

THE UNIVERSITY OF CHICAGO
ORIENTAL INSTITUTE PUBLICATIONS

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THE MEGIDDO IVORIES

THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS

THE BAKER & TAYLOR COMPANY
NEW YORK

THE CAMBRIDGE UNIVERSITY PRESS
LONDON

THE MARUZEN-KABUSHIKI-KAISHA
TOKYO, OSAKA, KYOTO, FUKUOKA, SENDAI

THE COMMERCIAL PRESS, LIMITED
SHANGHAI

PLATE 1



BOX CARVED IN HIGH RELIEF WITH SPHINXES AND LIONS. CATALOGUE NO. 1

THE UNIVERSITY OF CHICAGO
ORIENTAL INSTITUTE PUBLICATIONS
VOLUME LII

THE MEGIDDO IVORIES

By
GORDON LOUD



Internet publication of this work was made possible with the
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COMPOSED AND PRINTED BY THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS, U.S.A.

FOREWORD

The aim of this volume is to present in simple, concise form the Megiddo ivories. It does not pretend to offer exhaustive comparisons with allied material from other sources or to draw the many and diverse conclusions as to date, style, and origin of individual pieces. The interest aroused by preliminary reports of this find has prompted the early publication of this material, which it is hoped will supply a basis for discussion of the many angles and problems it suggests.

In order to approach reality in so far as the limitations of publication permit, photographic reproduction has in some instances been supplemented with line drawings. In certain cases where time has been unduly hard on such fragile material it has seemed advisable to attempt restorations in order to take advantage both of the actual material and of the familiarity with the group as a whole which only hours of cleaning, mending, and constant handling can give. Such restorations admittedly involve considerable imagination, though wherever possible missing details are supplied from comparative sources. More intense study than a digger's time permits will no doubt make possible additional, and perhaps more accurate, restorations. Those here presented, however, at least have the virtue of showing how the now disintegrated pieces may have appeared in their original state. For this very purpose other pieces still preserved beyond the possibility of doubt have also been restored. On the whole, however, photography has proved adequate to convey the details and charm of this collection.

To facilitate visual comparison photographs and drawings are reproduced at actual size. Occasionally scale has been increased beyond actuality for emphasis of details which might otherwise be overlooked.

Line drawings and restorations have been prepared by Mr. George Preston Frazer. Outlined upon photographs which subsequently were bleached away and checked and rechecked with the actual ivories, they involve a minimum of inaccuracy. The photographs are by Mr. Charles B. Altman.

Professor John A. Wilson, director of the Oriental Institute, has kindly prepared the report on the inscrip-tional material. He has also presented a brief preliminary notice of the ivories in the *American Journal of Archaeology* XLII (1938) 333-36.

To the preparatorial departments of the Palestine Archaeological Museum and of the Oriental Institute great credit is due for their magnificent work in assembling, often from a jumbled mass of fragments, and preserving the many fragile pieces of this collection.

GORDON LOUD

CHICAGO
October 1938

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“PHOENICIAN” IVORIES

Nearly a century has elapsed since the discovery by Layard in 1845 of the first group of what have since popularly and not too inappropriately come to be termed “Phoenician” ivories. Ten years later Loftus discovered a second group from the same site, Nimrud, though from a different palace of a different king. Together these separate finds comprise the “Nimrud ivories” of the British Museum. The next great group of ivories was found at Arslan-Tash in North Syria in 1928 by the Louvre expedition directed by Thureau-Dangin. In the meantime, however, the world was not allowed to forget the existence of this form of art. There were sporadic examples from throughout the Near East, while in Spain and Cyprus specimens from related burials were so numerous that even if not found as intact groups they may for convenience be considered as collections.

The Carmona ivories, discovered by Bonsor during the last years of the 19th century, come from graves in various burial sites in the Los Alcores hills near Seville in southern Spain. Their Near Eastern affinities are so pronounced that despite geography they fall within the sphere under discussion. The first Enkomi ivories from eastern Cyprus were found by Murray in 1896. Additional pieces from the same site came to light in 1930 in the work of the Swedish Cyprus Expedition directed by Gjerstad.

From Palestine the first group was discovered at Samaria by Crowfoot in 1932. The following year the Khorsabad ivories were encountered by the author in the temple of Nabu at Sargon’s capital in northern Iraq. Four years later, in the spring of 1937, he had the good fortune to come upon the Megiddo ivories, probably the largest single group so far encountered.

Scarcely a Late Bronze or Iron Age archeological site in the eastern Mediterranean area fails to produce at least one ivory specimen which can be compared to one or more of the groups and collections already noted. A growing collection which has already become a major item in the field of “Phoenician” ivories is that of the Metropolitan Museum of Art, made up of pieces said to have come from an undisclosed site in North Syria. It is to be hoped that these pieces may some day be identified with their site of origin and archeological context.

The datings assigned to the various groups by their excavators or their publishers cover a wide span. There are, however, two periods into which the groups fall. To the earlier one—14th–12th century—belong the Enkomi ivories, dated roughly as Mycenaean; the collection of the Metropolitan Museum, 13th–12th century; and the Megiddo ivories, which, while stratigraphically attributable to the early 12th century, we believe go back in origin to about 1350. To the later group—9th–8th century—belong the finds from Arslan-Tash and Samaria and the Loftus group of the Nimrud ivories, all dated to the 9th century, and the Khorsabad and Carmona ivories as well as the Layard group from Nimrud, attributed to the 8th century.

From the geographical and temporal distribution of the ivory groups outlined above it becomes at once evident that the fabrication of ornamental ivories was widespread and extended over a long period of time. Yet it is not difficult to connect each group in one way or another with the Phoenicians, whose name has long since been attached to this particular art. There is no reason to believe that the many pieces so widely scattered were literally of Phoenician manufacture. It would seem rather that this art not only was spread through commerce but so captivated other people who came in contact with it that they either imported Phoenician artisans to pursue it locally or themselves emulated the Phoenicians.

The flourishing sea trade of the Phoenicians with the countries bordering the Mediterranean and the islands therein is too well established to require elaboration. It is perhaps more than a coincidence that none of the ivory groups found in Assyrian remains antedate the period when Ashurnasirpal for the first time established and maintained close contact with the Phoenician coast. Solomon’s well known practice of importing specialized labor from Tyre may have been no more than a continuance of earlier custom. But whether the actual artist was Phoenician or local is of little importance. The significant point is the contact between the ivory sites and the cities along or near the Phoenician coast.

How is one to account for the hoards of heterogeneous pieces which have been found at Nimrud, Khorsabad,

THE MEGIDDO IVORIES

Arslan-Tash, Samaria, and now Megiddo? The original purpose of combs, handles, game boards, etc. is obvious, while there can be little doubt as to the use of certain plaques and ornaments to decorate furniture such as is pictured in reliefs, notably the throne of Sennacherib before Lachish and the couch of Ashurbanipal.¹ Some objects can be no more than bibelots. Yet despite such diversity of purpose the great ivory collections have all been found as single groups. It is true that at Arslan-Tash some plaques were found in a position which suggests to the excavator that they may have been applied to a bed or couch. These, however, are but a small part of the entire group. At none of the other sites which have produced ivory groups has even such meager evidence of original use been found.

An explanation of the fact that all the groups were found in single rooms or confined areas may lie in the possibility that ivory collecting was a hobby enjoyed by the ancients. Were the archeologist of the future to come upon present-day postage-stamp collections preserved by some miracle to an extent permitting recognition of their world-wide character, he would be faced with just such a problem as these ivory groups present to us. The great collections which have been found no doubt represent those of royalty and therefore may include foreign specimens acquired by purchase or by gift. That ivory collecting was not confined to royalty is perhaps reflected in the occasional pieces found in buildings or as burial accompaniments. For seldom in either instance can plaques or pieces in the round be reconstructed as complete objects. As personal treasures they become plausible, either singly or in groups, whether in dwelling or in grave.

In concluding this brief account of "Phoenician" ivories we give a skeleton bibliography of the collections as presented by their excavators or publishers. Numerous references to other ivories and to the many published treatises on the problems which all ivories arouse are to be found within the publications noted.

BIBLIOGRAPHY

Nimrud	Austen Henry Layard, <i>Nineveh and Its Remains</i> (2 vols.; New York, 1849)		<i>Cyprus 1927-1931</i> , Vol. I, by Einar Gjerstad <i>et al.</i> (Stockholm, 1934)
	<i>Idem</i> , <i>The Monuments of Nineveh</i> [First Series] (London, 1853) Pls. 88-91	Arslan-Tash	François Thureau-Dangin <i>et al.</i> , <i>Arslan-Tash</i> (text and atlas; Paris, 1931)
	R. D. Barnett, "The Nimrud ivories and the art of the Phoenicians," <i>Iraq</i> II (1935) 179-210	Samaria	J. W. Crowfoot, "Recent discoveries of the Joint Expedition to Samaria," Palestine Exploration Fund, <i>Quarterly Statement</i> , 1932, pp. 132 f.
Carmona	George Edward Bonsor, "Les colonies agricoles pré-romaines de la vallée du Bétis," in <i>Revue archéologique</i> , 3. sér., XXXV (1899) esp. pp. 153-55, 241-52, and 280-92		J. W. and G. M. Crowfoot, "The ivories from Samaria," <i>ibid.</i> 1933, pp. 7-26
	Hispanic Society of America, <i>Early Engraved Ivories in the Collection of the Hispanic Society of America from Excavations by George Edward Bonsor</i> (New York, 1928)	Khorsabad	Gordon Loud and Charles B. Altman, <i>Khorsabad. Part II. The Citadel and the Town</i> ("Oriental Institute Publications" XL [Chicago, 1938]) pp. 96 f.
Enkomi	British Museum, <i>Excavations in Cyprus . . .</i> , by A. S. Murray <i>et al.</i> (London, 1900)	Metropolitan Museum of Art, New York	M. S. Dimand in Metropolitan Museum of Art, <i>Bulletin</i> XXXI (1936) 221-23, XXXII (1937) 88-90, XXXIII (1938) 42-44
	The Swedish Cyprus Expedition, <i>Finds and Results of the Excavations in</i>		

¹ Archibald Paterson, *Assyrische Skulpturen* (Haarlem, [1901-7]) Pls. LXIX and LXI.

THE MEGIDDO IVORIES

ARCHEOLOGICAL CONTEXT

High on the mound of Megiddo, overlooking to the north and northwest the Plain of Esdraelon and the slopes of the Carmel Ridge extending to the sea, stood the palace of the prince. He was probably not a happy man, for the last of the great pharaoh-emperors, Ramses III, was dead, and a weakening of the Egyptian Empire meant increased fear of invasion of outlying cities such as Megiddo. In foreseeing the impending fate of his prosperous city he was no doubt reminded of his predecessors and their palaces, upon the ruins of which his own dwelling stood. For his was not the first royal residence to enjoy this favored location. The Hyksos rulers, and probably also those who antedated them, had chosen this as their palace site. But it was not until after Thutmose III's invasion that the ruling family had had the wealth or security to construct a palace on the magnificent scale and treatment enjoyed by our prince of the early 12th century. It was he or some member of his household who either inherited, or had the hobby of collecting, the ivories which were discarded by the invaders who finally overwhelmed him.

It is the final period of the palace with which we are here concerned. In general it conformed to the original version constructed three centuries earlier. Slight changes had been made from time to time—walls were added and the arrangement of the smaller rooms was altered, but until the final form was evolved the same floor level was approximately maintained throughout each period of rebuilding. General destruction, however, appears to have overtaken the penultimate palace, the debris of which was not completely removed before reconstruction began. Consequently the floor of the final palace was about 2 meters above that of the preceding one. The street level was likewise raised, and with it that of the city gate adjoining the palace and the approach thereto. But of chief interest to us is the semi-subterranean treasury, a three-room unit incorporated in the final palace, in which the ivories were stored.

Figure 1 presents the plan of the final or "ivory" palace (Stratum VII A) in its relationship to the city gate and approach and to the entire mound. The gate approach, sloping upward from the east, here shown is actually that of Stratum VIII, to which the original gate and palace belong. In Stratum VII A the gate, though slightly altered, was still used but with a higher pavement level. Subsequent building has unfortunately obliterated all traces of the higher approach, but it can be assumed within reason that the two were fairly similar. The outer wall of the palace, at the top of a steep slope, takes the place of a city wall at this point.

It is regrettable that Stratum VI building removed the eastern section of the VII A palace, which we are therefore obliged to indicate in hatching as suggested by the plan of the earlier palaces. It will be noted that one arm of the L-shaped palace continues to the south beyond the area of excavation. There can be little doubt, however, that the unexcavated portion contains only relatively unimportant rooms.

The central element of the palace is the large court—the pivotal feature, remaining practically unchanged in the successive palace plans. Its appearance during the earlier palace periods is partially shown in Figure 2. At the time of our ivory collection its plan was similar, but the floor was then raised approximately to the level of the top of the western wall as it existed when the photograph was taken. Immediately surrounding the court are rooms largely of indeterminate use. The treasury is attached to the rooms along the western side of the court. The outermost of its three rooms may be located by the top of the ladder standing within it.

With their walls partially removed the three rooms of the treasury are clearly visible in Figure 3. The sole means of entry from the palace was a portal into the innermost room (nearest in photograph). A sloping pavement or steps within the portal effected the change from the floor level of the palace to that of the sunken treasury. Graphic illustration of the fact that the treasury of the late palace was set deep into the ground is supplied by the figure standing upon the floor of the treasury. Behind him, waist-high, can be noted the floor of the first or Stratum VIII palace, cut through for the construction of the treasury wall. Added security seems to be the only explanation for building the treasury as an at least partially subterranean unit.

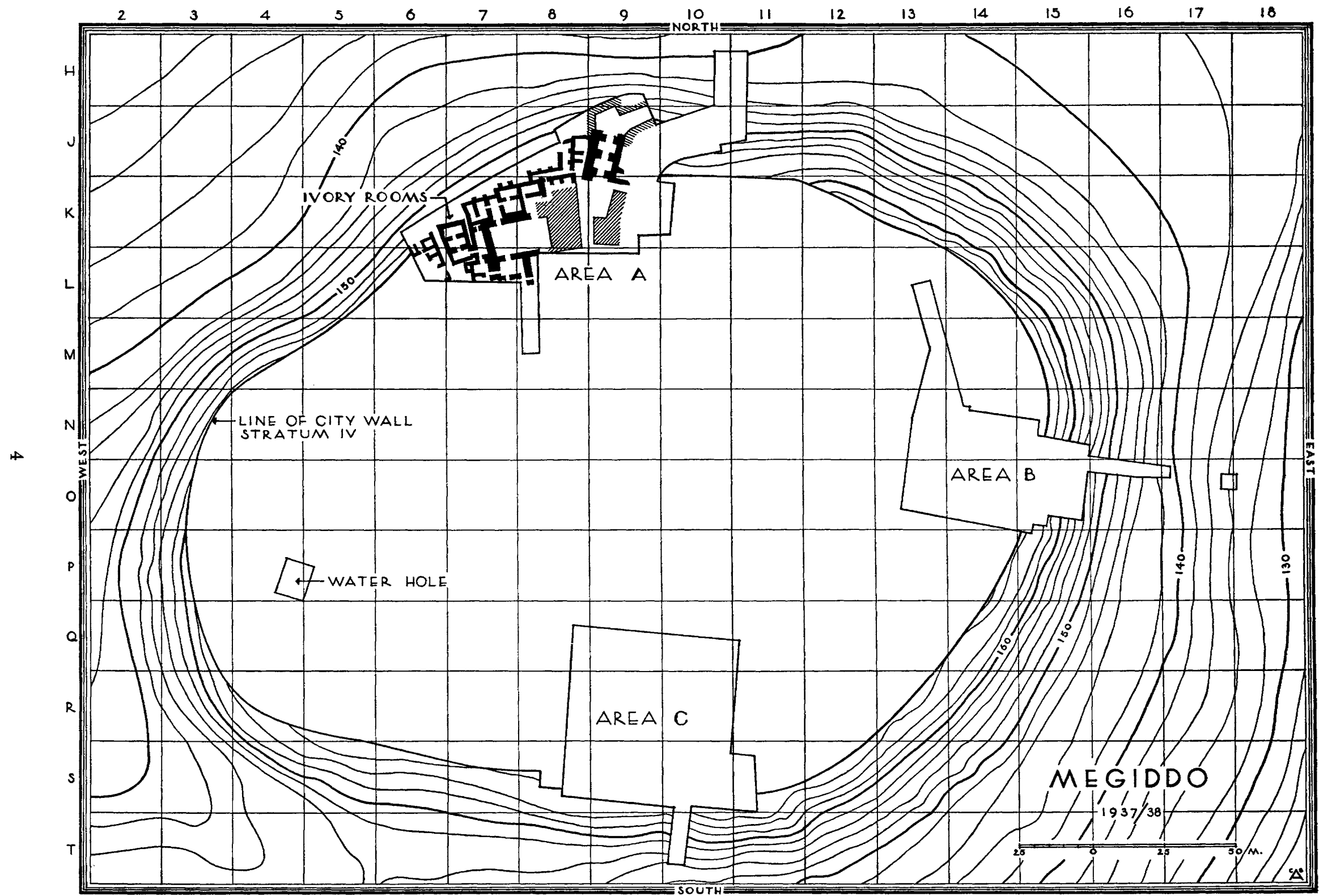


FIG. 1.—PLAN OF THE STRATUM VII A ("IVORY") PALACE AND THE ADJOINING CITY GATE IN RELATION TO THE MOUND. Scale, 1:1500



FIG. 2.—THE NORTHWESTERN PORTION OF THE PALACE, VIEWED FROM THE SOUTHEAST



FIG. 3.—THE TREASURY, WITH UPPER WALLS REMOVED TO SHOW THE PLAN, VIEWED FROM THE SOUTH



FIG. 4.—PASSAGEWAY CONNECTING THE THREE ROOMS OF THE TREASURY



FIG. 5.—CONFUSED STATE OF THE IVORIES AS THEY FIRST BEGAN TO APPEAR IN THE OUTERMOST ROOM OF THE TREASURY. CIGARETTE BOXES PROVED EXTREMELY USEFUL IN COLLECTING THE MANY SMALL FRAGMENTS

ARCHEOLOGICAL CONTEXT

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The state of the treasury walls as they were found in excavation is indicated in Figure 4. Like most of the late palace construction, some of which, however, was of mud brick, they were built of coarse limestone blocks. Their surfaces were covered with thick mud plaster. Portions of all three rooms can be seen as viewed from the outermost toward the innermost room, with the sectional cut which forms the southern limit of the area of excavation looming up in the background. Behind the figure standing in the innermost room is a carved ivory box (Cat. No. 1), protected by packing case and tarpaulin during a prolonged course of solidifying treatment prior to its removal.

The helter-skelter arrangement of the ivories as they were discovered is astonishing. The great majority of the pieces were found in the western half of the outermost room (Fig. 5). They were in close confusion, mingled with occasional fragments of gold jewelry and alabastra and with scattered animal bones, the whole mass topped with a complete animal skeleton. Removal of the uppermost layer of debris indicated that the ivories first



FIG. 6.—ONE OF THE MANY "LAYERS" OF IVORIES AS THEY APPEARED IN THE OUTERMOST ROOM OF THE TREASURY

exposed were merely a sample of what lay below (Fig. 6). Most of the pieces were in such a fragile state that days of treatment with a thin celluloid solution applied with a fine spray or drop by drop were necessary before they could be removed without danger of irreparable breakage. In some instances tissue-paper strengthening applied with celluloid is responsible for preserving intact many pieces which otherwise would have become masses of fragments before reaching the hands of the experienced technicians in the Palestine Archaeological Museum and in that of the Oriental Institute.

There were no clear-cut layers in which the ivories lay. One piece might overlap another, often in actual contact (Fig. 7). They were found in all positions, in oblique planes as often as horizontally. So close together were they in some sections that occasionally one piece must be condemned to suffer in order to allow the safe removal of a more important neighbor. One piece would no sooner be removed than a fresh problem would appear. The exact location from which each piece came was noted by means of a grid of meter squares imposed over the entire room area. Although not of as much use in the subsequent piecing together of odd fragments as was expected, this careful notation of position did disclose the fact that many pieces had been broken before becoming buried. For often fragments from comparatively distant points were found to be parts of a single piece. In Figure 8, which shows the outermost room of the treasury after the removal of the ivories, two stones remain undisturbed on the floor. By noting the tops of these same stones barely exposed in Figure 5 the density

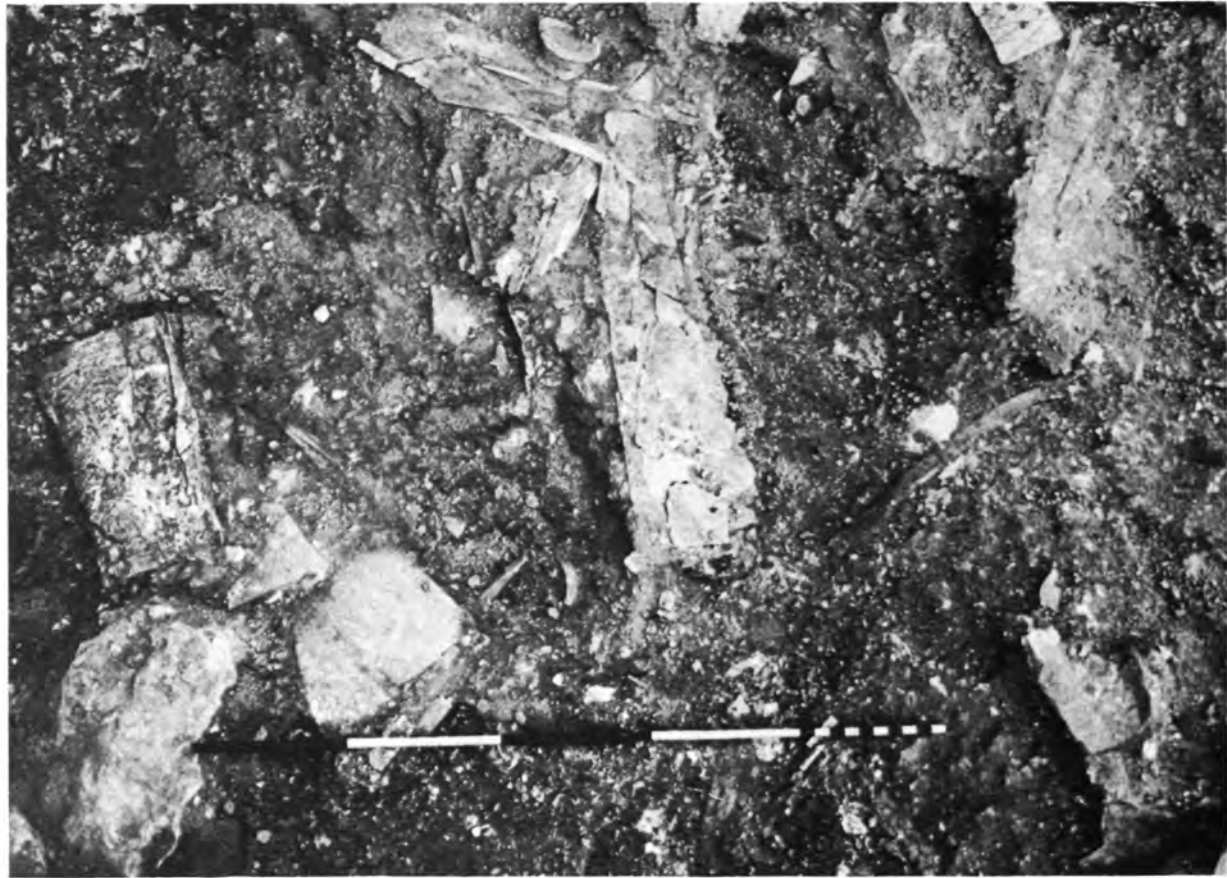


FIG. 7.—A MASS OF IVORIES CROWDED TOGETHER IN THE OUTERMOST ROOM OF THE TREASURY



FIG. 8.—THE OUTERMOST ROOM OF THE TREASURY AFTER REMOVAL OF THE IVORIES

of the ivories among the debris becomes apparent. For, with the exception of very few pieces from the other two rooms, all the ivories listed in our catalogue, along with many plain pieces not published, were found in less than 9 square meters of debris of no greater depth than the height of these stones.

What lies behind the confusion suggested by the state in which the ivories were found is open to conjecture. The most readily acceptable theory is that in the haste and excitement of invasion and looting of the treasury they were carelessly cast aside as of no intrinsic value. They could not be melted down for re-use as could the gold of the jewelry, which, to judge by the scattered gold and carnelian beads remaining in the debris, obviously had been roughly seized. That the ivories were at the time of invasion still attached to the furniture for which they may originally have been intended is scarcely credible. So much furniture could not have been stored in such cramped quarters. Even if it had in some manner been crowded into these rooms, the ivory remains would have been scattered throughout the debris and not concentrated, as they were, largely in one end of a single room. We are again led to the theory, already suggested by the fact that such ivories have usually been found in groups (see p. 2), that ivory collecting was a hobby. The extensive Megiddo collection was apparently stored, on shelves perhaps, in one section of the treasury. A few stray pieces may have been placed on shelves in the other two rooms among objects more precious to a greedy invader.

Even if such a theory of ivory collecting be accepted, we are still at a loss to explain the presence among the ivories of the animal bones and of the complete skeleton. The jewelry fragments—gold pomegranate beads and flat bell-shaped (cornflower?) ones of carnelian—fit well enough into our picture, as do the fragmentary alabaster jars, some of which had portions painted with elaborate designs in black and red. Sherds of pottery, all of good normal 13th century Palestinian types, may indicate the manner in which small choice objects were kept in this treasure-house.

The remainder of the palace proved surprisingly barren of pottery and other objects. Aside from a hoard of gold and electrum objects (to be published in a later volume) belonging to an earlier period of the palace, there was nothing noteworthy. The earlier palaces were apparently swept as clean before each subsequent rebuilding as was the final "ivory" palace when it fell before invaders. What little pottery was recovered from the palaces of Stratum VII conforms perfectly with that of the same stratum wherever it has been encountered elsewhere in the mound. It is only in the architectural stratification that this stratum can be separated into the two periods designated as A and B. Whatever change in pottery there may be is at present imperceptible. The stratum as a whole therefore provides pottery which is true Late Bronze II in period, both in the indigenous Palestinian types and in the Cypriote and Mycenaean imports. Before the discovery of the ivories Stratum VII, on the basis of the pottery alone, had been dated provisionally as extending from about 1350 to 1200 B.C. The cartouche of Ramses III, however, upon a model pen case (Cat. No. 377) among the ivories requires revision of this date. On this evidence we must extend the period of Stratum VII into the reign of this Egyptian pharaoh at least, and we are inclined to carry it farther. Such destruction of the Megiddo palace seems far likelier to have taken place during or after the decline of Ramses III's power, and we therefore suggest 1150 B.C. as an approximate date at which Stratum VII gives way to Stratum VI.

DATING

The dating of the ivories must remain provisional until a thorough study of them exhausts all stylistic comparisons. It is mere chance that the dating we suggest at this time coincides almost exactly with that assigned to Stratum VII upon archeological evidence. For there is no reason to believe that the collection originated with the beginning of Stratum VII. Archeological data, on the contrary, imply that the ivories were collected only during the time involved in the later or VII A part of the stratum, or that as a collection they either survived the destruction of the VII B palace or were imported into Megiddo at some unknown date. The period during which these ivories were accumulated, however, is of relative unimportance. We are more interested in the span of years embracing their fabrication.

The model pen case (Cat. No. 377) upon which is inscribed the cartouche of Ramses III must be among the latest pieces added to the collection. For, as has been stated just above, the early 12th century which this implies is slightly later than the date which we would normally assign to the stratum of the ivories. Since the

collection of these ivories obviously continued until the destruction of Stratum VII and abruptly ceased therewith, we are prepared to assign 1150 B.C. in round numbers as a date beyond which no ivories of this group could possibly have been fabricated. It is to be hoped that further excavation may provide archeological data permitting a refinement of this approximate date.

There is less exact evidence for dating the early specimens of the collection. Without inscriptional material or helpful archeological data we must rely solely on subjective and stylistic comparison, a study requiring time not at the disposal of a digger. One piece, however, is so outstanding and so positive in immediate suggestion that we do not hesitate to cite it as establishing a date which while not necessarily the earliest does at least reveal the long range over which spread the manufacture of these ivories. A small, nearly square plaque (Cat. No. 44), one face of which is solidly covered with exquisite, delicately carved scenes, is obviously Hittite in character. Along with other less patently Hittite pieces it may be either an importation or more probably a locally made product (see p. 11) carved perhaps as a token of respect to a Hittite overlord of Megiddo during some period when northern influence was paramount. The Hittite king standing beneath the sun disk in association with a double-headed monster is Anatolian, even to costume detail, while the accompanying sphinxes and the small figures supporting king rather than god are not. A king holding in his hand the same object as on our plaque is to be found in the Yazılıkaya reliefs.¹ Our "bull-men" have probable parallels in the same procession of figures.² Upon another section of these reliefs the god is supported by small figures³ just as is the king on our plaque, while in the same scene a double-headed eagle⁴ suggests the double lion-headed monsters which support the sun disk over our king. At Tell Halaf the sun disk is supported instead by two "bull-men" assisted by a kneeling human form⁵—figures such as appear on our plaque. At the same site are to be found a double lion-headed monster⁶ and sphinxes,⁷ all paralleling to some extent our ivory representation of similar figures. "Bull-men" are also found at Carchemish,⁸ together with a humped heavy-set bull with undersized lowered head⁹ such as we have in the group of bulls forming the bottom register of our plaque. The same type of bull appears on many Syrian seals, one good example of which Frankfort dates to the reign of Ikhnaton.¹⁰ The separate bull's head shown on our plaque in front view above the rumps of the humped bulls is a motive fairly common on "Syro-Hittite" seals, as are the rosettes employed as space-fillers.

There is only one period during which we might expect Megiddo to be under strong Hittite influence—between the decline of Egyptian power under Ikhnaton and the reconquest of Palestine by Seti I, during which time the Hittite power was expanding. Accordingly it is our belief that this plaque was made sometime between 1350 and 1300. Momentarily, therefore, pending further study we are inclined to date the manufacture of the Megiddo ivories roughly to the two centuries between 1350 and 1150 B.C.

CHARACTER

The Megiddo ivories do not offer a new form of art. They are outstanding, however, in quantity and in variety of subject and style. For in no other single group do we find such a wealth of material illustrating such diverse subjects come under so many outside influences. The interrelationships which are so evident among the other collections do not extend to the Megiddo ivories. They cannot be divided into groups which are separately comparable to other groups. Yet there are infinite parallels to be found between individual pieces from Megiddo and individual specimens from other sites. That the Megiddo ivories show little similarity to those from Nimrud, Arslan-Tash, Khorsabad, or even near-by Samaria is not surprising when one remembers that all these groups are roughly contemporary with one another and are separated from the Megiddo group by about 300 years. It is natural that more frequent comparisons can be made with individual pieces from more or less contemporary sites in the Aegean countries, in Cyprus, and along, or not far removed from, the Syro-Palestinian coast.

¹ Kurt Bittel, *Die Felsbilder von Yazılıkaya* ("Istanbuler Forschungen" V [1934]) Pls. X and XXXI, No. 34.

² *Ibid.* Pls. IX and XXXI, Nos. 28–29.

³ *Ibid.* Pls. XIII, XIV, and XXXI, No. 42.

⁴ *Ibid.* Pls. XV and XXXI, No. 46.

⁵ Max Freiherr von Oppenheim, *Der Tell Halaf* (Leipzig, 1931) Pl. 8 b.

⁶ *Ibid.* Pl. 33 a.

⁷ *Ibid.* Pls. 34 and 35 a.

⁸ D. G. Hogarth, *Carchemish I* (London, 1914) Pl. B.14 b.

⁹ *Ibid.* Pl. B.13 a.

¹⁰ Henri Frankfort, *Cylinder Seals* (London, 1939) Pl. 42 h.

HIEROGLYPHIC INSCRIPTIONS

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The many foreign origins of subject and treatment suggested by the Megiddo ivories must not be allowed to lead one to the consideration of this group as a foreign art. Whether the inspiration for certain pieces be an Egyptian painting, a Hittite relief, a metal vessel perhaps from the Aegean, or any other source distant from Megiddo, the finished product is definitely an expression of local art, perhaps in this case best termed "Canaanite-Phoenician." Motives obviously Egyptian become in the hands of the Canaanite or Phoenician elaborations such as the Egyptian artist would never produce. So with the Hittite subject executed on a plaque (see p. 10) whereon the king is represented supported by small figures as a Hittite artist would depict a god. In the same scene Anatolian and Syrian elements are confused as no Hittite artist would be guilty of doing.

There seems little likelihood, however, that the model pen case (Cat. No. 377) is of Megiddo manufacture. The very nature of the piece implies that it was made in Egypt and became a part of the Megiddo ivory collection either as a gift, possibly from the envoy himself, or by purchase after it had left the hands of its original owner. There are doubtless other pieces of foreign origin which found their way into our collection in one manner or another, but could they clearly be labeled as such they would probably prove to form but a very small minority of the entire lot.

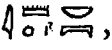
It is difficult at this point to assign to any one country the influence dominating this group of ivories. Nor is it especially important to do so, for anything bearing the name "Phoenician" is automatically expected to reflect the art of countries to north, south, east, and west. The degree to which the influence of one country exceeds that of another is merely a result of the relative commercial activity in force at the time. It is therefore somewhat surprising not to find Egypt far and away dominating these ivories from Megiddo, which longer than almost any other Asiatic outpost remained loyal while other cities broke away from the empire. In Egyptian hieroglyphs, however, are written all the inscriptions.


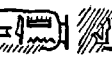
HIEROGLYPHIC INSCRIPTIONS

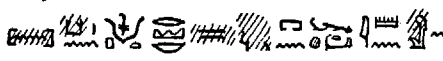
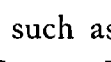
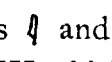
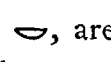
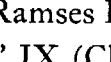
By JOHN A. WILSON

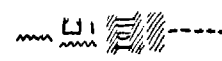
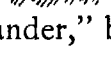
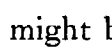
These inscriptions were collated by H. H. Nelson in April, 1937, and by W. F. Edgerton, K. C. Seele, and myself in February, 1938. Grateful acknowledgment is made here for readings and suggestions, but the other three gentlemen must not be held responsible for my interpretations of the inscriptions. In the renderings below, brackets [] inclose material not now visible, but believed to have been present originally; half-brackets [] inclose questionable material; and parentheses () inclose material added in explanation and not present in the inscriptions.

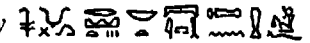
No. 377. MODEL PEN CASE

In the uppermost scene the god Amon is seated at the left, with , "Amon-[Re], Lord of Heaven," before him. The King kneels at the right, [making offering]. Broken signs before him may be the cartouches of his name.

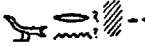
Above the trough stand royal cartouches, each surmounting a "gold" sign:  , "[User-] Ma[at-Re]-Meriamon; [R]a[mses]-Hek-On," i.e., Ramses III.


In the trough a vertical inscription reads: , "[For] the ka of the Royal Envoy to every foreign country, [the overseer of the stable 'Mighty is Amon'] of the Residence." The sign taken as  is not solid-cut but is carved in outline. However, other signs, such as  and , are similarly treated. If  is possible, the stable may be named *nht-Imn*. Cf. stables of Ramses III which carry the added tag, "of the Residence" (*Medinet Habu* II ["Oriental Institute Publications" IX (Chicago, 1932)] Pls. 77, 98, etc.). One's first reaction is to take *nht-Imn* as the common personal name Nakht-Amon and apply it to the original owner, for, since the vertical column margins cease at the end of this text as given and the crossbar would have prevented further inscription, his name cannot occur elsewhere in this line. But the interpretation given above seems to fit the text as it stands; see below.


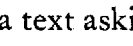
The crossbar is inscribed: , "For the ka of" The first two traces after *n k3 n* might be read as  *hry pdt*, "troop commander," but the horizontal trace below them would be embarrassing for this reading. At the end of the line the traces might be read , *Dhwti-ms*, "Thutmose," with all re-

serve. Here it is tempting to call attention to Cairo 549, a statuette group from Gurnah portraying the *ḥsy 3 n nb ʔ.wy*  *sš nswt mꜥ mr.f ʔmy-r pr wr n ʔmn Dḥwtj-ms*, "the great favorite of the Lord of the Two Lands, Royal Envoy to all foreign countries, overseer of the first stable of His Majesty, real scribe of the King, his beloved, chief steward of Amon, Thutmose." But Daressy (*Receuil de travaux* XIV [1893] 26) refers this statuette to the 18th dynasty, while Borchardt (*Statuen und Statuetten von Königen und Privatleuten im Museum von Kairo* II [Berlin, 1925] 94) refers it to the 19th. As we are dealing with a relatively common title in Royal Envoy etc. and with a very common name in Thutmose, we can only note a similarity, with the balance of probabilities lying against any identification.

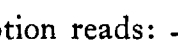
NO. 378. VERTICAL PLAQUE OR PANEL

The scene above shows a woman making offering to 'the King seated on his throne'. Before him begins a legend, , "Great one 'of'" Parenthetically, it should be stated that this piece has a superficial similarity to No. 381 + 382, discussed below, and may have constituted part of the same piece of furniture.

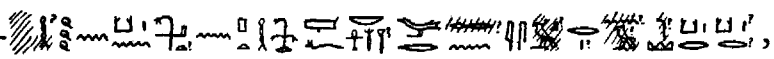

The inscription reads: , "A good 'sitting', while one is in Thebes, 'before' the Lord of the Gods—may he favor thee, may he love thee every day. For the ka of" There is no question that the first figure is a man seated on a chair, holding insignia in his hands. No beard or uraeus is visible. Is it possible that an inlay from a chair might carry a text invoking "a good sitting," as a headrest in the British Museum invokes "a good sleep" (*British Museum Quarterly* VIII [1933/34] 105 ff.)? Our object may ask for the King a good "sitting" in Thebes, with added blessings from Amon, and then go on to the favors asked for the ka of the owner of the object.

The difficult group  is probably corrupt. Edgerton suggests emendation to *tp ʔ.wy* or to *ḥr-tp ʔ.wy*, "before" (cf. Erman and Grapow, *Wörterbuch der ägyptischen Sprache* V 282, especially use A I). The British Museum headrest cited above carries a text asking for "a good sleep" , which may mean the same as our text or may carry some such idea as "at the hands of Amon."

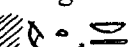
NO. 379. HORIZONTAL PLAQUE WITH PLANT AT LEFT

The inscription reads: , ". . . [Ptah] South of His Wall, Lord of 'Life of the Two Lands,' Kerker, '—1.'" For the last group *mꜥ-ḥrw*, "deceased," may be guessed from the context. For parallels and discussion see the next two pieces.


NO. 380. HORIZONTAL PLAQUE WITH PLANT AT RIGHT

The inscription reads: , ". . . (some kind of 'meat' offerings) for the ka of the singer (fem.) of Ptah South of His Wall, Lord of 'Life of the Two Lands' (and) Great Prince of 'Ascalon, Kerker.'" An  stands below under the curve of the plant. For parallels and discussion see the preceding piece and the following piece.

NO. 381 + 382. VERTICAL PLAQUE OR PANEL

Several fragments carrying hieroglyphs complete or broken cannot be located at all. One fragment seems to carry , ". . . 'beloved (fem.) of the Lord of the Two Lands'"

Other fragments may be combined as follows:

, running off into unintelligible traces, ". . . only excellent —, serviceable (fem.) to her mistress every day, the singer of Pt[ah] South of His Wall, Lord of ['Life of the Two Lands' (and)] Great [Pri]nce of Ascalon, Kerker," I can do nothing with the remainder of the text.

In Nos. 379, 380, and 381 + 382 we are dealing with three pieces which once belonged to the same person. I assume that this individual was a woman named Kerker (or Kurkur or Kulkul, on the system of W. F. Albright, *The Vocalization of the Egyptian Syllabic Orthography* [New Haven, 1934] No. XVII C), a singer of the Egyptian god Ptah, and that the latter bore two titles, "South of His Wall" and "Lord of 'Life of the Two Lands,' "

applying to Memphis and another title, "the Great Great-One of Ascalon," connecting him with that Palestinian town. I cannot find that such an ascription is otherwise known.

Various doubts becloud the translation. That Kerker was a woman seems to be indicated by the probable feminine *t* of the word "singer" in No. 380 and by the certain feminines in No. 381 + 382. We might recall the Egyptian woman singer who was at the court of Byblos in the Wenamon story (Breasted, *Ancient Records of Egypt* IV, § 589).

Was Kerker, after all, the singer or the Prince of Ascalon? No. 379 seems to make it clear that Kerker was "[the singer of Pta]h," so that the phrase "the Great Great-One of Ascalon" must be an added epithet of Ptah. The reading of the place name "Ascalon" is open to some doubt in No. 380 but is unquestioned in No. 381 + 382.

In each of the three pieces there are signs or possible signs following the name Kerker; in no case are they clearly intelligible.

Despite all doubts, I am inclined to ascribe the three pieces to a woman Kerker, perhaps an officiant for the Memphite god Ptah in his temple at Ascalon. The general similarity of No. 378 brings forward the possibility that it also may have been part of the furniture of Kerker. How these pieces and the model pen case of the Royal Envoy found their way into the palace of the Prince of Megiddo is another problem.

CATALOGUE

All objects are reproduced in plates at actual scale. Details of Nos. 44 and 148 are enlarged to about 4:1.

Field numbers are preceded by *b*.

PAM = Palestine Archaeological Museum, Jerusalem.

OIM = Oriental Institute Museum, Chicago.

PLATES 1-3

1. Box with all four sides carved in high relief with sphinxes and lions. Made of one piece of ivory. One side pierced vertically with rectangular slots 8×2×12 (deep) mm. (see *a* and *d*); opposite side with horizontal dowels in corresponding position (see *a*, *e*, and *f*). Dimensions of base 13.5×12×0.7 cm.; inside dimensions 8×7×6 (high) cm. Views *f* and *h*, drawings of actual state; *c*, restoration; Plate 1 (frontispiece), reproduction in color. PAM No. 38.816; *b* 2101.

PLATE 4

2. Plaque incised with scene depicting tribute-bearers and captives before a prince seated upon his throne. Lines filled with black. Back plain. Thickness 1-1.5 mm. View *b*, drawing of actual state. PAM No. 38.780; *b* 2005.
3. Model of a throne similar to that shown on No. 2. Figure originally seated upon the throne partially missing (see *c* and *e*). Views *b*, *c*, and *d*, side, front, and back views; *a* and *e*, drawings of side and perspective of actual state. OIM No. A 22251; *b* 2070.

PLATE 5

4. Plaque incised with composite human, animal, and bird figure and ibex. Back plain. Similar in reverse to No. 5. Thickness 1.5 mm. View *b*, drawing of actual state. OIM No. A 22238; *b* 2049.
5. Incised plaque similar in reverse to No. 4. Thickness 1.5 mm. View *b*, drawing of actual state. OIM No. A 22305; *b* 2160.
- 6-7. Fragments of incised plaques. Backs plain. Thickness 2 mm. Cf. Nos. 11-12 and 16-20. Views *b*, drawings of actual state. No. 6, OIM No. A 22332; *b* 2202. No. 7, OIM No. A 22322; *b* 2183.

- 8-9. Plaques incised with squares and rosettes. Backs plain. Thickness 3 mm. No. 8, PAM No. 38.838; *b* 2157. No. 9, OIM No. A 22393; *b* 2280.

10. Plaque incised with rectangles. Back plain. Thickness 1 mm. OIM No. A 22432; *b* 2335.

PLATE 6

- 11-12. Fragments of incised plaques. Backs plain. Thickness 2.5 mm. Cf. Nos. 6-7 and 16-20. No. 11, OIM No. A 22337; *b* 2207. No. 12, OIM No. A 22338; *b* 2208.
- 13-14. Fragmentary and complete plaques deeply incised with palmette motive. Backs plain. Thickness 6 mm. Cf. Nos. 15 and 165 for variants of motive. No. 13, OIM No. A 22380; *b* 2260. No. 14, PAM No. 38.782; *b* 2009.
15. Plaque lightly incised with repeating palmette motive accentuated by dark yellow stain. Back plain. Thickness 3 mm. Cf. Nos. 13-14 and 165 for variants of motive. PAM No. 38.783; *b* 2010.
- 16-20. Fragments of incised plaques. Backs plain. Thickness 2 mm. Cf. Nos. 6-7 and 11-12. Views *b*, drawings of actual state. No. 16, OIM No. A 22333; *b* 2203. No. 17, OIM No. A 22334; *b* 2204. No. 18, OIM No. A 22336; *b* 2206. No. 19, OIM No. A 22335; *b* 2205. No. 20, OIM No. A 22331; *b* 2201.

PLATE 7

21. Openwork plaque: sphinx holding cup. Front slightly convex from side to side. Back plain and flat. Maximum thickness at center 8 mm. Tenons at top and bottom. Nos. 22 and 23 similar in reverse. OIM No. A 22213; *b* 2007.
- 22-23. Fragmentary plaques of sphinx holding cup similar in reverse to No. 21. Maximum thickness at center of No. 22, 8 mm. View 22 *b*, restoration. No. 22, PAM No. 38.828; *b* 2132. No. 23, OIM No. A 22377; *b* 2257.

