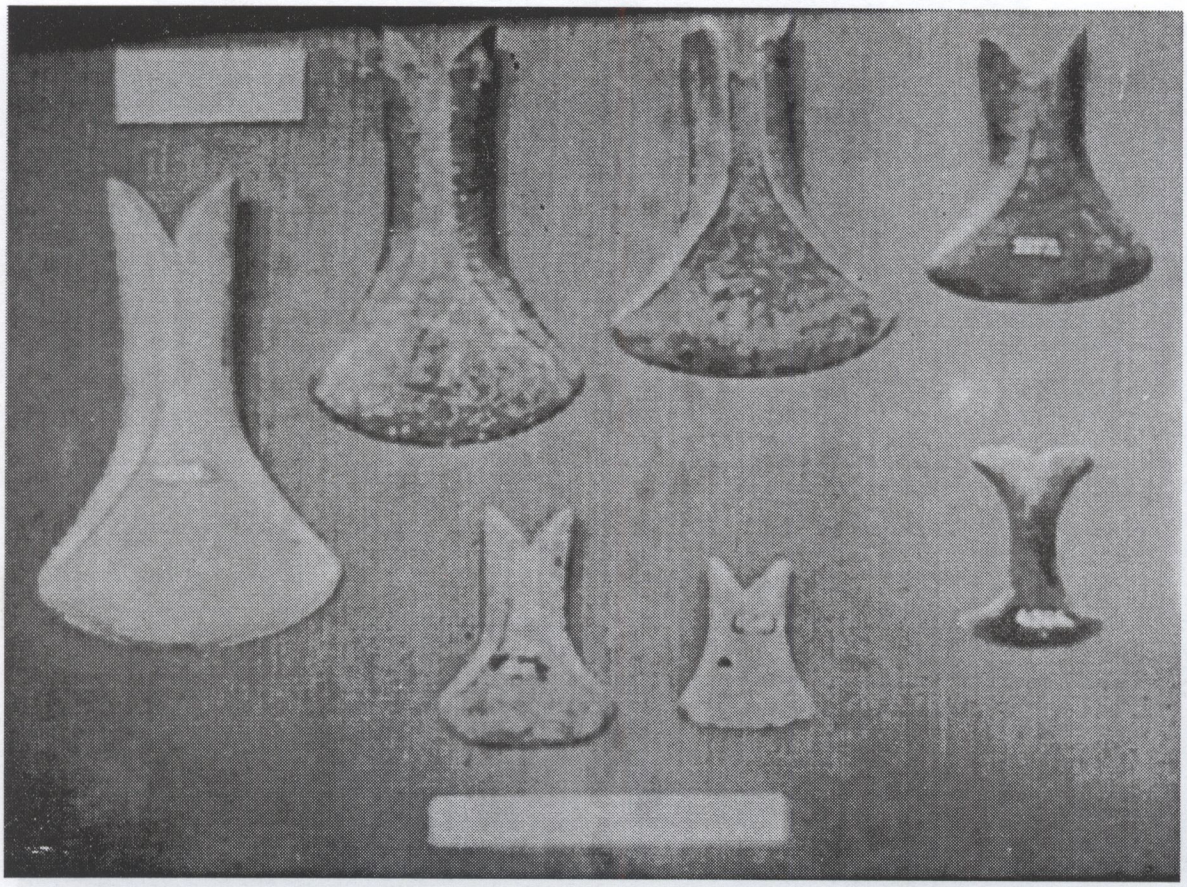


Plate 8 :
Bronze axes of type II–A.

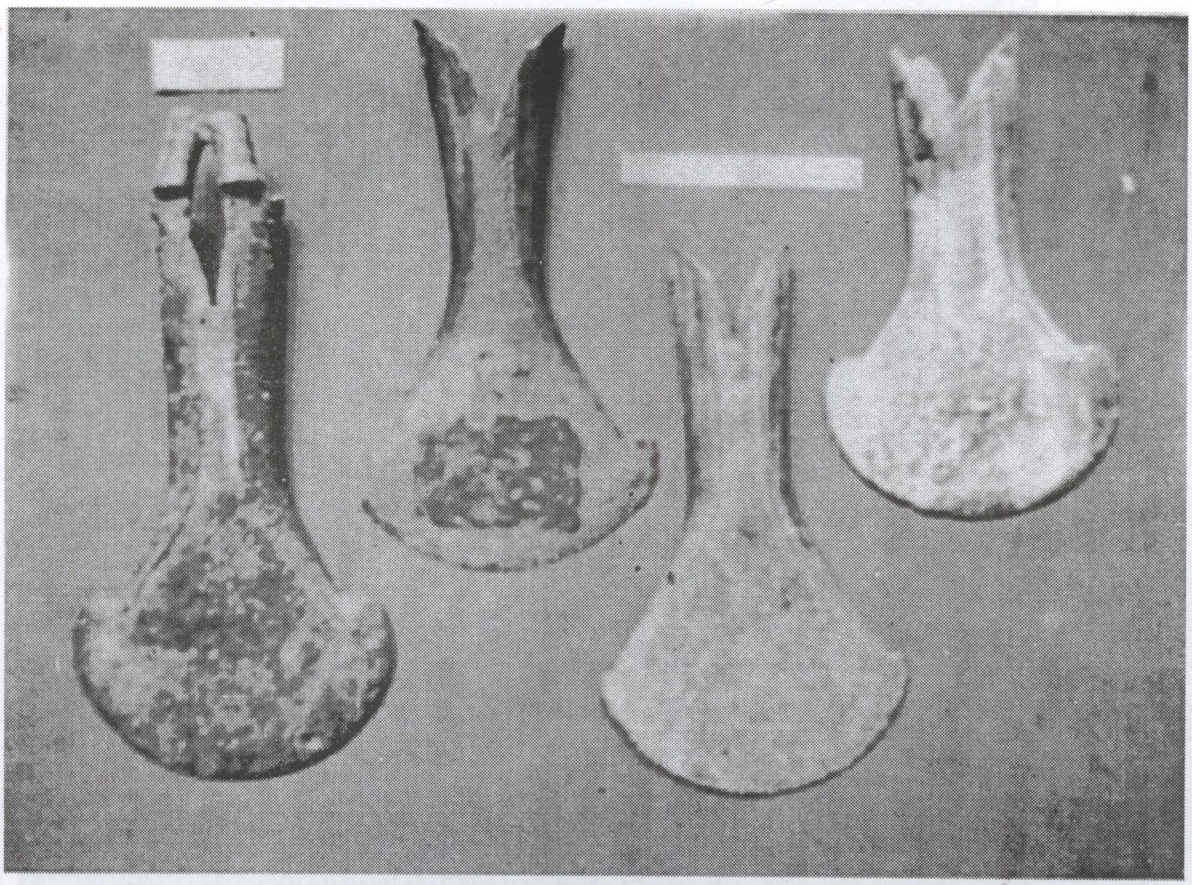


Plate 9 :
Bronze axes of type II–A (with scrolled corners of cutting-edge).