PLATE 8

24. Openwork plaque of a "Bes" figure. Back plain. Maximum thickness 8 mm. Tenons at top and bottom. Nos. 25 and 26 of similar types. PAM No. 38.781; *b* 2008.
25. Openwork plaque of same type as No. 24 but figure without wings and with "Anubis" head. Back plain. Maximum thickness 9 mm. No. 26 also of similar type. View *b*, restoration. OIM No. A 22310; *b* 2168.
26. Openwork plaque of same type as No. 24 but figure in full face. Back plain. Present curvature probably due to warping. Maximum thickness 9 mm. OIM No. A 22214; *b* 2011.
- 27–30. Four plaques with variations of lotus-and-palmette motive in low relief with blue inlay. Backs plain. Thickness of Nos. 27 and 30, 3 mm.; of Nos. 28 and 29, 2 mm. No. 27, PAM No. 38.784; *b* 2013. No. 28, OIM No. A 22215; *b* 2012. No. 29, PAM No. 38.785; *b* 2014. No. 30, OIM No. A 22321; *b* 2182.
31. Fragment of plaque incised with lotus-and-palmette motive similar to Nos. 27–30. Back plain. Thickness 2 mm. OIM No. A 22339; *b* 2209.

PLATE 9

- 32–33. Plaques with griffons in relief. Backs plain. Thickness at border 6 mm. Ends dovetailed for insertion, possibly into corners or "legs" such as Nos. 120–22. Similar in reverse to Nos. 34–35. View 32 *b*, restoration. No. 32, OIM No. A 22212; *b* 2006. No. 33, PAM No. 38.818; *b* 2109.
- 34–35. Fragments of plaques similar in reverse to Nos. 32–33. No. 34, OIM No. A 22379; *b* 2259. No. 35, OIM No. A 22378; *b* 2258.
36. Fragment of plaque with chariot scene in relief. Back plain. Thickness about 2 mm. OIM No. A 22283; *b* 2123.
37. Fragment of plaque with raised border and allover design in relief. Back plain. Thickness 2 mm. PAM No. 38.890; *b* 2348.

PLATE 10

38. Semicircular plaque with incised lines radiating from center of straight base. Curved edge rounded to flat plain back. Thickness 3–4 mm. Recalls back of "pectoral" or ivory sundial from Gezer.¹¹ OIM No. A 22248; *b* 2063.
39. Ornament with an ibex in relief on each curving side. Base and ends plain. Two vertical dowels. Dimensions of base 3×5.7 cm.; height at center 2.2 cm. Similar to No. 40 and to a still unpublished specimen (Field No. M 5882) from Stratum VII. PAM No. 38.788; *b* 2022.
40. Ornament similar to No. 39. Dimensions of base 2.8×5.7 cm.; height 2.4 cm. OIM No. A 22220; *b* 2021.
- 41–42. Fragments of ornamental plaques with interweaving scroll design. Backs plain. Thickness 2 mm. No. 41, PAM No. 38.842; *b* 2167. No. 42, OIM No. A 22246; *b* 2061.
43. Object with incised petal design on outer surface. Funnel-like inside with rim 3 mm. thick and bowl 20 mm. deep terminating in spout 7 mm. in diameter. OIM No. A 22217; *b* 2016.

¹¹ R. A. S. Macalister, *The Excavation of Gezer* (London, 1912) I 15 and II 331; E. J. Pilcher, "Portable sundial from Gezer," *Palestine Exploration Fund, Quarterly Statement*, 1923, pp. 85–89.

PLATE 11

44. Plaque with registers of Hittite figures in relief. For comments on figures and for bibliography see p. 10. Back plain. Two dowel holes each in base (2 cm. from each side) and two sides (2 cm. from base and from top). Thickness 12 mm. View *b*, drawing of actual state; *c*, restoration; *d–h*, details enlarged to about 4:1. OIM No. A 22292; *b* 2136.

PLATE 12

- 45–47. Plaques or lids shaped and incised as wings. Backs plain. Thickness of No. 45, 2 mm.; of Nos. 46 and 47 (fragmentary), 1.5 mm. Cf. Nos. 48–53 for variant types. No. 45, OIM No. A 22278; *b* 2112. No. 46, PAM No. 38.796; *b* 2045. No. 47, OIM No. A 22402; *b* 2292.
- 48–49. Fragments of a type variant of Nos. 45–47. Backs plain. Thickness 3 mm. No. 48, OIM No. A 22401; *b* 2291. No. 49, OIM No. A 22400; *b* 2289.
- 50–52. Fragments of a type variant of Nos. 45–47 and 48–49. Backs plain. Thickness of Nos. 50 and 52 (burned black), 3 mm.; of No. 51, 2 mm. No. 50, PAM No. 38.873; *b* 2290. No. 51, OIM No. A 22399; *b* 2288. No. 52, PAM No. 38.872; *b* 2287.
53. Variant of Nos. 45–47, 48–49, and 50–52. Thickness 3 mm. OIM No. A 22286; *b* 2127.

PLATE 13

54. Fragment of jar lid incised with procession of horned animals. Back plain. Thickness 2–4 mm. Form and position of animals recall those in *repoussé* on center of gold bowl from Ras Shamra.¹² View *b*, restoration. OIM No. A 22237; *b* 2048.
- 55–56. Jar lids incised with rosette motive. Edges flanged to make lids secure when in place. Under sides plain. Thickness of No. 55, 8 mm.; of No. 56, 5 mm. No. 55, PAM No. 38.793; *b* 2039. No. 56, OIM No. A 22239; *b* 2050.
57. Jar lid incised with rosette motive. Edge flanged. Under side plain. Thickness 7 mm. PAM No. 38.819; *b* 2110.
- 58–62. Fragments of jar lids incised with various designs. Backs plain. Edge of No. 61 rounded. Thickness of Nos. 58, 59, and 62, 4 mm.; of No. 60, 3 mm.; of No. 61, 7 mm. No. 58, OIM No. A 22354; *b* 2225. No. 59, OIM No. A 22355; *b* 2226. No. 60, PAM No. 38.840; *b* 2162. No. 61, OIM No. A 22353; *b* 2224. No. 62, OIM No. A 22330; *b* 2200.

PLATE 14

- 63–67. Circular and elliptical disks, complete and fragmentary, plain on both sides. Edges grooved: Nos. 63, 65, and 67 with two grooves; No. 64 with three grooves; No. 66 with four grooves. No. 63, OIM No. A 22312; *b* 2170. No. 64, PAM No. 38.855; *b* 2212. No. 65, PAM No. 38.829; *b* 2133. No. 66, OIM No. A 22236; *b* 2047. No. 67, OIM No. A 22341; *b* 2211.
- 68–69. Disks, plain on both sides, pierced in center. No. 68 elliptical with double groove at each side of edge; thickness 8 mm. No. 69 circular with plain edge; thickness 3 mm. No. 68, PAM No. 38.797; *b* 2046. No. 69, OIM No. A 22342; *b* 2213.

¹² F. A. Schaeffer, "Les fouilles de Minet-el-Beida et de Ras Shamra," *Syria* XV (1934) Pl. XVI.

70. Disk with flat, plain base and convex top. Slight indentation cut in center of top and of base. Thickness at center 5 mm., at edge 2 mm. OIM No. A 22343; *b* 2214.
71. Circular object with flat base and with top rounded from pierced center to edge. Possibly a whorl. Maximum thickness 10 mm. No. 106 a similar, though decorated, specimen. OIM No. A 22309; *b* 2166.
- 72-73. Circular objects with shallow bowl and rimmed opening in bottom. Thickness of bowl 2 mm. No. 72, PAM No. 38.854; *b* 2198. No. 73, OIM No. A 22345; *b* 2216.

PLATE 15

- 74-77. Medallions incised with rosettes and inlaid with blue. Backs plain. Thickness 3 mm. Cf. Nos. 78-95. No. 74, OIM No. A 22241; *b* 2054. No. 75, PAM No. 38.821; *b* 2115. No. 76, OIM No. A 22308; *b* 2164. No. 77, OIM No. A 22403; *b* 2293.
- 78-79. Medallions incised with rosettes. Type variant of Nos. 74-77. Backs plain. Thickness 3 mm. No. 78, PAM No. 38.800; *b* 2055. No. 79, PAM No. 38.852; *b* 2195.
- 80-83. Medallions incised with lines radiating from center. Type variant of Nos. 74-77. Black inlay in No. 80. Backs plain. Thickness 3 mm. No. 80, PAM No. 38.801; *b* 2056. No. 81, OIM No. A 22300; *b* 2151. No. 82, OIM No. A 22307; *b* 2163. No. 83, OIM No. A 22327; *b* 2194.
- 84-92. Medallions incised with rosettes. Type variant of Nos. 74-77. Backs plain. Thickness 2 mm. No. 84, OIM No. A 22279; *b* 2113. No. 85, OIM No. A 22405; *b* 2295. No. 86, OIM No. A 22407; *b* 2298. No. 87, OIM No. A 22408; *b* 2299. No. 88, PAM No. 38.844; *b* 2175. No. 89, PAM No. 38.874; *b* 2297. No. 90, OIM No. A 22406; *b* 2296. No. 91, OIM No. A 22404; *b* 2294. No. 92, OIM No. A 22242; *b* 2057.
- 93-95. Medallions incised with rosettes. Variants of Nos. 74-77. Backs plain. Thickness 2 mm. No. 93, PAM No. 38.875; *b* 2300. No. 94, PAM No. 38.876; *b* 2301. No. 95, OIM No. A 22409; *b* 2302.
96. Square incised with rosette. Back plain. Thickness 2.5 mm. OIM No. A 22410; *b* 2303.
97. Funnel-shaped object with sides pierced at three approximately equidistant intervals. Thickness at base 3 mm., at rim 5 mm. OIM No. A 22298; *b* 2149.
- 98-99. Objects pierced vertically from top to bottom. Traces of black inlay in incised bands of No. 99. No. 98, OIM No. A 22347; *b* 2218. No. 99, PAM No. 38.799; *b* 2053.
- 100-103. Button-like objects flat on one side; convex-concave from center to rim on other side. Thickness at center of Nos. 100 and 102, 7 mm.; of Nos. 101 and 103, 3 mm. No. 100, PAM No. 38.830; *b* 2137. No. 101, PAM No. 38.858; *b* 2235. No. 102, OIM No. A 22370; *b* 2248. No. 103, OIM No. A 22344; *b* 2215.
- 104-5. Circular pierced objects, possibly whorls. Both sides flat and decorated. Edges with four grooves. Thickness 9 mm. No. 104, PAM No. 38.795; *b* 2043. No. 105, OIM No. A 22235; *b* 2044.
106. Circular object with flat base; top rounded from center to edge; decoration similar to that of Nos. 104-5. No. 71 a similar, though undecorated, specimen. OIM No. A 22346; *b* 2217.

PLATE 16

107. Single comb with identical scene of ibex and dog in relief on both sides. Animal eyes inlaid with glass (cf. No. 123). Edges decorated. Views *a* and *b*, sides; *c* and *d*, side and top edges; *e*, restoration. PAM No. 38.778; *b* 2001.
108. Double comb. Front with surface rising from teeth to central ridge and with sides beveled. Back flat. Thickness at center 8 mm. Nos. 114 and 115 similar specimens. Views *a* and *b*, front and back. PAM No. 38.831; *b* 2141.
109. Fragment of double comb. Front flat except for beveling of teeth and of sides. Back flat with same line decoration as on face. Burned black. Thickness 4 mm. OIM No. A 22363; *b* 2238.

PLATE 17

110. Double comb with lion and trees in relief on both sides; scene reversed on back. Front flat except for beveling of teeth and sides. Back flat. Thickness 9 mm. Recalls similar combs in the Louvre.¹³ Trees treated as on ivory draught-box from Enkomi.¹⁴ Views *a* and *b*, front and back; *c*, restoration. OIM No. A 22295; *b* 2140.
111. Double comb. Front with surface rising from teeth to central ridge and with sides beveled; black inlay in decoration. Back flat with black inlay in decoration. Thickness at center 6 mm. Similar in form to No. 108. Views *a* and *b*, front and back. OIM No. A 22210; *b* 2003.
112. Fragment of single comb incised with straight lines and circles. Both sides flat and identical. Thickness tapers from 6 mm. at top to teeth. OIM No. A 22369; *b* 2247.

PLATE 18

113. Double comb. Front beveled in all four directions and incised with two scenes of ibexes (one winged) and trees. Center ridge pierced with three holes 5 mm. deep. Back flat. Thickness at center 12 mm. Views *a* and *b*, front and back; *c*, drawing of actual state. PAM No. 38.779; *b* 2002.
114. Double comb similar in form to No. 108. Incised decoration inlaid with black. Thickness at ridge 14 mm. Cf. No. 115. Views *a* and *b*, front and back. OIM No. A 22211; *b* 2004.
115. Fragmentary double comb similar in form to No. 108, and in form and decoration to No. 114. Thickness at ridge 9 mm. OIM No. A 22362; *b* 2237.

PLATE 19

116. Handle with stylized palmette motive and border in low relief on one broad side. Border reduced to simple incised lines on reverse side. Large end hollowed to depth of 4.5 cm., leaving shell 3-5 mm. thick. Small end lengthened by extra piece secured by two dowels. No. 117 similar in form. OIM No. A 22216; *b* 2015.
117. Handle similar in form to No. 116, probably with palmette motive on one broad side. Border, suggestive of that of No. 116, continues around on reverse side. Large end hollowed. PAM No. 38.834; *b* 2147.

¹³ A. de Longpérier, *Œuvres ... réunies ...* par G. Schlumberger, I (Paris, 1883) Pl. II 1-2; Frederik Poulsen, *Der Orient und die frühgriechische Kunst* (Leipzig, 1912) Figs. 50-52.

¹⁴ British Museum, *Excavations in Cyprus*, by A. S. Murray . . . , A. H. Smith . . . , and H. B. Walters . . . (London, 1900) pp. 12 and 31 and Pl. I.

118. Conical object pierced diagonally through base and side. OIM No. A 22352; *b* 2223.
119. Indeterminate object. Top edge and bottom of "arms" slightly convex and finished; other edges flat and unfinished. Thickness 2 mm. OIM No. A 22243; *b* 2058.
- 120–22. Bars suggesting a frame or "legs" of a box. One corner cut away to about half the length and grooved for dovetailing, possibly to plaques such as Nos. 32–35. Allover "leaf" motive on all sides. Ends plain. No. 120, OIM No. A 22253; *b* 2073. No. 121, OIM No. A 22252; *b* 2071. No. 122, PAM No. 38.806; *b* 2072.

PLATE 20

123. Fragmentary flattened remains of what probably was a cup or vase. Allover design in relief: palmette-and-pomegranate motive with centers of scrolls inlaid with beads of glass.¹⁵ Thickness 2–5 mm. Views *a* and *b*, "sides" as now flattened out; *c*, drawing of restored design opened out flat. OIM No. A 22274; *b* 2104.

PLATE 21

124. Object suggesting cup or vase similar to No. 123. In present state oval in section, with outer surface incised with palmette-and-pomegranate motive. No trace of top or bottom. Thickness at small end 5 mm., at large end 2 mm. Axes at small end 3.3×4.2 cm., at large end 3.3×5.8 cm. View *b*, drawing of restored design opened out flat. OIM No. A 22275; *b* 2105.

PLATE 22

125. Bar, rectangular in section, with scenes of animals (one with hunter) on three sides and gods on the fourth, all in relief. One end slightly larger in section than the other and with traces of smaller rectangular projection, possibly a dowel, broken off; a similar, though circular, projection at smaller end. View *b*, restoration of the four sides; *c*, drawing of actual state of the four sides. OIM No. A 22249; *b* 2068.

PLATE 23

126. Indeterminate object, possibly a leg of a stool or table or possibly (if reversed) a bracket. Side and front (at downward angle) views. OIM No. A 22320; *b* 2181.
127. Ornament suggesting an Egyptian *dd* symbol. Back plain. Molding continues on sides. Top and bottom plain and flat. A dowel peg remains in upper hole. Thickness at top 12 mm., at bottom 3 mm. PAM No. 38.802; *b* 2064.
128. Fragment of ornament. Square in horizontal section. Rectangular slot in bottom 8×11×10 (deep) mm. OIM No. A 22284; *b* 2124.

¹⁵ An analysis was made by Dr. F. J. Pettijohn, of the Department of Geology of the University of Chicago, who reports as follows:

"One of the small bluish beads, 1–2 mm. in diameter, was examined under the microscope. It was a very perfect sphere except that on one side was a small wartlike protuberance. A second bead photographed by Mr. Burtch was seen to have a similar process. This structure was probably formed during manufacture of the bead from glass. Melted glass gathered up into a droplet suspended by a thread. After hardening of the bead the thread was broken away except for a small attached length which was then fused to the rounded wartlike process observed.

"One bead was crushed and examined under the petrographic microscope. It was observed to be faintly polarizing and to have an index of refraction of $1.43 \pm .02$. Portions of the bead were minutely laminated while other parts were cellular. All of these characters are consistent with a glass composition. Ancient glass, or even modern glass deficient in calcium, is unstable. The moisture of the air dissolves the alkali from the glass and leaves silicic acid as a porous residue."

PLATE 24

129. Horn-shaped object of a different type of ivory, possibly a boar's tusk (suggested by the shape). Section of one side cut out as if receptacle. Inside hollowed from large end, leaving shell 3 mm. thick. Oval in section. Views *a* and *b*, front and back. OIM No. A 22221; *b* 2023.
130. Part of some larger object. Corners of preserved fragment cut away for joining. Double groove molding around edge. Edges decorated with same pattern as on face and edges of Nos. 262–63 and on edges of Nos. 264–65. Bottom edge broken away. Thickness 7 mm. OIM No. A 22314; *b* 2172.
131. Funnel-like object. OIM No. A 22281; *b* 2116.
132. Fragment of bar with band of decoration extending along center. Top convex. Bottom flat. Edges sharp. Thickness at center 6 mm. PAM No. 38.865; *b* 2262.

PLATE 25

- 133–34. Palmette-shaped ornaments. Dowel hole in bottom of No. 133, 2.2 cm. deep; of No. 134, 2.7 cm. deep. Dowel broken from top of No. 134. Cf. Nos. 135–38 for variants. View 133 *b* from above; 134 *b* from below. No. 133, PAM No. 38.786; *b* 2017. No. 134, OIM No. A 22304; *b* 2159.
- 135–38. Palmette-shaped ornaments, variants of Nos. 133–34. Unlike Nos. 133–34, these are pierced vertically from top to bottom. View 135 *b* from above; 136 *b* from below. No. 135, PAM No. 38.847; *b* 2186. No. 136, OIM No. A 22313; *b* 2171. No. 137, PAM No. 38.864; *b* 2261. No. 138, OIM No. A 22297; *b* 2145.
- 139–40. Arrowhead-shaped plaques. Face slightly convex, back plain. Greatest thickness 2 mm. Cf. Nos. 141–42 for variants. No. 139, OIM No. A 22234; *b* 2042. No. 140, PAM No. 38.881; *b* 2316.
- 141–42. Triangular plaques, variants of Nos. 139–40. Face slightly convex, back plain. Thickness at point 5 mm. Sharp edge at base. No. 141, PAM No. 38.866; *b* 2263. No. 142, OIM No. A 22381; *b* 2264.
143. Square plaque incised with "crow's feet." Face convex from side to side. Thickness at bottom 5 mm., tapering to 3 mm. at top. Nos. 144–45 variants with same design in relief. OIM No. A 22328; *b* 2196.
- 144–45. Variants of No. 143 with design in relief rather than incised. Back plain. Face of No. 145 rounded at side, sharp-cut at top and bottom. Thickness of No. 144, 4 mm. at bottom tapering to 2 mm. at top; of No. 145, 2 mm. No. 144, OIM No. A 22247; *b* 2062. No. 145, PAM No. 38.851; *b* 2191.

PLATE 26

146. Fluted, two-handled bowl with hole in bottom probably for securing to a base. Handles fragmentary.¹⁶ OIM No. A 22255; *b* 2075.

PLATE 27

147. Shallow bowl with single handle, incised inside and outside. Cf. Nos. 148–49, 151, and 155–56 for variants. Views *a* and *b*, inside and outside; *c* and *d*, restorations; *e*, section. OIM No. A 22285; *b* 2126.

¹⁶ Completed form is suggested by Figs. 80 ff. in Pierre Montet, *Les reliques de l'art syrien dans l'Égypte du Nouvel Empire* (Paris, 1937).

PLATE 28

148. Fragment of shallow bowl with single handle, variant of No. 147. Inside plain, outside incised. Small turtle in relief on outside just below rim. Traces of other such decoration at unequal intervals. Views *a* and *b*, inside and outside; *c*, turtle, enlarged to 4:1. PAM No. 38.823; *b* 2119.
149. Fragment of shallow bowl, variant of No. 147. Rim decoration similar to that of No. 156. PAM No. 38.856; *b* 2229.
150. Fragment of shallow bowl. Plain inside. Fluting outside suggestive of No. 146. Thickness at center 3 mm. OIM No. A 22359; *b* 2231.

PLATE 29

151. Fragments of shallow bowl, probably with single handle, variant of No. 147. Incised inside and outside with same design. Views *a* and *b*, inside and outside. OIM No. A 22356; *b* 2227.
152. Bottom of bowl with flat base (2.5 cm. in diameter) slightly raised. Inside and outside plain. Thickness at base 5 mm. View of outside. OIM No. A 22360; *b* 2234.
153. Fragmentary small, deep bowl with flattened base. Thickness about 3 mm. Views *a* and *b* from side and from above respectively. OIM No. A 22340; *b* 2210.
154. Fragment suggestive of base of bowl, possibly of a pedestal type similar to No. 146. Inside plain; outside decorated. View of outside. OIM No. A 22372; *b* 2251.
155. Fragment of bowl rim with incised decoration. PAM No. 38.857; *b* 2232.

PLATE 30

156. Fragment of shallow bowl with single handle, variant of No. 147. Incised circle on outside only existing decoration other than that on rim. Rim similar to that of No. 149. Views *a* and *b*, inside and outside. OIM No. A 22357; *b* 2228.
157. Bowl in form of a bird. Devoid of decoration, which was probably confined to missing lid. Depth of interior 1.5 cm. Cf. No. 158. Views from above and from side. OIM No. A 22294; *b* 2139.

PLATE 31

158. Bowl in form of a boat. Devoid of decoration, which was probably confined to missing lid. Depth of interior 1.8 cm. Cf. No. 157. Views in perspective, from top, and from side. PAM No. 38.787; *b* 2018.

PLATE 32

159. Bar, probably part of a stool or chair frame. A battle scene with chariots, carved in relief, covers entire surface. Dovetail tenons at ends. Back plain. Irregularly spaced dowel holes in lower edge. Thickness 10 mm. Slightly concave from end to end, possibly due to warping. Cf. Nos. 160–62 for corresponding carved pieces, Nos. 163–64 for plain pieces. These carved pieces recall in technique and scale an ivory draught-box found at Enkomi.¹⁷ View *b*, drawing of actual state; *c*, restoration of best preserved section. OIM No. A 22271; *b* 2100.
160. Bar similar to No. 159. A presentation and a feast scene carved in relief. Dovetail mortises at ends. Back

plain. Irregularly spaced dowel holes in lower edge. Thickness 10 mm. Slightly concave from end to end, possibly due to warping. View *b*, drawing of actual state; *c*, restoration of feast scene. OIM No. A 22270; *b* 2099.

PLATE 33

161. Bar similar to No. 159. A chariot scene (the only portion recoverable) carved in relief. Dovetail tenons at ends. Back plain. Irregularly spaced dowel holes, one with dowel in place, in lower edge. Thickness 10 mm. Slightly concave from end to end. View *b*, drawing of actual state; *c*, restoration of best preserved section. PAM No. 38.817; *b* 2108.
162. Bar similar to No. 159. Two scenes, one indistinguishable, the other with human figures and ducks, carved in relief. Dovetail mortises at ends. Back plain. Irregularly spaced dowel holes, one with dowel in place, in lower edge. Thickness 10 mm. Slightly concave from end to end. View *b*, drawing of actual state; *c*, restoration of best preserved section. OIM No. A 22302; *b* 2153.

PLATE 34

- 163–64. Bars similar to No. 159–62 but without decoration on either side. Dovetail tenons and mortises at ends. Irregularly spaced dowel holes in one (probably lower) edge. Thickness 10 mm. No. 163, PAM No. 38.822; *b* 2118. No. 164, OIM No. A 22282; *b* 2117.
165. Plaque probably used as inset in furniture. Palmette motive in low relief on face. Back plain. Tenon at top; bottom missing. Thickness 4 mm. Cf. Nos. 13–15 for variants of decorative motive, Nos. 166–74 for other types of furniture insets. OIM No. A 22218; *b* 2019.
166. Plaque similar in purpose to No. 165. Palmette motive in low relief on face; same design incised on back. Tenon at top; bottom missing. Thickness 8 mm. No. 167 a close parallel. PAM No. 38.803; *b* 2065.

PLATE 35

167. Plaque similar in purpose and decorative motive to No. 166. Palmette motive, repeated on both sides, in low relief and incised and openwork. Tenons at top and bottom. Maximum thickness 8 mm. Views *a* and *b*, front and back; *c*, restoration. OIM No. A 22273; *b* 2103.

PLATE 36

- 168–69. Fragments of plaques similar in purpose to No. 165. Egyptian *dd* symbol and lotus motive, identical on both sides. No. 170 indicates how these may be completed. Tenons at top (incomplete) and bottom. Thickness 10 mm. No. 168, OIM No. A 22223; *b* 2025. No. 169, OIM No. A 22222; *b* 2024.

PLATE 37

170. Fragment of plaque similar to Nos. 168–69. Identical on both sides. Tenons at top. Thickness 10 mm. OIM No. A 22224; *b* 2026.
171. Plaque similar in purpose to No. 165. Egyptian *dd* motive. Identical on both sides. Upper and lower horizontal bars have ends pierced centrally with holes 4 mm. in diameter and 17 mm. deep. Tenons at top and bottom. Thickness 10 mm. PAM No. 38.798+38.827; *b* 2051+*b* 2125.

¹⁷ British Museum, *Excavations in Cyprus, loc. cit.*

172. Fragment of plaque similar to either No. 167 or No. 171. Identical on both sides. Tenon at bottom. Thickness 4 mm. OIM No. A 22420; *b* 2318.

PLATE 38

173. Fragmentary openwork plaque similar in purpose to No. 165. Female figurine identical in reverse on both sides except for position of arms and, consequently, for garment. Pupils of eyes inlaid with glass (cf. No. 123) as in No. 186. Tenon at bottom but missing from top. Average thickness 15 mm. View *c*, restoration as suggested by No. 174. OIM No. A 22258; *b* 2079.
174. Fragment of frame, probably part of a plaque similar to No. 173. Identical on both sides. Tenon at top but missing from bottom. Thickness of frame 10 mm. OIM No. A 22376; *b* 2256.

PLATE 39

175. Fragmentary female figurine. Front missing. Flat crown similar in shape but not in decoration to that of No. 186. OIM No. A 22257; *b* 2077.
176. Bowl of "spoon" originally with human figurine handle. Cf. Nos. 177–81 for other types of spoons. PAM No. 38.848; *b* 2187.

PLATE 40

177. Fragmentary spoon with female figurine handle. Cf. Nos. 178–81 for spoons of similar type. Views from top, side, and bottom. OIM No. A 22289; *b* 2131.

PLATE 41

178. Fragmentary spoon similar in type to No. 177. PAM No. 38.807; *b* 2078.
182. Female figurine lying flat on chest; head upright, and supported by arms bent at elbows. Legs give way to handle pierced at end. Cf. Nos. 183–85 for fragments of similar specimens. Views *a* and *b* from above and from side respectively. PAM No. 38.867; *b* 2265.

PLATE 42

179. Fragmentary spoon similar in type to No. 177. Views *a* and *b* from top and bottom respectively. OIM No. A 22277; *b* 2107.
180. Fragment of bowl of spoon similar in type to No. 177. OIM No. A 22358; *b* 2233.
181. Fragment of leg and foot, probably from a spoon similar in type to No. 177. OIM No. A 22398; *b* 2286.
- 183–85. Fragments of figurines similar to No. 182 (Pl. 41). Views *a* and 185 from above, *b* from side. No. 183, OIM No. A 22382; *b* 2266. No. 184, OIM No. A 22383; *b* 2267. No. 185, OIM No. A 22424; *b* 2324.

PLATE 43

186. Horn-shaped object terminating with female head. Pupils of eyes inlaid with glass (cf. No. 123) as in No. 173. Flat crown similar in shape to that of No. 175. Base hollowed. Cf. Nos. 187–89 for similar shapes but without heads. Views from four sides. OIM No. A 22276; *b* 2106.
- 187–89. Horn-shaped objects similar in form to No. 186. Pierced from end to end. No. 187, PAM No. 38.837; *b* 2156. No. 188, OIM No. A 22299; *b* 2150. No. 189, OIM No. A 22319; *b* 2180.

PLATE 44

- 190–93. Front sections of female heads, doweled and grooved on backs for attachment to other objects, probably to furniture as suggested by similarity of backs to those of bulls' heads Nos. 197–98. Depth of dowel holes and grooves 8 mm. Cf. No. 194 for another type of female head. Views from front, side, and back. No. 190, OIM No. A 22265; *b* 2089. No. 191, OIM No. A 22263; *b* 2087. No. 192, OIM No. A 22264; *b* 2088. No. 193, PAM No. 38.810; *b* 2086.
194. Female head in the round. Pupils of eyes originally inlaid. Base pierced centrally, 3.5 mm. in diameter, to 17 mm. depth. PAM No. 38.811; *b* 2090.
- 195–96. Fragmentary human heads. Pupils of eyes originally inlaid. Top of No. 196 pierced centrally, 4 mm. in diameter, to 14 mm. depth. No. 195, PAM No. 38.812; *b* 2091. No. 196, OIM No. A 22266; *b* 2092.

PLATE 45

- 197–98. Bulls' heads. Horns and ears partially missing. Backs flat with rectangular groove 8×10 mm. extending from top to bottom. Three dowel holes in No. 197, two in No. 198. Possibly used at angles of chair seats as suggested by a relief from Zinjirli.¹⁸ No. 197, OIM No. A 22256; *b* 2076. No. 198, PAM No. 38.835; *b* 2148.
199. Figurine of an animal lying with forepaws forward and hind legs extended rearward, head erect, and tail in air. Cf. Nos. 200–201 for other animal figurines. OIM No. A 22384; *b* 2268.
- 200–201. Fragments of standing animal figurines. Cf. No. 199. No. 200, OIM No. A 22385; *b* 2269. No. 201, OIM No. A 22386; *b* 2270.
202. Duck's head. Neck hollowed (6 mm. in diameter) from end through cross-piercing (6 mm. in diameter). Cf. Nos. 203–4 for close variants, Nos. 205–11 for other bird heads. OIM No. A 22260; *b* 2083.
- 203–4. Ducks' heads, variants of No. 202. Necks hollowed (6 mm. in diameter) from end to piercing from bottom (6 mm. in diameter). No. 203, OIM No. A 22259; *b* 2081. No. 204, PAM No. 38.809; *b* 2082.
205. Duck's head with swanlike neck. One side of face missing. Base pierced, 8 mm. in diameter, to 13 mm. depth. Similar to No. 206. PAM No. 38.850; *b* 2189.
206. Fragment of duck's head similar to No. 205. OIM No. A 22315; *b* 2173.
207. Duck's head. Neck pierced, 5 mm. in diameter, to 18 mm. depth. Cf. Nos. 208–9 for similar specimens. OIM No. A 22261; *b* 2084.
- 208–9. Fragments of ducks' heads similar to No. 207. No. 208, OIM No. A 22324; *b* 2190. No. 209, OIM No. A 22387; *b* 2271.
- 210–11. Birds' heads, possibly eagle or hawk. Necks pierced, 6 mm. in diameter, to 14 mm. depth. No. 210, OIM No. A 22388; *b* 2272. No. 211, PAM No. 38.820; *b* 2111.

PLATE 46

212. Fragment of plain disk with dowels. Thickness 5 mm. OIM No. A 22397; *b* 2285.
213. Scroll-shaped ornament, plain on all sides. Two dowel holes (6 mm. in diameter, 25 mm. deep) in long straight edge, 1.3 and 6.5 cm. respectively from base.

¹⁸ Orient-Comité zu Berlin, *Ausgrabungen in Sendschirli IV* (Berlin, 1911) Pl. LX.

Cf. Nos. 214–15 for similar specimens. PAM No. 38.804; *b* 2066.

214. Ornament similar to No. 213. Two dowel holes (8 mm. in diameter, 27 mm. deep) in long straight edge, 1.2 and 5.6 cm. respectively from base. OIM No. A 22325; *b* 2192.
215. Ornament similar to No. 213. Dowel hole (5 mm. in diameter) extending completely through object, parallel to and 2.3 cm. from base. OIM No. A 22318; *b* 2179.
- 216–19. Fragments curved in section, probably of vessels with decorated rims. Nos. 217–18 probably from same vessel. Backs plain. Thickness of No. 216, 6 mm.; of Nos. 217–18, 2 mm. at top, 7 mm. at bottom; of No. 219, 4 mm. No. 216, OIM No. A 22375; *b* 2255. No. 217, OIM No. A 22373; *b* 2252. No. 218, OIM No. A 22219; *b* 2020. No. 219, OIM No. A 22374; *b* 2253.

PLATE 47

220. Game board designed for the playing of two games: on one side the so-called “game of fifty-eight holes,” on the other the so-called “game of twenty squares.”¹⁹ Upper corners decorated in relief on both sides with animals and trees. Game layouts incised. Thickness 2.6 cm. Cf. Nos. 221–23 for other specimens of the “game of fifty-eight holes”²⁰ and Nos. 224–25 for other specimens of the “game of twenty squares.”²¹ Views *c* and *d*, restorations. PAM No. 38.826; *b* 2122.

PLATE 48

221. Game board for the “game of fifty-eight holes” (see No. 220). Special holes (every fifth one) and center inlaid with gold and blue paste. “Studs” of gold leaf found alongside may have capped the pegs used in the game. Back plain; small holes at irregular intervals around the edge. Thickness 5 mm. OIM No. A 22254; *b* 2074.

PLATE 49

222. Game board for the “game of fifty-eight holes” (see No. 220). Back plain; small holes at irregular intervals around the edge. Thickness 5 mm. PAM No. 38.833; *b* 2146.

PLATE 50

223. Fragments of game board for the “game of fifty-eight holes” (see No. 220). Back plain. Thickness 2 mm. OIM No. A 22306; *b* 2161.
224. Fragment of game board for the “game of twenty squares” (see No. 220). Back plain. Thickness 2 mm. OIM No. A 22295A; *b* 2142.

PLATE 51

225. Fragment of game board for the “game of twenty squares” (see No. 220). Scenes of animals and trees incised along sides. Back plain. Thickness 2–3 mm. View *b*, drawing of actual state. OIM No. A 22272; *b* 2102.

¹⁹ For description of these games see W. M. Flinders Petrie, *Objects of Daily Use* (London, 1927) p. 55.

²⁰ For the geographical distribution and time span of this game see C. J. Gadd, “An Egyptian game in Assyria,” *Iraq* I 45–50.

²¹ The ivory draught-box from Enkomi mentioned in connection with No. 159 is an example of this game.

PLATE 52

- 226–27. Disks, convex on both sides, probably game pieces. Faces incised with ibex and palm. Backs plain. Thickness at center 18 mm., diminishing to sharp edge. Cf. Nos. 228–45 for variants. View 226 *b*, drawing of actual state. No. 226, OIM No. A 22232; *b* 2038. No. 227, PAM No. 38.792; *b* 2037.
228. Game(?) disk, variant of Nos. 226–27. Face incised with griffon. Back plain. Thickness at center 14 mm. View *b*, drawing of actual state. OIM No. A 22231; *b* 2036.
229. Game(?) disk, variant of Nos. 226–27. Face incised with indistinguishable design. Back plain. Thickness at center 11 mm. PAM No. 38.846; *b* 2185.
- 230–35. Game(?) disks, type variant of Nos. 226–27. Faces incised with double or triple radial lines as if incipient petals. Backs plain. Thickness at center of Nos. 230 and 231, 18 mm.; of Nos. 232 and 234, 16 mm.; of Nos. 233 and 235, 17 mm. Cf. Nos. 236–39 for close variants. No. 230, PAM No. 38.790; *b* 2032. No. 231, OIM No. A 22229; *b* 2033. No. 232, OIM No. A 22228; *b* 2031. No. 233, OIM No. A 22296; *b* 2143. No. 234, OIM No. A 22288; *b* 2129. No. 235, PAM No. 38.824; *b* 2120.
- 236–37. Game(?) disks, type variant of Nos. 226–27. Faces incised with radial petals (cf. Nos. 230–35 and 238–39). Backs plain. Thickness at center of No. 236, 17 mm.; of No. 237, 16 mm. No. 236, PAM No. 38.791; *b* 2034. No. 237, OIM No. A 22230; *b* 2035.
- 238–39. Game(?) disks, type variant of Nos. 226–27. Faces incised with petals radiating from circle at center (cf. Nos. 236, 237, and 245). Backs plain. Thickness at center of No. 238, 15 mm.; of No. 239, 14 mm. No. 238, PAM No. 38.841; *b* 2165. No. 239, OIM No. A 22287; *b* 2128.

PLATE 53

- 240–42. Game(?) disks, type variant of Nos. 226–27. Faces incised with overlapping pointed petals (cf. Nos. 243–44). Backs plain. Thickness at center of Nos. 240 and 242, 18 mm.; of No. 241, 15 mm. No. 240, PAM No. 38.789; *b* 2029. No. 241, OIM No. A 22227; *b* 2030. No. 242, OIM No. A 22226; *b* 2028.
- 243–44. Game(?) disks, type variant of Nos. 226–27. Faces incised with overlapping pointed petals radiating from circle at center (cf. Nos. 240–42). Backs plain. Thickness at center 15 mm. No. 243, PAM No. 38.836; *b* 2154. No. 244, OIM No. A 22301; *b* 2152.
245. Game(?) disk, variant of Nos. 226–27. Face incised with petals radiating from circle at center (cf. Nos. 238–39). Back plain. Thickness at center 12 mm. PAM No. 38.832; *b* 2144.
- 246–57. Game pieces of several types, conical and knobbed at apex. Nos. 251, 252, and 257 pierced centrally in base; No. 254 pierced diagonally from base through side near knob. No. 246, OIM No. A 22323; *b* 2184. No. 247, PAM No. 38.862; *b* 2250. No. 248, PAM No. 38.843; *b* 2174. No. 249, PAM No. 38.825; *b* 2121. No. 250, PAM No. 38.808; *b* 2080. No. 251, PAM No. 38.845; *b* 2177. No. 252, OIM No. A 22317; *b* 2178. No. 253, OIM No. A 22233; *b* 2041. No. 254, OIM No. A 22371; *b* 2249. No. 255, OIM No. A 22262; *b* 2085. No. 256, OIM No. A 22244; *b* 2059. No. 257, OIM No. A 22245; *b* 2060.

- 258–61. Tapered pegs, possibly for use with game boards. Nos. 258–60 with notched heads. No. 258, PAM No. 38.794; *b* 2040. No. 259, OIM No. A 22316; *b* 2176. No. 260, OIM No. A 22364; *b* 2239. No. 261, OIM No. A 22367; *b* 2243.

PLATE 54

- 262–63. Fragments of a single or of two plaques with raised frame and edges decorated in running design. Cf. Nos. 130 and 264–65 for examples of same design. Back plain. Thickness 7 mm. No. 262, OIM No. A 22394; *b* 2281. No. 263, OIM No. A 22395; *b* 2282.
- 264–65. Sides of frames with outer edge (including that of suspension piece) decorated in running design similar to edge of No. 130 and to face and edges of Nos. 262–63. Other edge and faces plain. Ends mitered. Suspension piece dovetailed and doweled into center. Thickness of No. 264, 6 mm.; of No. 265, 7 mm. Views of No. 264, outer edge and one face. No. 264, OIM No. A 22396; *b* 2283. No. 265, PAM No. 38.871; *b* 2284.
266. Fragment of frame. All surfaces plain. One dowel in back. Thickness of outer section 8 mm.; of inner section 7 mm., diminishing to 5 mm. at inner edge. OIM No. A 22418; *b* 2314.
- 267–69. Fragments of small frames. No. 268 convex from side to side. Dowels at corners. Backs plain. Thickness of No. 267, 8 mm.; of No. 268, 3 mm.; of No. 269, 5 mm. No. 267, OIM No. A 22416; *b* 2312. No. 268, PAM No. 38.879; *b* 2311. No. 269, OIM No. A 22417; *b* 2313.
270. Fragment of plain band with knobbed peg and two dowels. End cut for joining. PAM No. 38.863; *b* 2254.
- 271–72. Eye-shaped objects, possibly for insets into large figures. No. 271, OIM No. A 22389; *b* 2273. No. 272, PAM No. 38.868; *b* 2274.
- 273–74. Human arms. Tenon at shoulder cut for dovetailing, with arm slipping into mortise from above. Thickness at shoulder 11 mm., at small end 6 mm. No. 273, PAM No. 38.870; *b* 2277. No. 274, OIM No. A 22391; *b* 2278.
275. Human hand. PAM No. 38.869; *b* 2276.
276. Fragment of human foot. OIM No. A 22390; *b* 2275.

PLATE 55

277. Ring. All surfaces plain. Inside octagonal, outside convex. Thickness 12 mm. OIM No. A 22290; *b* 2134.
278. Fragments of ring, incised with rope motive on outer surface. Inner surface and edges plain. OIM No. A 22361; *b* 2236.
279. Fragments of ring, carved in relief with indistinguishable design on outer surface. Inner surface and edges plain. Thickness about 3 mm. OIM No. A 22311; *b* 2169.
280. Pierced lozenge-shaped object, possibly a toggle. Thickness 6 mm. OIM No. A 22240; *b* 2052.
281. Indeterminate object. Thickness 5 mm. OIM No. A 22351; *b* 2222.
282. Object curved in section. One side with incised lines along base and sloping sides, other side with projecting dowels. Thickness 6 mm. OIM No. A 22428; *b* 2329.
283. Fragment of small bar, square in section. End rounded on axis parallel to small holes piercing the thickness of the bar. OIM No. A 22427; *b* 2328.

284. Biconical bead. Piercing 3 mm. in diameter. OIM No. A 22348; *b* 2219.

- 285–88. Pins. Large end of No. 286 broken where once pierced as if for use as a toggle. No. 285, OIM No. A 22225; *b* 2027. No. 286, PAM No. 38.860; *b* 2244. No. 287, OIM No. A 22392; *b* 2279. No. 288, PAM No. 38.861; *b* 2246.

PLATE 56

289. Vase-shaped object. Piercing suggests a handle. Undecorated. Oval in section. Thickness at widest point 4.4 cm., at neck 2.9 cm., at rim 3.8 cm. Large end pierced to depth of 9.5 cm.; axes of oval section at surface 30×8 mm., diminishing to point 3.5 cm. from end, where section becomes circle 8 mm. in diameter. PAM No. 38.805; *b* 2067.
290. Knob handle. Shaft pierced in circular section 1.5 cm. in diameter to depth of 4 cm. Views of knob end and side. OIM No. A 22291; *b* 2135.
- 291–93. Knob handles. Shafts of Nos. 291 and 293 hollow, of No. 292 broken. No. 291, PAM No. 38.853; *b* 2197. No. 292, OIM No. A 22350; *b* 2221. No. 293, OIM No. A 22349; *b* 2220.
- 294–95. Incised handles. No. 294 pierced end to end. No. 295 pierced except at solid, plain end. No. 294, OIM No. A 22303; *b* 2155. No. 295, OIM No. A 22368; *b* 2245.
296. Fragment of rod, round in section. Possibly handle of an implement as suggested by curvature at broken end and finish of other end. Incised decoration. Cf. Nos. 297–98. PAM No. 38.839; *b* 2158.
- 297–98. Fragments of rods, round in section. Incised decoration. Decorated end of No. 297 probably once pierced where broken. No. 297, OIM No. A 22421; *b* 2319. No. 298, OIM No. A 22422; *b* 2320.

PLATE 57

299. Rod, undecorated and tapering in round section. One end squared as for insertion into another object. Smaller end pierced, 6 mm. in diameter, to 23 mm. depth. OIM No. A 22280; *b* 2114.
300. Fragment of rod, undecorated and round in section except for pronged end. OIM No. A 22326; *b* 2193.
- 301–2. Bars, rectangular in section, tapering from 8×13 mm. to 8×10 mm. Narrow sides each with three grooves, broad sides plain. Pierced through with three holes 4 mm. in diameter. No. 301, OIM No. A 22250; *b* 2069. No. 302, PAM No. 38.880; *b* 2315.
303. Fragment of rod, round in section. One end concave as if once bottom of a dowel hole the edges of which are broken away. OIM No. A 22329; *b* 2199.
304. Fragment of rod, flat on one side and with parabolic section. Dowel hole in flat side 14 mm. deep. Greatest height 19 mm., greatest width 17 mm. OIM No. A 22425; *b* 2325.

PLATE 58

- 305–6. Fragmentary cylindrical objects pierced laterally for six dowels or pegs. One end solid; other pierced, 9 mm. in diameter, to 7 mm. depth. No. 305, OIM No. A 22466; *b* 2387. No. 306, PAM No. 38.883; *b* 2323.
- 307–8. Cylindrical objects pierced laterally with three holes. Ends of No. 307 pierced to 3 mm. depth.; of No. 308, to first lateral holes. No. 307, PAM No. 38.882; *b* 2321. No. 308, OIM No. A 22423; *b* 2322.

- 309-10. Fragments of bar or bars, rectangular in section. Single groove along side of one narrow edge. Other sides plain. Dowel or pin in place. Section 2×6 mm. No. 309, OIM No. A 22429; *b* 2331. No. 310, PAM No. 38.885; *b* 2330.
- 311-17. Petal-shaped objects. Edges and sides plain. Thickness 3 mm. No. 311, OIM No. A 22415; *b* 2310. No. 312, OIM No. A 22414; *b* 2309. No. 313, OIM No. A 22413; *b* 2308. No. 314, PAM No. 38.878; *b* 2307. No. 315, PAM No. 38.877; *b* 2306. No. 316, OIM No. A 22412; *b* 2305. No. 317, OIM No. A 22411; *b* 2304.
- 318-20. Objects of indeterminate use. Edges and sides plain. Thickness 3 mm. No. 318, OIM No. A 22365; *b* 2240. No. 319, OIM No. A 22366; *b* 2241. No. 320, PAM No. 38.859; *b* 2242.
- 321-24. Decorative strips, fragmentary except for No. 322. Incised; edges and backs plain. Thickness of Nos. 321 and 324, 2 mm.; of Nos. 322-23, 6 mm. No. 321, OIM No. A 22438; *b* 2344. No. 322, OIM No. A 22426; *b* 2326. No. 323, PAM No. 38.884; *b* 2327. No. 324, OIM No. A 22439; *b* 2345.