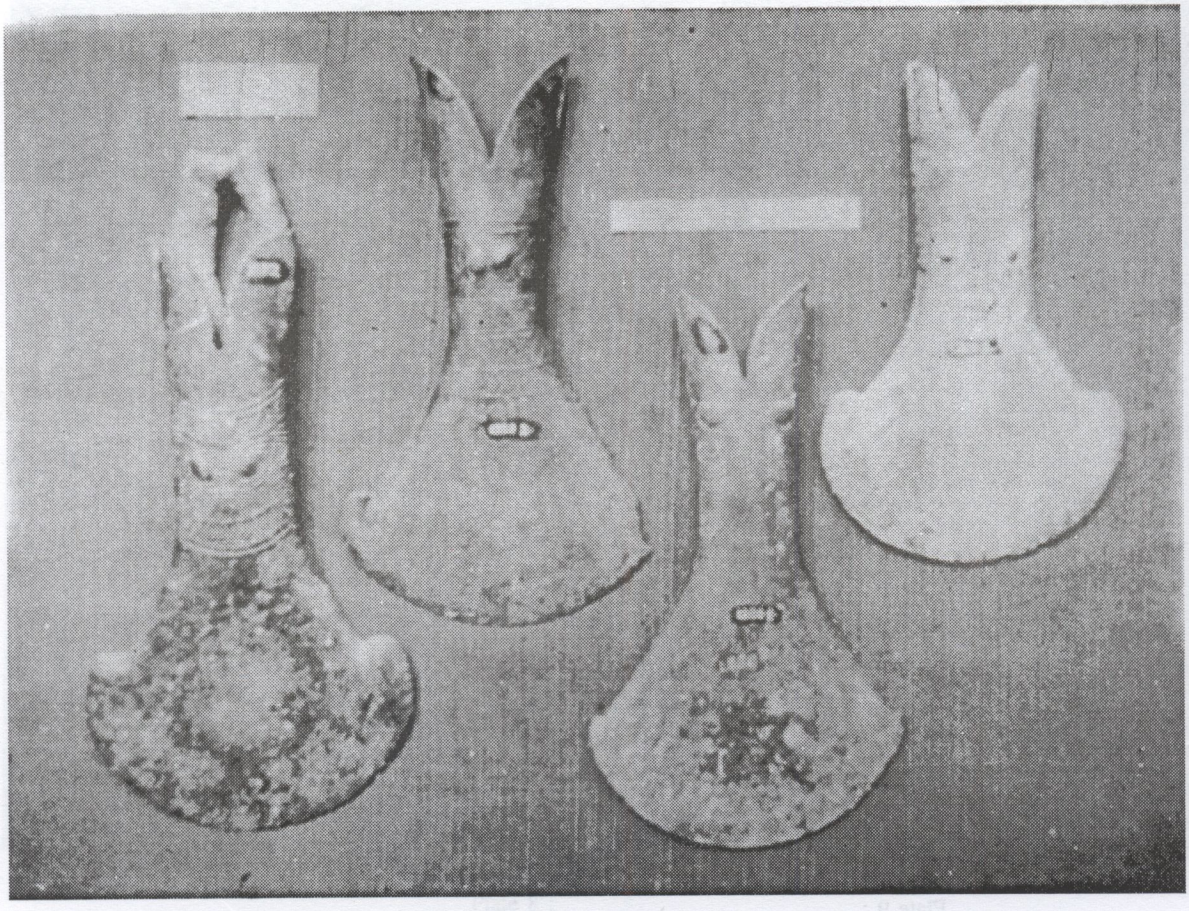


Plate 9a :
Eye motifs applied on axes of type II–A.

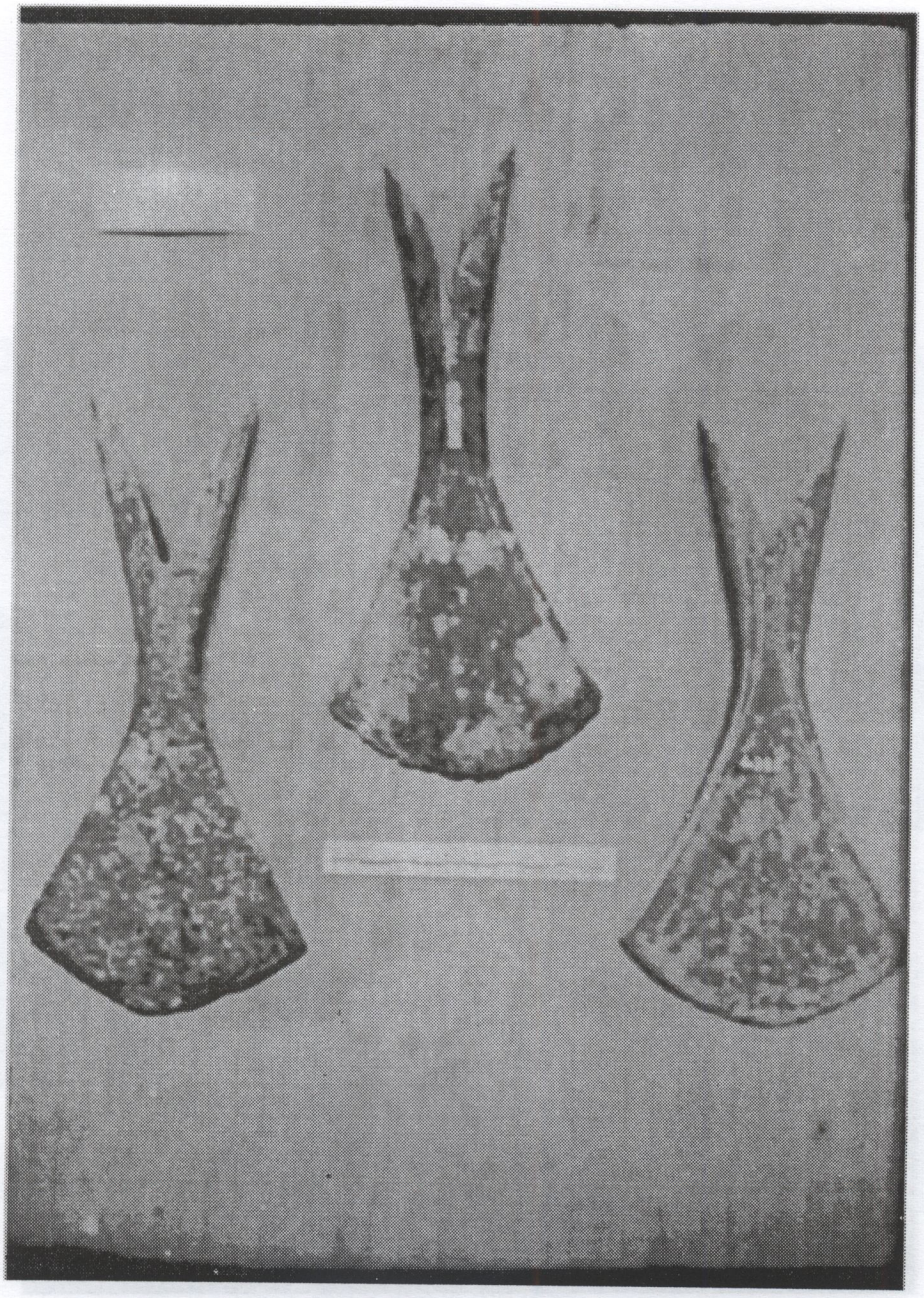


Plate 10 :
Bronze axes of type II–B.
(swallow tail type, var. B).

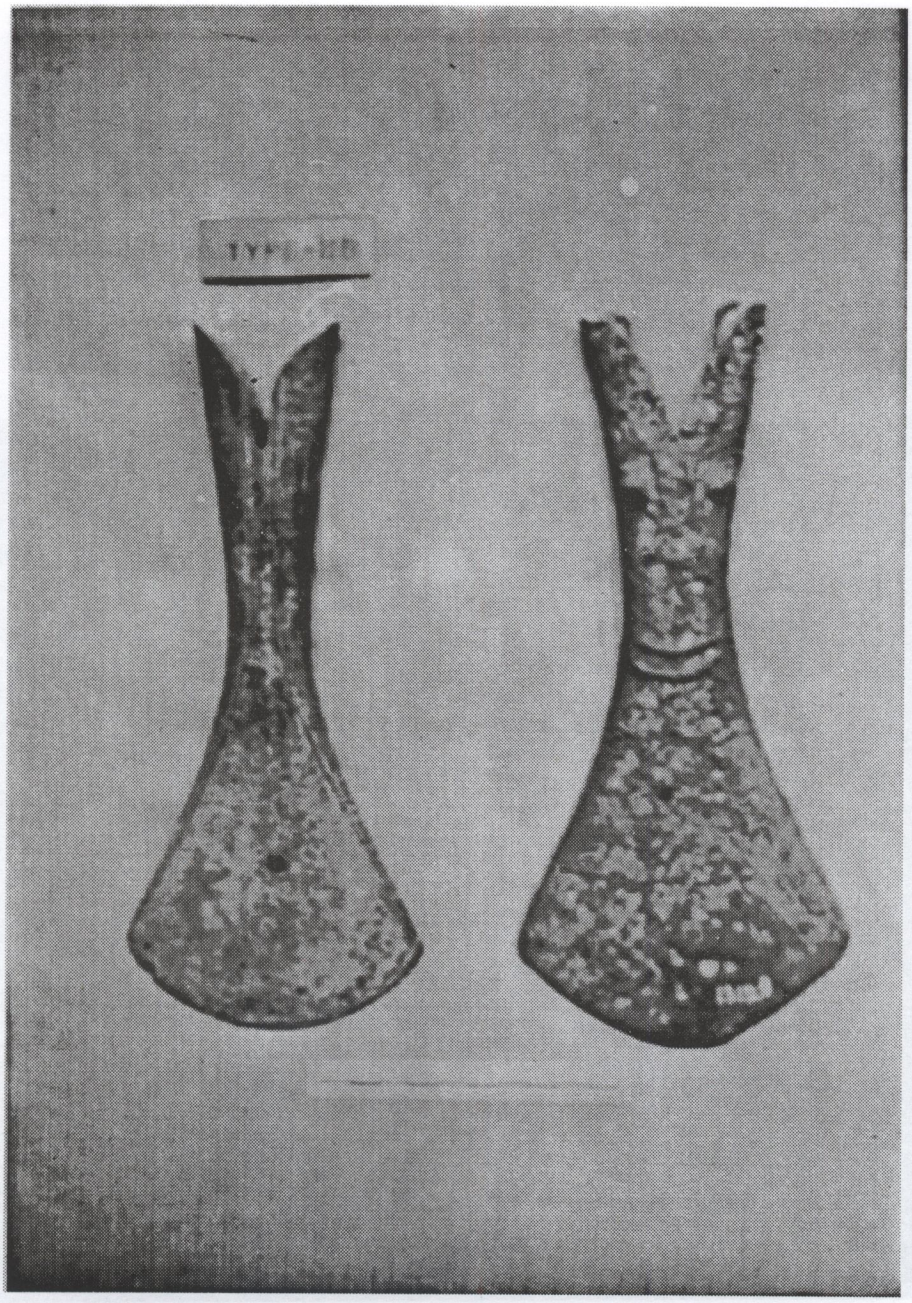


Plate 11 :
Bronze axes of type II–B.
Right : decorated with eye motifs.

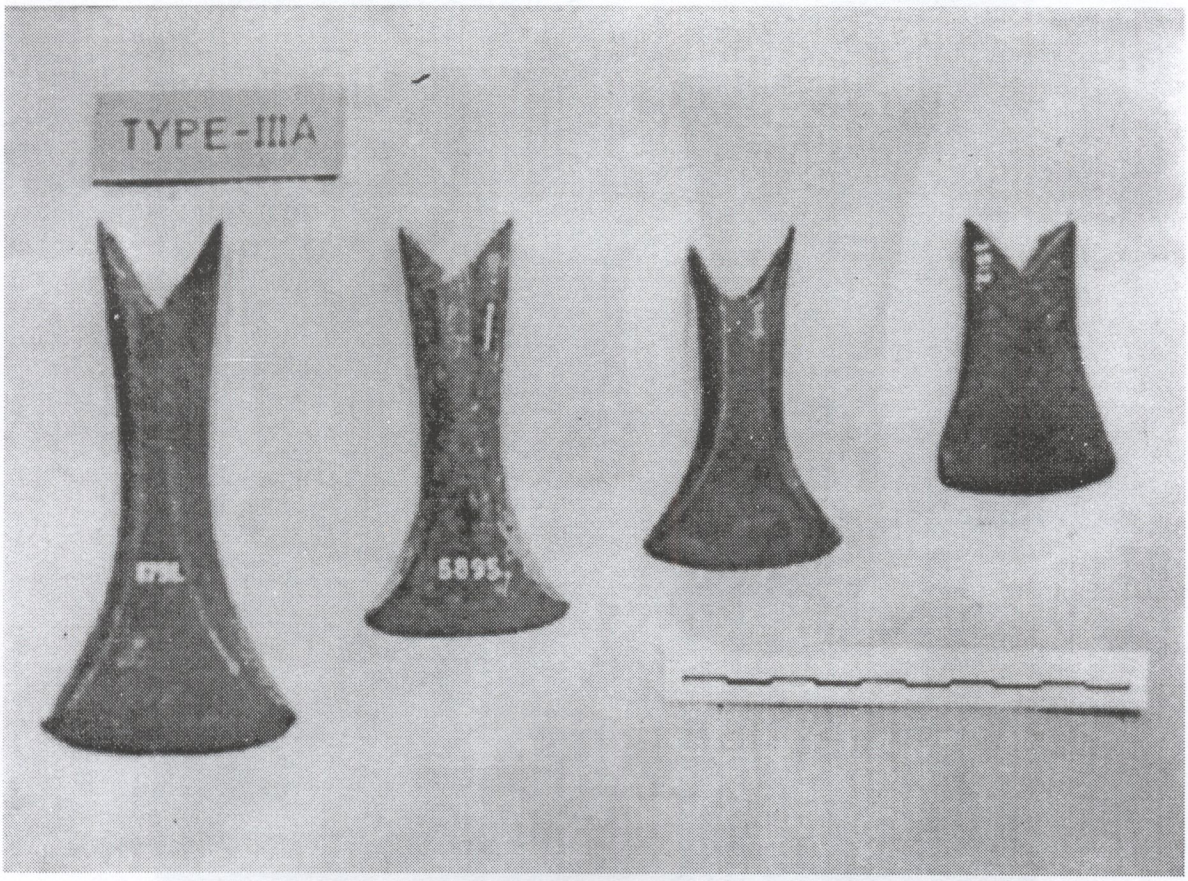


Plate 12 :
Bronze axes of type III–A.
(chisel type, var. A).

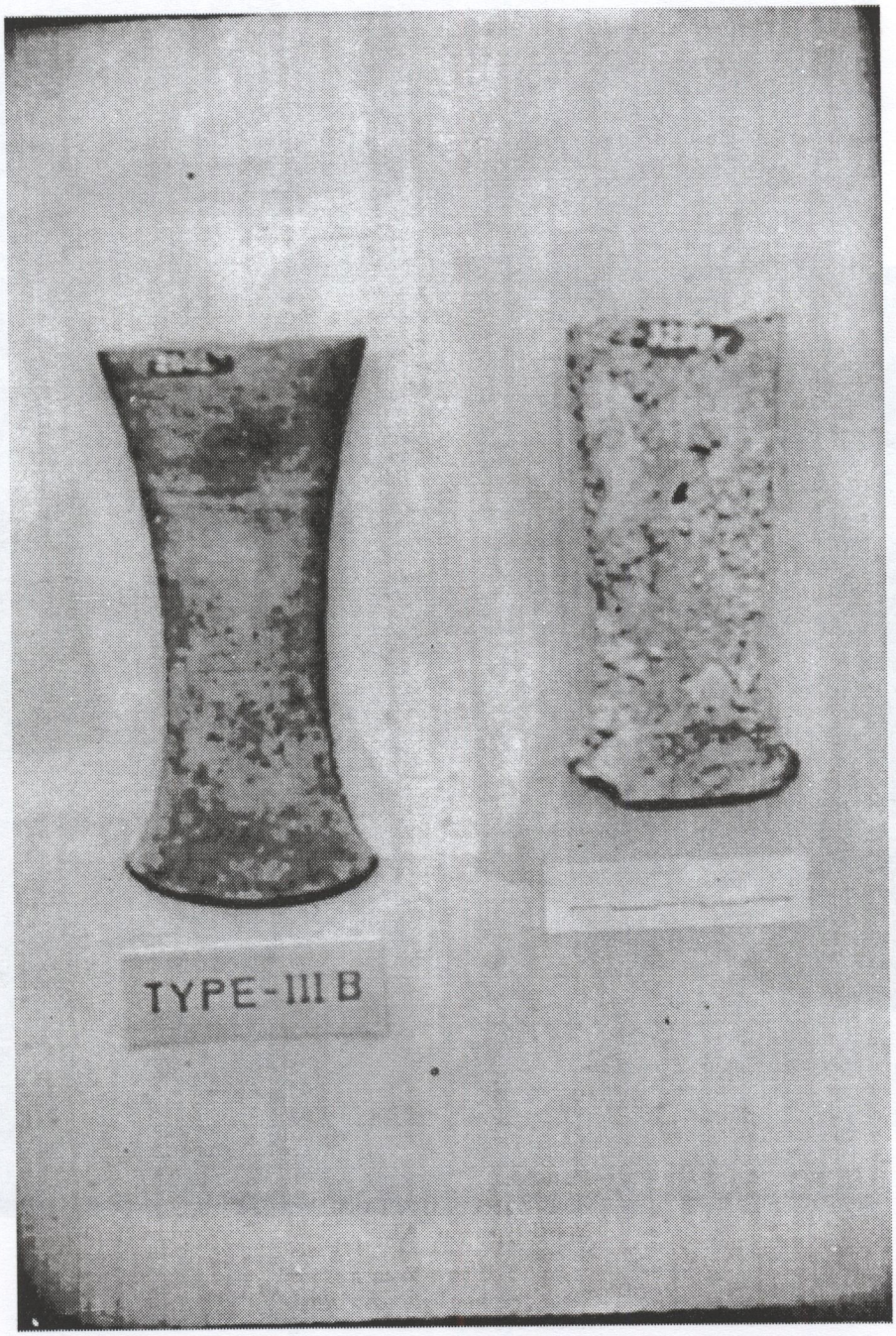


Plate 13 :
Bronze axe of type III–B (left) compared with a Chinese chisel-axe found in South Sumatra (right).