PLATE 59

- 325-26. Fragments of decorative strips. Incised; edges and backs plain. Thickness 3 mm. No. 325, PAM No. 38.849; *b* 2188. No. 326, OIM No. A 22293; *b* 2138.
- 327-38. Fragments of decorative strips. Incised. Single groove along edge of No. 330; all other edges and backs plain. Thickness of Nos. 327-29 and 334-36, 1 mm.; of No. 330, 3.5 mm.; of Nos. 331-33 and 337-38, 1.5 mm. No. 327, OIM No. A 22430; *b* 2332. No. 328, PAM No. 38.886; *b* 2333. No. 329, OIM No. A 22431; *b* 2334. No. 330, OIM No. A 22437; *b* 2343. No. 331, OIM No. A 22434; *b* 2338. No. 332, OIM No. A 22440; *b* 2346. No. 333, OIM No. A 22436; *b* 2342. No. 334, PAM No. 38.889; *b* 2341. No. 335, OIM No. A 22435; *b* 2340. No. 336, PAM No. 38.888; *b* 2339. No. 337, OIM No. A 22433; *b* 2337. No. 338, PAM No. 38.887; *b* 2336.

PLATE 60

- 339-49. Representative specimens of numerous plain strips. No. 342 with mitered end and surface slightly convex from side to side. Nos. 347-49 pierced. Thickness of Nos. 339 and 341, 2 mm.; of Nos. 340, 342, 344-46, and 348-49, 3 mm.; of No. 343, 4 mm.; of No. 347, 1.5 mm. Cf. Nos. 350-76 for other shapes and sizes. No. 339, OIM No. A 22463; *b* 2382. No. 340, PAM No. 38.902; *b* 2383. No. 341, OIM No. A 22461; *b* 2380. No. 342, OIM No. A 22462; *b* 2381. No. 343, OIM No. A 22459; *b* 2376. No. 344, PAM No. 38.900; *b* 2377. No. 345, PAM No. 38.901; *b* 2378. No. 346, OIM No. A 22460; *b* 2379. No. 347, OIM No. A 22464; *b* 2385. No. 348, PAM No. 38.903; *b* 2384. No. 349, OIM No. A 22465; *b* 2386.

PLATE 61

- 350-65. Representative specimens of numerous plain strips and rectangles. Nos. 353-54 burned. Thickness of Nos.

350-52, 356-58, and 363-64, 3 mm.; of Nos. 353 and 360-61, 4 mm.; of Nos. 354-55 and 359, 5 mm.; of No. 362, 2.5 mm.; of No. 365, 1 mm. Cf. Nos. 339-49 and 366-76 for other shapes and sizes. No. 350, OIM No. A 22454; *b* 2370. No. 351, PAM No. 38.898; *b* 2369. No. 352, OIM No. A 22453; *b* 2368. No. 353, OIM No. A 22455; *b* 2371. No. 354, OIM No. A 22456; *b* 2372. No. 355, OIM No. A 22451; *b* 2365. No. 356, OIM No. A 22452; *b* 2367. No. 357, PAM No. 38.897; *b* 2366. No. 358, OIM No. A 22450; *b* 2364. No. 359, OIM No. A 22449; *b* 2363. No. 360, OIM No. A 22457; *b* 2373. No. 361, OIM No. A 22458; *b* 2374. No. 362, PAM No. 38.899; *b* 2375. No. 363, OIM No. A 22441; *b* 2349. No. 364, OIM No. A 22443; *b* 2351. No. 365, OIM No. A 22442; *b* 2350.

- 366-70. Representative specimens of numerous plain squares. Thickness of Nos. 366-68, 4 mm.; of Nos. 369-70, 3 mm. Cf. Nos. 339-65 and 371-76 for other shapes and sizes. No. 366, PAM No. 38.891; *b* 2352. No. 367, OIM No. A 22444; *b* 2353. No. 368, PAM No. 38.892; *b* 2354. No. 369, OIM No. A 22445; *b* 2356. No. 370, PAM No. 38.893; *b* 2355.

- 371-74. Representative specimens of numerous diamond-shaped pieces. Nos. 371-72 with incised lines on face; backs plain. Nos. 373-74 plain. Thickness of No. 371, 2 mm.; of Nos. 372-74, 3 mm. Cf. Nos. 339-70 and 375-76 for other shapes and sizes. No. 371, OIM No. A 22446; *b* 2358. No. 372, PAM No. 38.894; *b* 2357. No. 373, PAM No. 38.895; *b* 2359. No. 374, OIM No. A 22447; *b* 2360.

- 375-76. Representative specimens of numerous plain triangles. Thickness 3 mm. No. 375, PAM No. 38.896; *b* 2361. No. 376, OIM No. A 22448; *b* 2362.

PLATE 62

377. Model pen case with incised offering scene and inscription. For discussion of inscription see pp. 11 f. Crossbar forming inner end of trough missing. Edges of trough grooved for sliding cover. Back and sides plain. Thickness 10 mm.; depth of trough 5 mm. PAM No. 38.813; *b* 2093.

378. Plaque or panel with incised offering scene and inscription. For discussion of inscription see p. 12. Back plain. Thickness 3-4 mm. OIM No. A 22268; *b* 2096.

PLATE 63

- 379-80. Plaques with incised borders, plants, and inscriptions. For discussion of inscriptions see p. 12. Borders inlaid with black paste, plants and their bases with blue paste. Backs plain. Thickness 3 mm. No. 379, OIM No. A 22269; *b* 2097. No. 380, PAM No. 38.815; *b* 2098.

- 381-82. Fragments of a single plaque or panel with incised inscription. For discussion of inscription see p. 12. Back plain. Thickness 2-3 mm. No. 381, OIM No. A 22267; *b* 2095. No. 382, PAM No. 38.814; *b* 2094.

THE MEGIDDO IVORIES

CORRELATION OF MUSEUM AND CATALOGUE NUMBERS

ORIENTAL INSTITUTE MUSEUM

Museum No.	Cat. No.	Museum No.	Cat. No.	Museum No.	Cat. No.	Museum No.	Cat. No.
A 22210	111	8	378	6	300	6	201
1	114	9	379	7	83	7	209
2	32	A 22270	160	8	143	8	210
3	21	1	159	9	303	9	271
4	26	2	225	A 22330	62	A 22390	276
5	28	3	167	1	20	1	274
6	116	4	123	2	6	2	287
7	43	5	124	3	16	3	9
8	165	6	186	4	17	4	262
9	218	7	179	5	19	5	263
A 22220	40	8	45	6	18	6	264
1	129	9	84	7	11	7	212
2	169	A 22280	299	8	12	8	181
3	168	1	131	9	31	9	51
4	170	2	164	A 22340	153	A 22400	49
5	285	3	36	1	67	1	48
6	242	4	128	2	69	2	47
7	241	5	147	3	70	3	77
8	232	6	53	4	103	4	91
9	231	7	239	5	73	5	85
A 22230	237	8	234	6	106	6	90
1	228	9	177	7	98	7	86
2	226	A 22290	277	8	284	8	87
3	253	1	290	9	293	9	95
4	139	2	44	A 22350	292	A 22410	96
5	105	3	326	1	281	1	317
6	66	4	157	2	118	2	316
7	54	5	110	3	61	3	313
8	4	5A	224	4	58	4	312
9	56	6	233	5	59	5	311
A 22240	280	7	138	6	151	6	267
1	74	8	97	7	156	7	269
2	92	9	188	8	180	8	266
3	119	A 22300	81	9	150	A 22420	172
4	256	1	244	A 22360	152	1	297
5	257	2	162	1	278	2	298
6	42	3	294	2	115	3	308
7	144	4	134	3	109	4	185
8	38	5	5	4	260	5	304
9	125	6	223	5	318	6	322
A 22250	301	7	82	6	319	7	283
1	3	8	76	7	261	8	282
2	121	9	71	8	295	9	309
3	120	A 22310	25	9	112	A 22430	327
4	221	1	279	A 22370	102	1	329
5	146	2	63	1	254	2	10
6	197	3	136	2	154	3	337
7	175	4	130	3	217	4	331
8	173	5	206	4	219	5	335
9	203	6	259	5	216	6	333
A 22260	202	7	252	6	174	7	330
1	207	8	215	7	23	8	321
2	255	9	189	8	35	9	324
3	191	A 22320	126	9	34	A 22440	332
4	192	1	30	A 22380	13	1	363
5	190	2	7	1	142	2	365
6	196	3	246	2	183	3	364
7	381	4	208	3	184	4	367
		5	214	4	199	5	369
				5	200		

CORRELATION OF FIELD AND CATALOGUE NUMBERS

23

Museum No.	Cat. No.	Museum No.	Cat. No.	Museum No.	Cat. No.	Museum No.	Cat. No.
A 22446	371	2	356	7	360	2	342
7	374	3	352	8	361	3	339
8	376	4	350	9	343	4	347
9	359	5	353	A 22460	346	5	349
A 22450	358	6	354	1	341	6	305
1	355						

PALESTINE ARCHAEOLOGICAL MUSEUM

Museum No.	Cat. No.	Museum No.	Cat. No.	Museum No.	Cat. No.	Museum No.	Cat. No.
38.778	107	38.810	193	2	41	3	50
9	113	1	194	3	248	4	89
38.780	2	2	195	4	88	5	93
1	24	3	377	5	251	6	94
2	14	4	382	6	229	7	315
3	15	5	380	7	135	8	314
4	27	6	1	8	176	9	268
5	29	7	161	9	325	38.880	302
6	133	8	33	38.850	205	1	140
7	158	9	57	1	145	2	307
8	39	38.820	211	2	79	3	306
9	240	1	75	3	291	4	323
38.790	230	2	163	4	72	5	310
1	236	3	148	5	64	6	328
2	227	4	235	6	149	7	338
3	55	5	249	7	155	8	336
4	258	6	220	8	101	9	334
5	104	7	171	9	320	38.890	37
6	46	8	22	38.860	286	1	366
7	68	9	65	1	288	2	368
8	171	38.830	100	2	247	3	370
9	99	1	108	3	270	4	372
38.800	78	2	245	4	137	5	373
1	80	3	222	5	132	6	375
2	127	4	117	6	141	7	357
3	166	5	198	7	182	8	351
4	213	6	243	8	272	9	362
5	289	7	187	9	275	38.900	344
6	122	8	8	38.870	273	1	345
7	178	9	296	1	265	2	340
8	250	38.840	60	2	52	3	348
9	204	1	238				

CORRELATION OF FIELD AND CATALOGUE NUMBERS

Field No.	Cat. No.	Field No.	Cat. No.	Field No.	Cat. No.	Field No.	Cat. No.
b 2001	107	9	165	7	227	5	78
2	113	b 2020	218	8	226	6	80
3	111	1	40	9	55	7	92
4	114	2	39	b 2040	258	8	119
5	2	3	129	1	253	9	256
6	32	4	169	2	139	b 2060	257
7	21	5	168	3	104	1	42
8	24	6	170	4	105	2	144
9	14	7	285	5	46	3	38
b 2010	15	8	242	6	68	4	127
1	26	9	240	7	66	5	166
2	28	b 2030	241	8	54	6	213
3	27	1	232	9	4	7	289
4	29	2	230	b 2050	56	8	125
5	116	3	231	1	171	9	301
6	43	4	236	2	280	b 2070	3
7	133	5	237	3	99	1	121
8	158	6	228	4	74	2	122

THE MEGIDDO IVORIES

Field No.	Cat. No.	Field No.	Cat. No.	Field No.	Cat. No.	Field No.	Cat. No.
<i>b</i> 2073	120	8	326	2	6	7	184
4	221	9	157	3	16	8	199
5	146	<i>b</i> 2140	110	4	17	9	200
6	197	1	108	5	19	<i>b</i> 2270	201
7	175	2	224	6	18	1	209
8	178	3	233	7	11	2	210
9	173	4	245	8	12	3	271
<i>b</i> 2080	250	5	138	9	31	4	272
1	203	6	222	<i>b</i> 2210	153	5	276
2	204	7	117	1	67	6	275
3	202	8	198	2	64	7	273
4	207	9	97	3	69	8	274
5	255	<i>b</i> 2150	188	4	70	9	287
6	193	1	81	5	103	<i>b</i> 2280	9
7	191	2	244	6	73	1	262
8	192	3	162	7	106	2	263
9	190	4	243	8	98	3	264
<i>b</i> 2090	194	5	294	9	284	4	265
1	195	6	187	<i>b</i> 2220	293	5	212
2	196	7	8	1	292	6	181
3	377	8	296	2	281	7	52
4	382	9	134	3	118	8	51
5	381	<i>b</i> 2160	5	4	61	9	49
6	378	1	223	5	58	<i>b</i> 2290	50
7	379	2	60	6	59	1	48
8	380	3	82	7	151	2	47
9	160	4	76	8	156	3	77
<i>b</i> 2100	159	5	238	9	149	4	91
1	1	6	71	<i>b</i> 2231	150	5	85
2	225	7	41	2	155	6	90
3	167	8	25	3	180	7	89
4	123	9	279	4	152	8	86
5	124	<i>b</i> 2170	63	5	101	9	87
6	186	1	136	6	278	<i>b</i> 2300	93
7	179	2	130	7	115	1	94
8	161	3	206	8	109	2	95
9	33	4	248	9	260	3	96
<i>b</i> 2110	57	5	88	<i>b</i> 2240	318	4	317
1	211	6	259	1	319	5	316
2	45	7	251	2	320	6	315
3	84	8	252	3	261	7	314
4	299	9	215	4	286	8	313
5	75	<i>b</i> 2180	189	5	295	9	312
6	131	1	126	6	288	<i>b</i> 2310	311
7	164	2	30	7	112	1	268
8	163	3	7	8	102	2	267
9	148	4	246	9	254	3	269
<i>b</i> 2120	235	5	229	<i>b</i> 2250	247	4	266
1	249	6	135	1	154	5	302
2	220	7	176	2	217	6	140
3	36	8	325	3	219	8	172
4	128	9	205	4	270	9	297
5	171	<i>b</i> 2190	208	5	216	<i>b</i> 2320	298
6	147	1	145	6	174	1	307
7	53	2	214	7	23	2	308
8	239	3	300	8	35	3	306
9	234	4	83	9	34	4	185
<i>b</i> 2131	177	5	79	<i>b</i> 2260	13	5	304
2	22	6	143	1	137	6	322
3	65	7	291	2	132	7	323
4	277	8	72	3	141	8	283
5	290	9	303	4	142	9	282
6	44	<i>b</i> 2200	62	5	182	<i>b</i> 2330	310
7	100	1	20	6	183	1	309

CORRELATION OF FIELD AND CATALOGUE NUMBERS

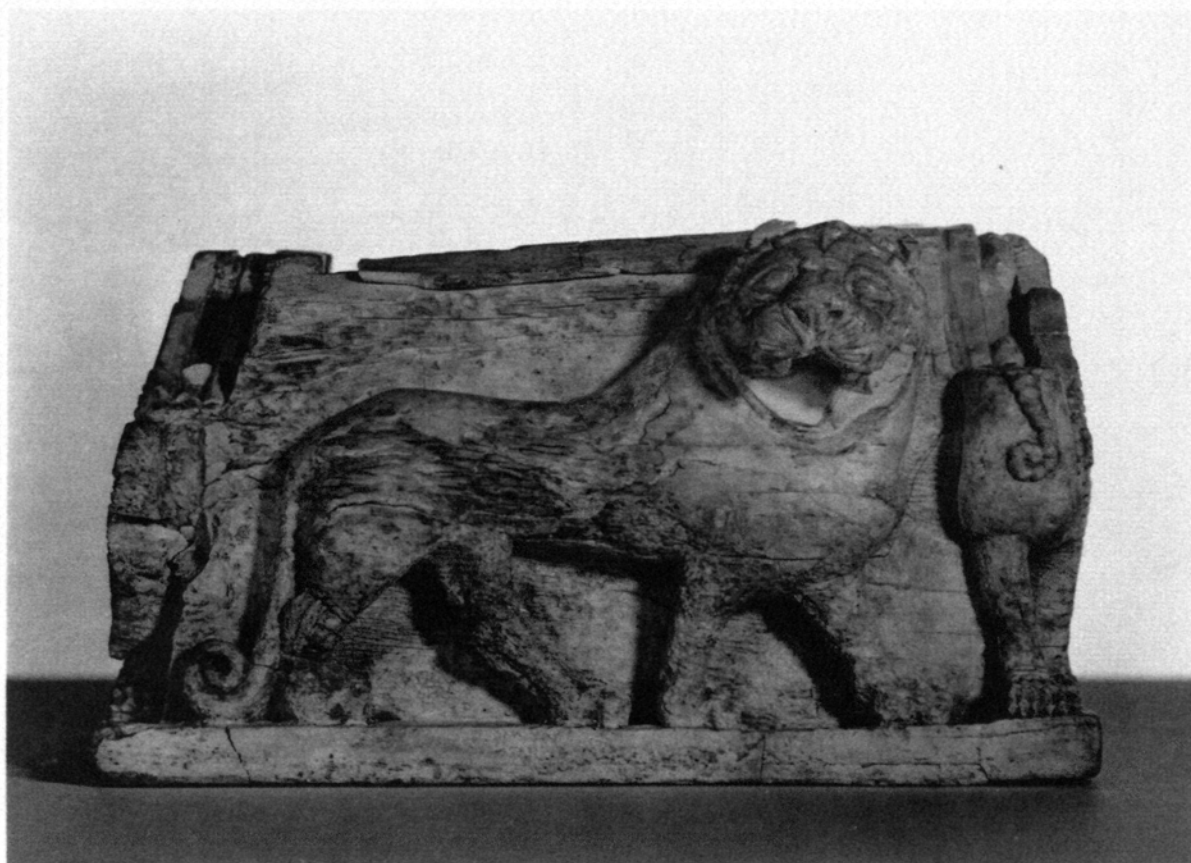
25

Field No.	Cat. No.	Field No.	Cat. No.	Field No.	Cat. No.	Field No.	Cat. No.
<i>b</i> 2332	327	6	332	1	375	5	362
3	328	8	37	2	376	6	343
4	329	9	363	3	359	7	344
5	10	<i>b</i> 2350	365	4	358	8	345
6	338	1	364	5	355	9	346
7	337	2	366	6	357	<i>b</i> 2380	341
8	331	3	367	7	356	1	342
9	336	4	368	8	352	2	339
<i>b</i> 2340	335	5	370	9	351	3	340
1	334	6	369	<i>b</i> 2370	350	4	348
2	333	7	372	1	353	5	347
3	330	8	371	2	354	6	349
4	321	9	373	3	360	7	305
5	324	<i>b</i> 2360	374	4	361		