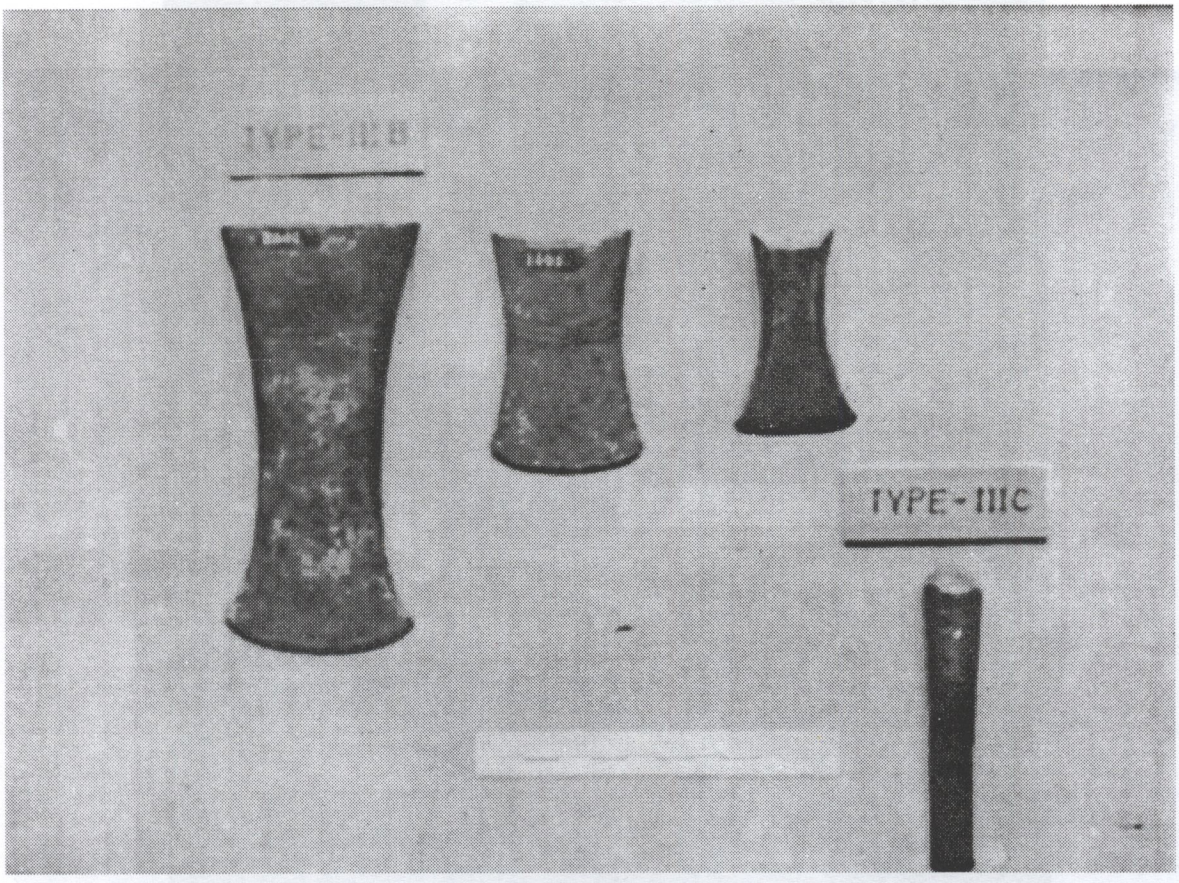


Plate 14 :
Bronze axes of type III–B and a specimen of type III–C.
(chisel type, var. B and C).

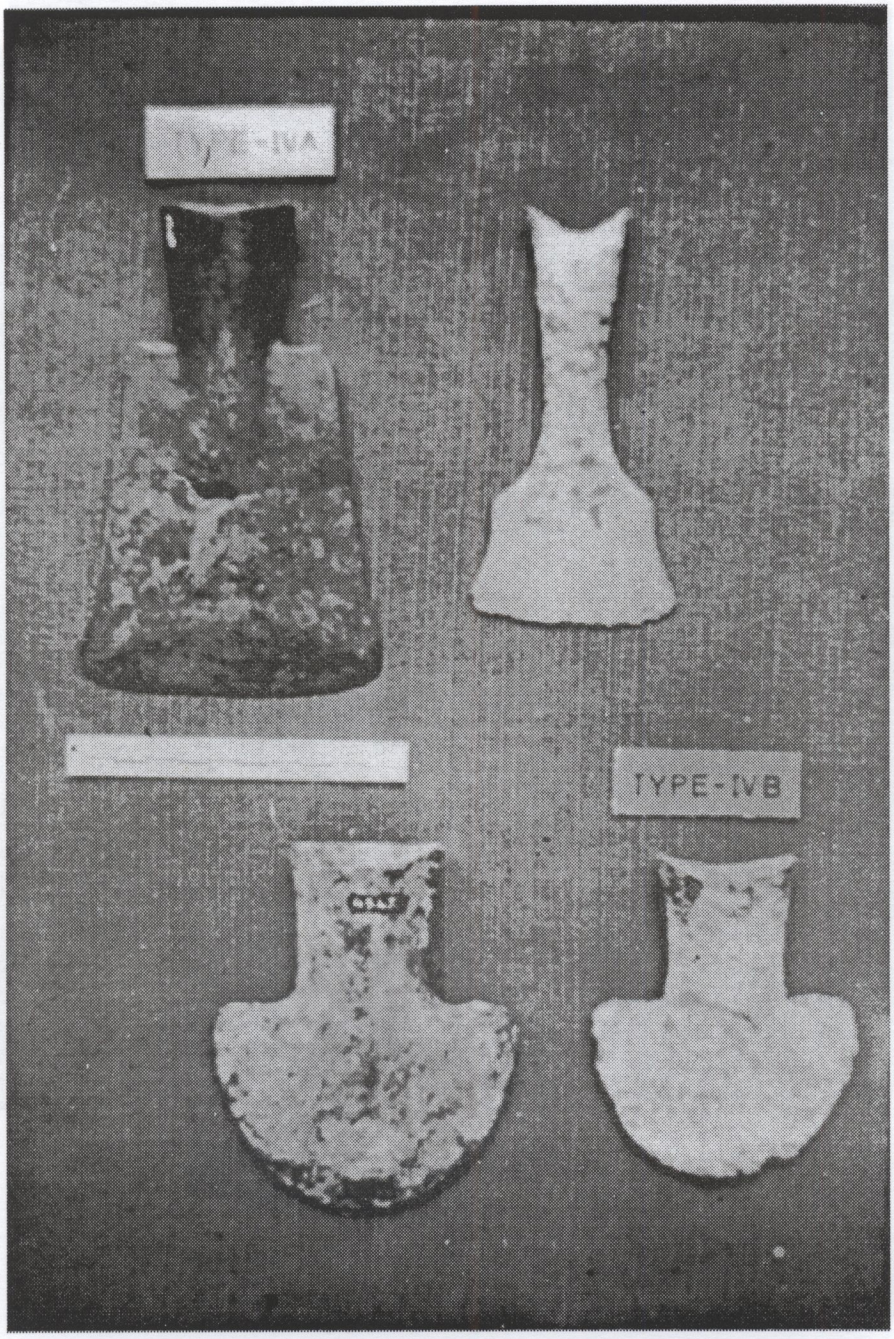


Plate 15 :
Bronze specimens or types IV–A and IV–B.
(hoe type, var. A and B).