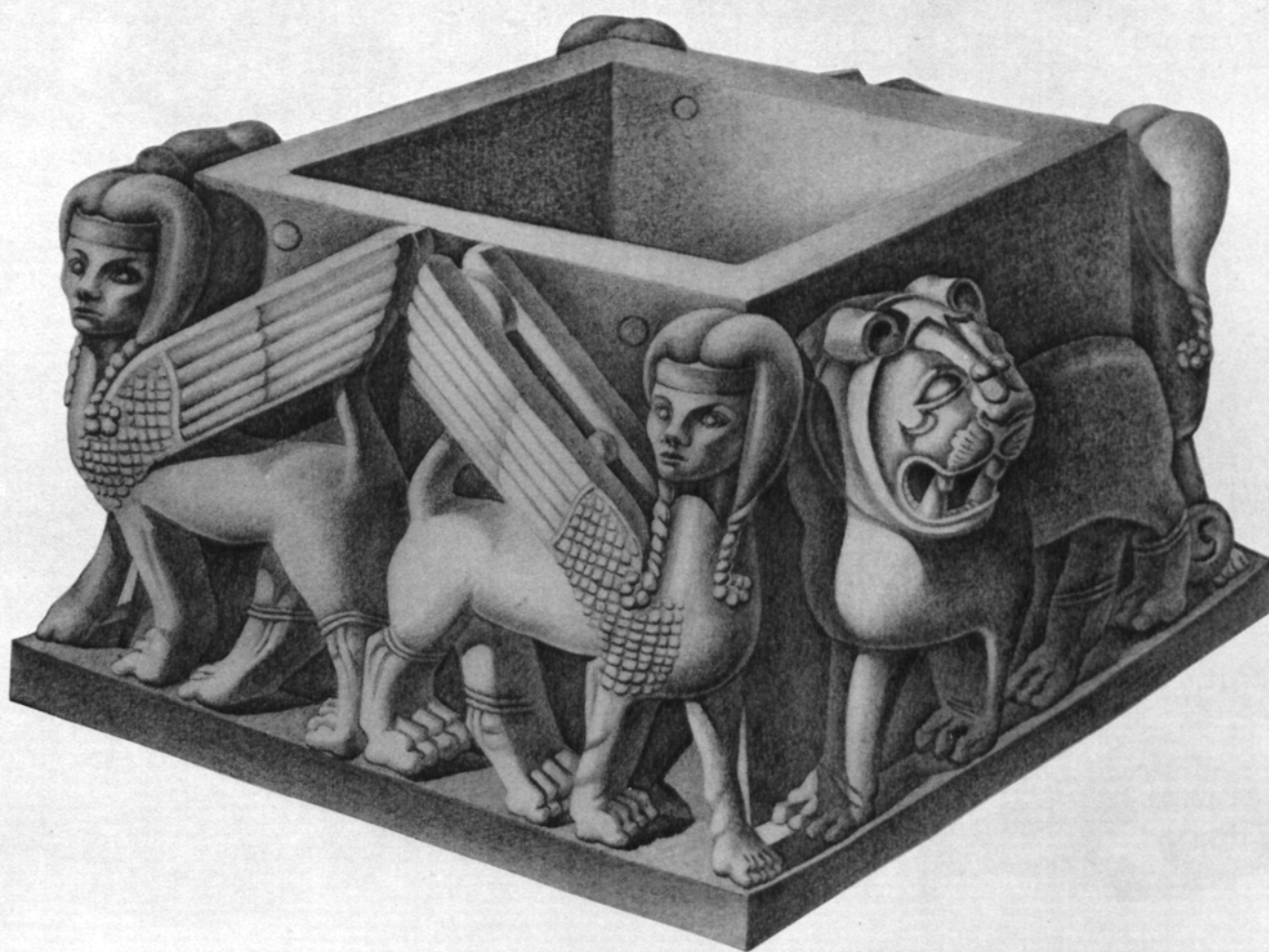
PLATES



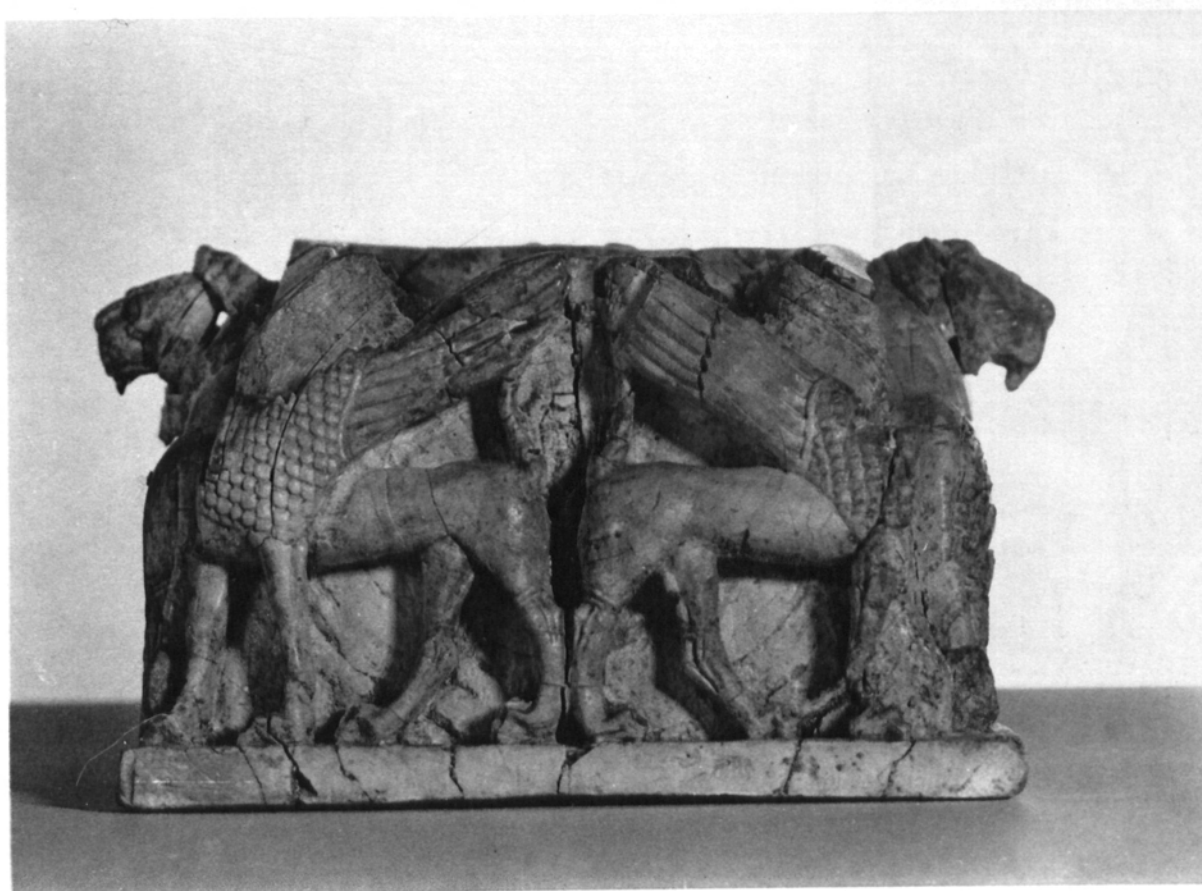
1 a



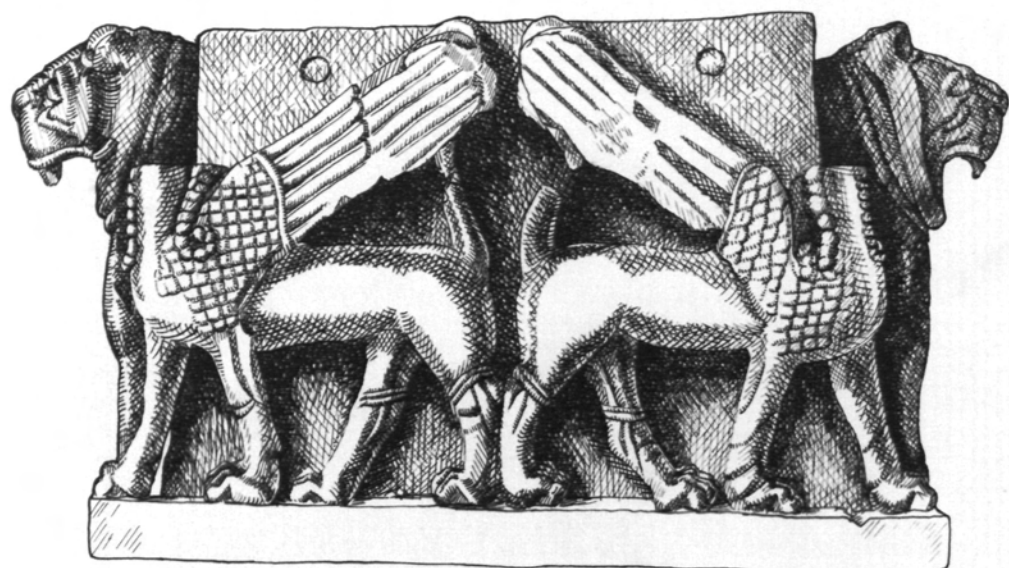
1 b



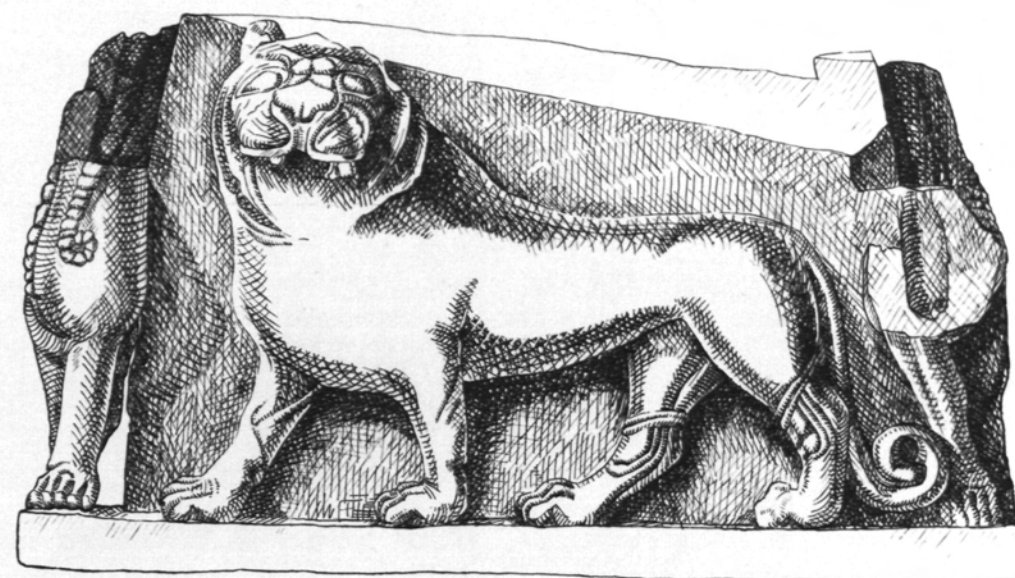
1 c



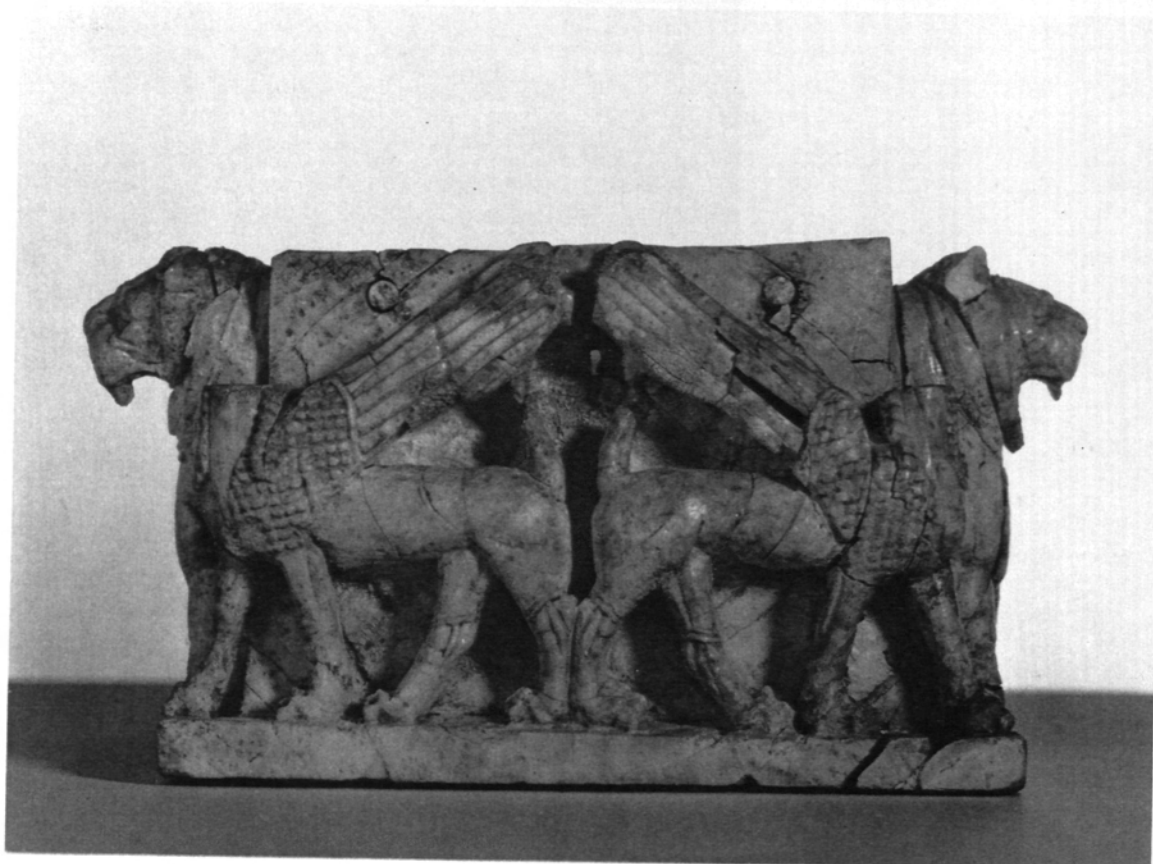
1 d



f



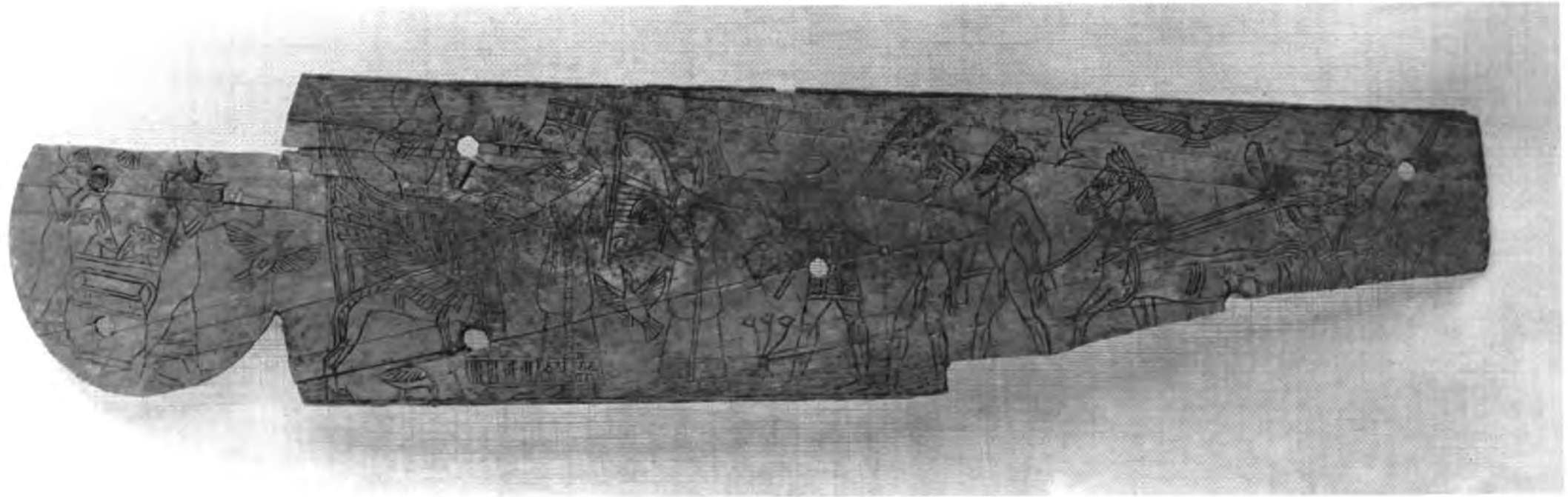
h



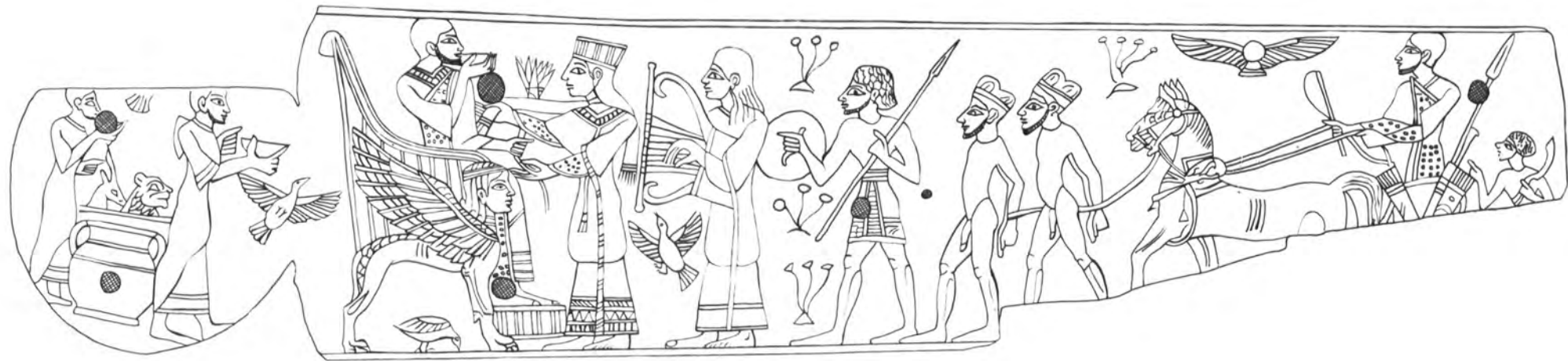
e



g



2 a



2 b



a



b



c



d



e

3

PLATE 5

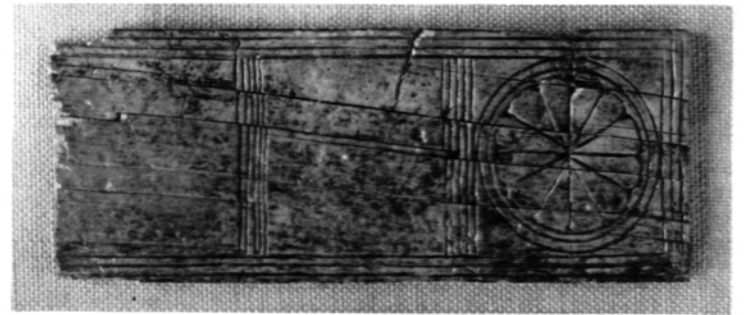


a

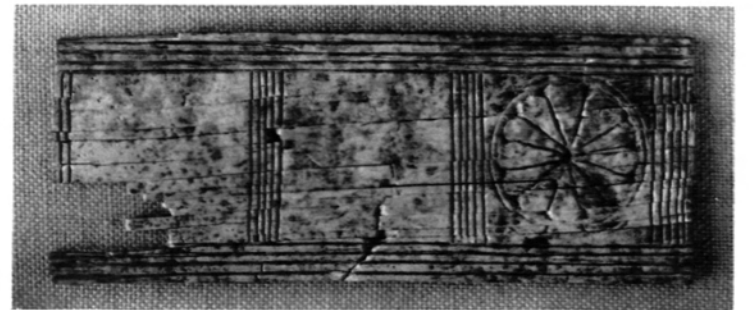
4



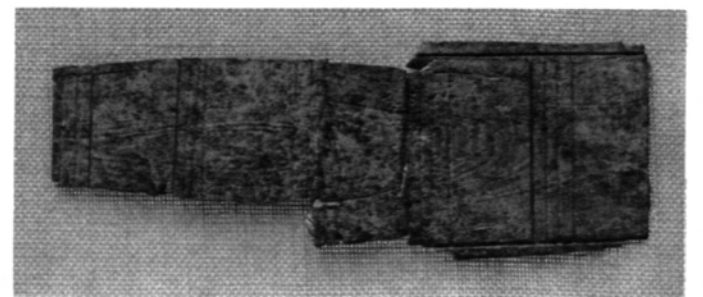
b



8



9



10



a

6



b



b

5

a

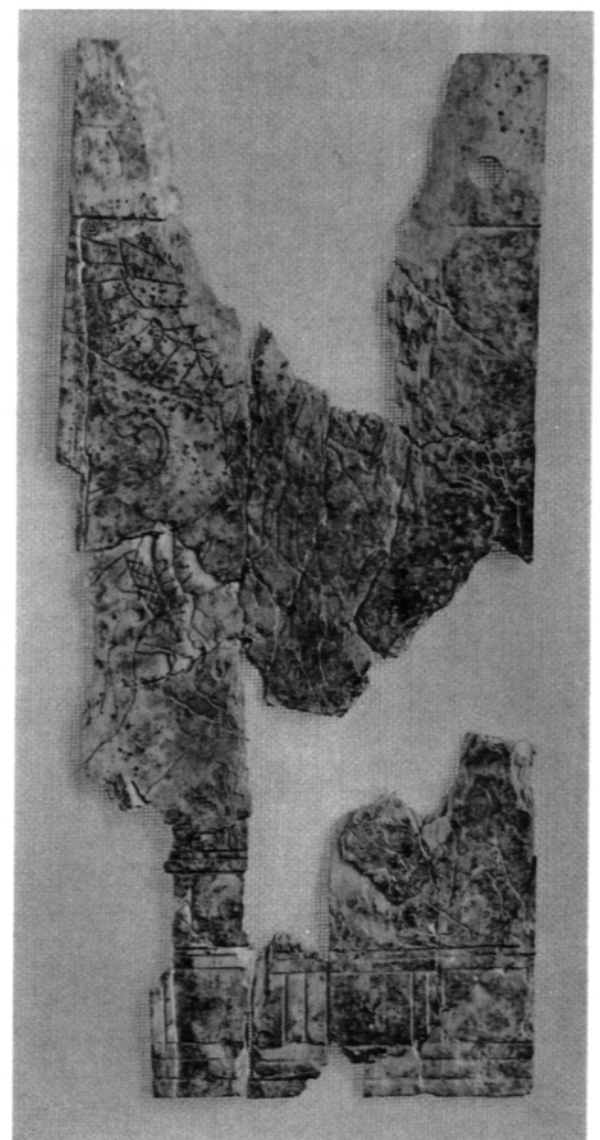


a

7



b





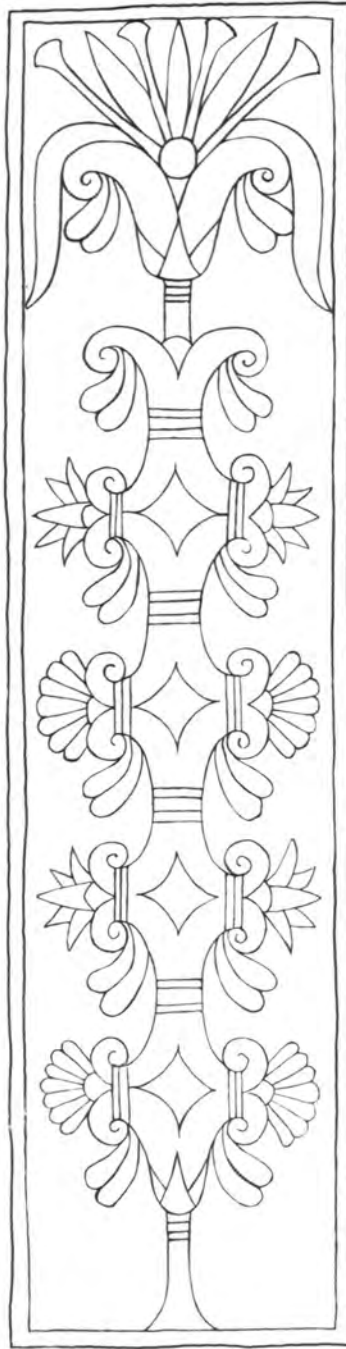
11



12



13



b

15



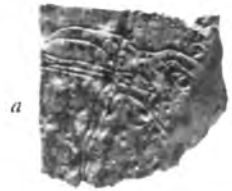
a



14



16



a



17



a



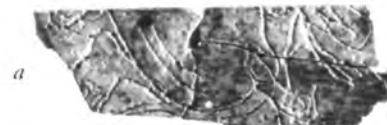
18



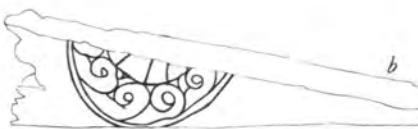
a



19



a



20



a

PLATE 7



22 *a*



21



22 *b*



23



24



a



b



31



26



30



27



28



29

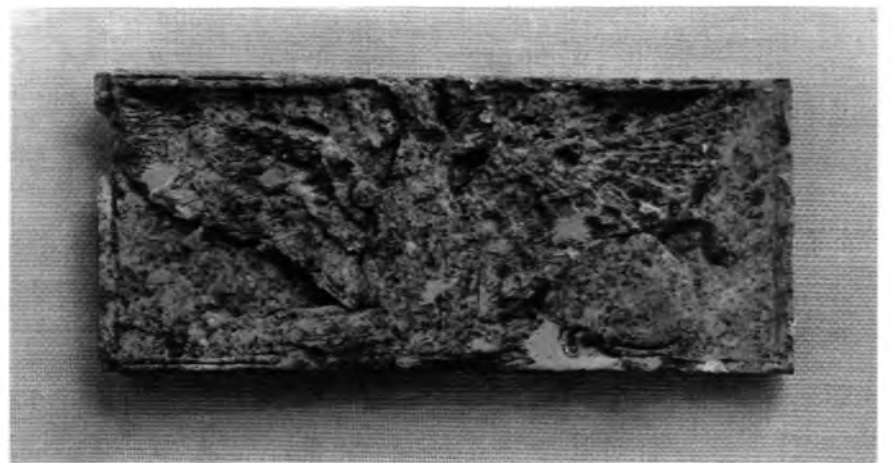
PLATE 9



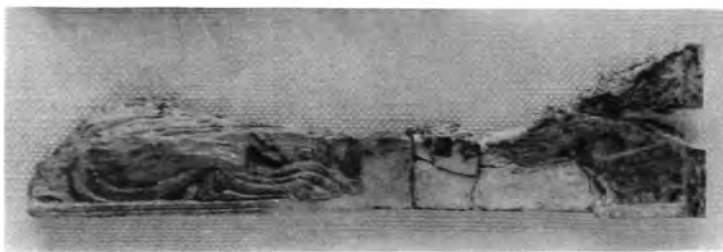
32 *a*



32 *b*



33



34

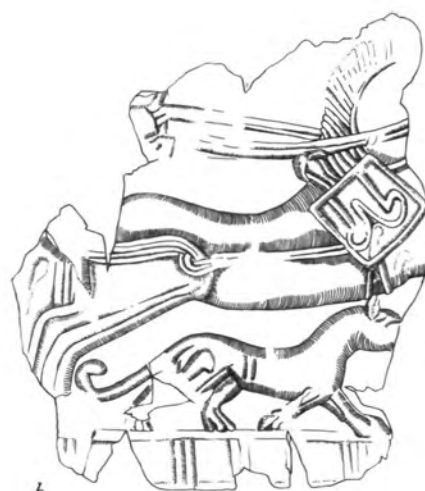


35



a

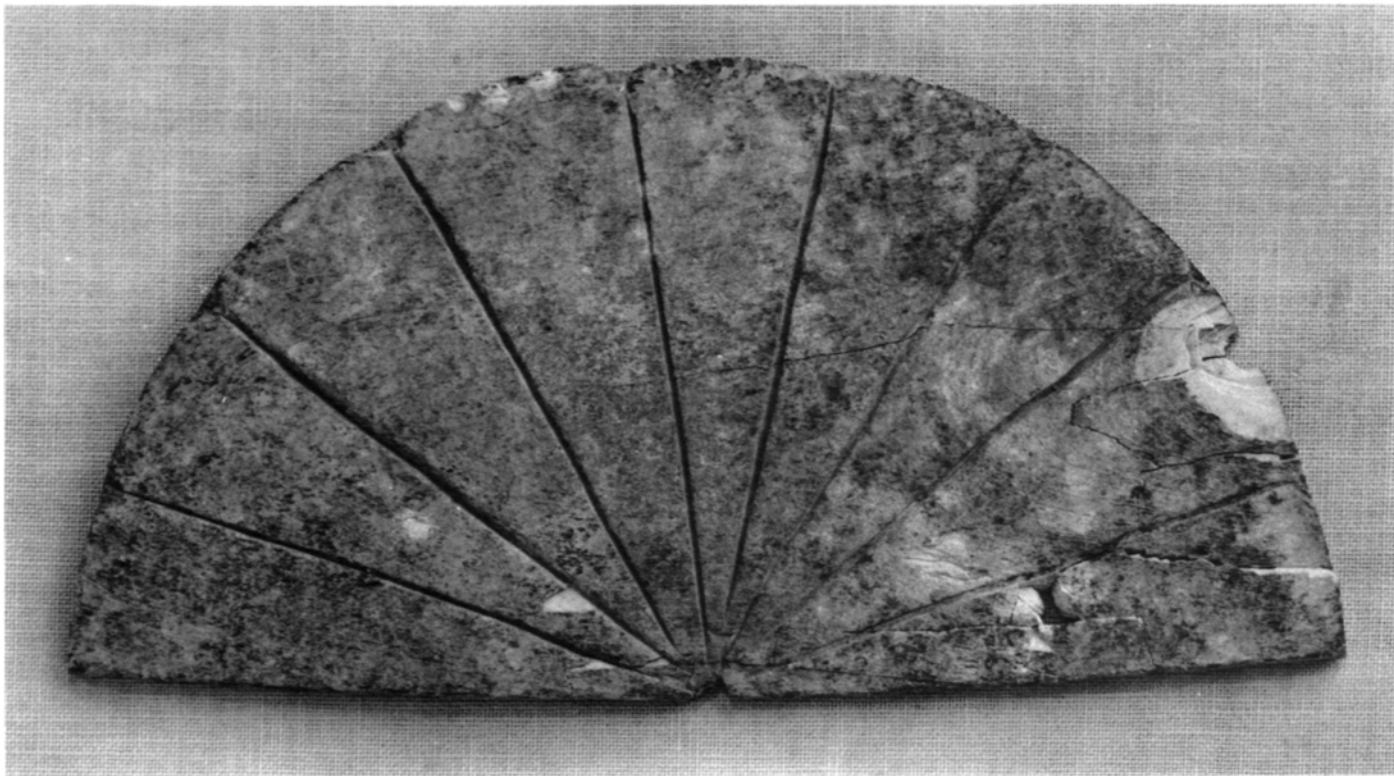
36



b



37



38



39



40



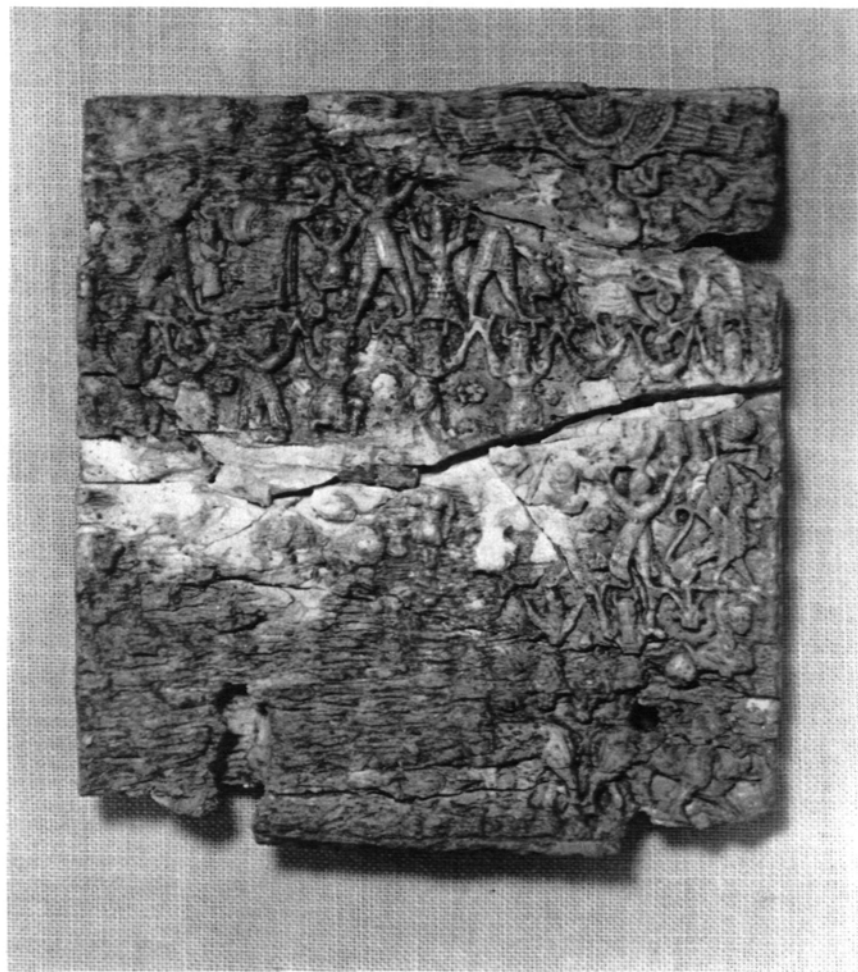
41



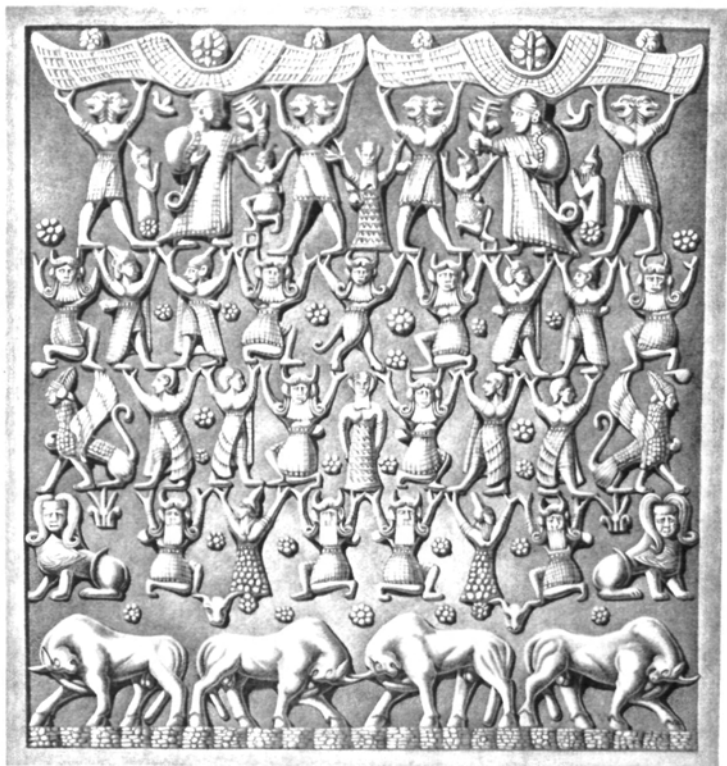
43



42



a



c



b



d



e



f

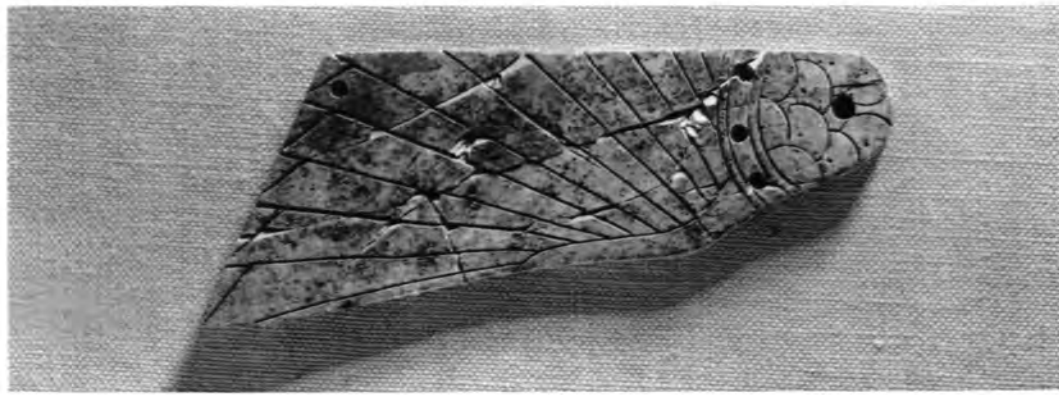


g

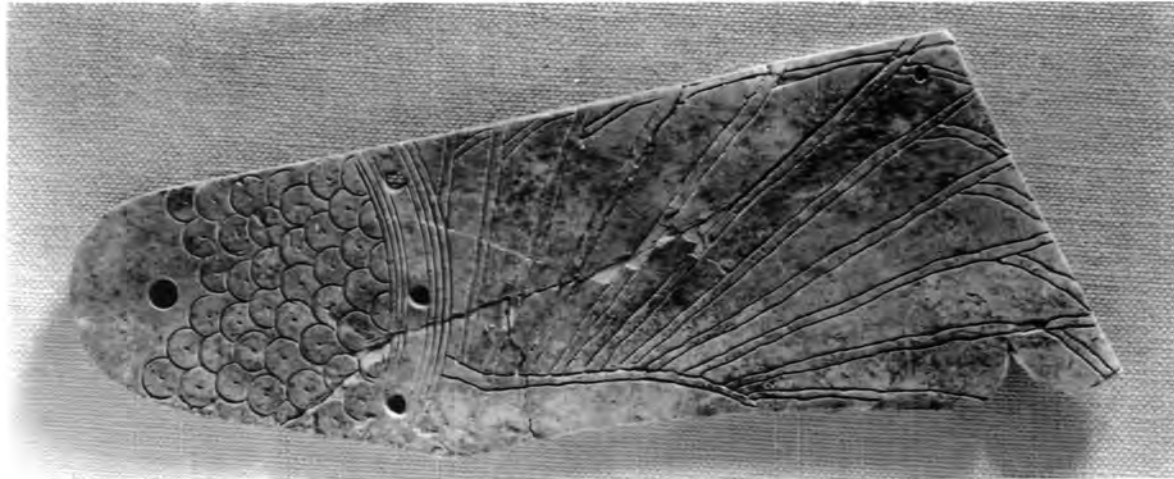


h

PLATE 12



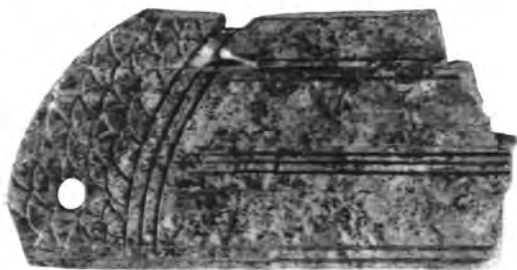
45



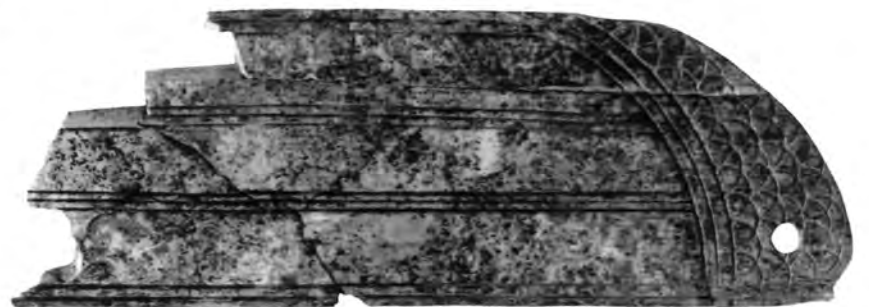
46



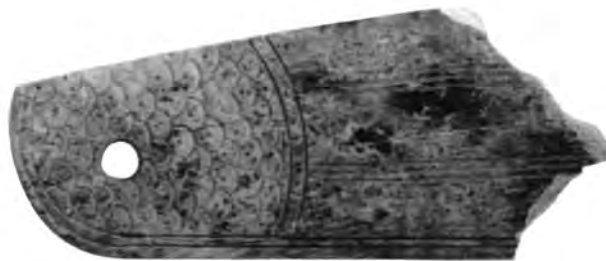
47