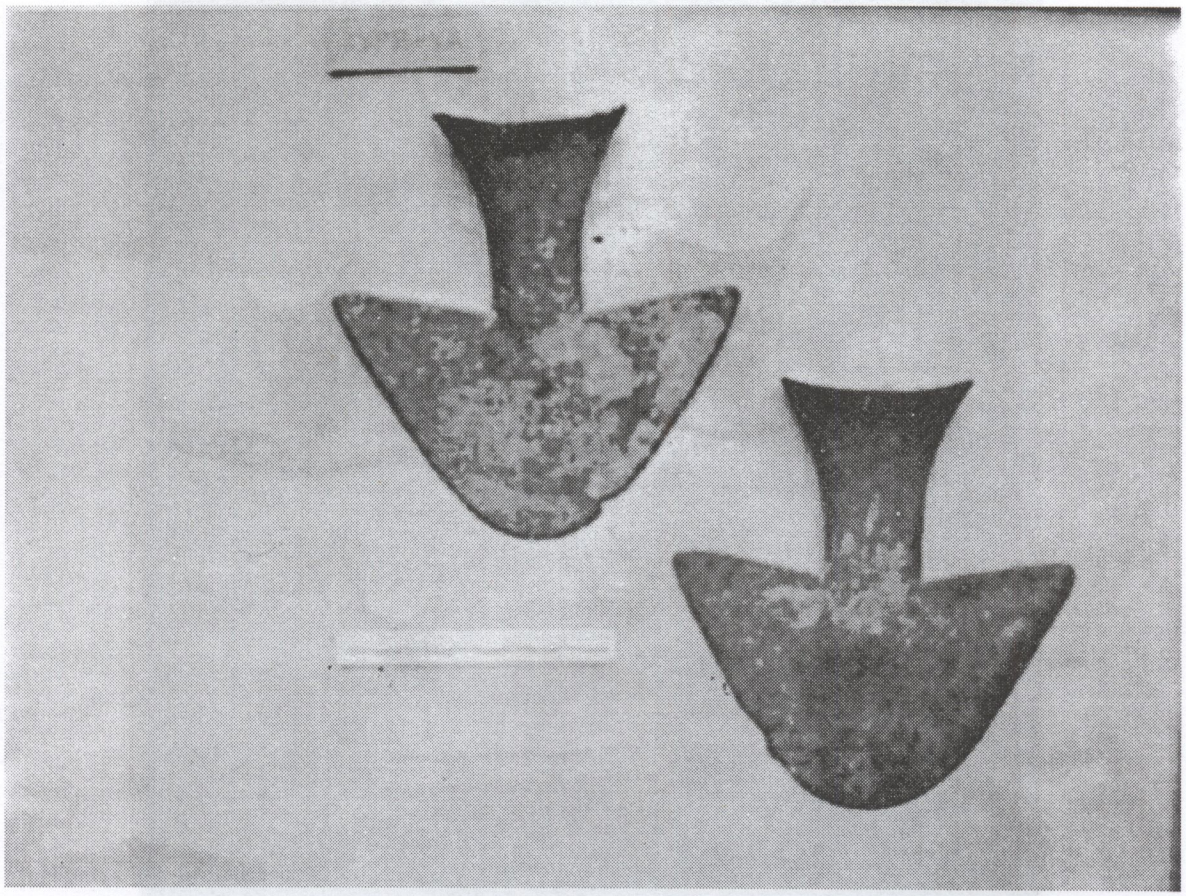


Plate 16 :
Bronze specimens of type V–A.
(cresent blade type, var. A),

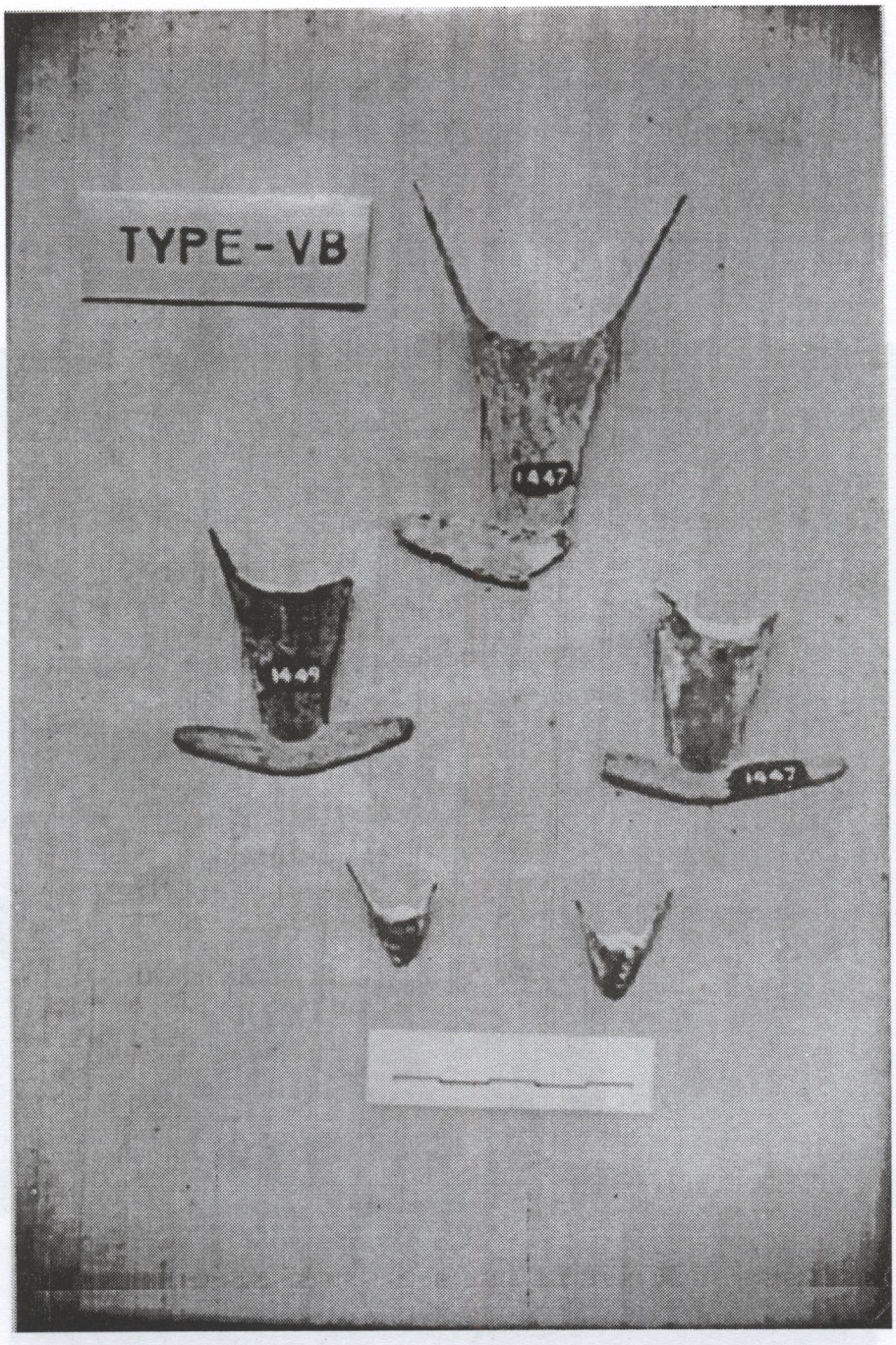


Plate 17 :
Bronze specimens of type V–B.
(cresent blade type, var. B).