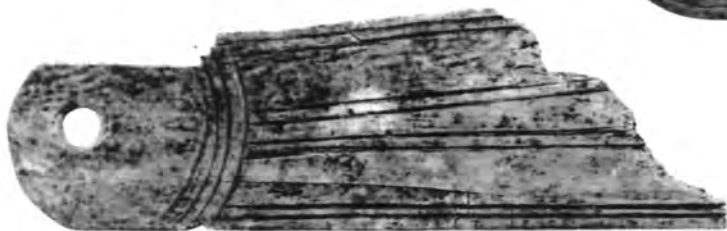
48



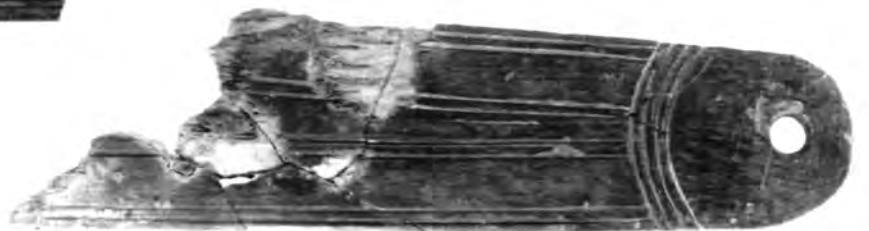
49



50



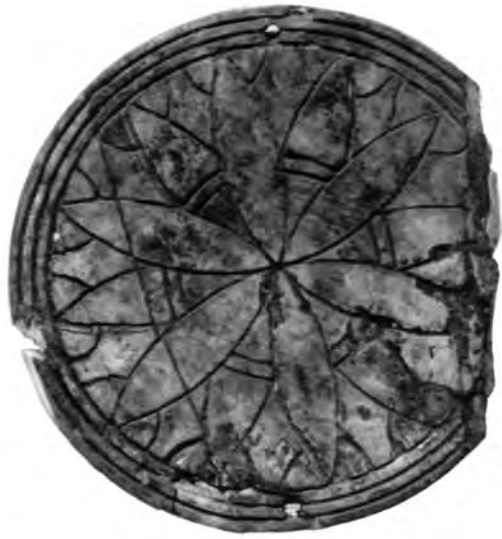
51



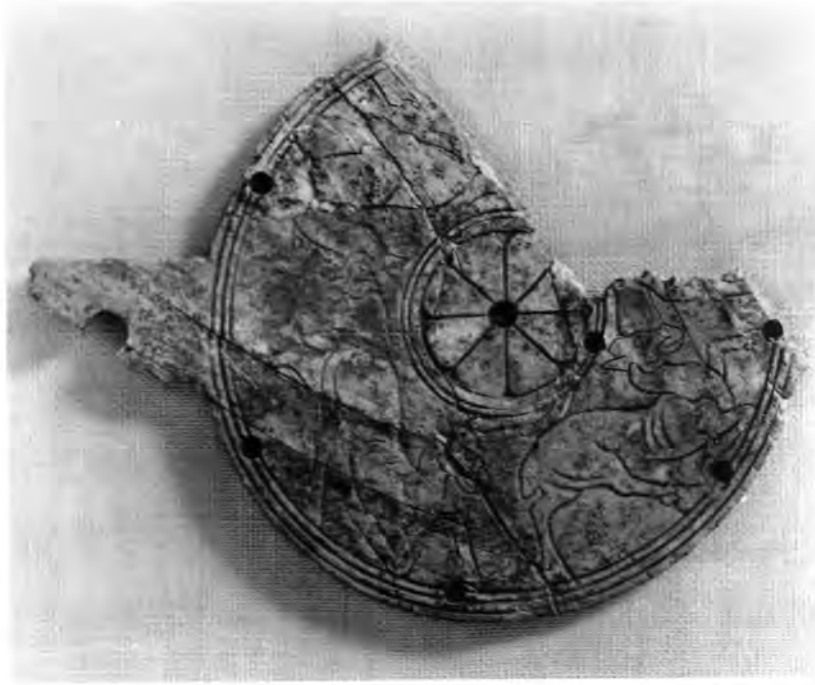
52



53



55



54 a



56



54 b



58



57



59



60



61

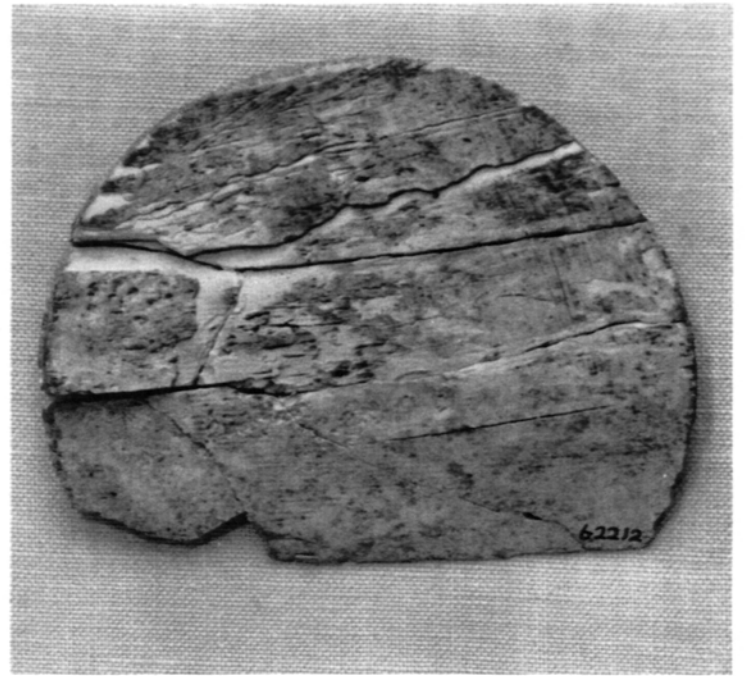


62

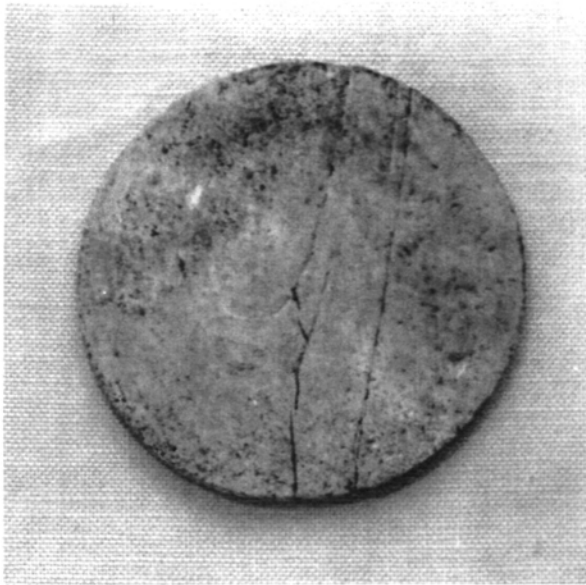
PLATE 14



63



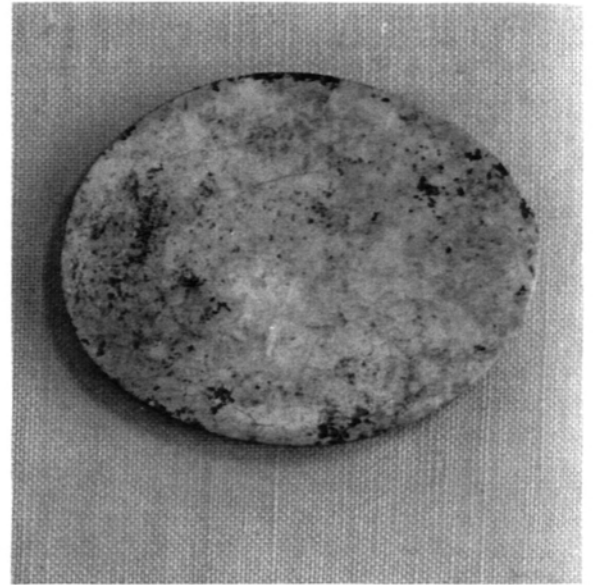
64



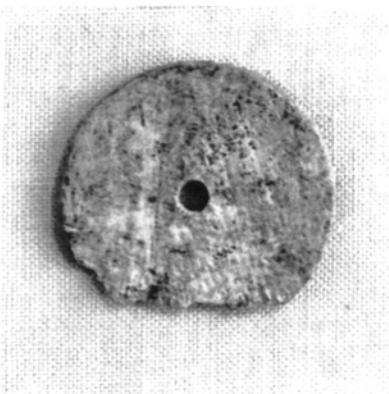
65



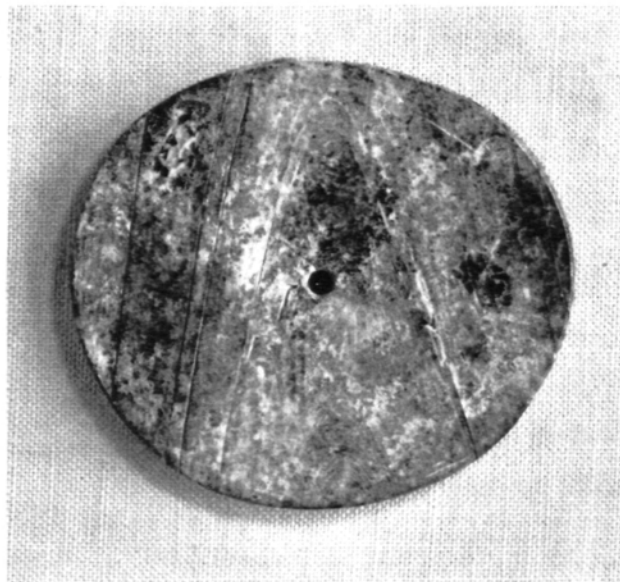
67



66



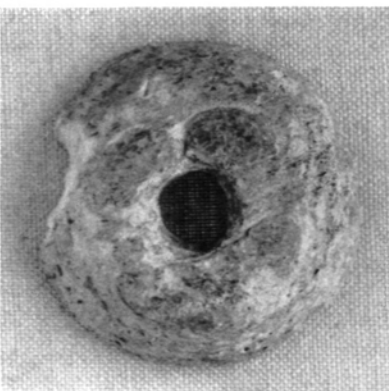
69



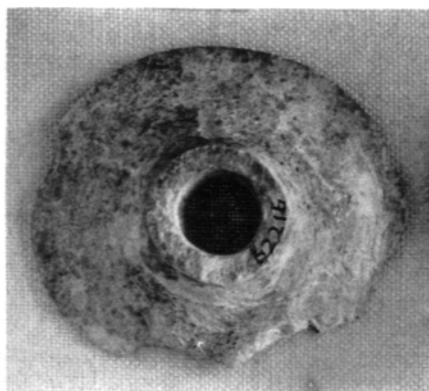
68



70



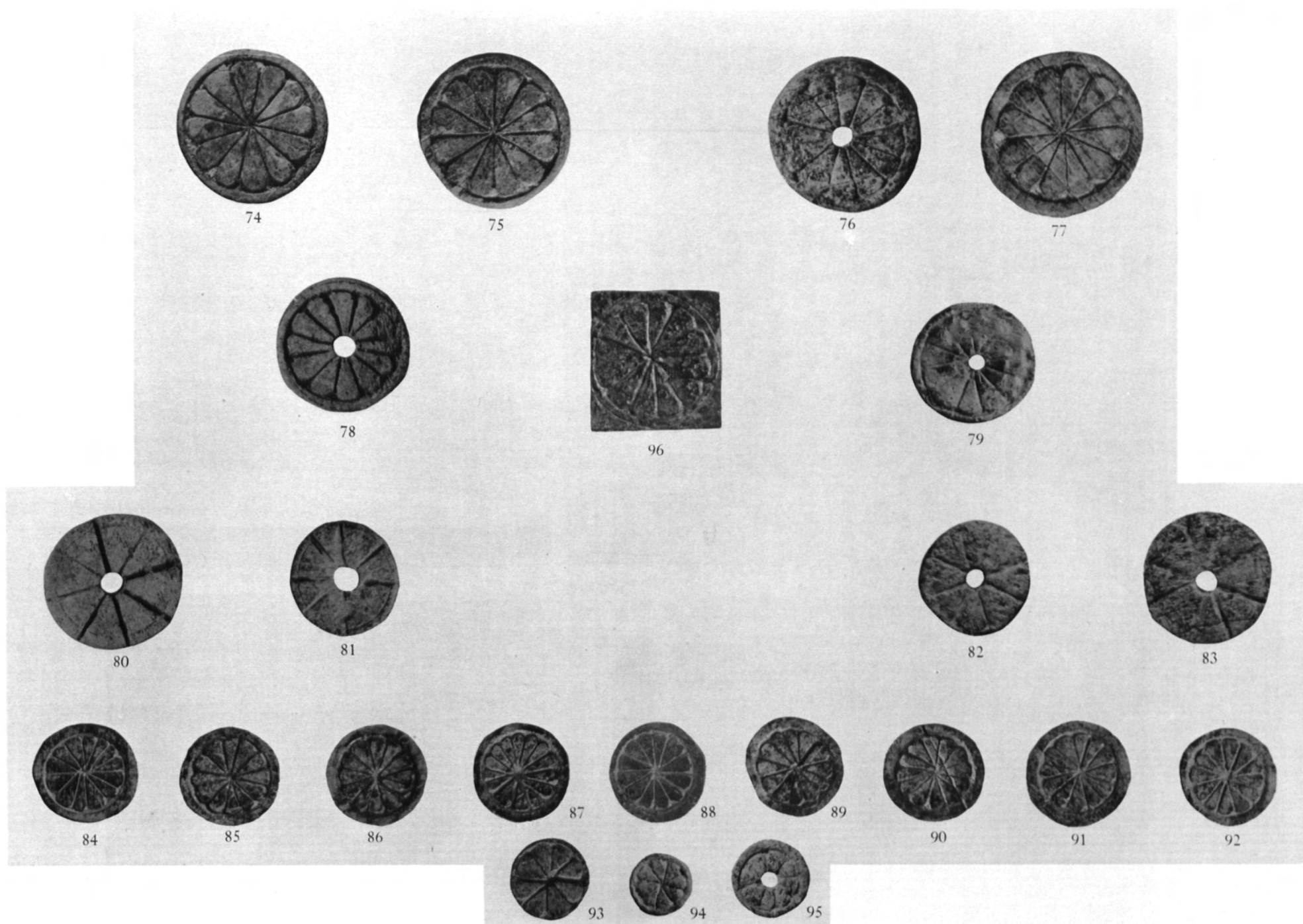
71



73



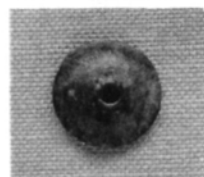
72



98



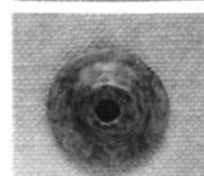
100



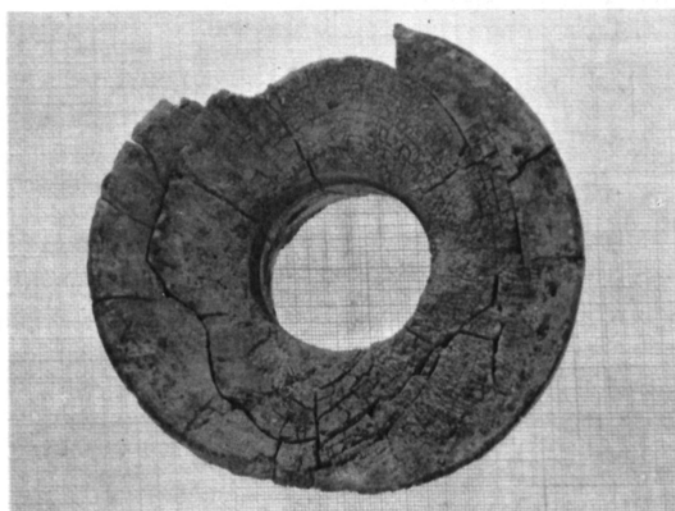
101



102



103



97



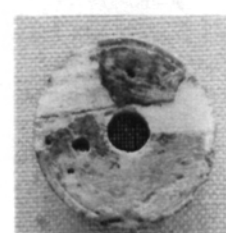
99



104

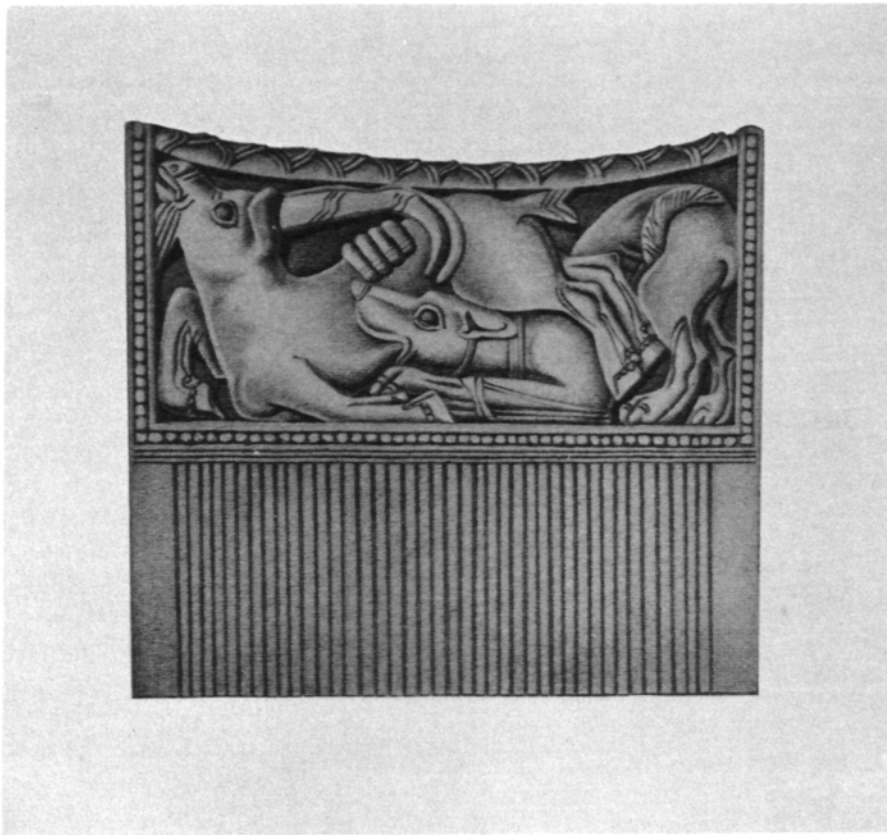


105

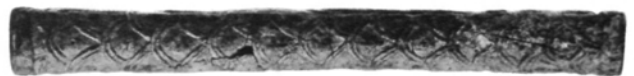


106

PLATE 16



e



d



a

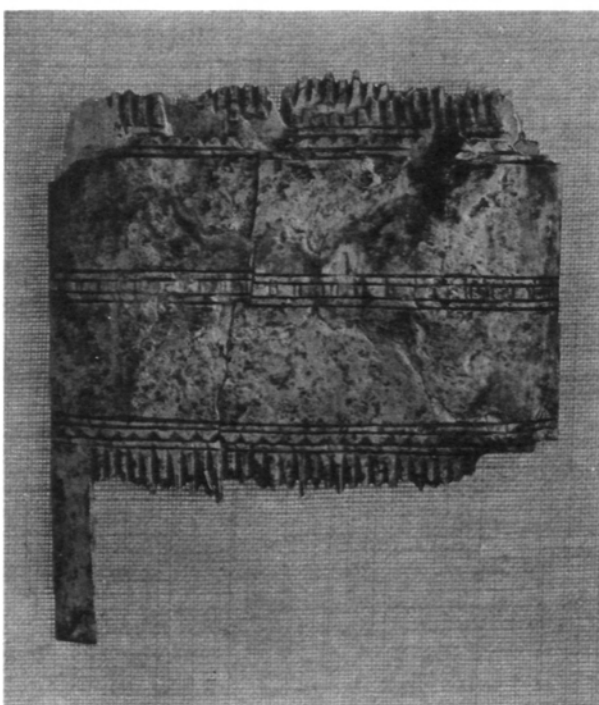


c

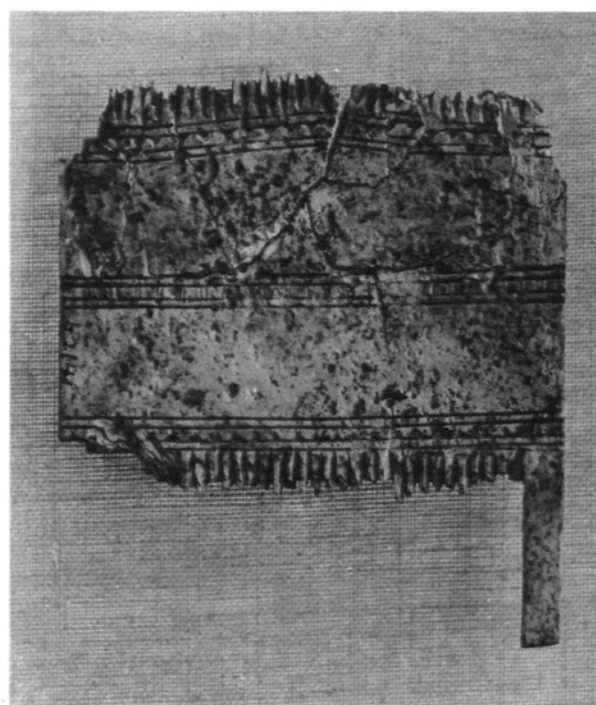
107



b



a

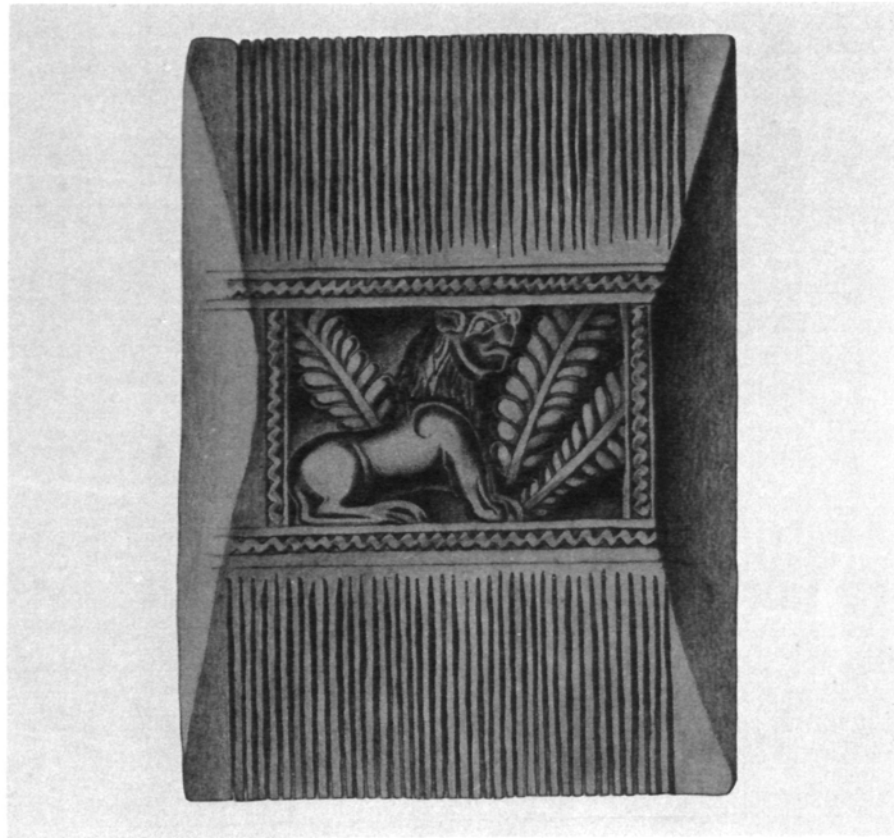


b

108



109

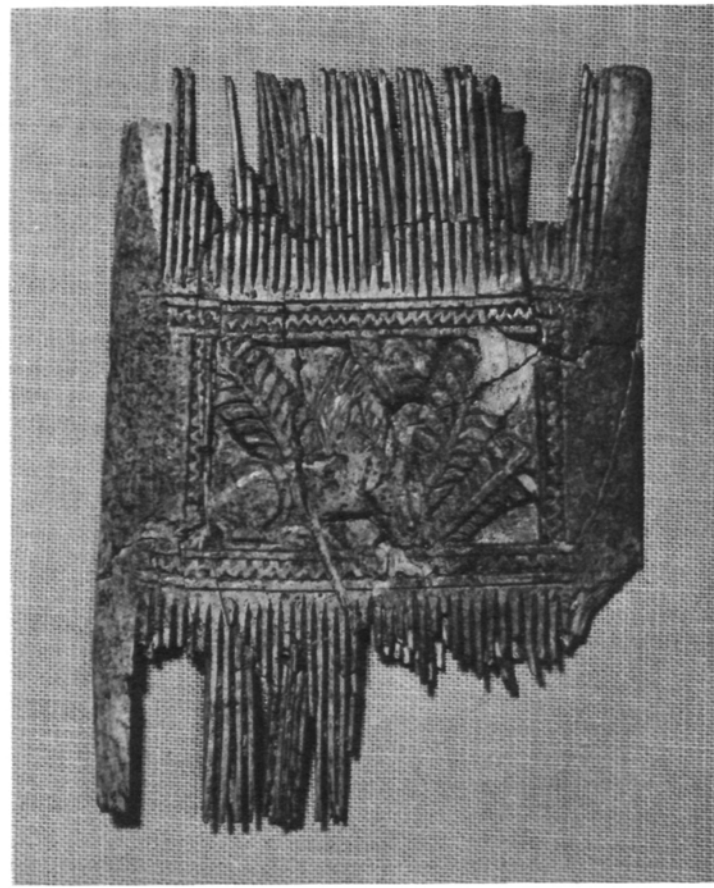


c



b

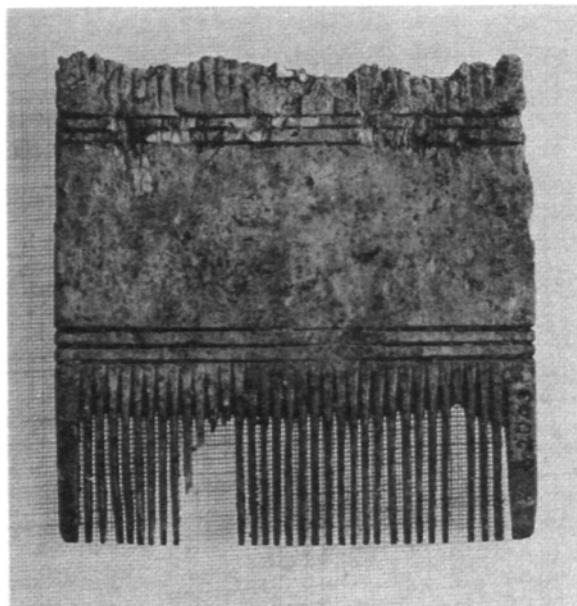
110



a

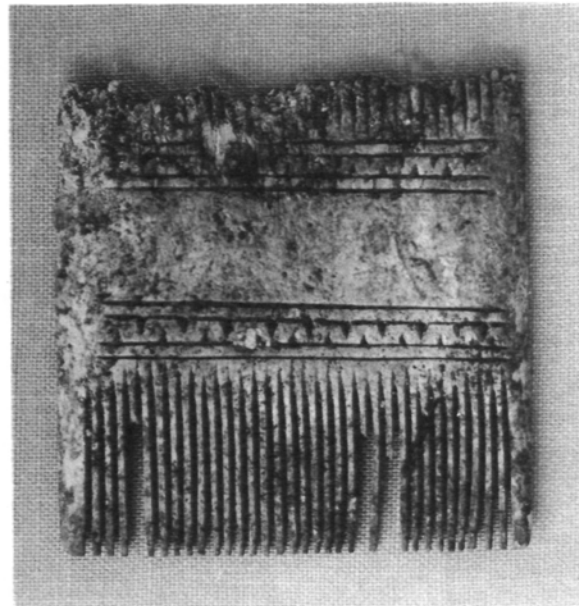


112



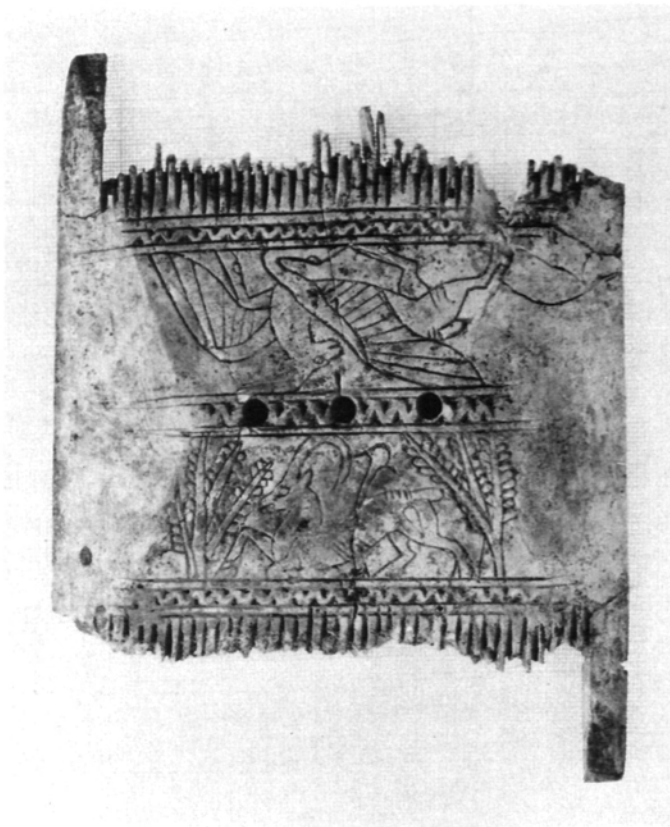
b

111

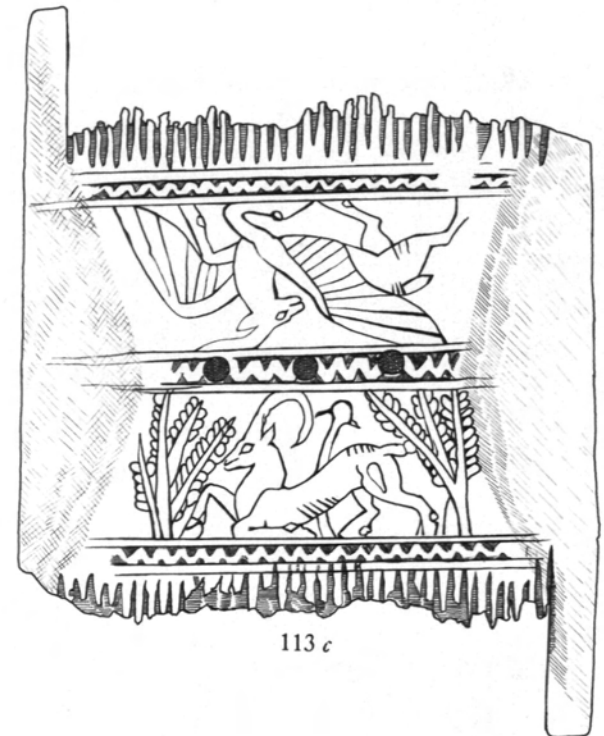


a

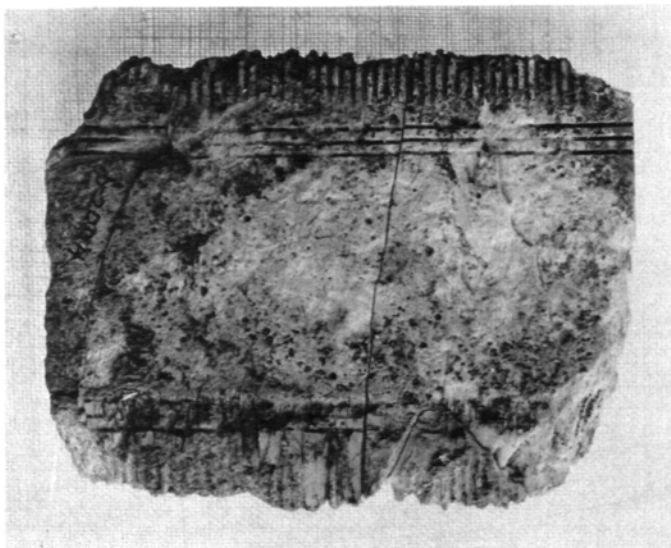
PLATE 18



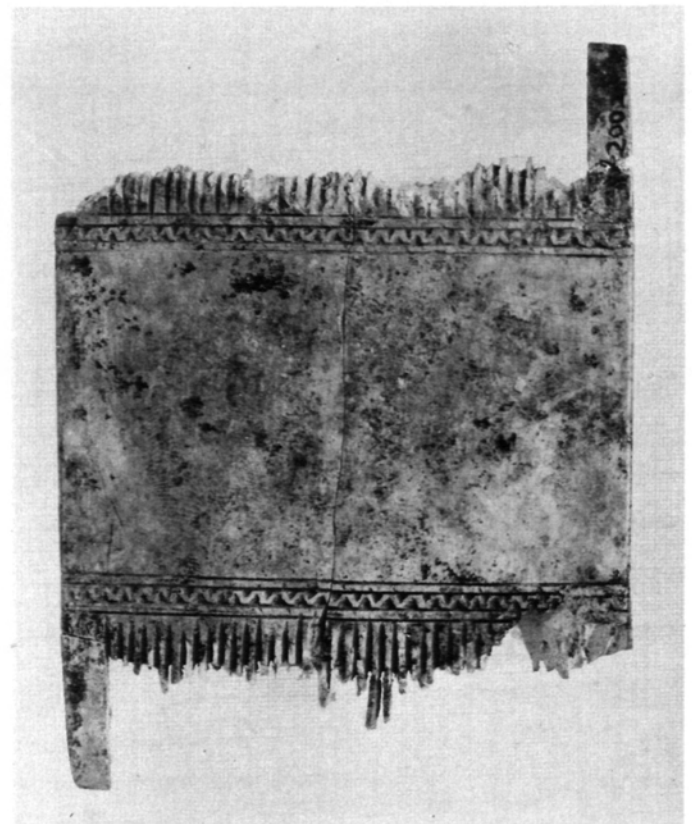
113 *a*



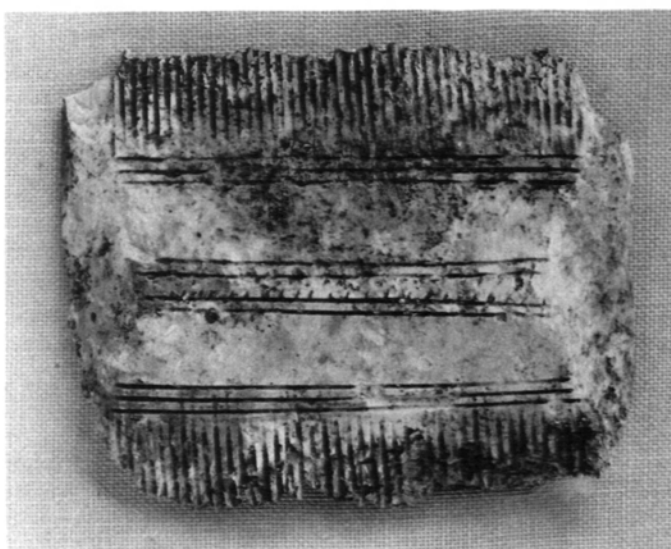
113 *c*



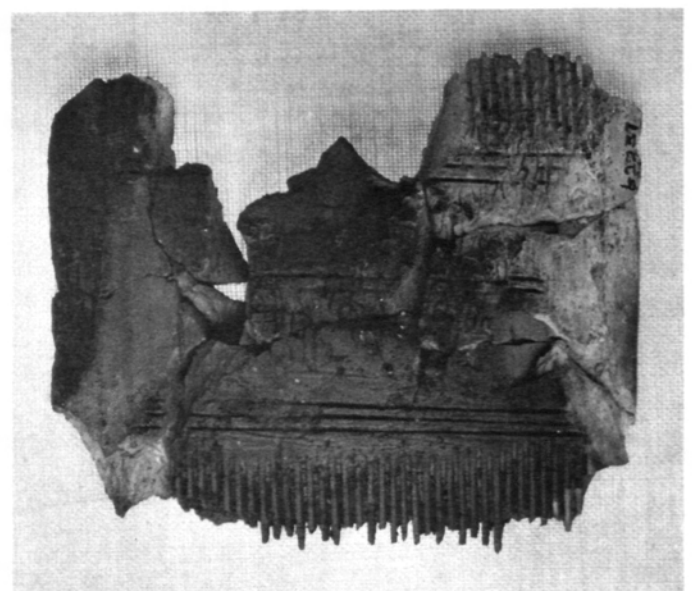
114 *b*



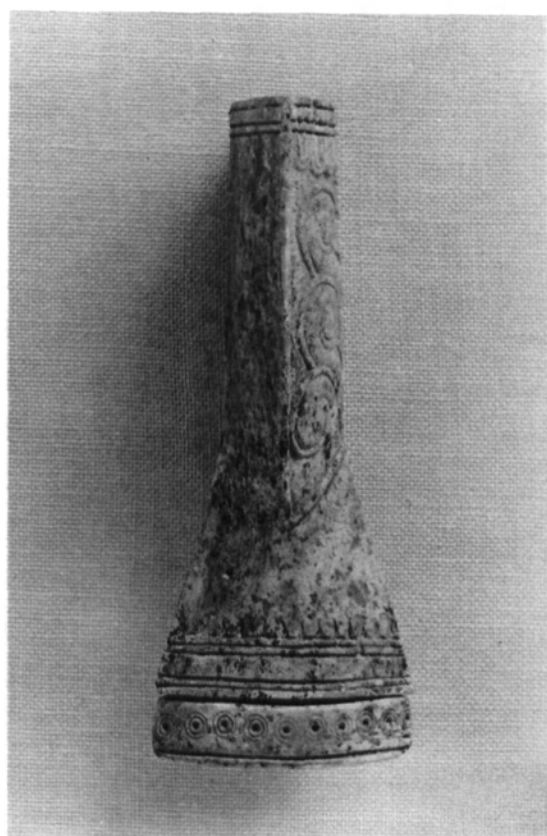
113 *b*



114 *a*



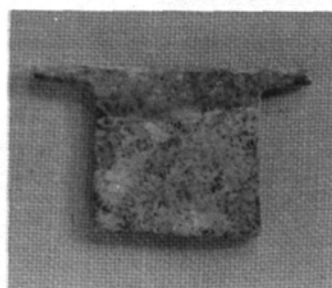
115



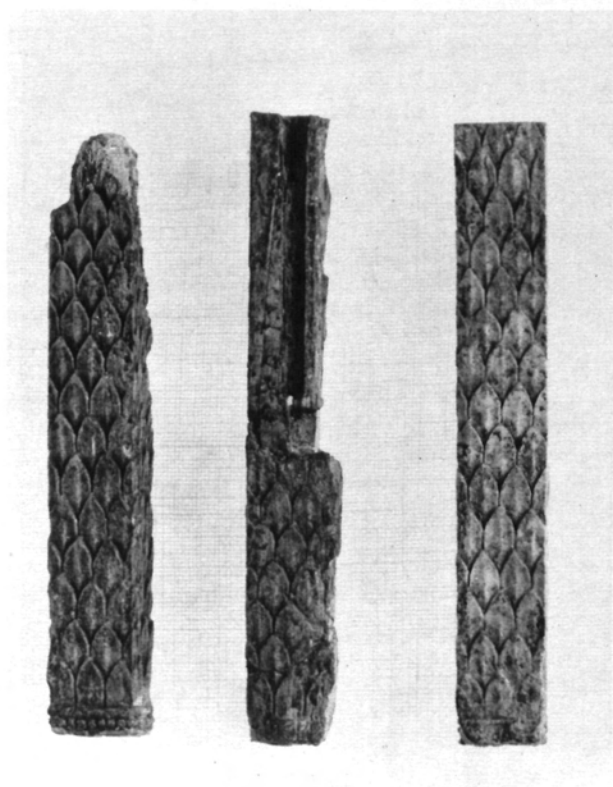
116



118



119



120

121

122



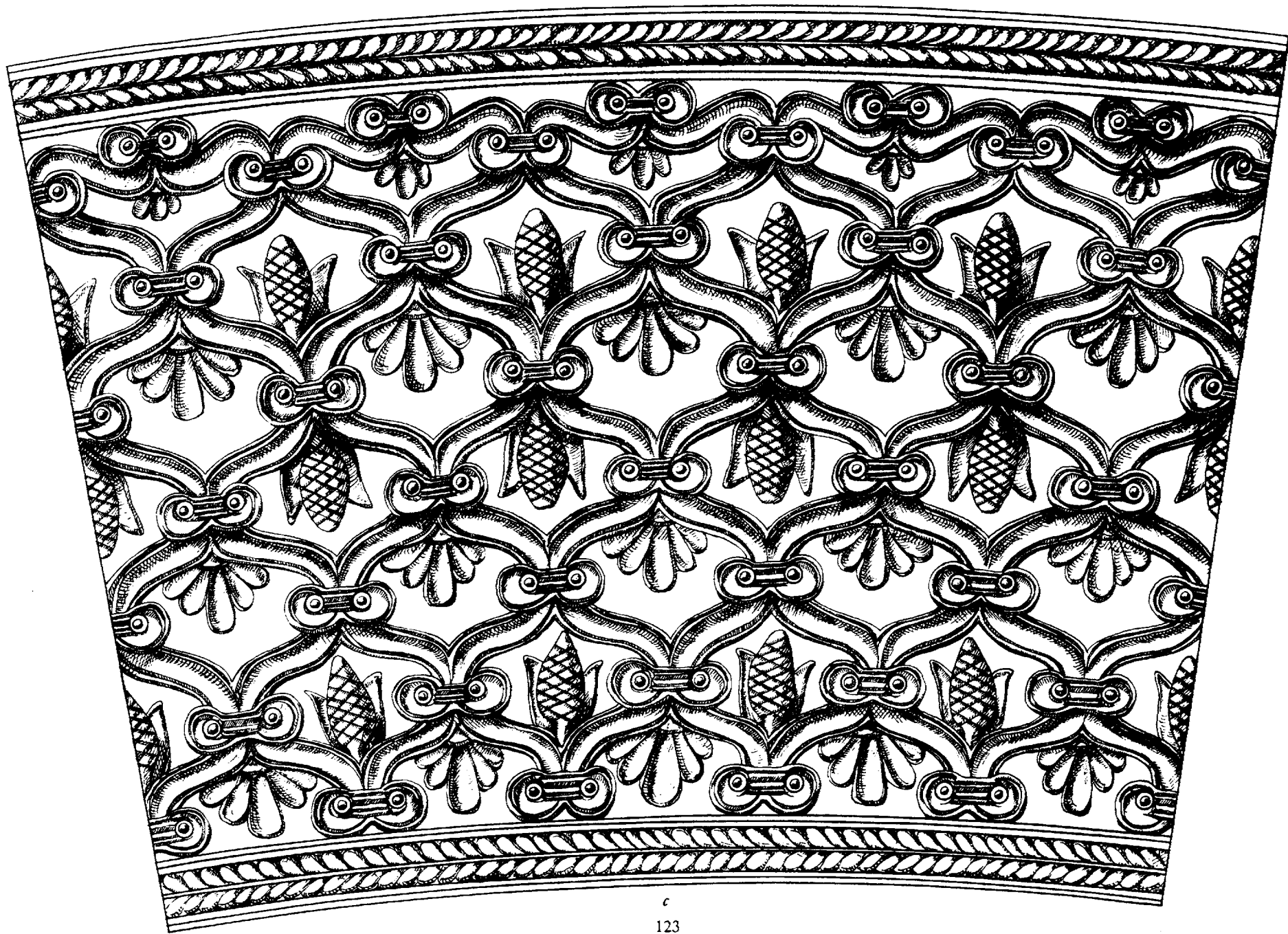
117



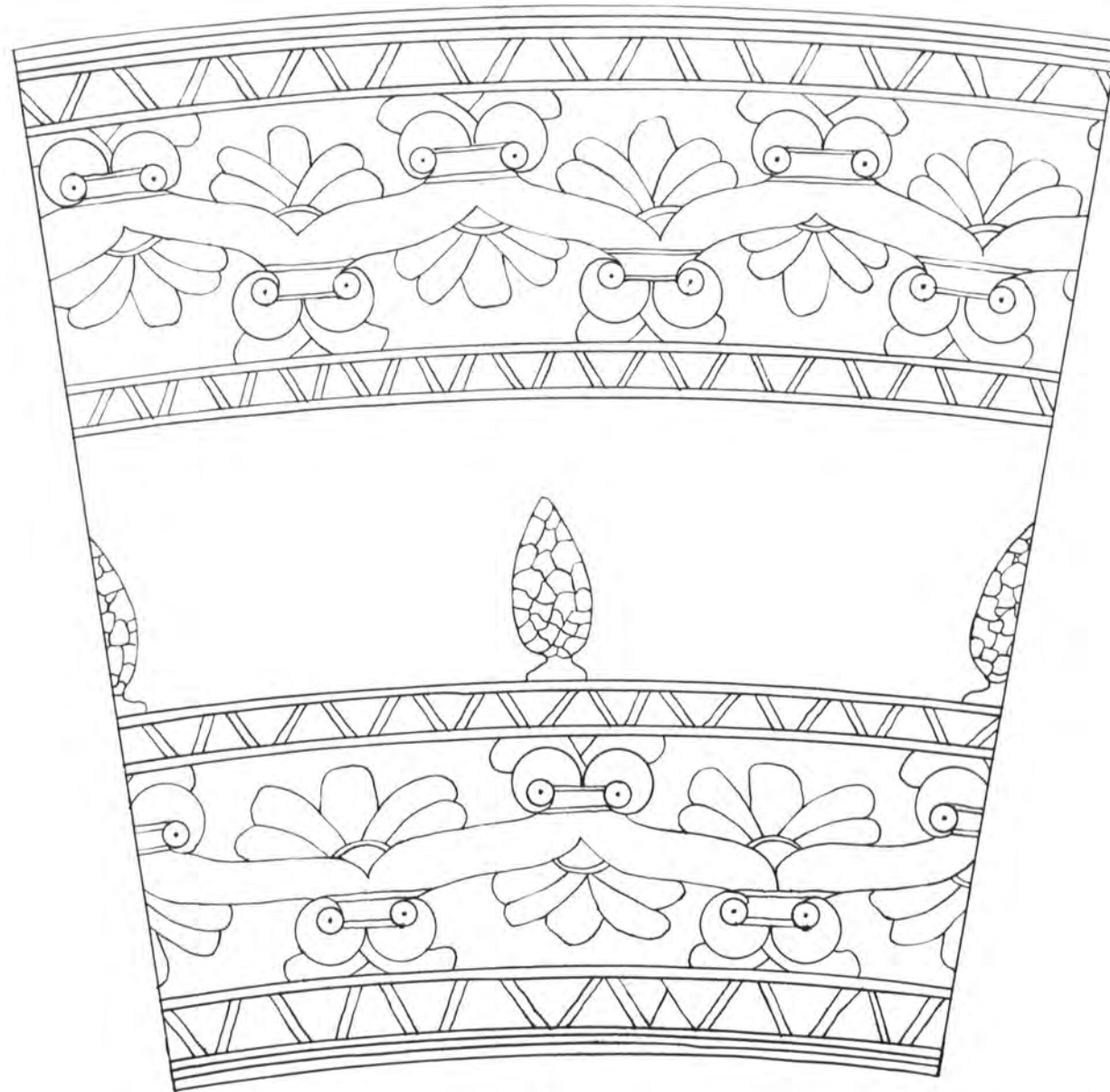
a



b



c
123

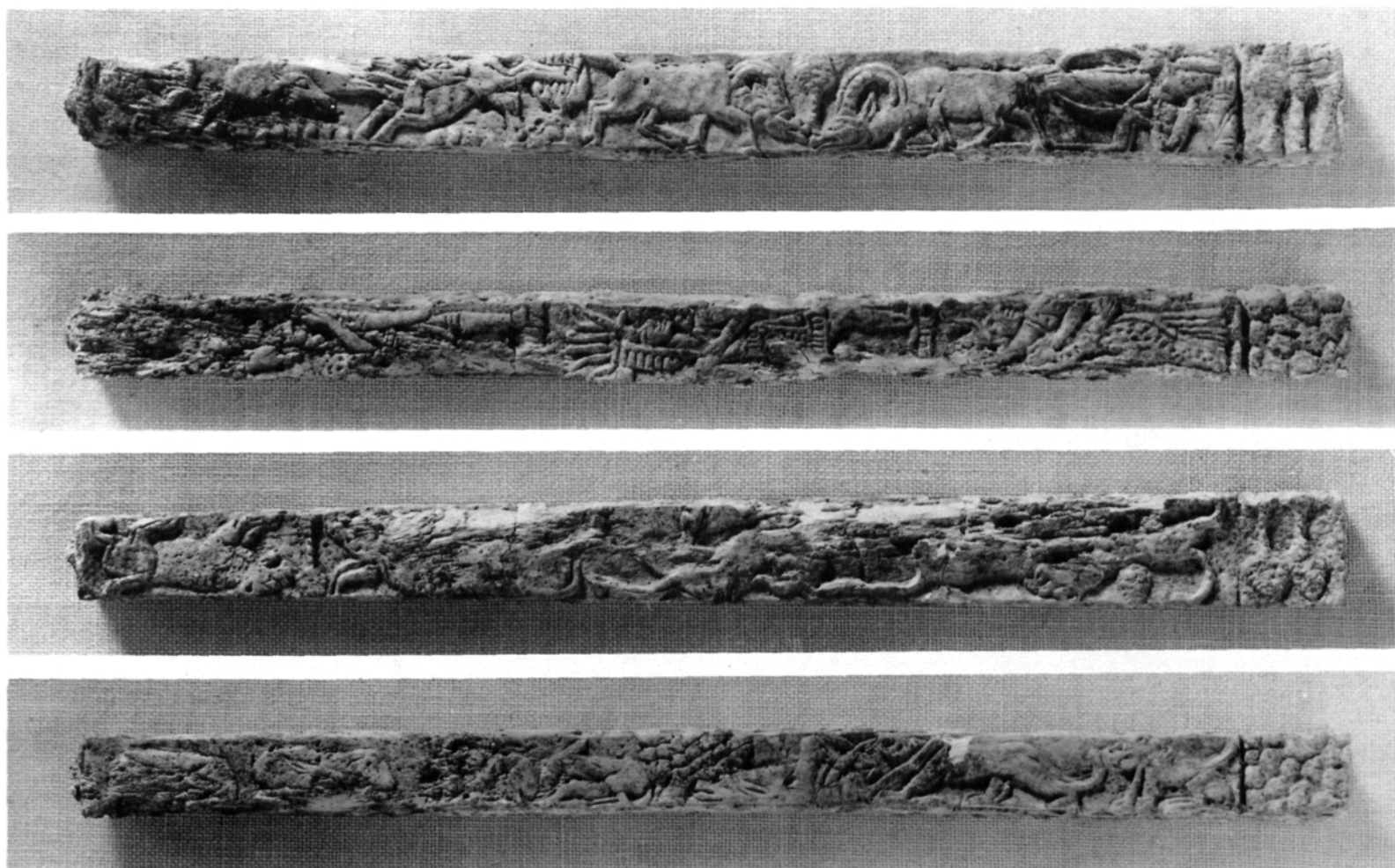


b

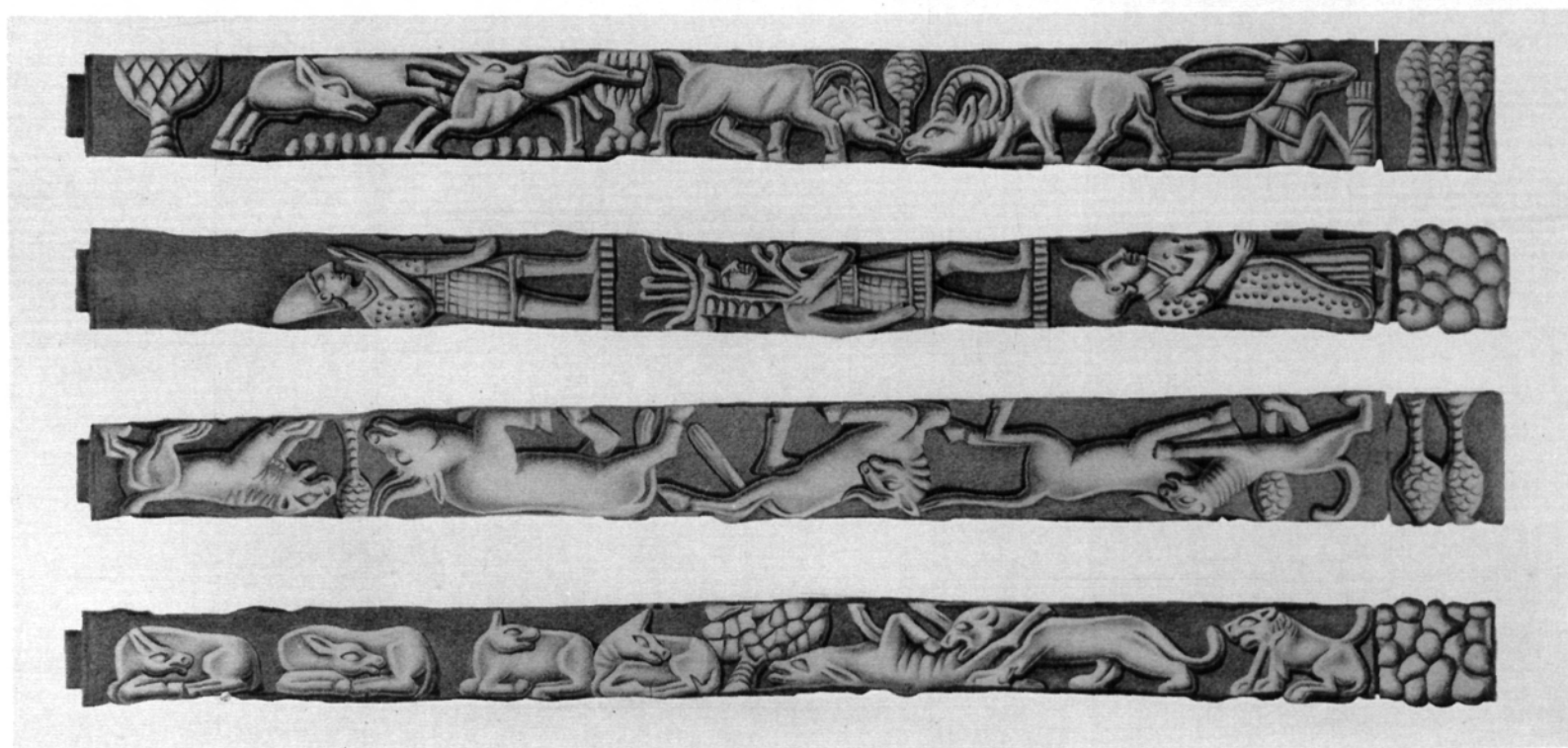
124



a



a

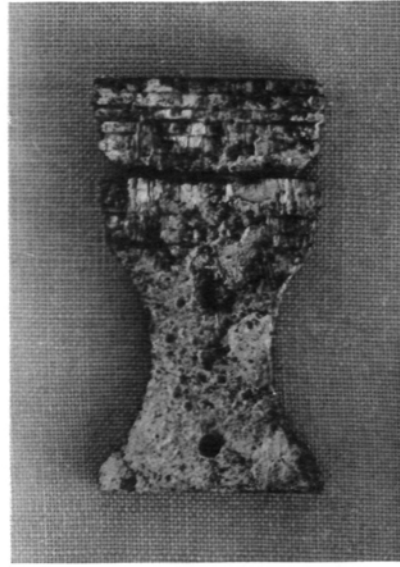


b



c

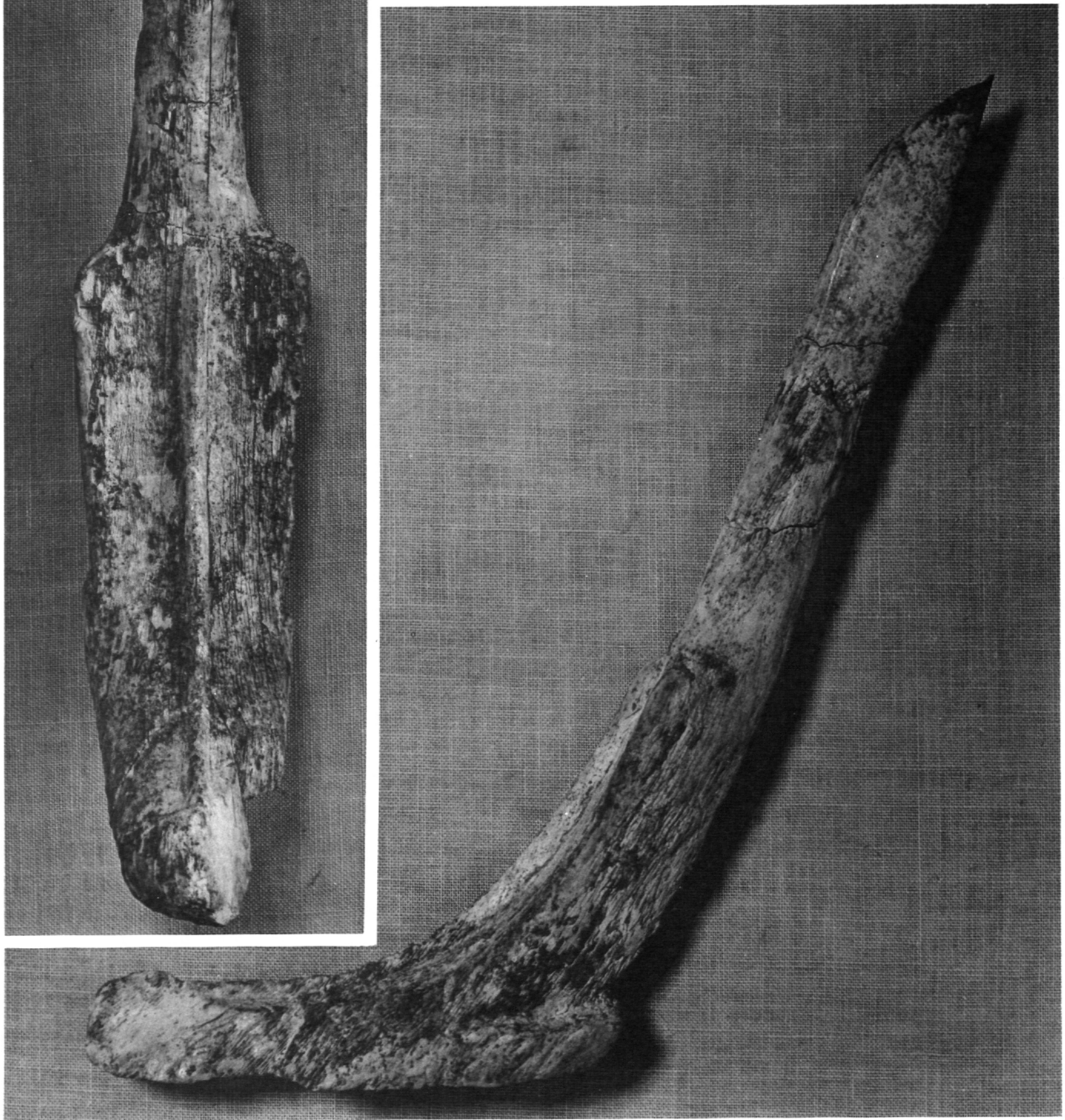
PLATE 23



127



128



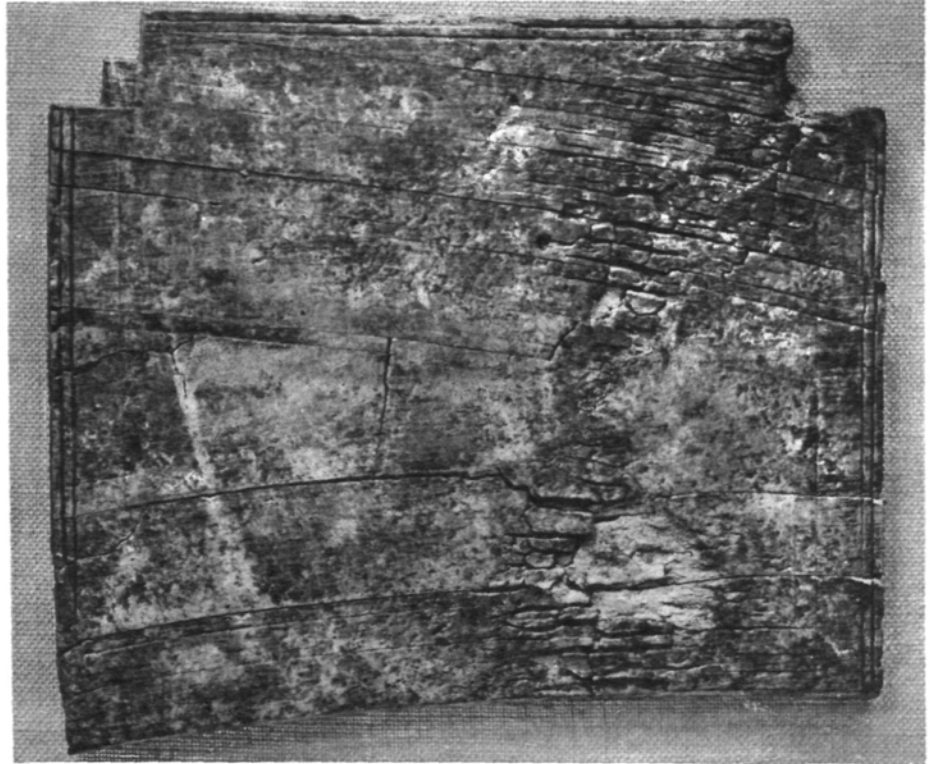
126



131



132



130



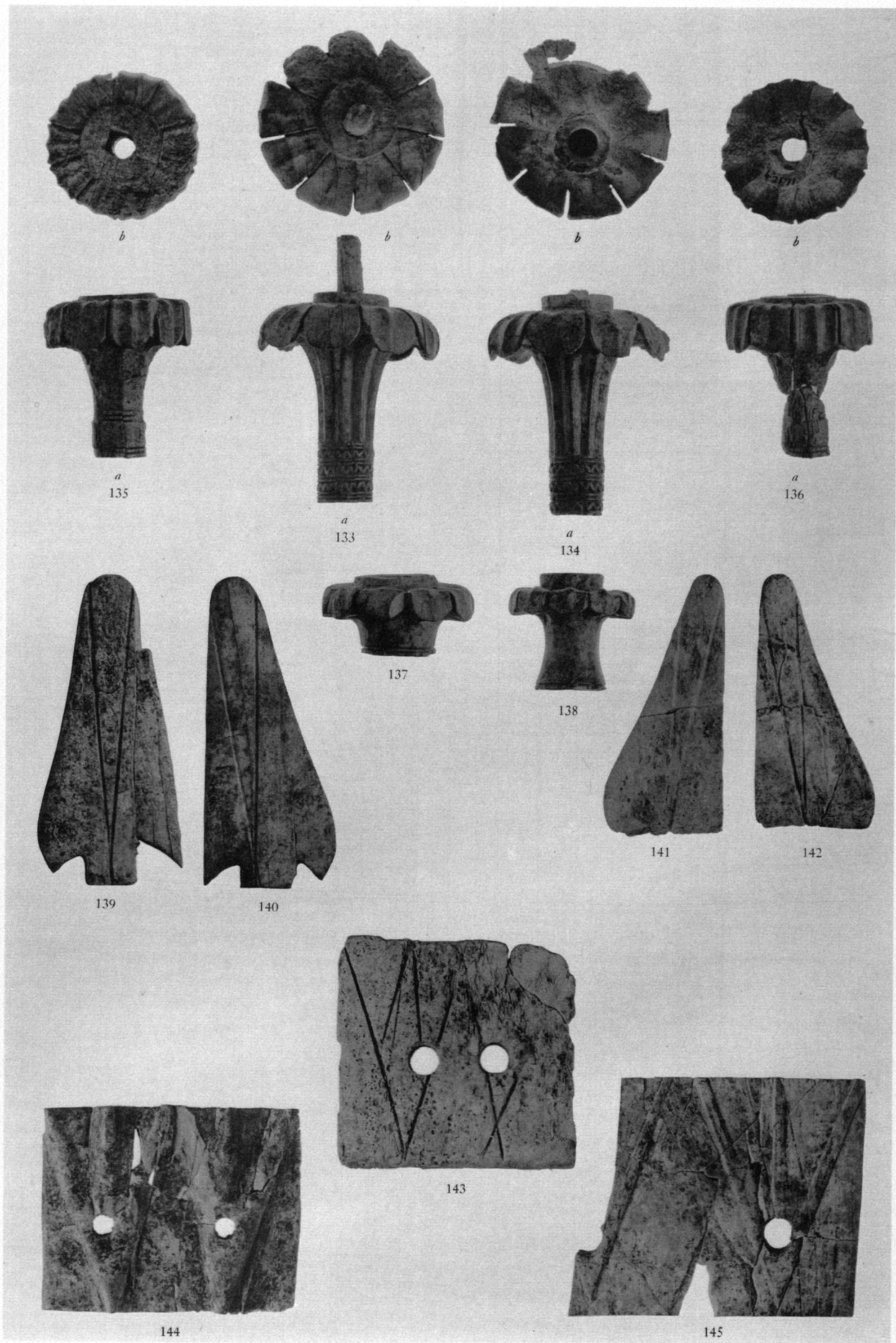
a

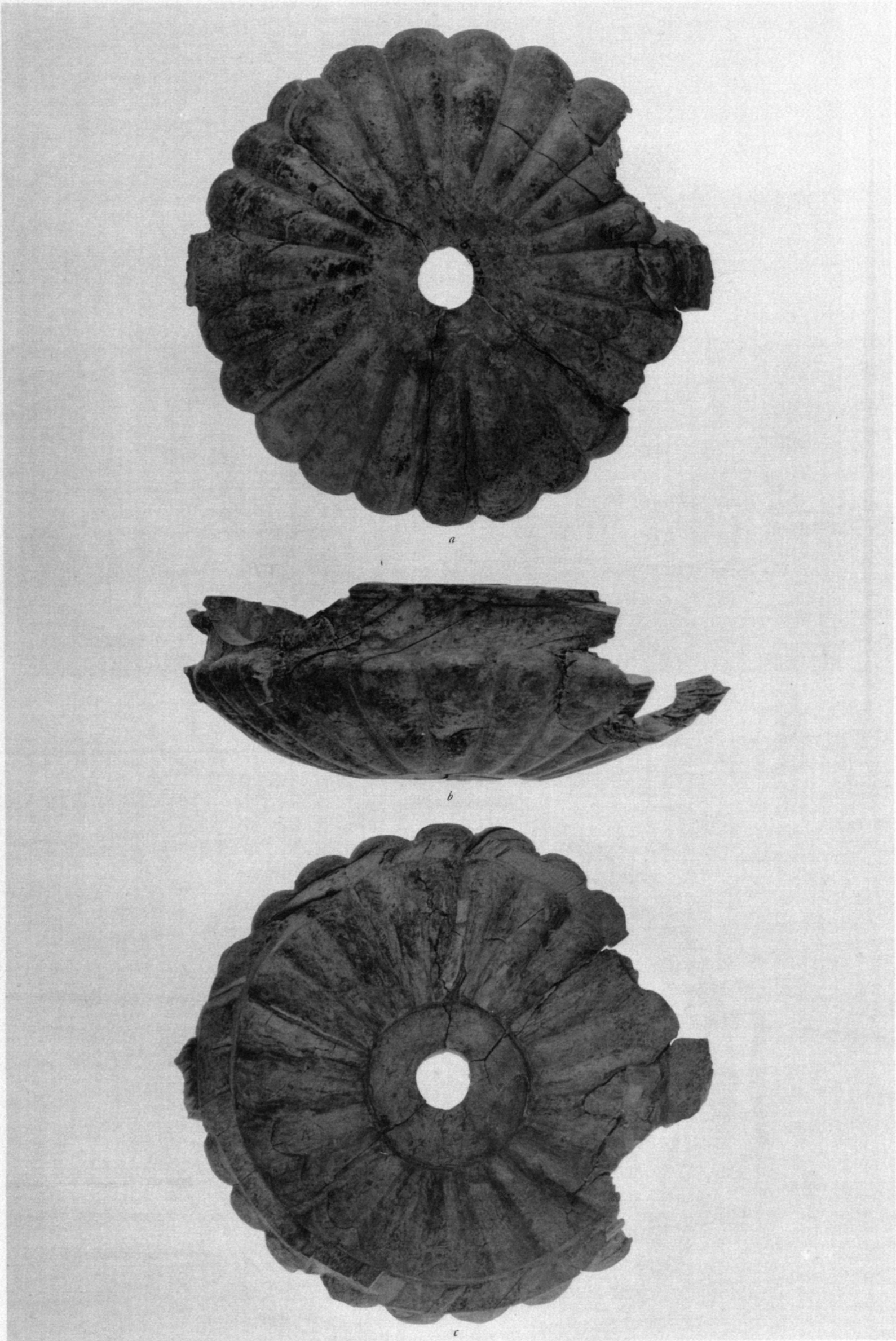
129

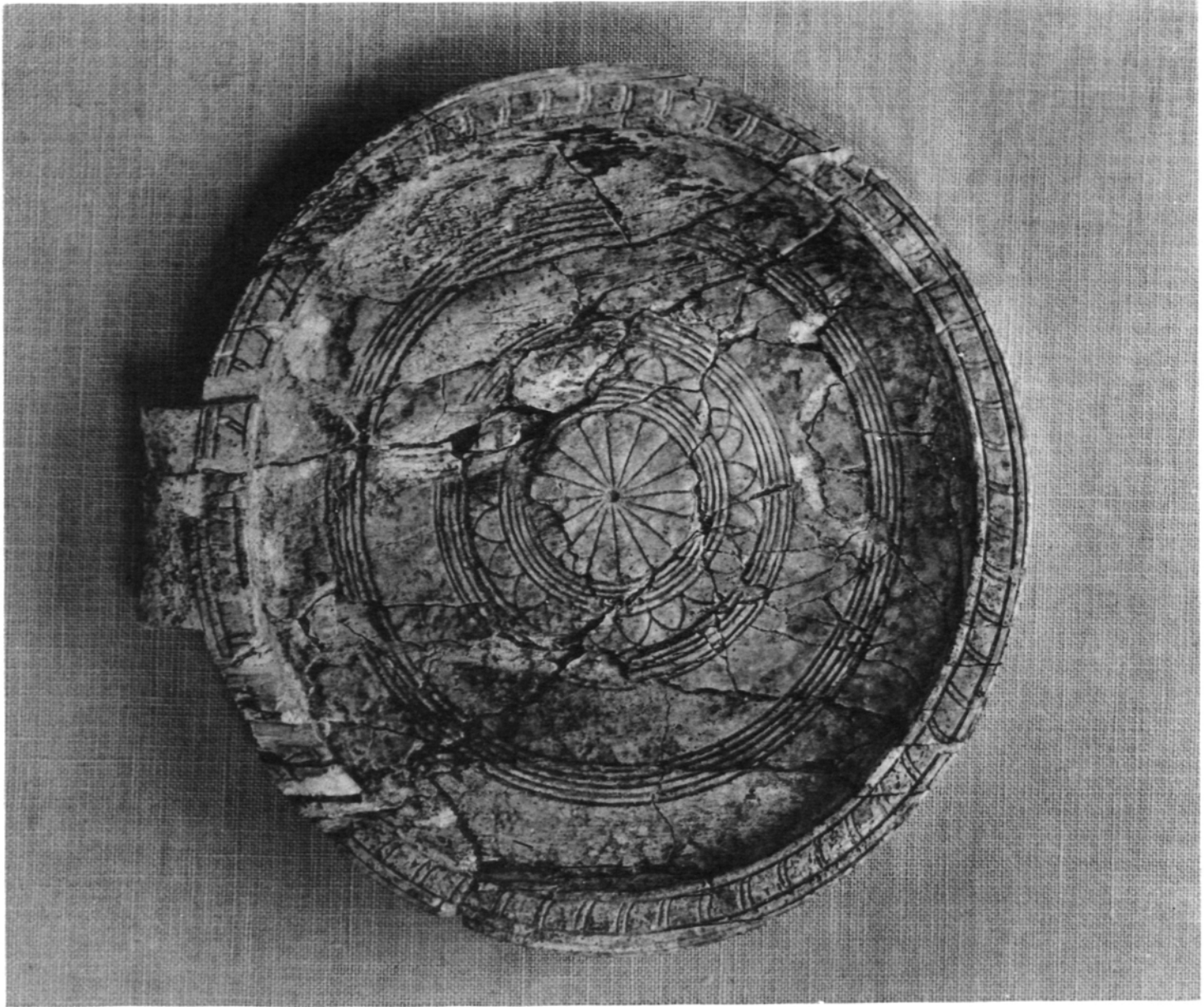


b

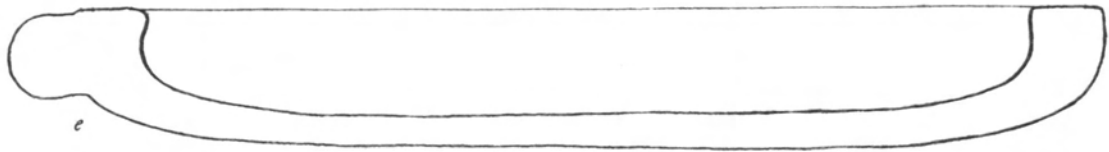
PLATE 25



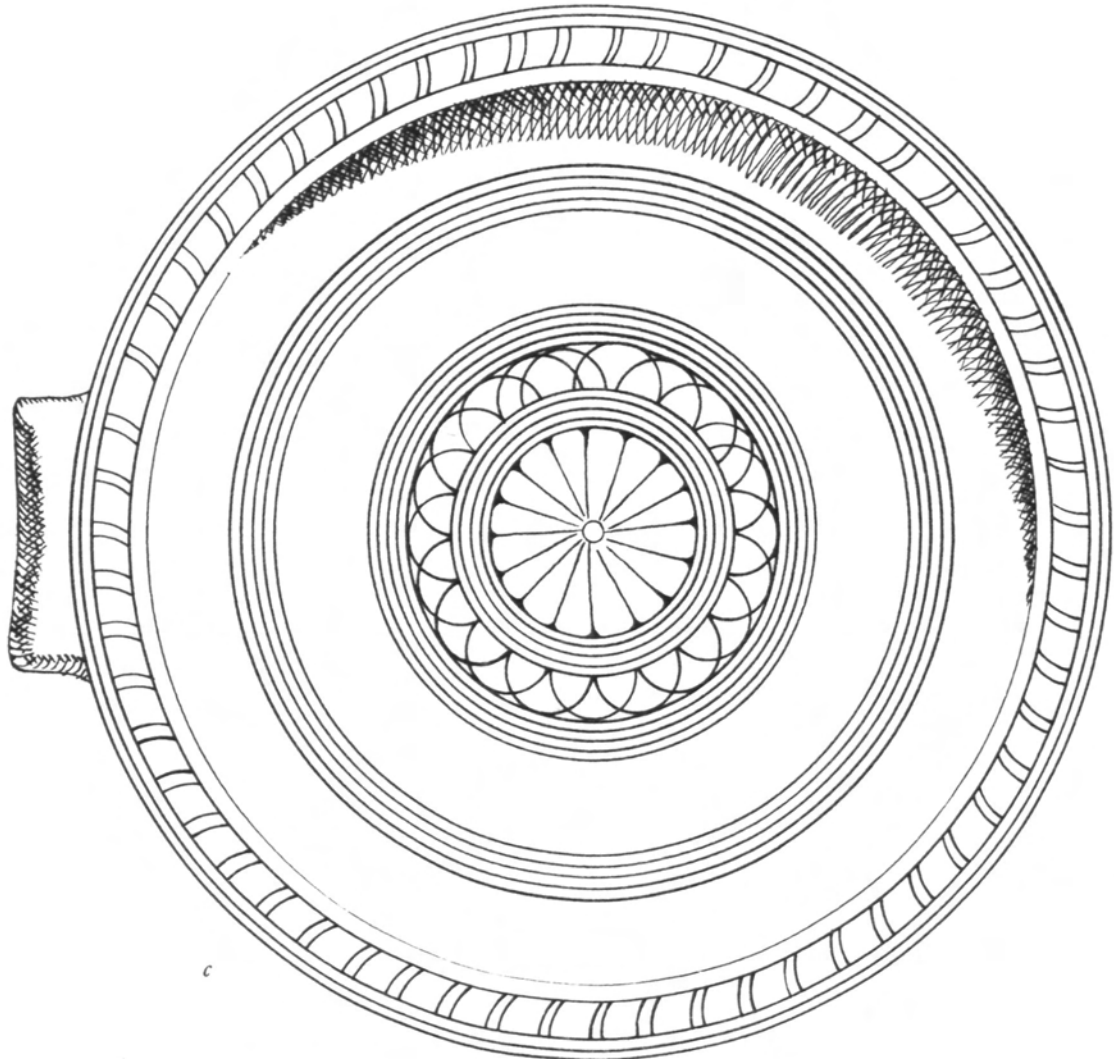




a



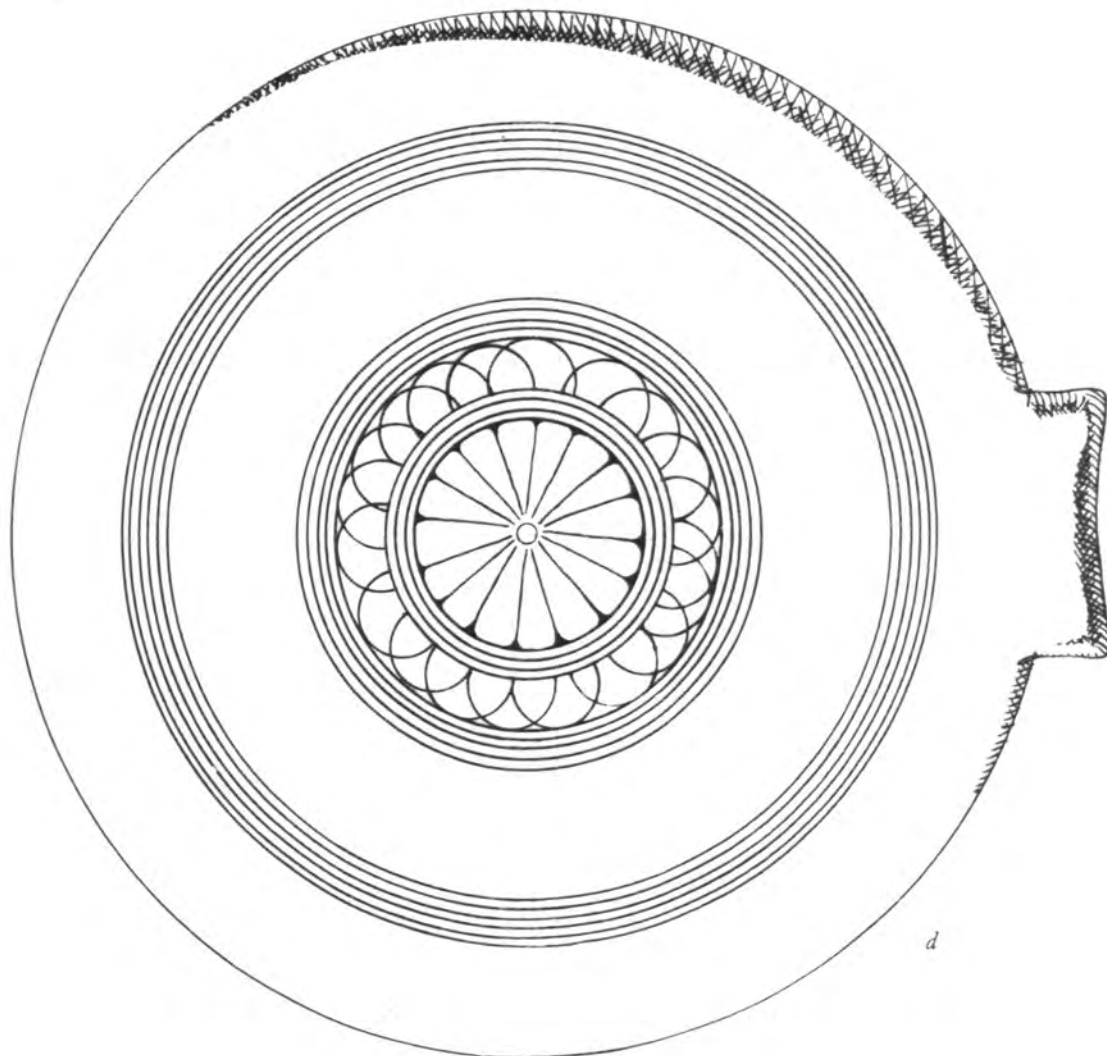
e



c



b



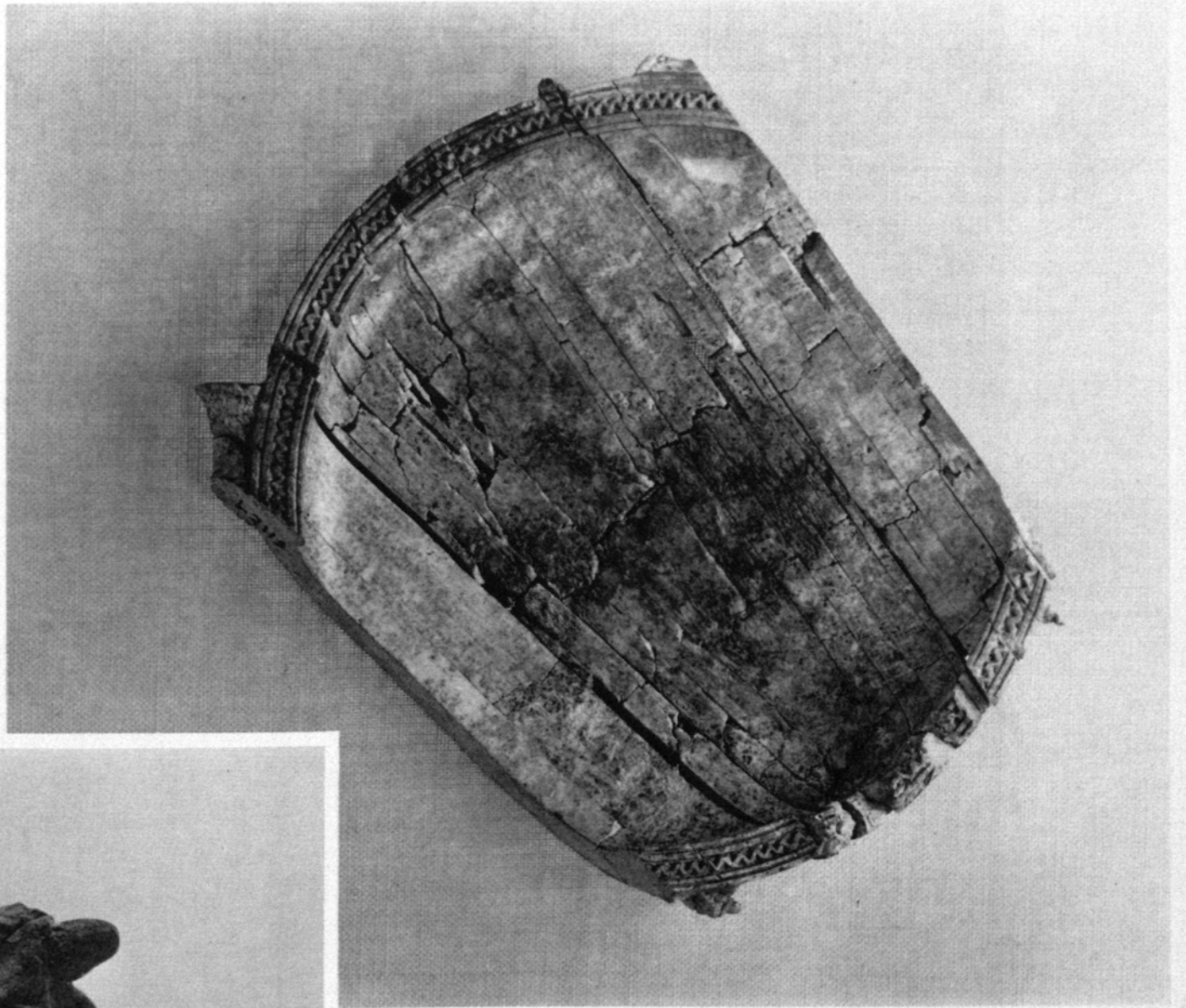
d

PLATE 28



149

a

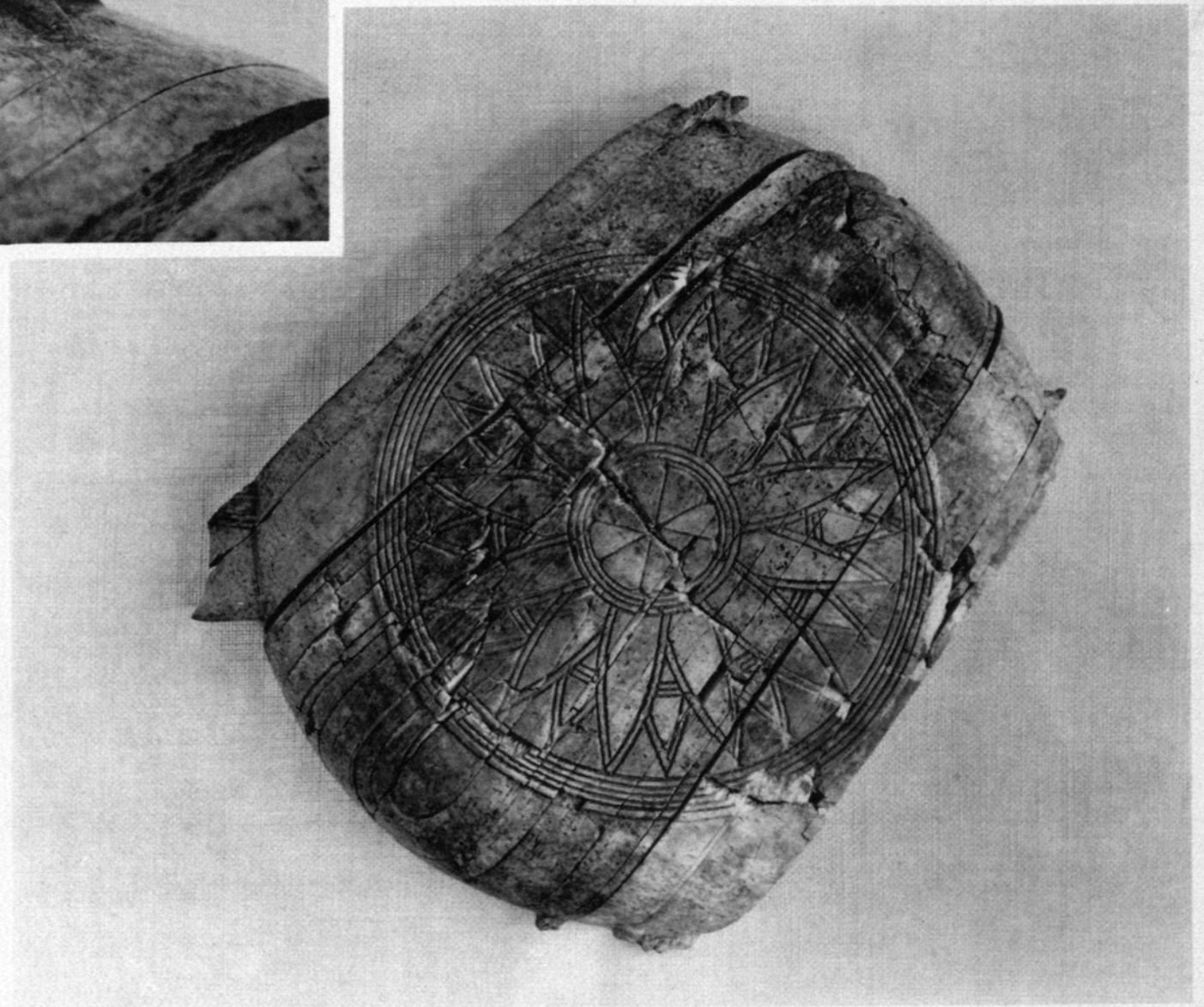


c

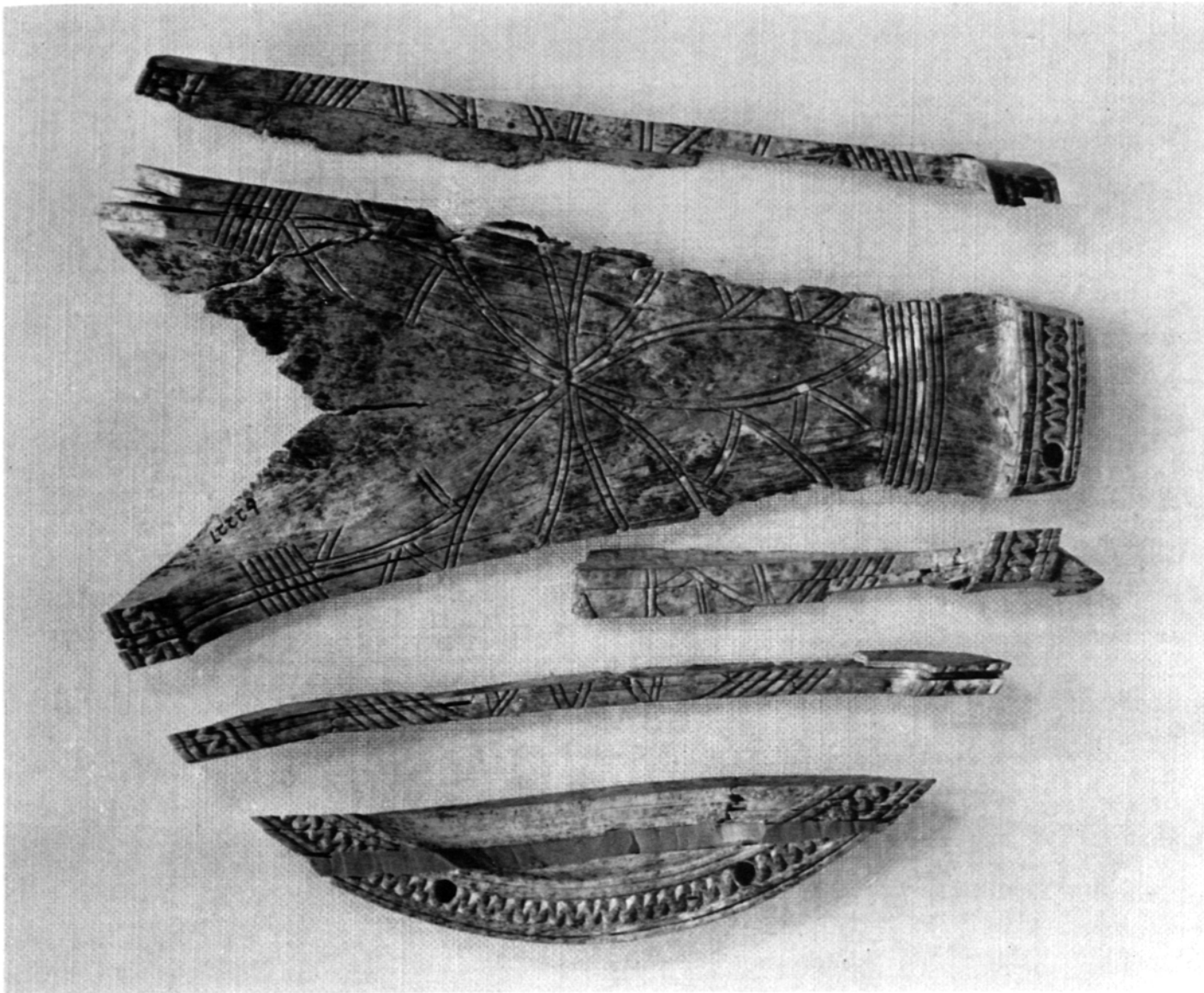


150

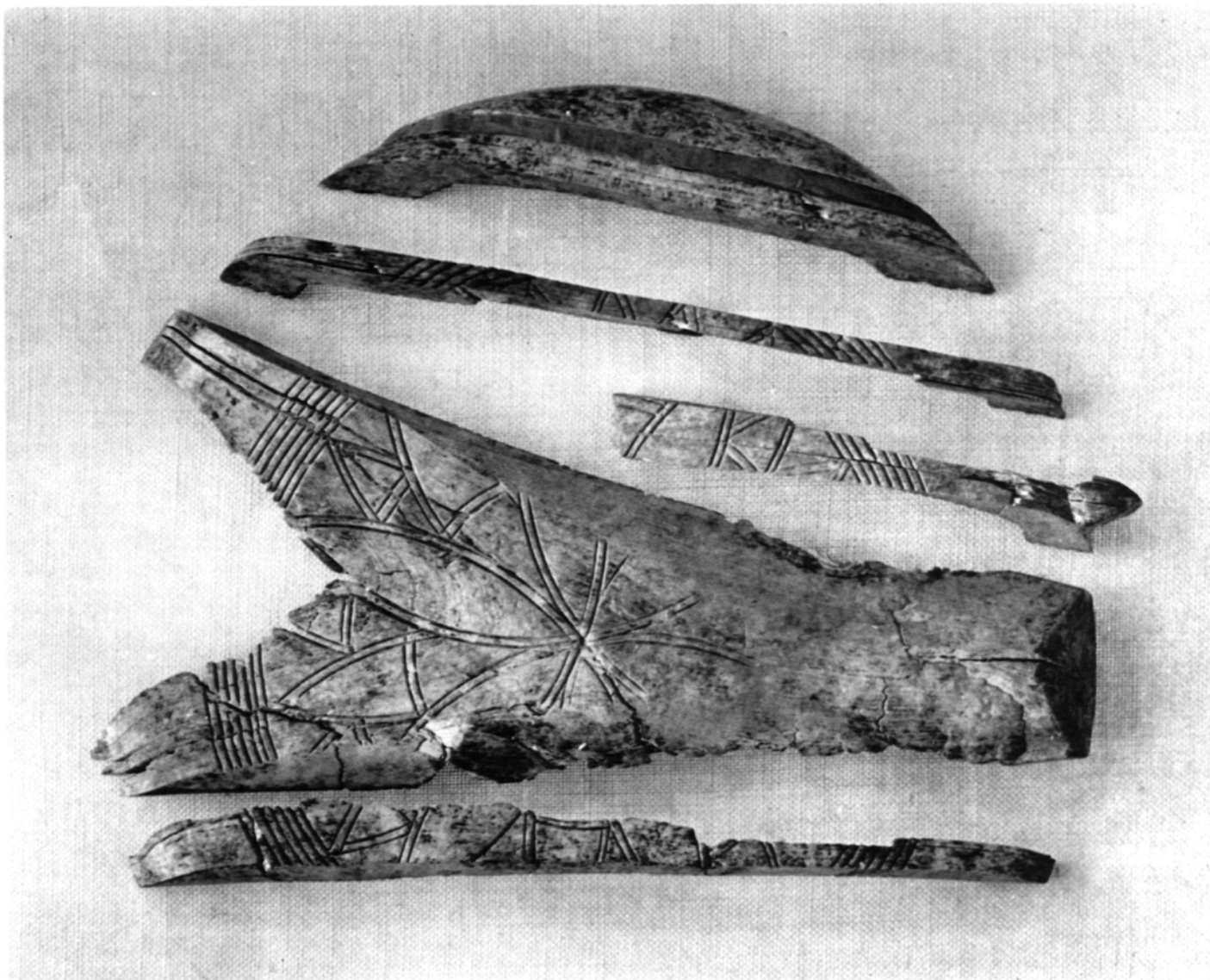
b



148



151 *a*



151 *b*



152



a



b

153

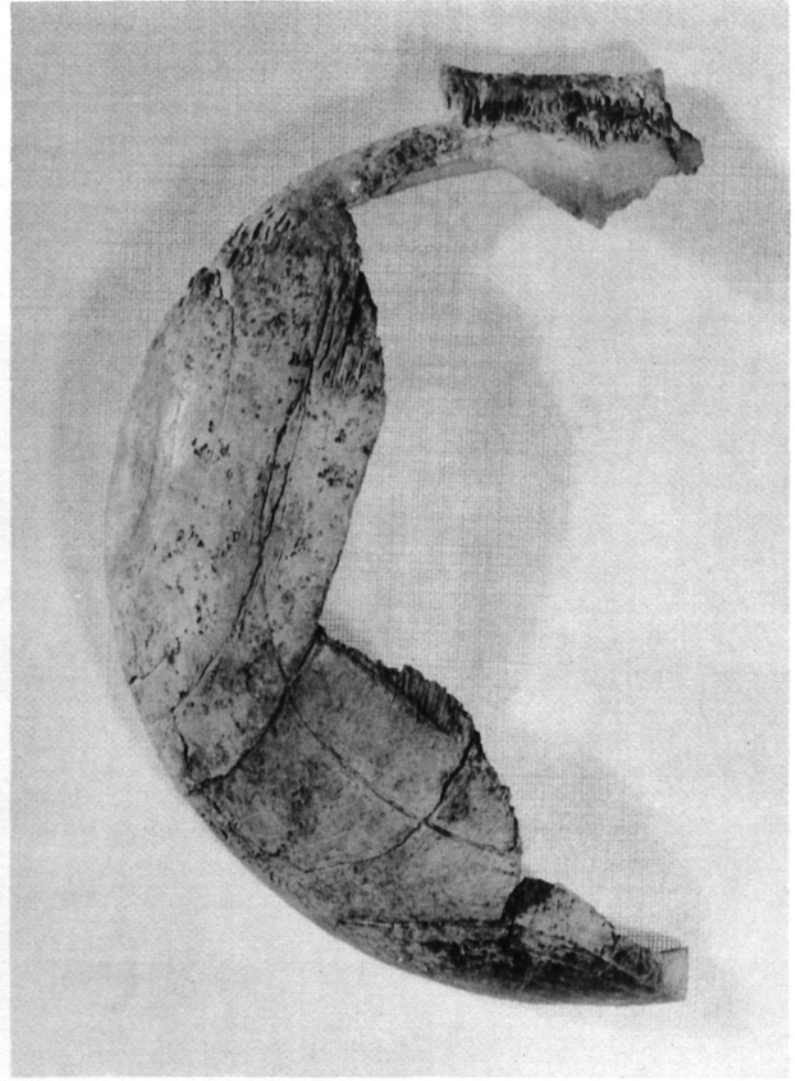
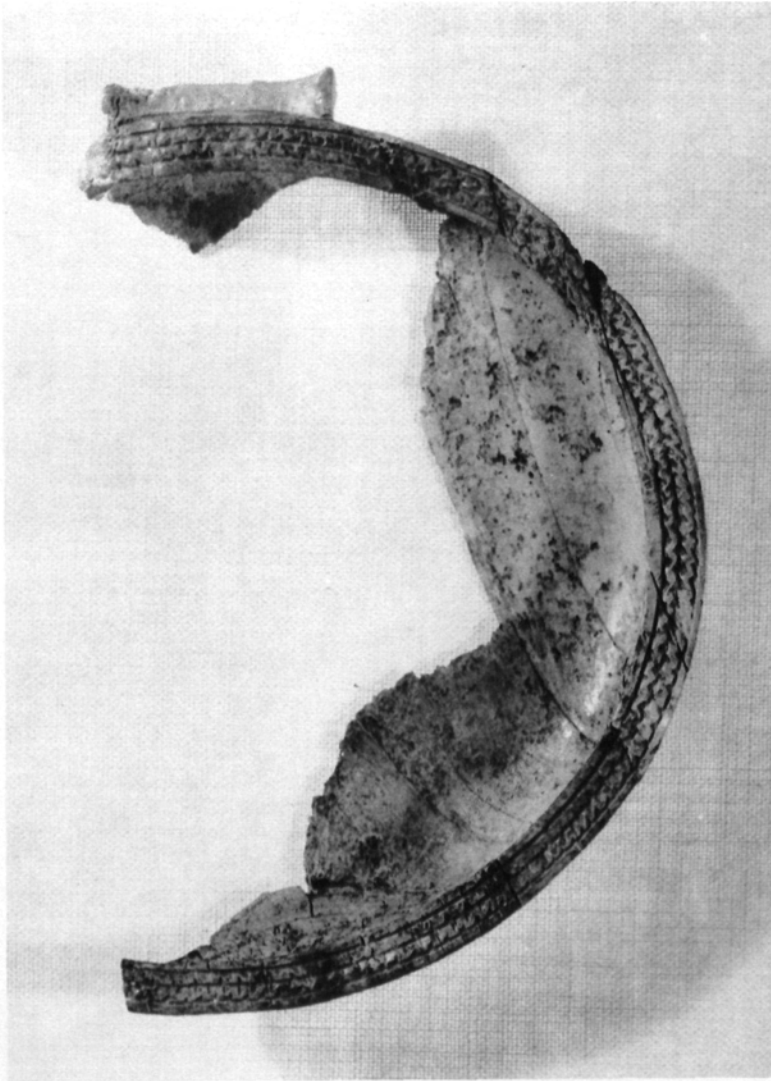


154



155

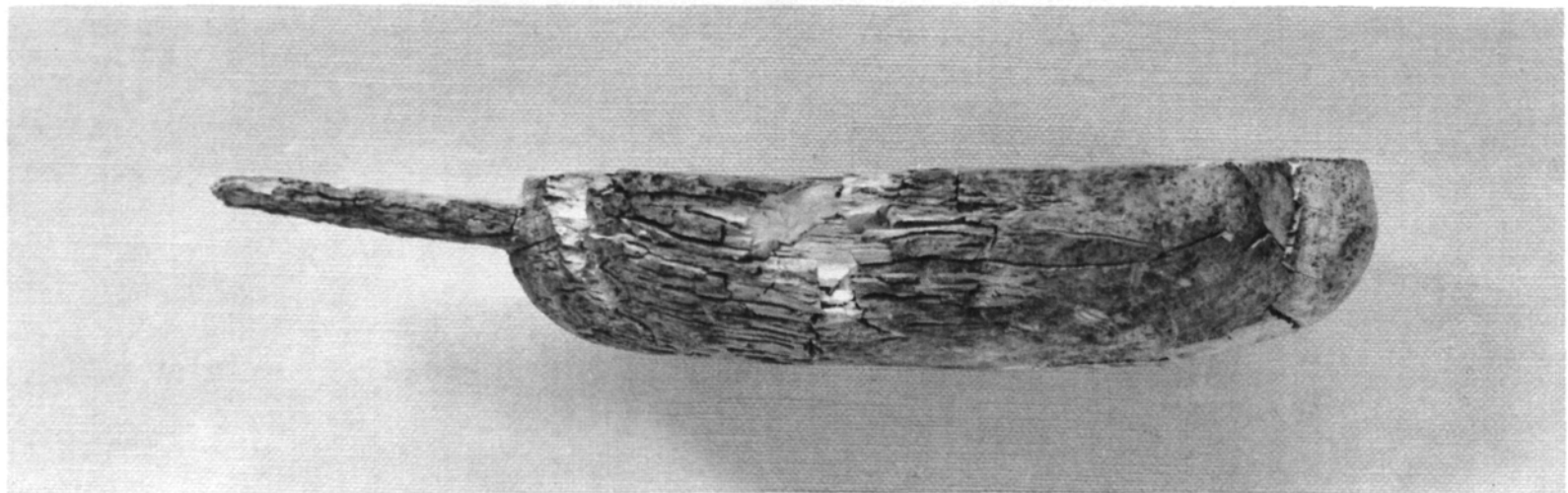
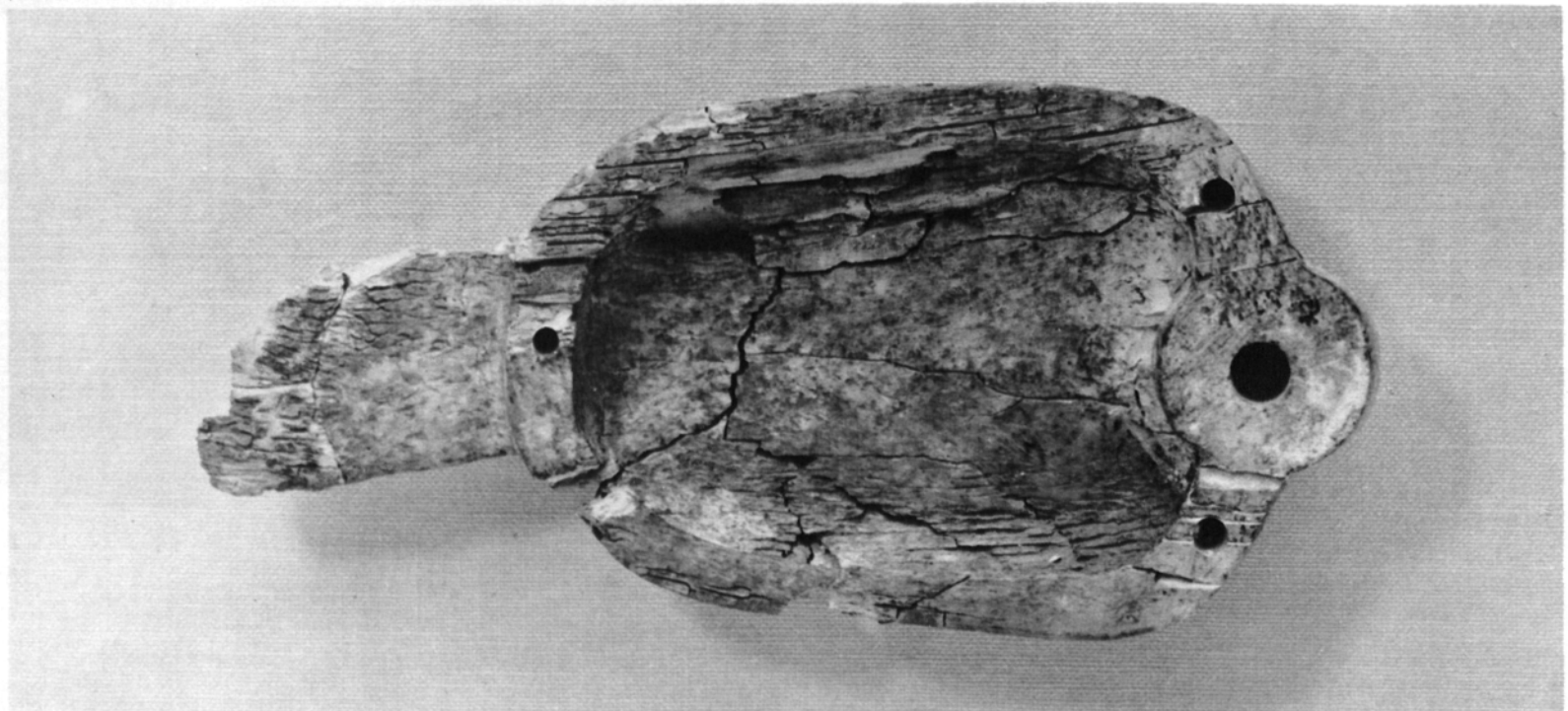
PLATE 30



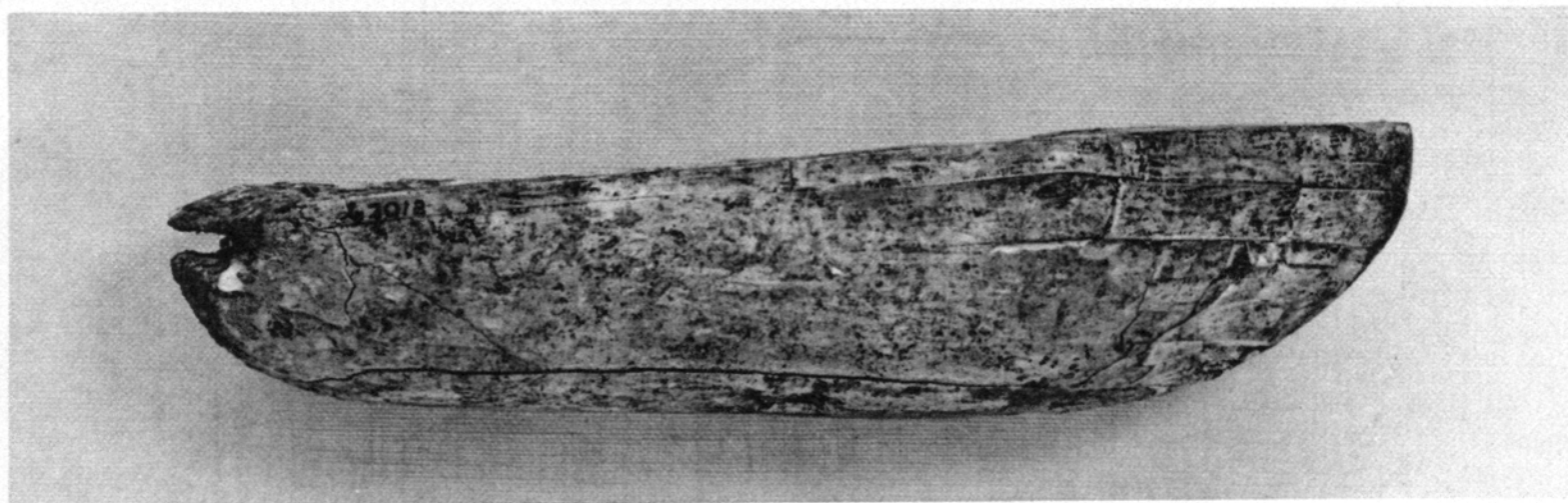
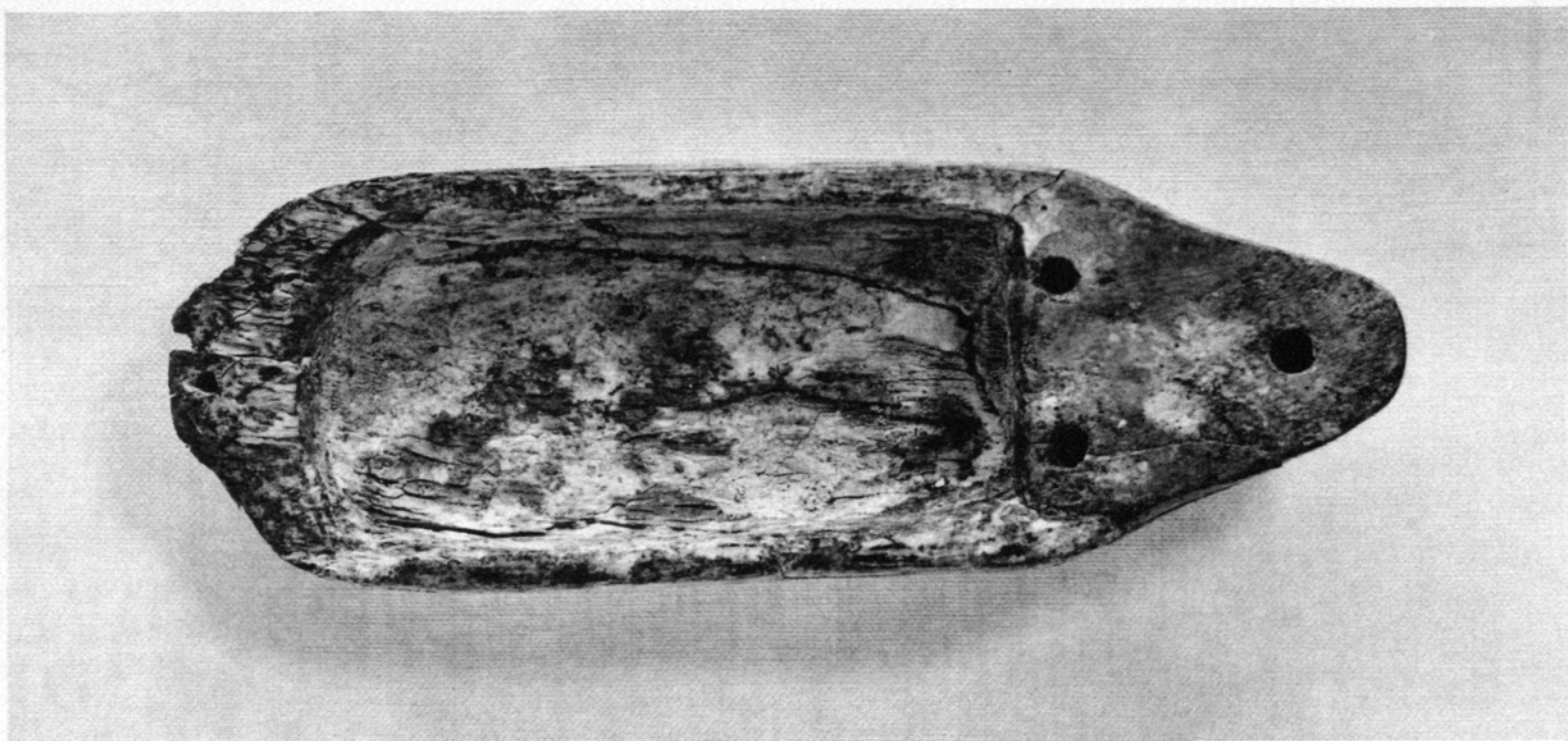
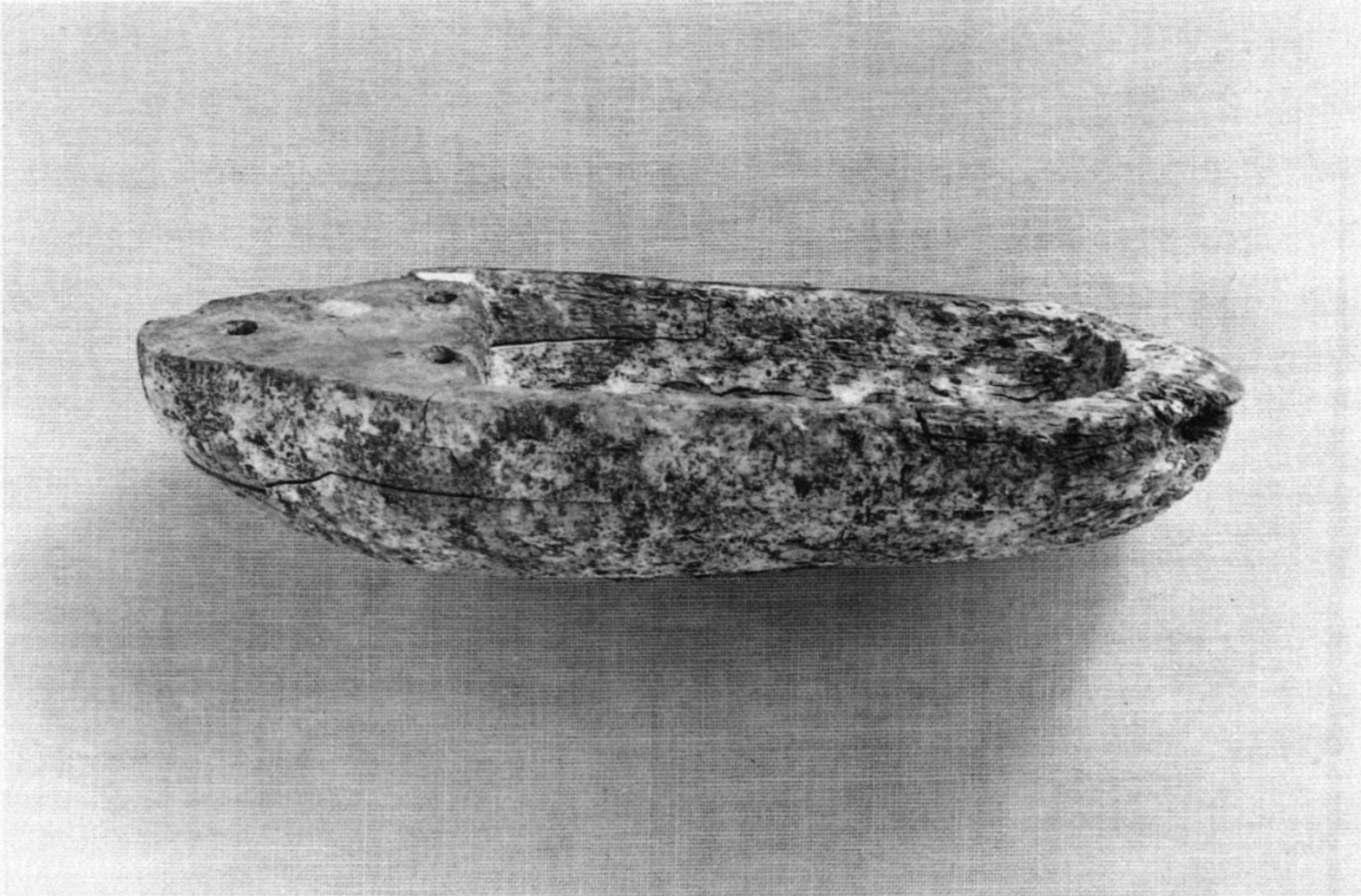
a

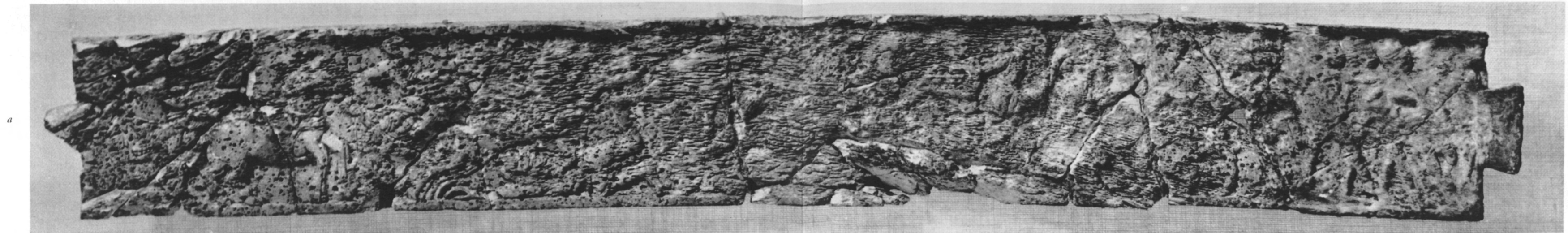
156

b

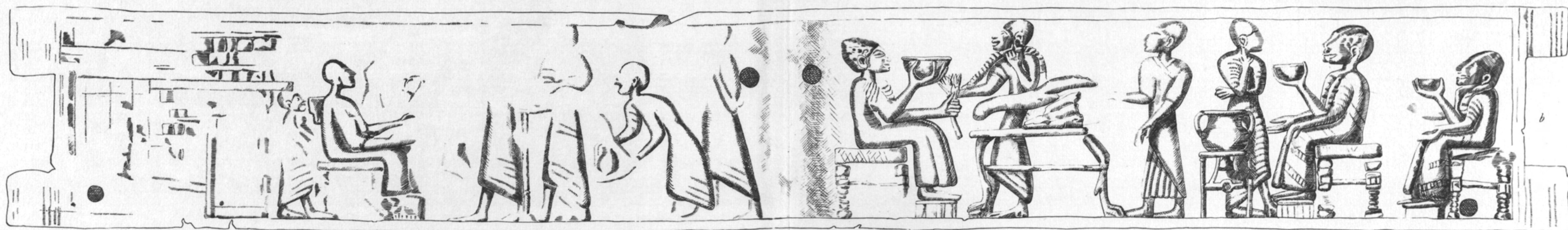
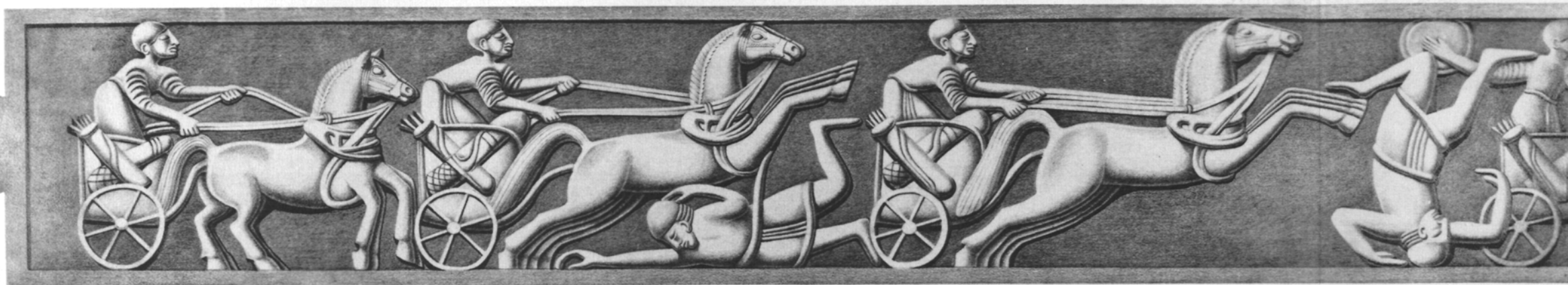
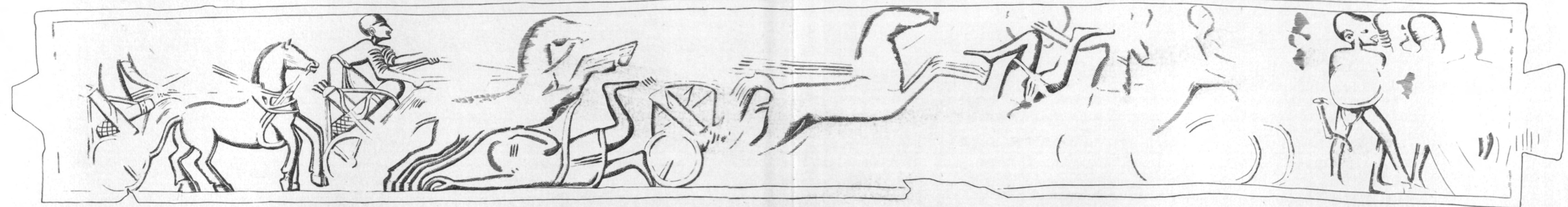