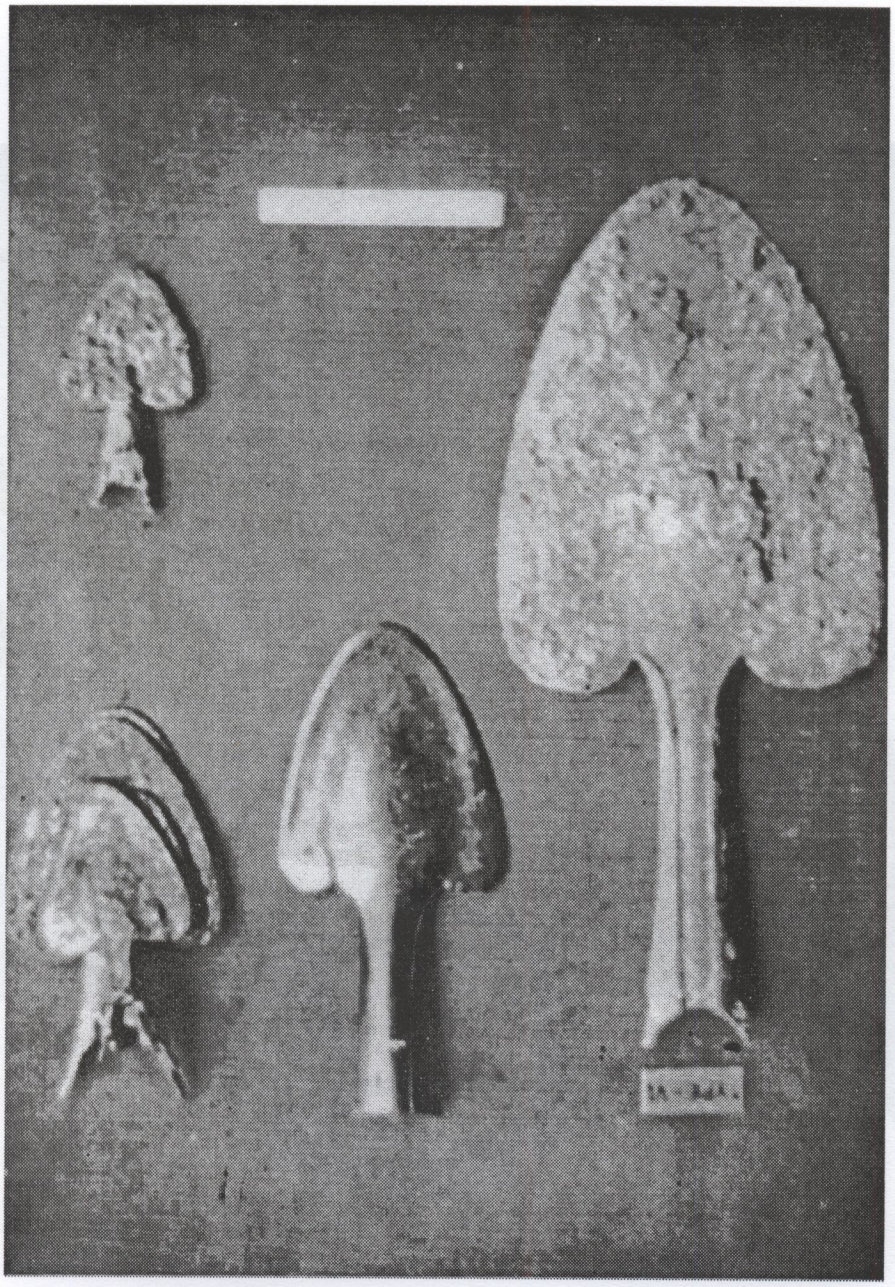


Plate 18 :
Bronze axes of type VI.
(heart blade type).
Lower left: accumulation of axes of different sizes at Gilimanuk, Bali

Plate 19 :
Specimens of type VII or ceremonial axes or "chandrasas".
(halberd type).

Plate 19a :
Decoration of a small chandrasa. Notice the design on blade showing flying bird holding a chandrasa in its claps.

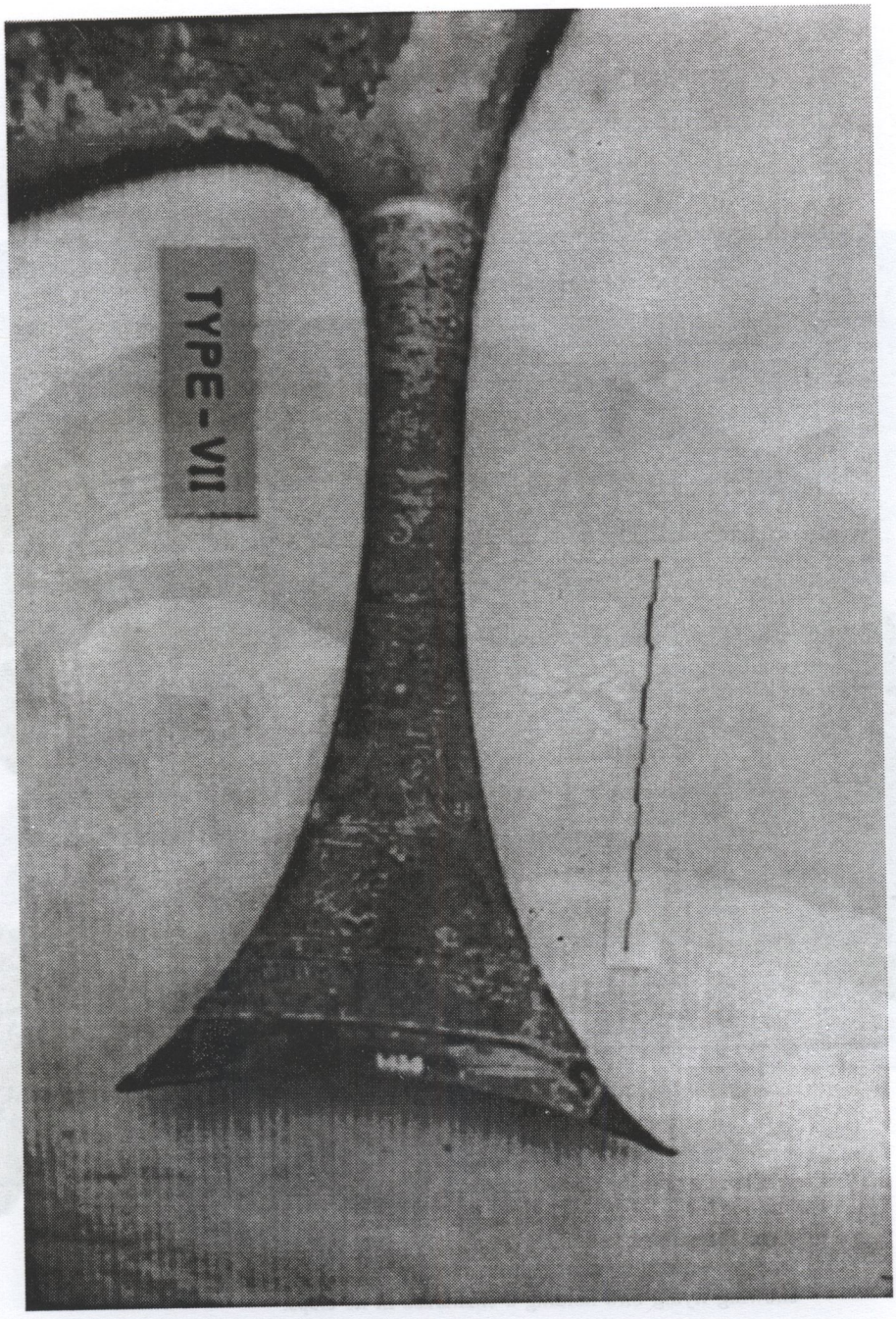


Plate 19b :
Motifs of decoration on shaft of a chandrasa:
spirals and lines.