157

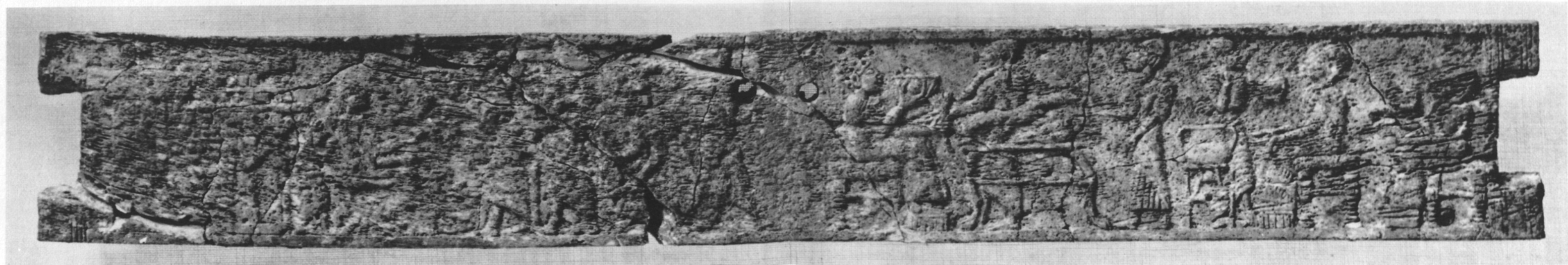


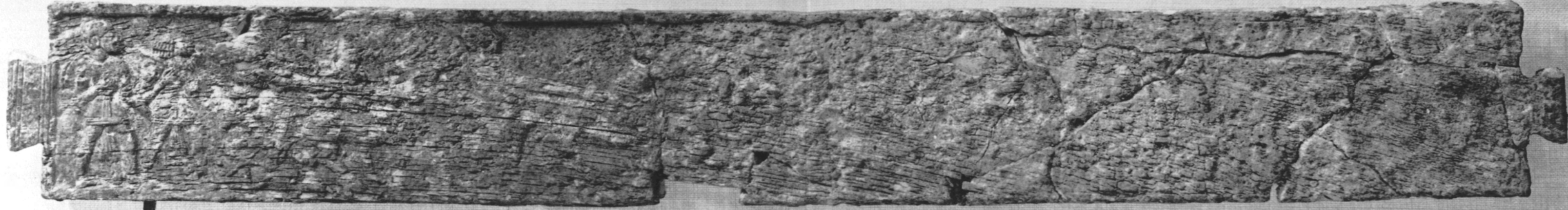


159

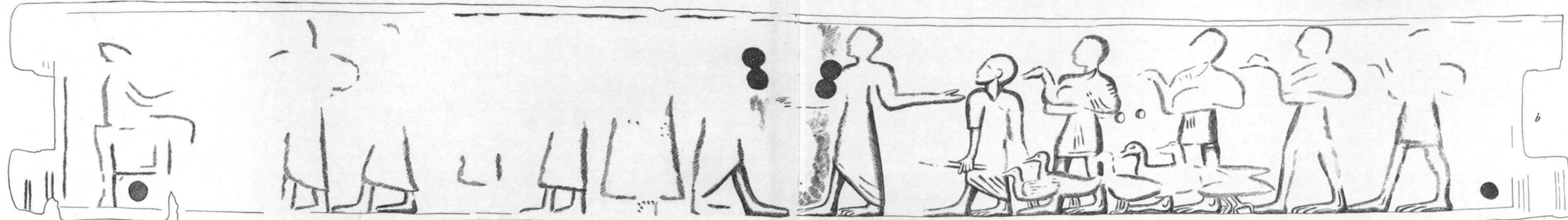
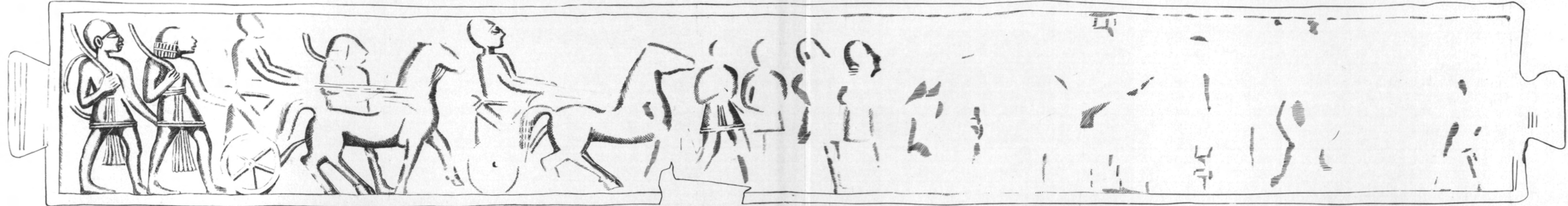


160

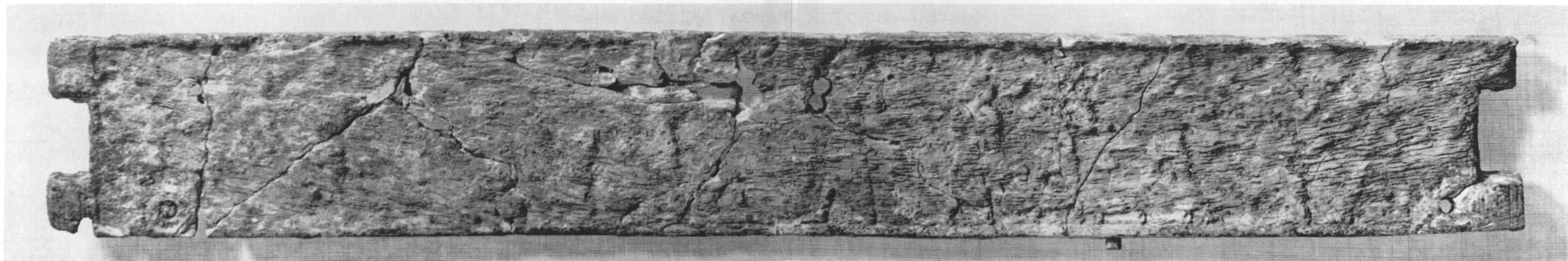


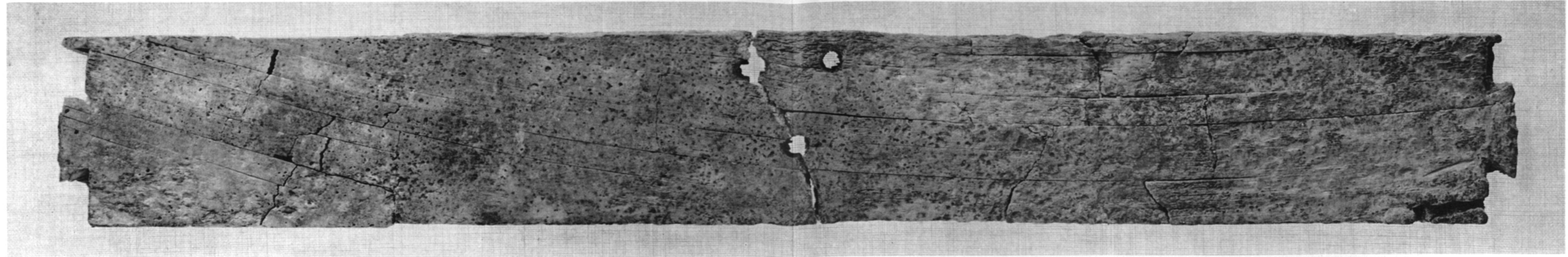


161

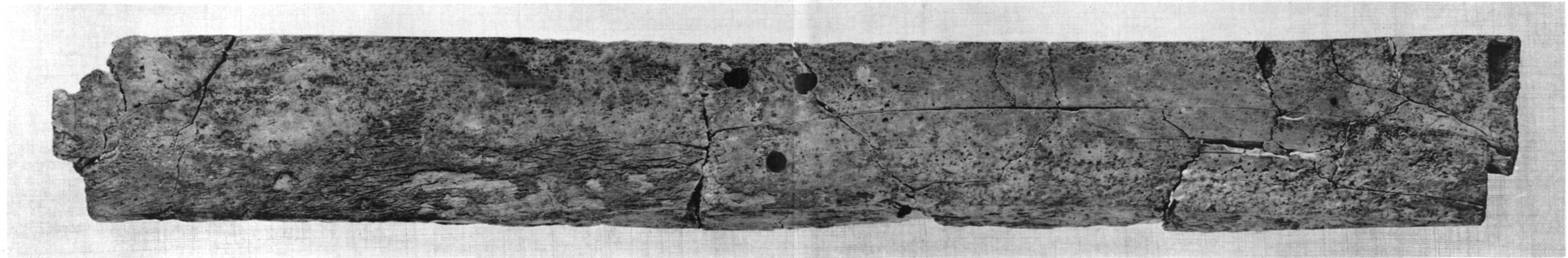


162





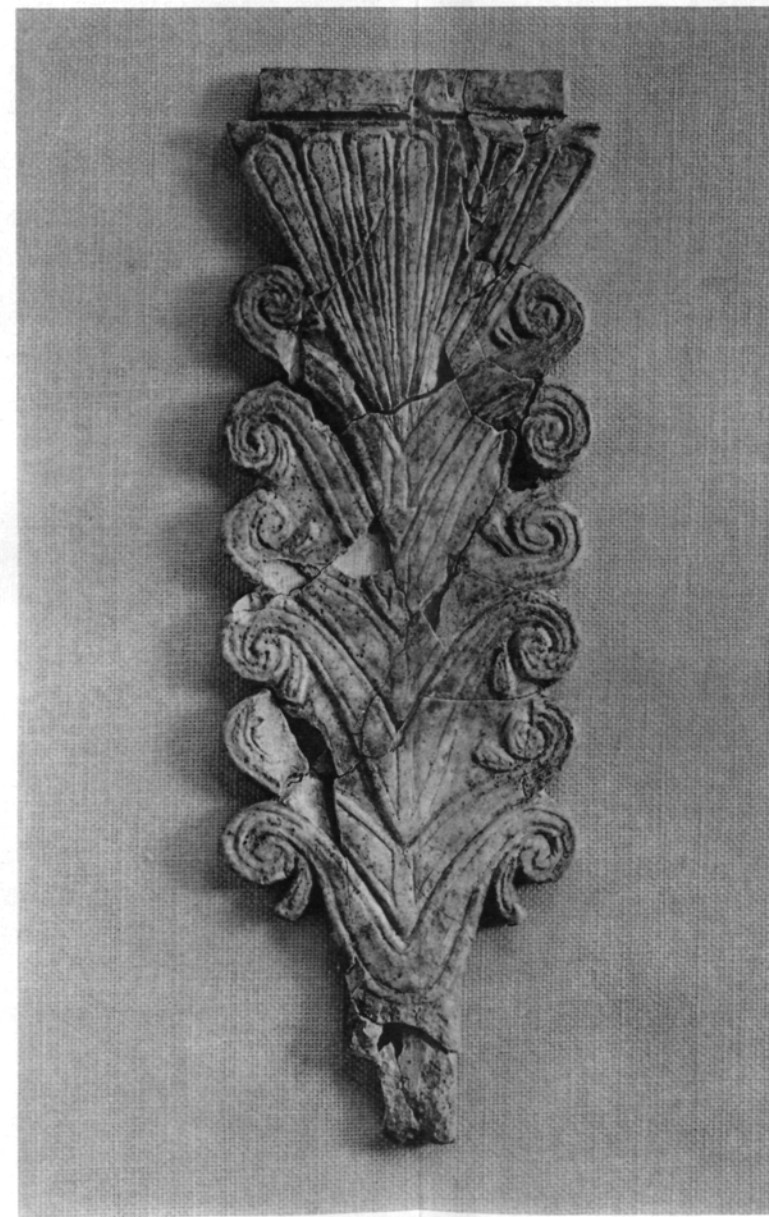
163



164



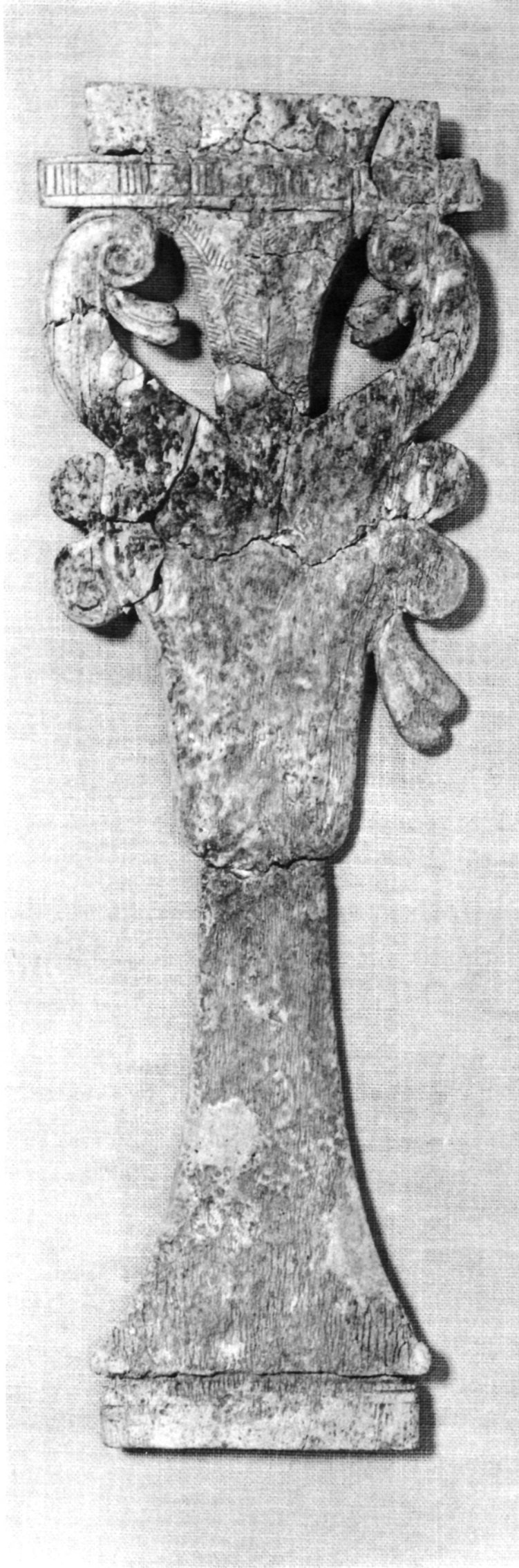
166 a



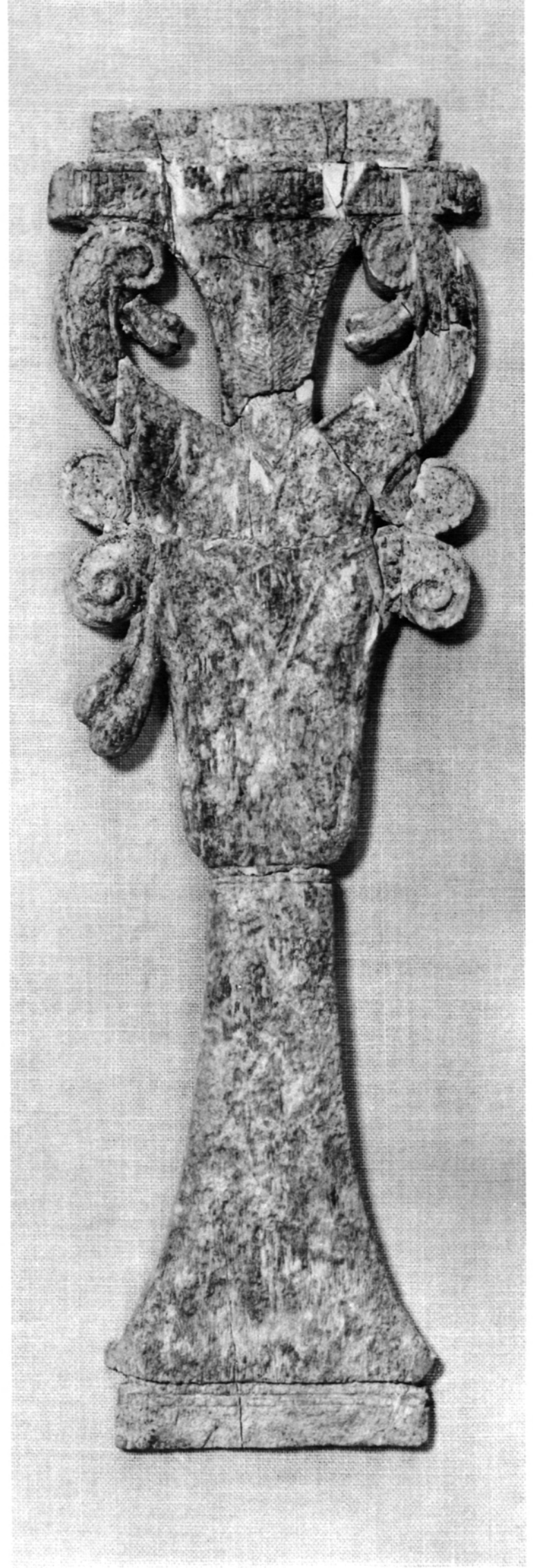
165



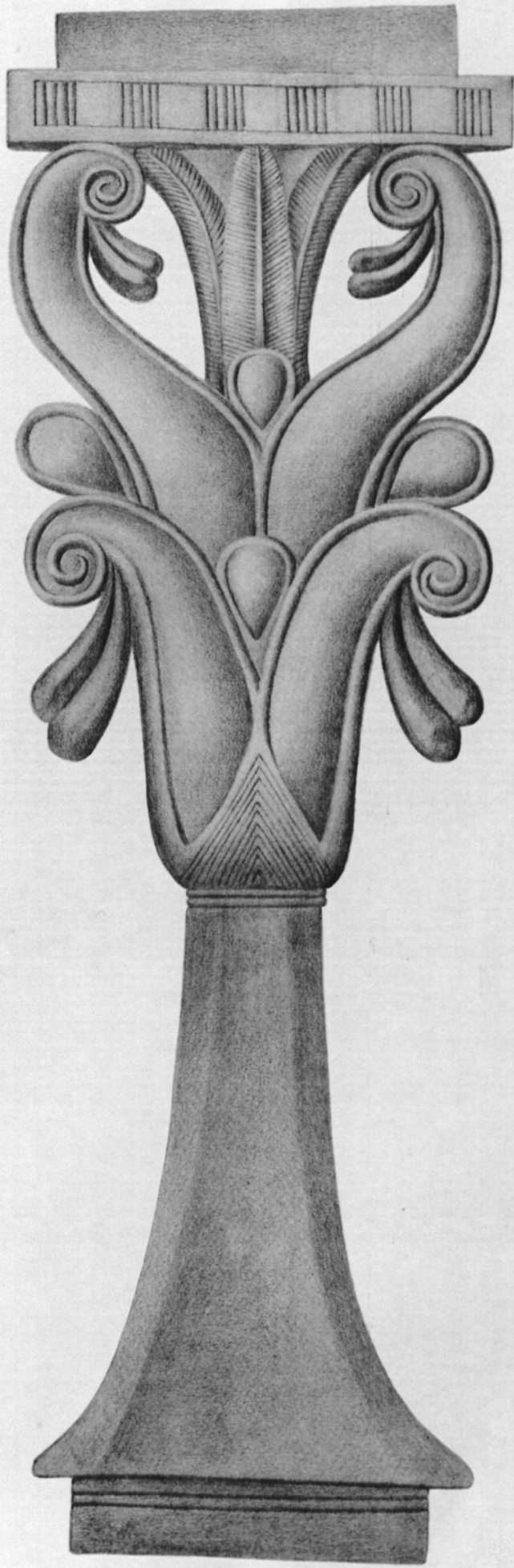
166 b



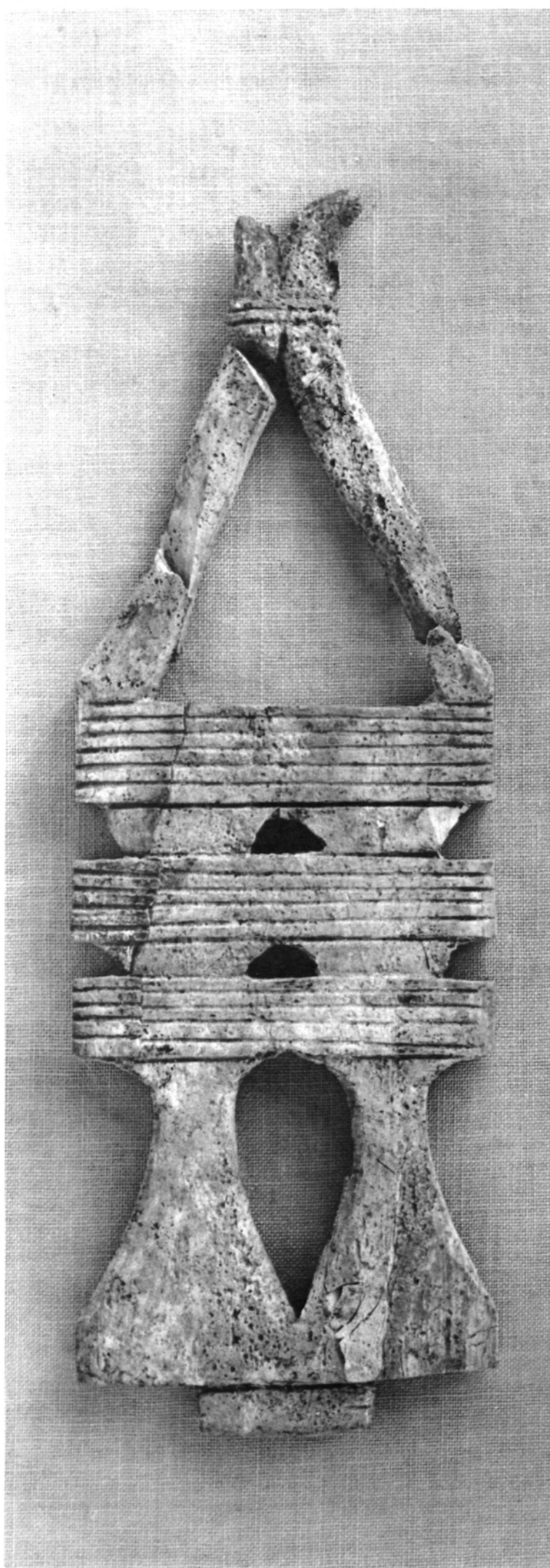
a



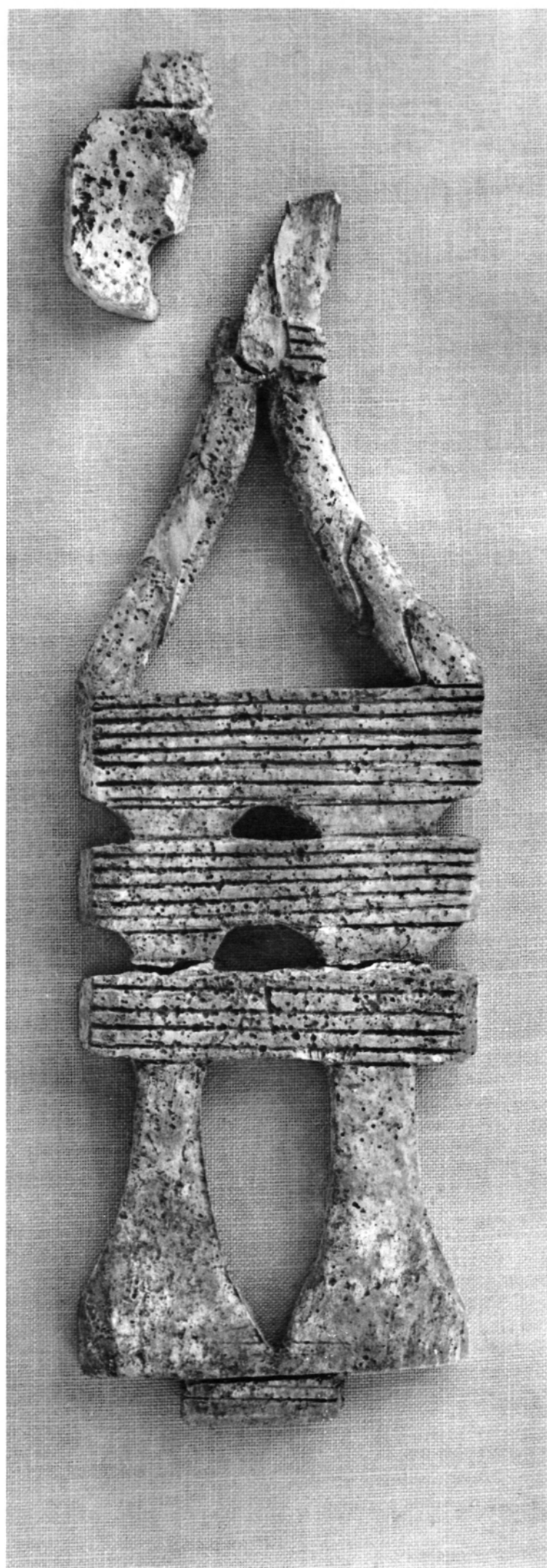
b



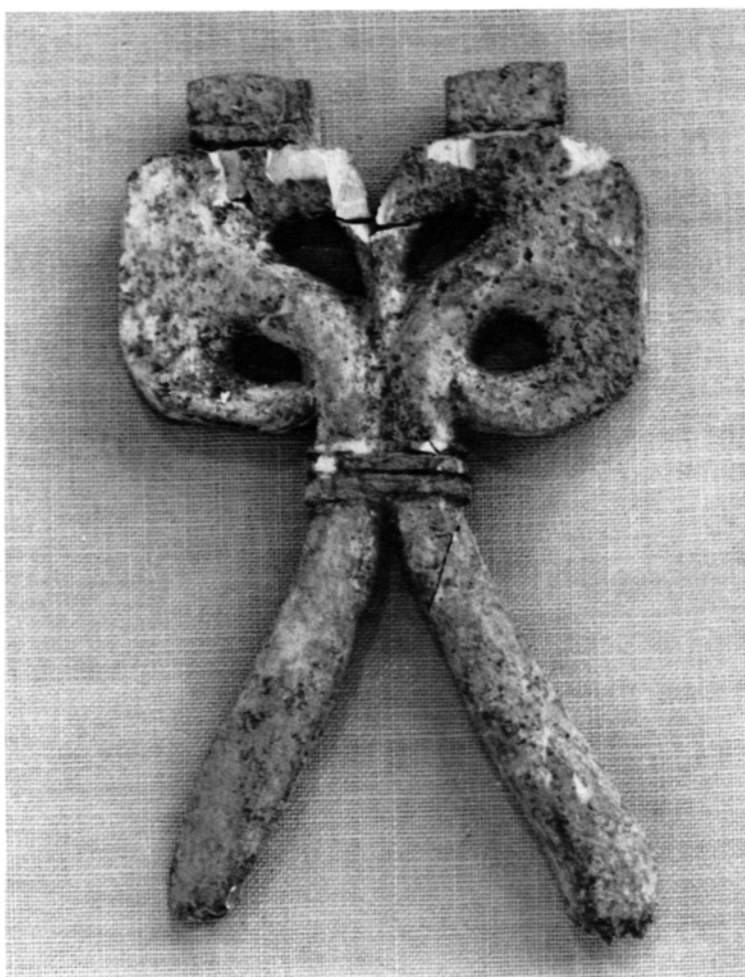
167 c



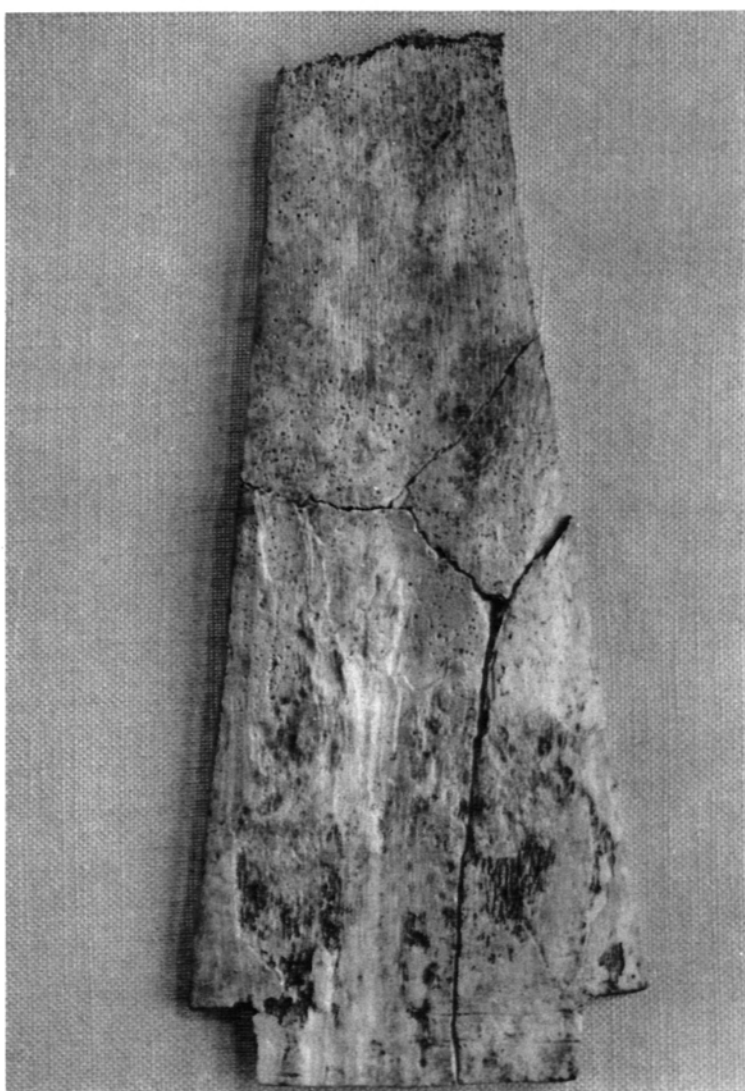
168



169



170



172

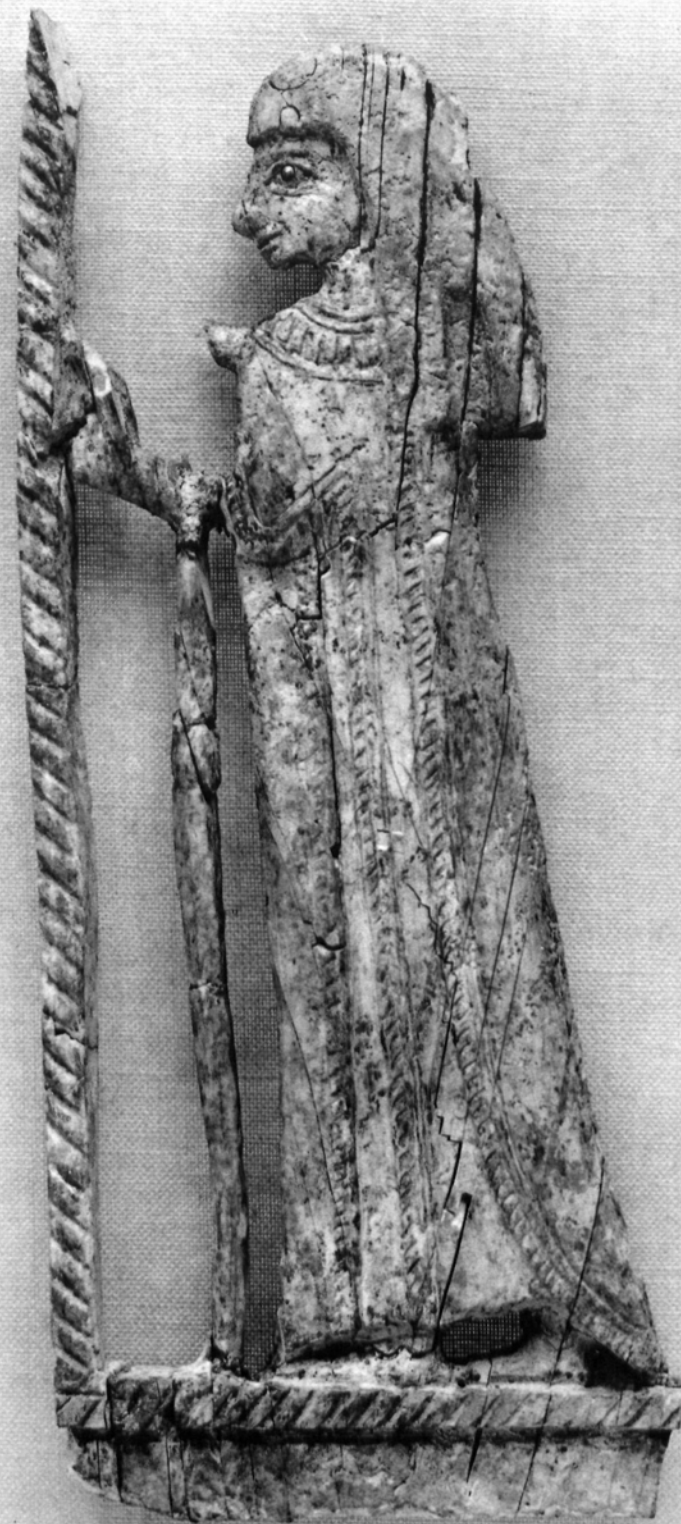


171

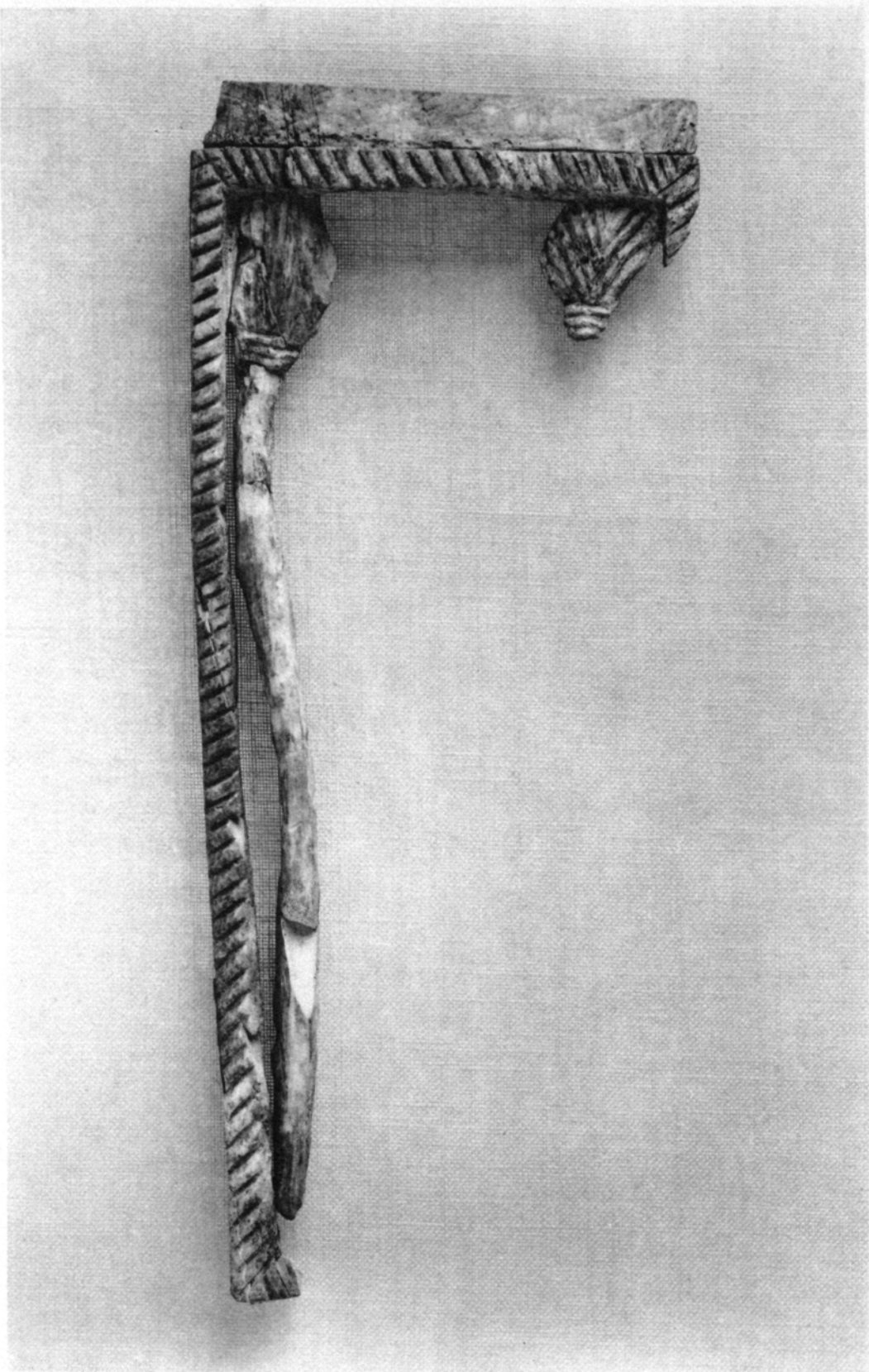


a

173



b

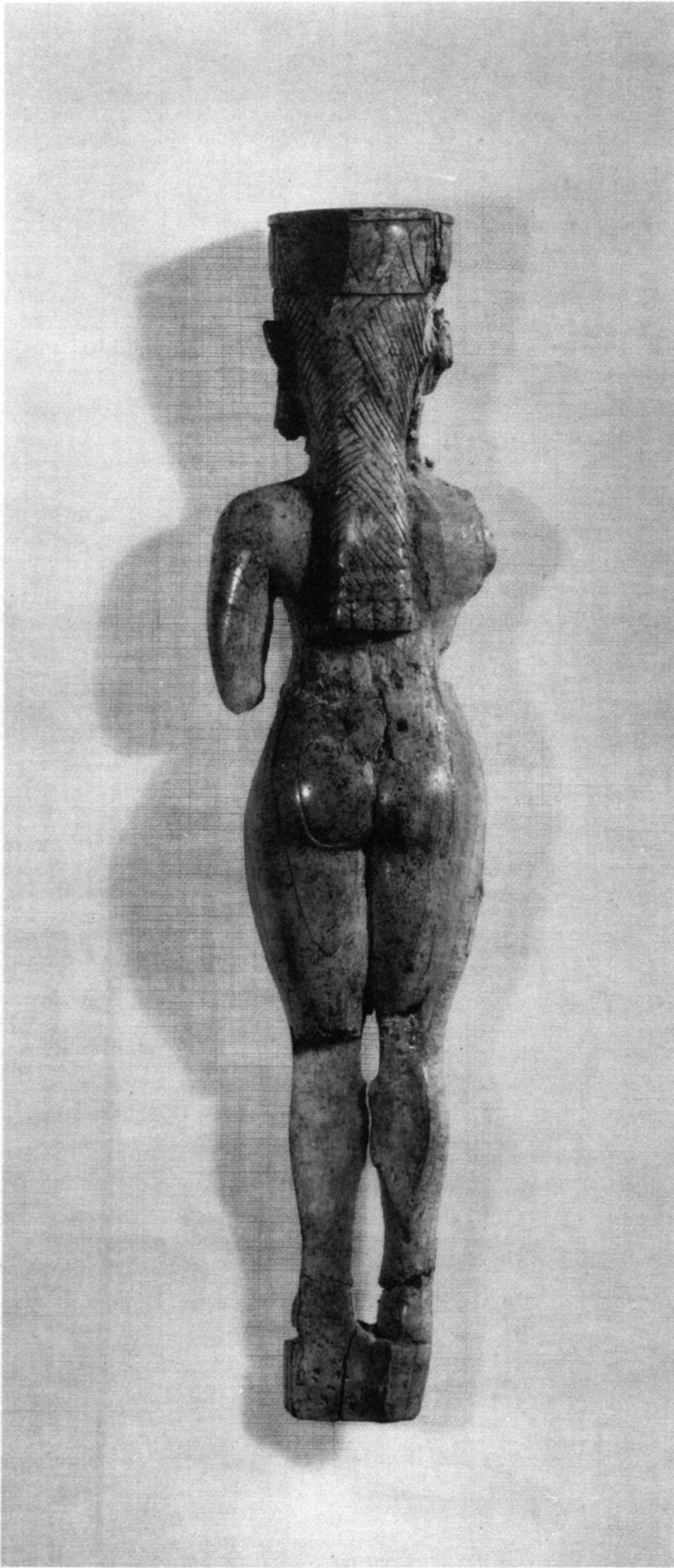


174

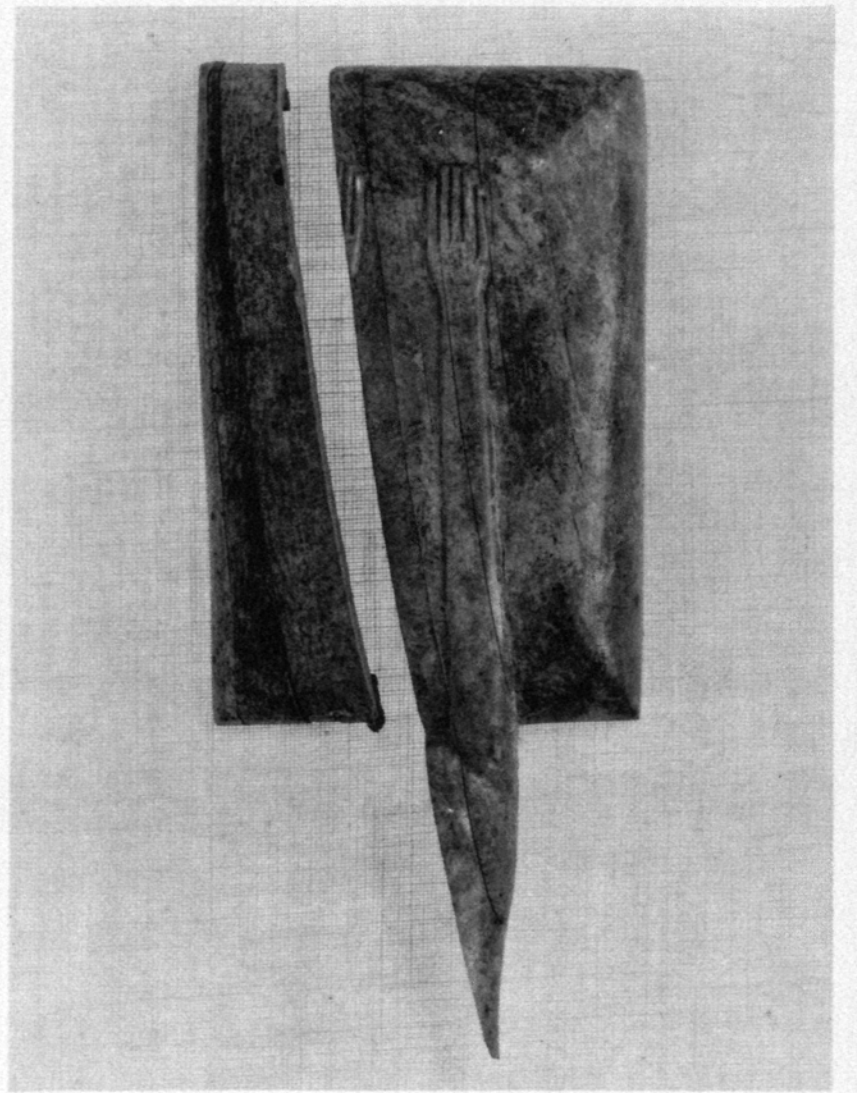
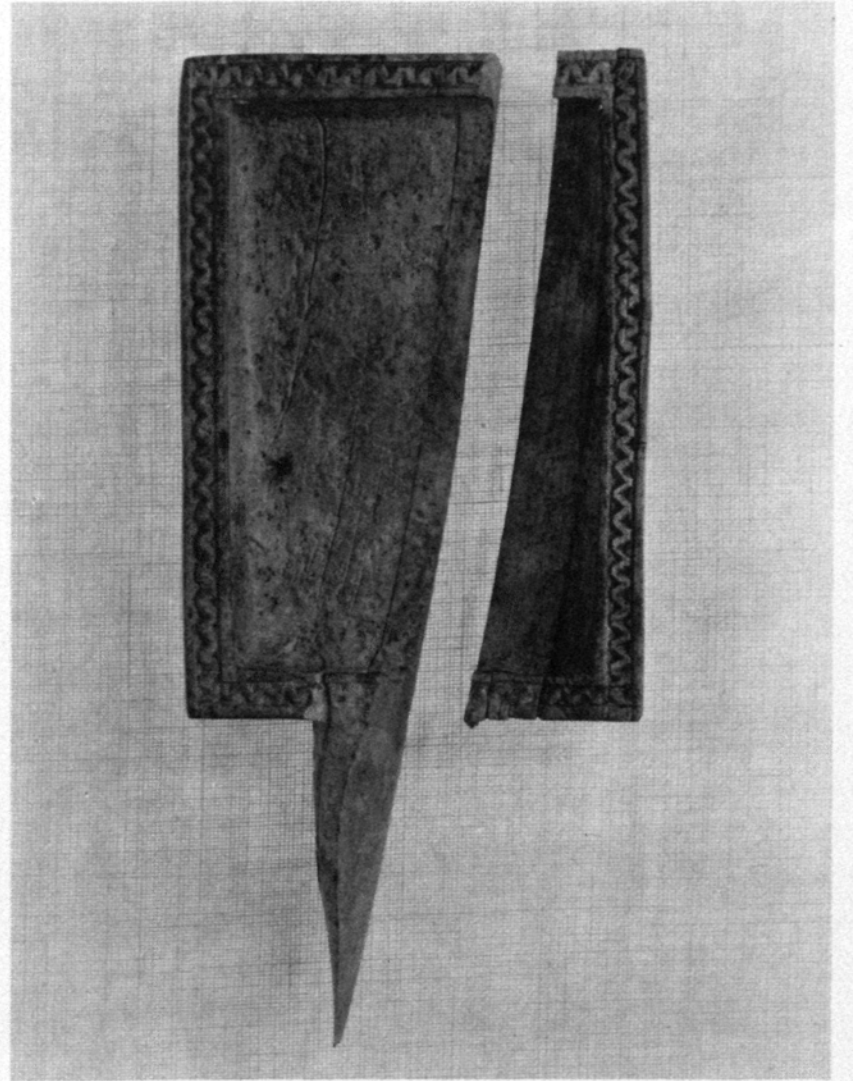