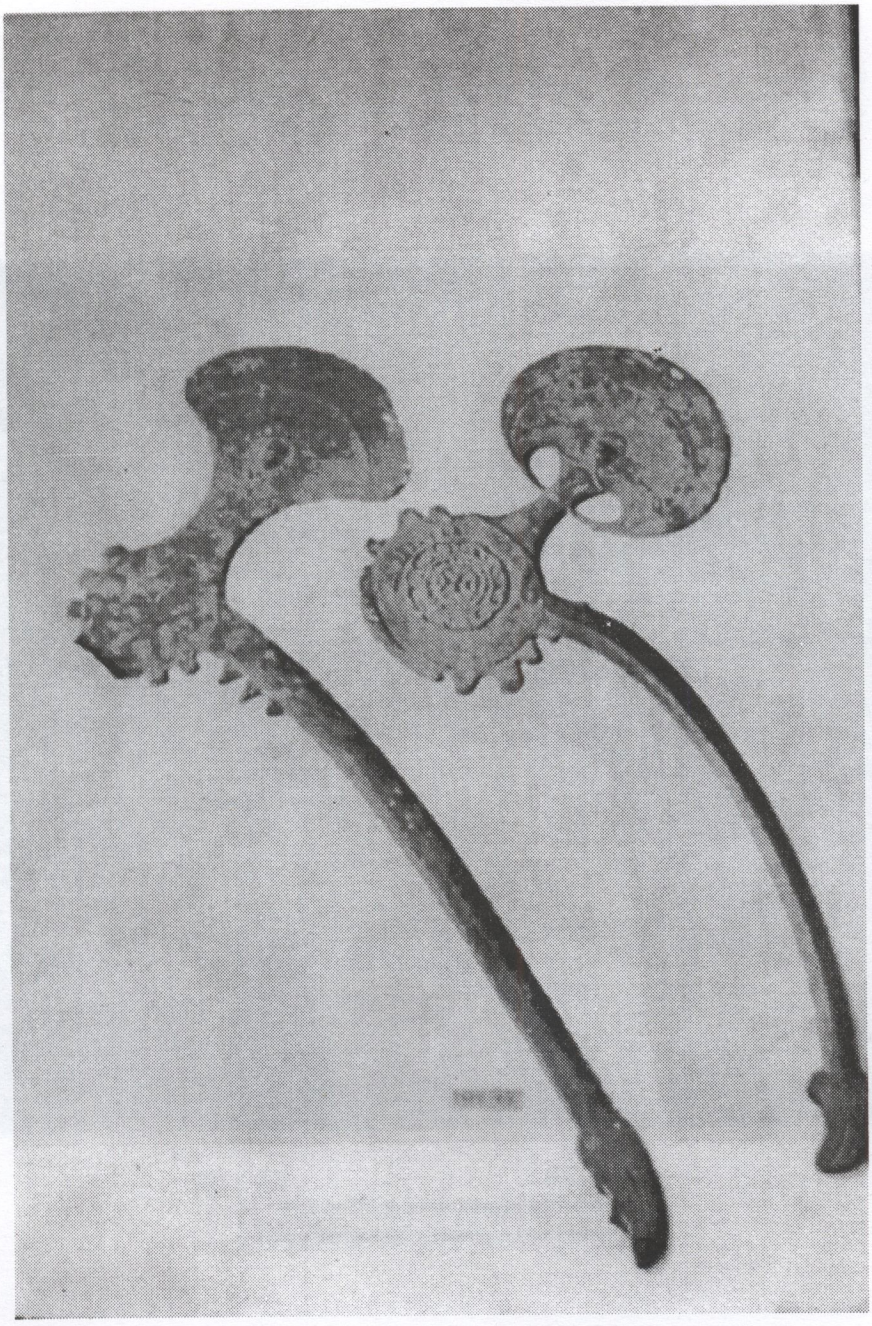


Plate 20 :
Specimens of type VIII or "Roti axe"
(mono casted type).

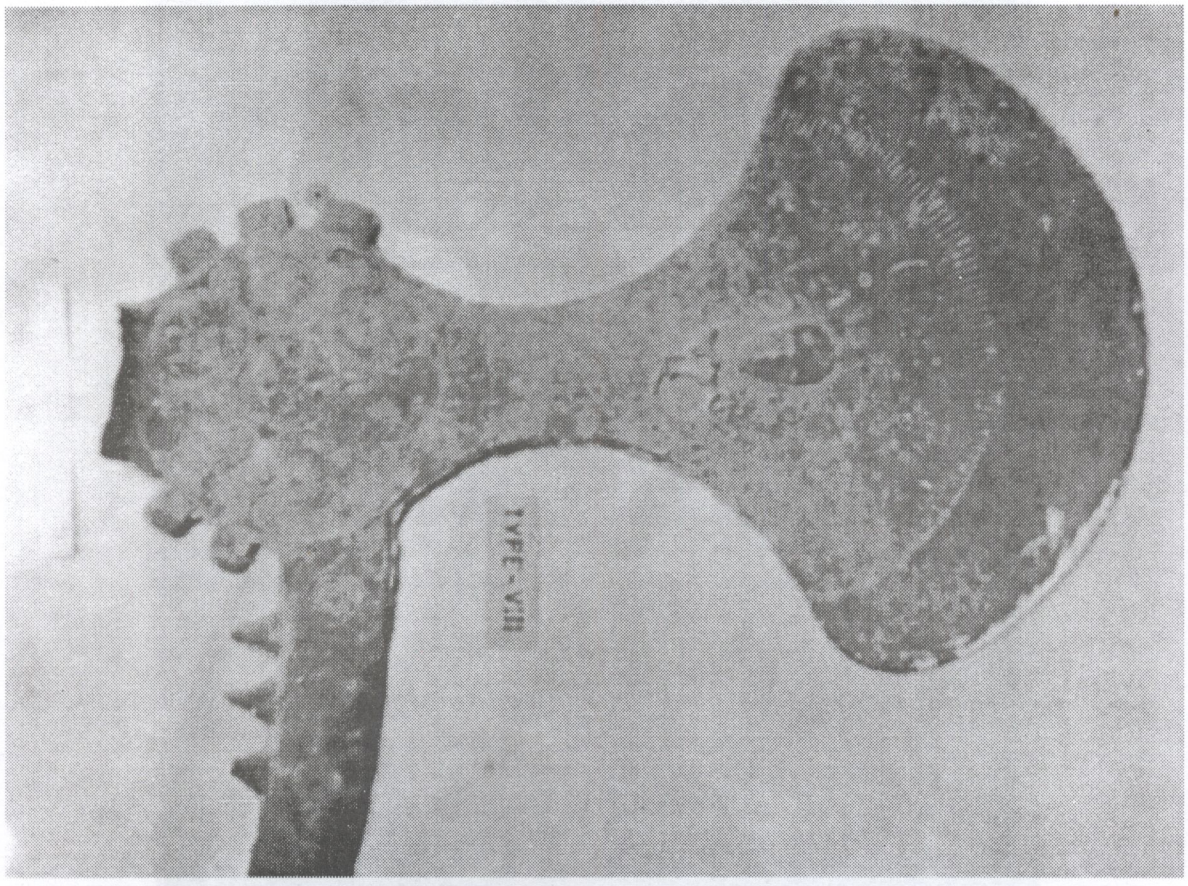


Plate 20a :
Motifs of decoration of a "Roti axe":
human head, spirals, whirl-wind motif.

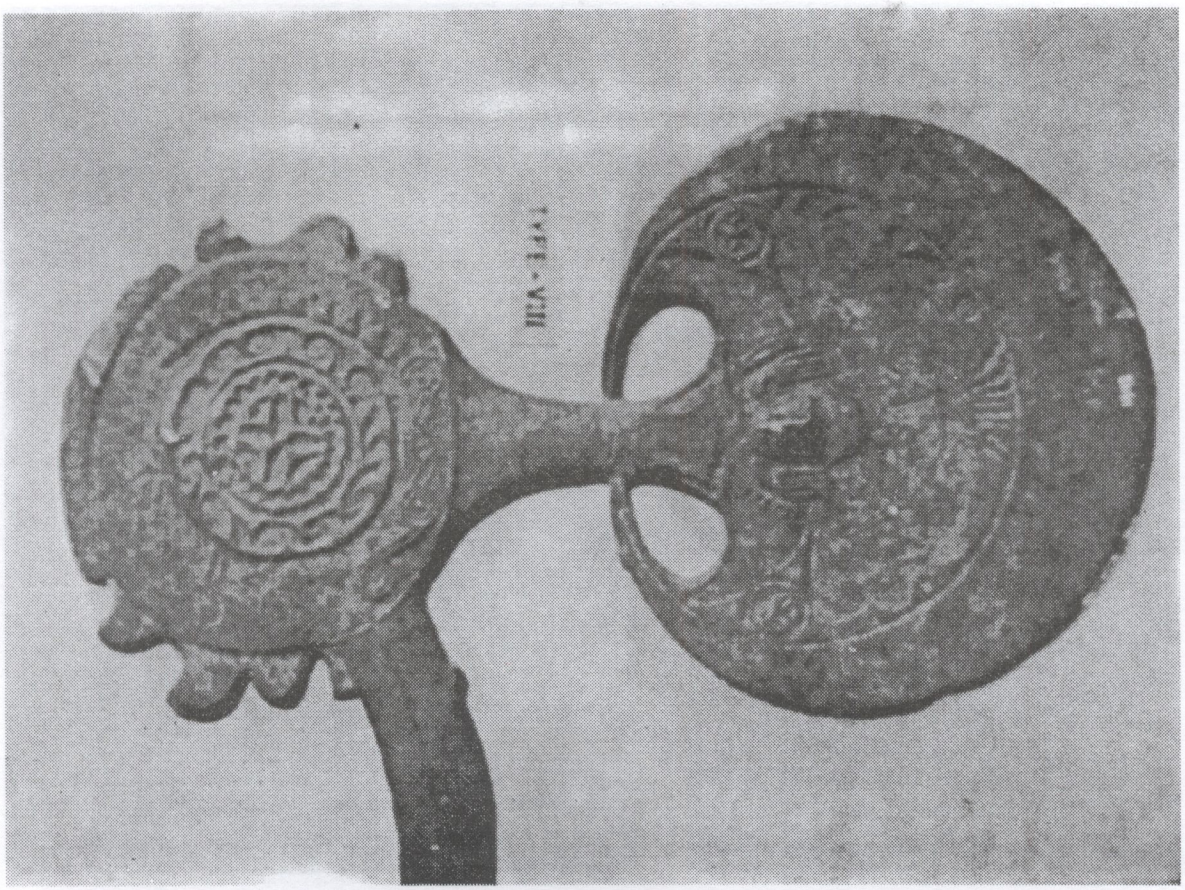


Plate 20b :
Motifs of decoration of a "Roti axe":
human figure, spirals, circles, triangles etc.

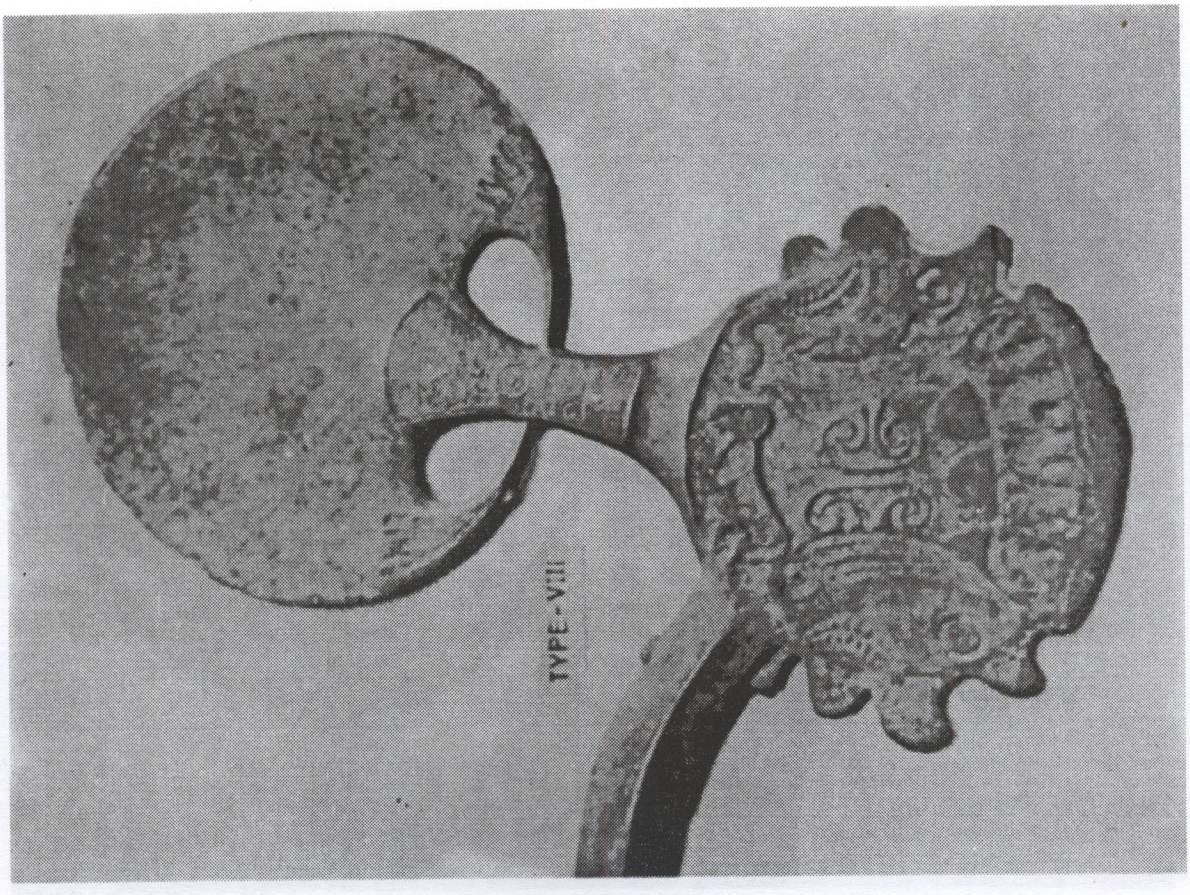


Plate 20c :
Reverse of axe on plate 20b, showing peculiar motifs of decoration.

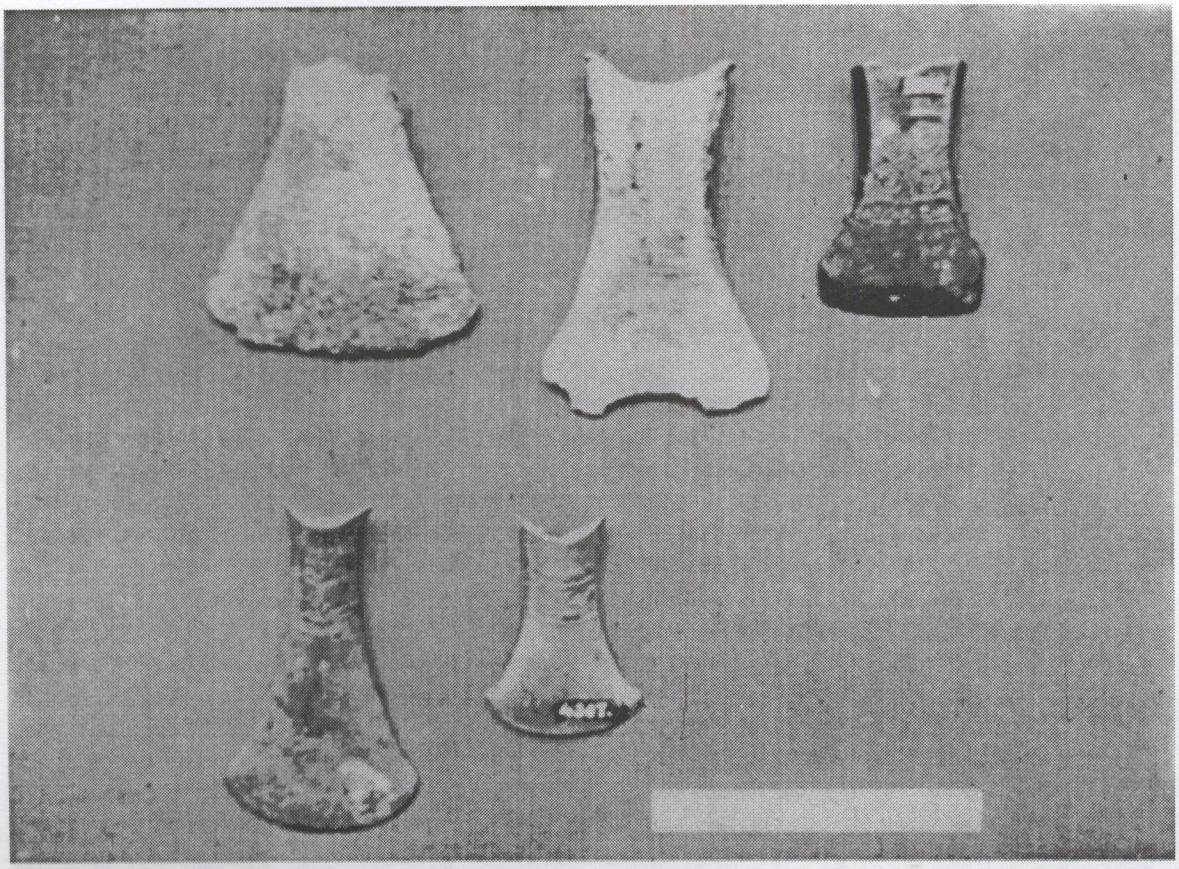


Plate 21 :
Decorated bronze axes (cocentric circles, eye motifs).

Plate 22 :
Terra-cotta mould (left) for bronze axes.