173 c

PLATE 39



175



176

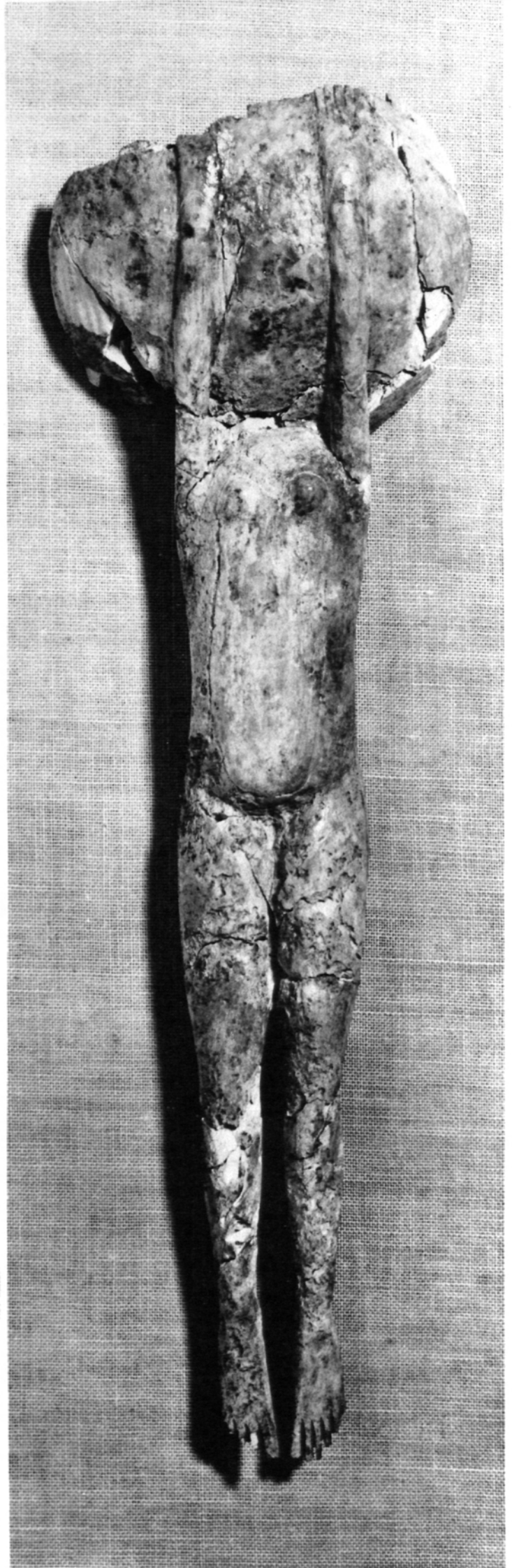
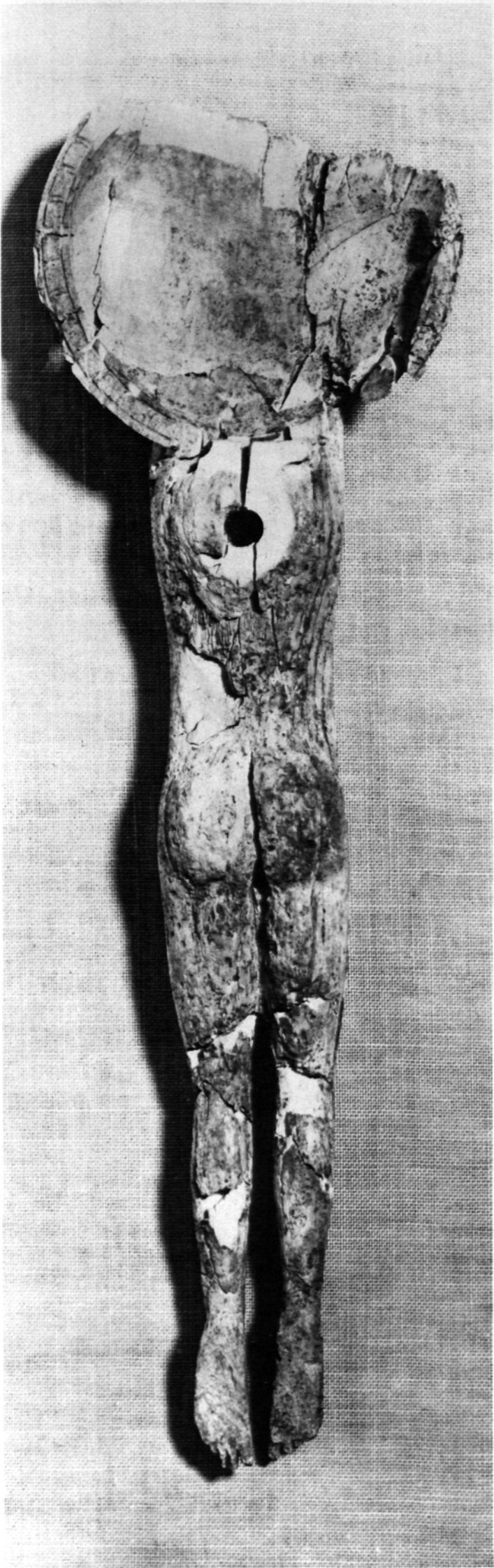
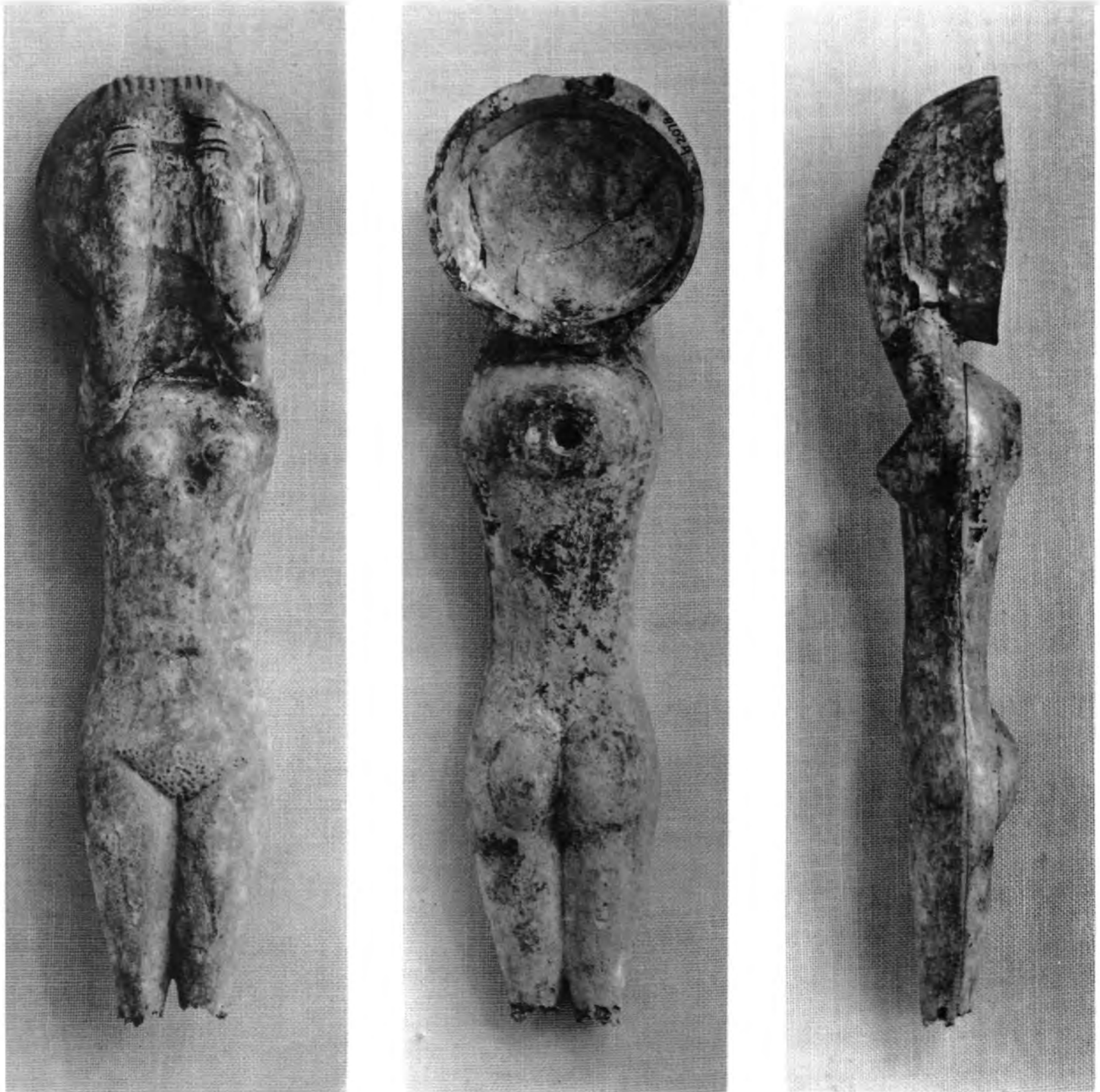


PLATE 41



178



b



a

182



180



181



a



b

179



b



a

183



b



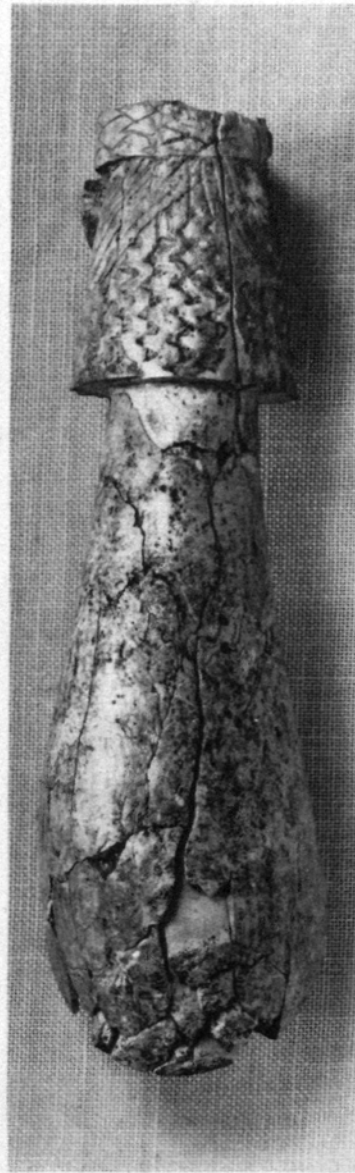
a

184



185

PLATE 43



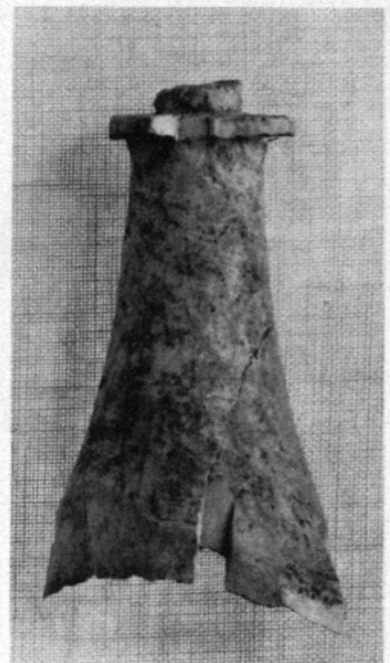
186



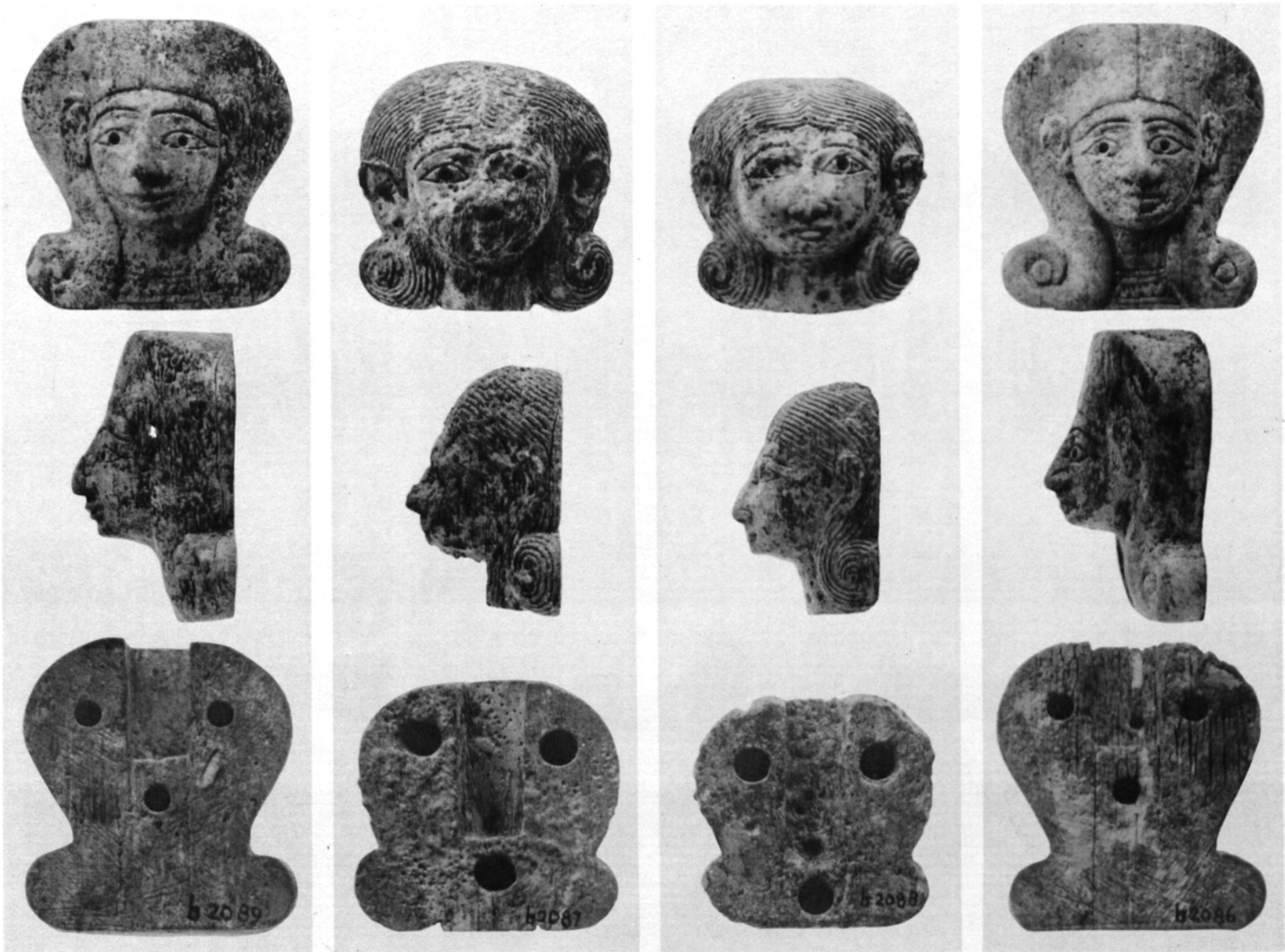
188



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195

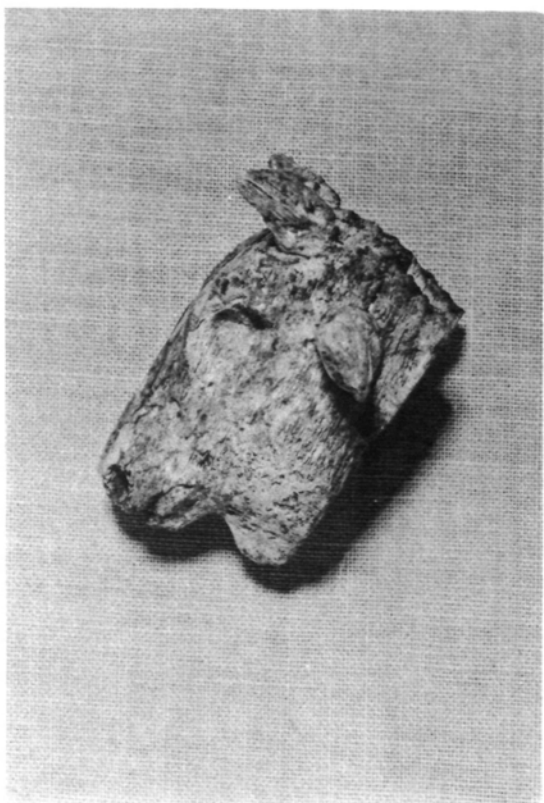


194



196

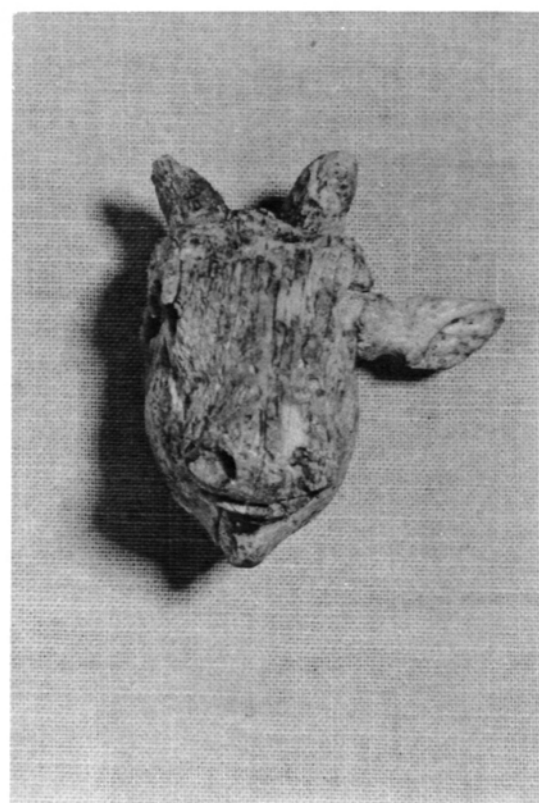
PLATE 45



198 *a*



197



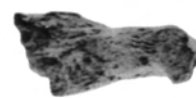
198 *b*



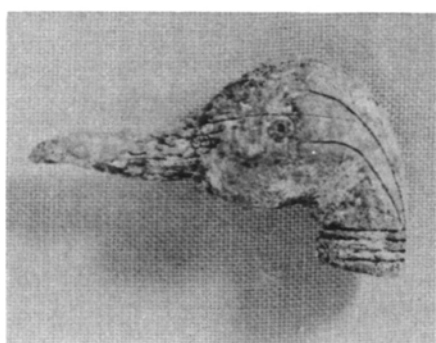
200



199



201



207



205



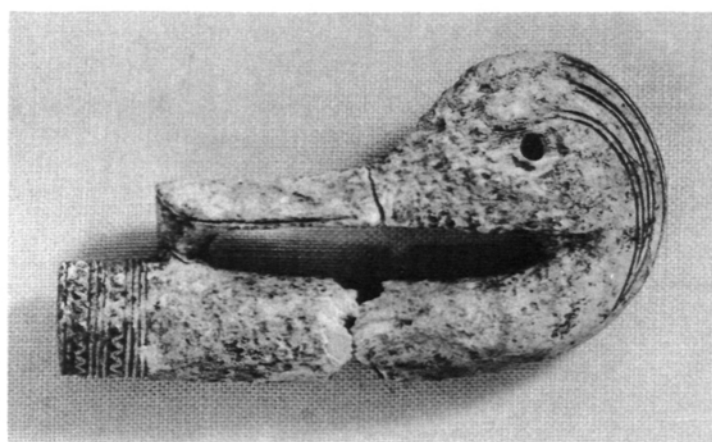
206



208



209



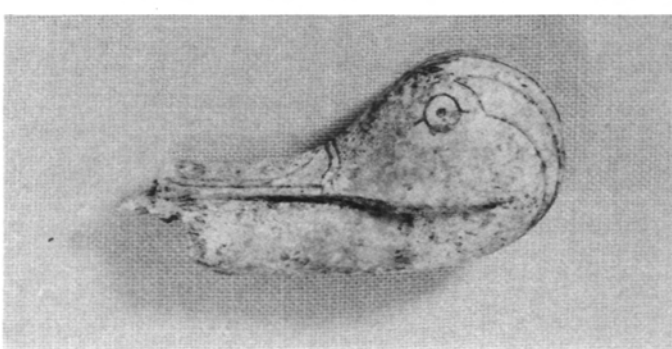
202



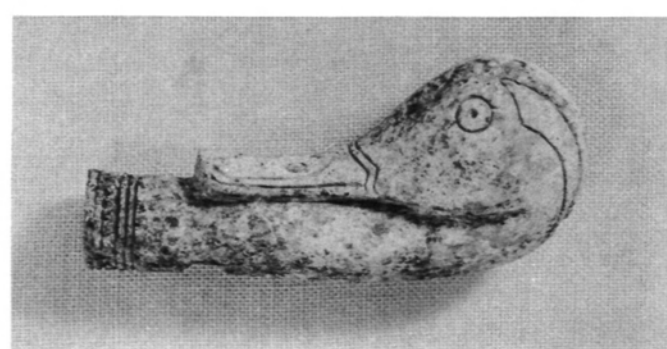
210



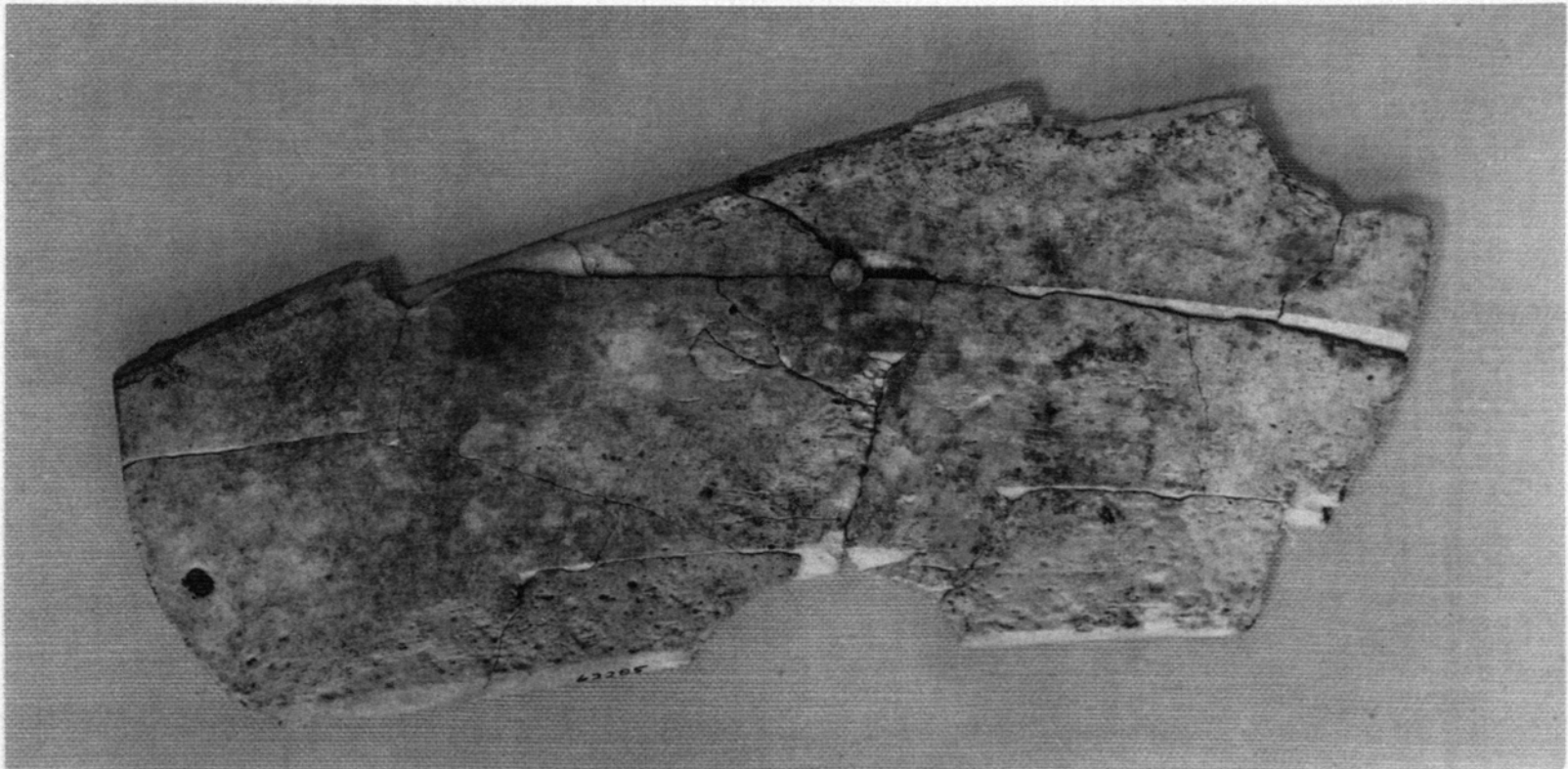
211



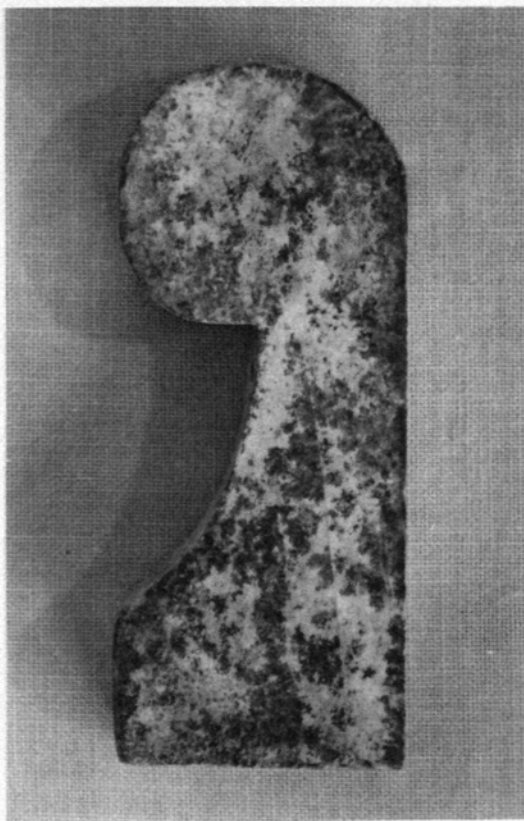
203



204



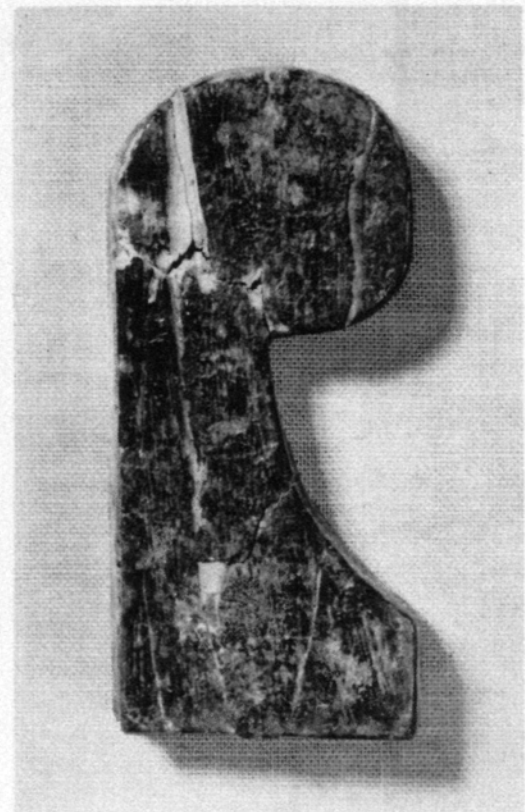
212



213



215



214



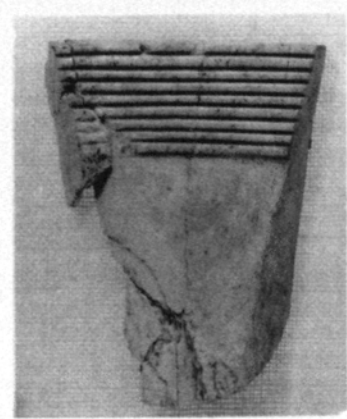
216



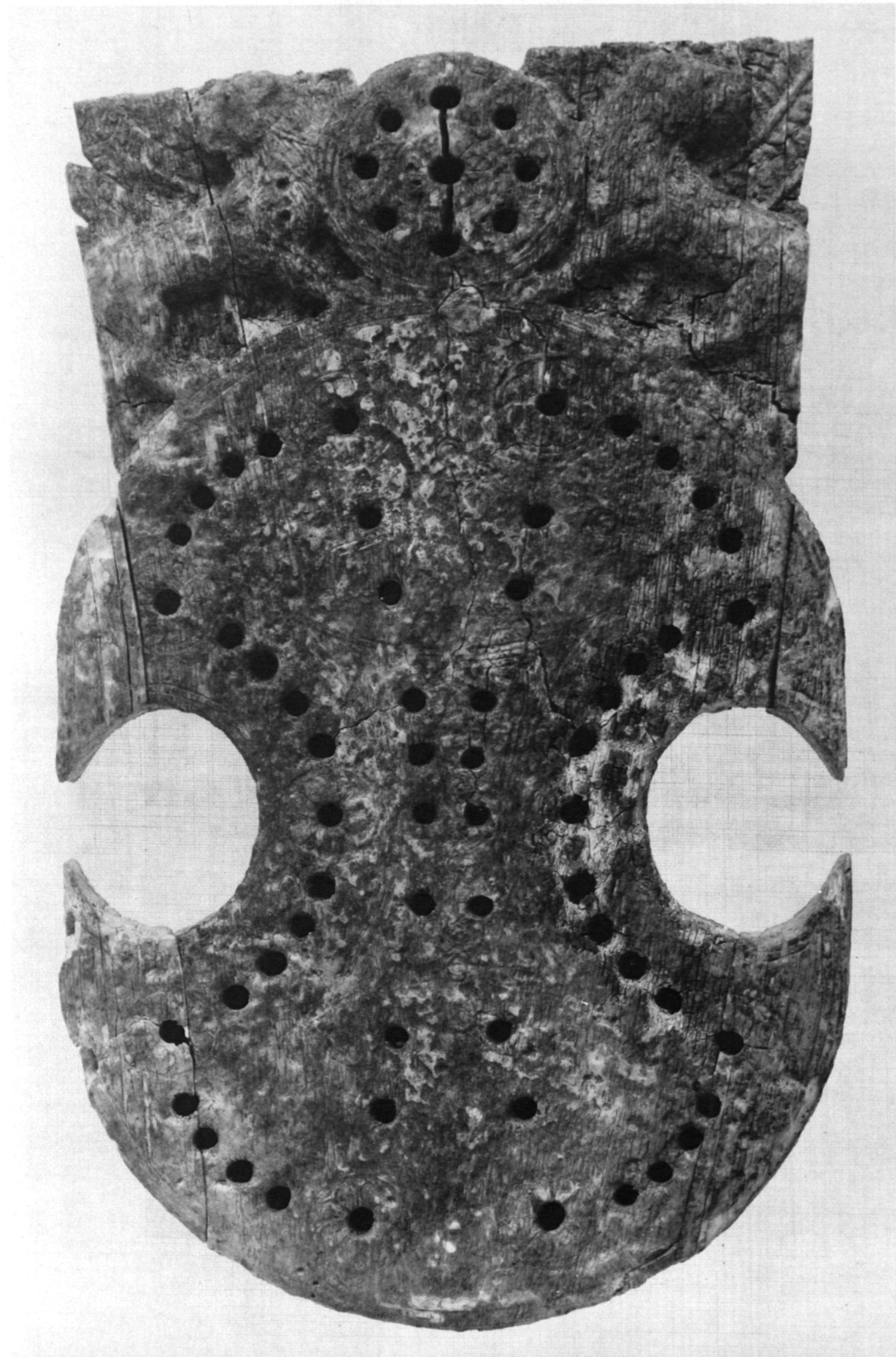
217



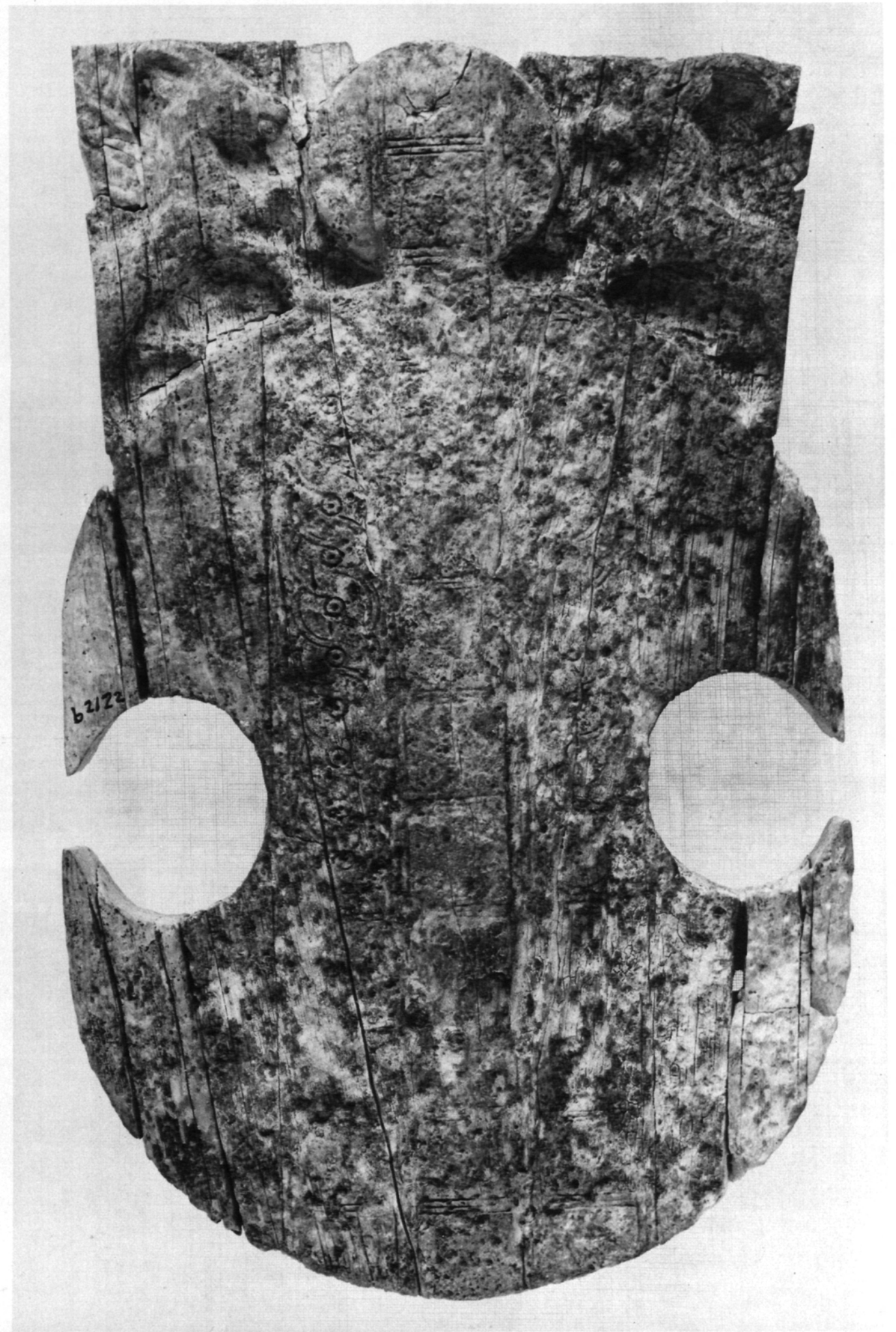
218



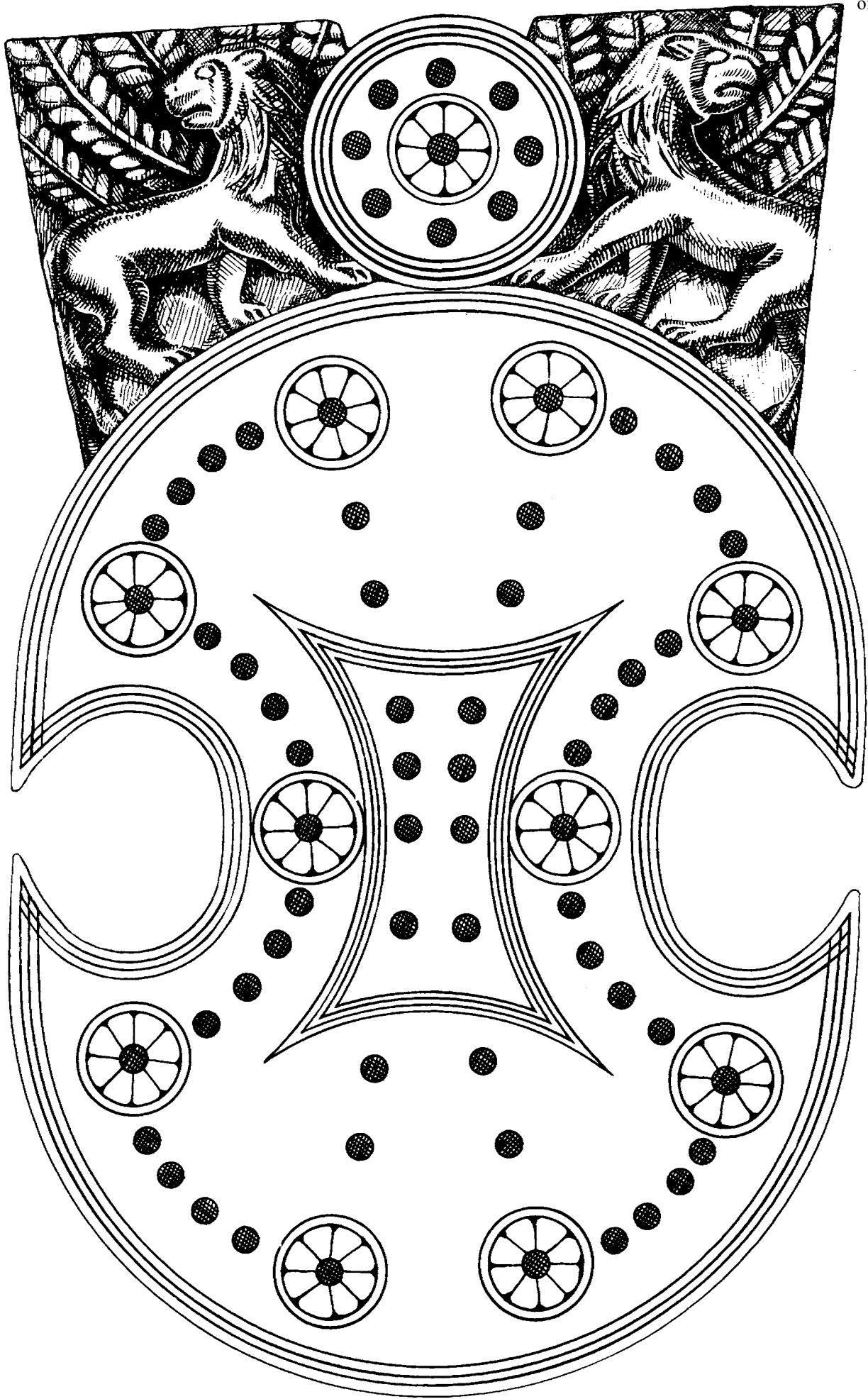
219



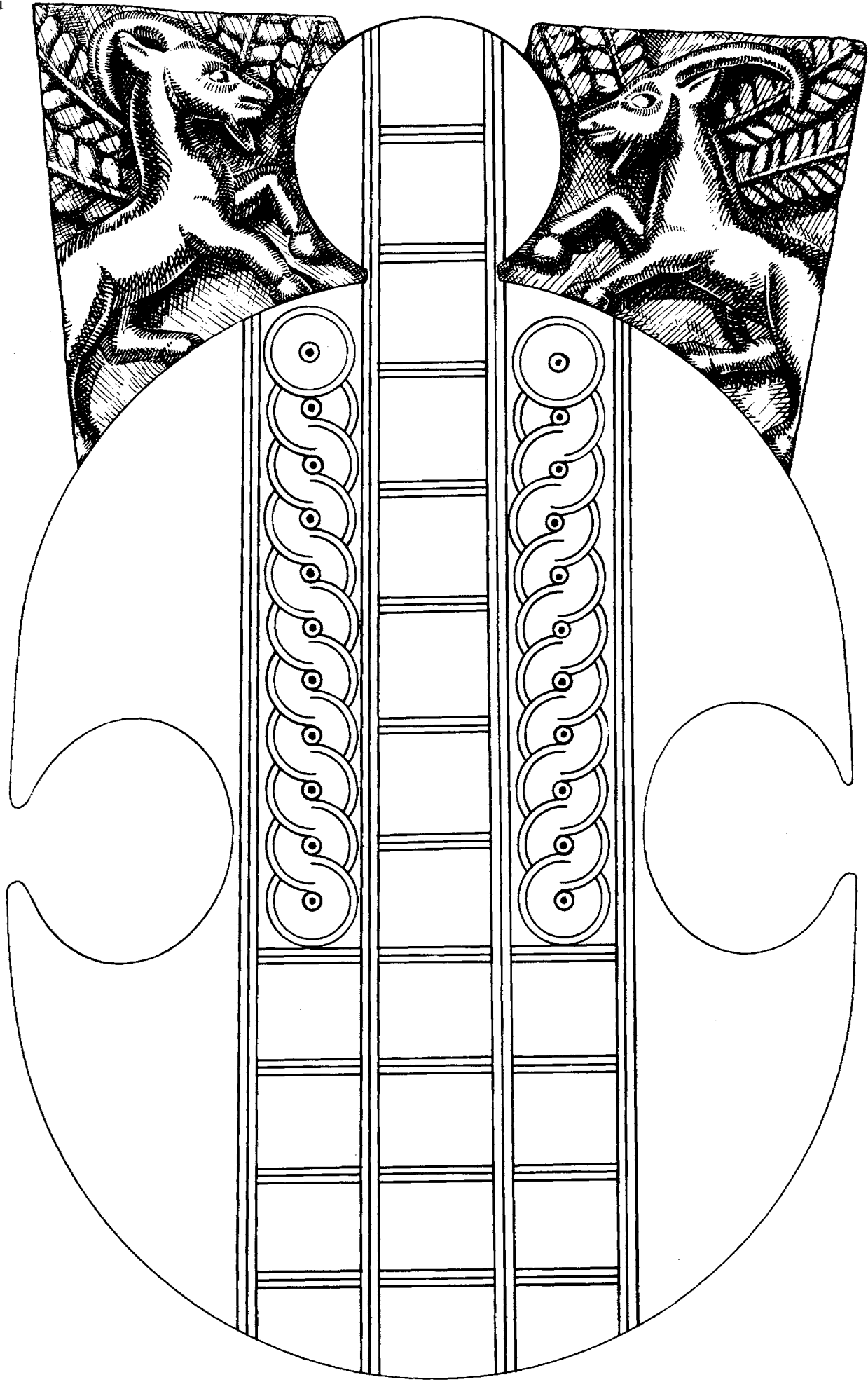
a



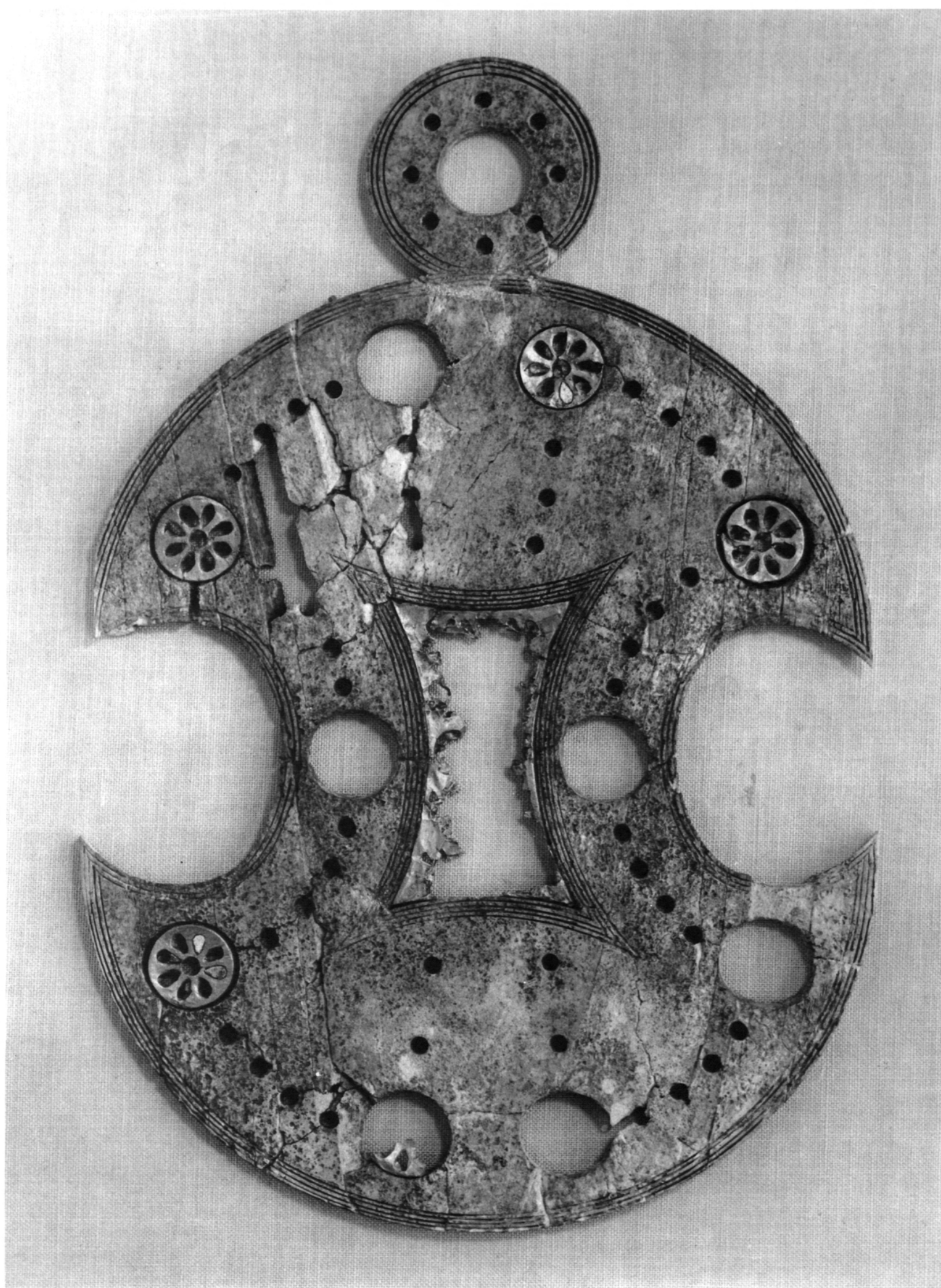
b



c

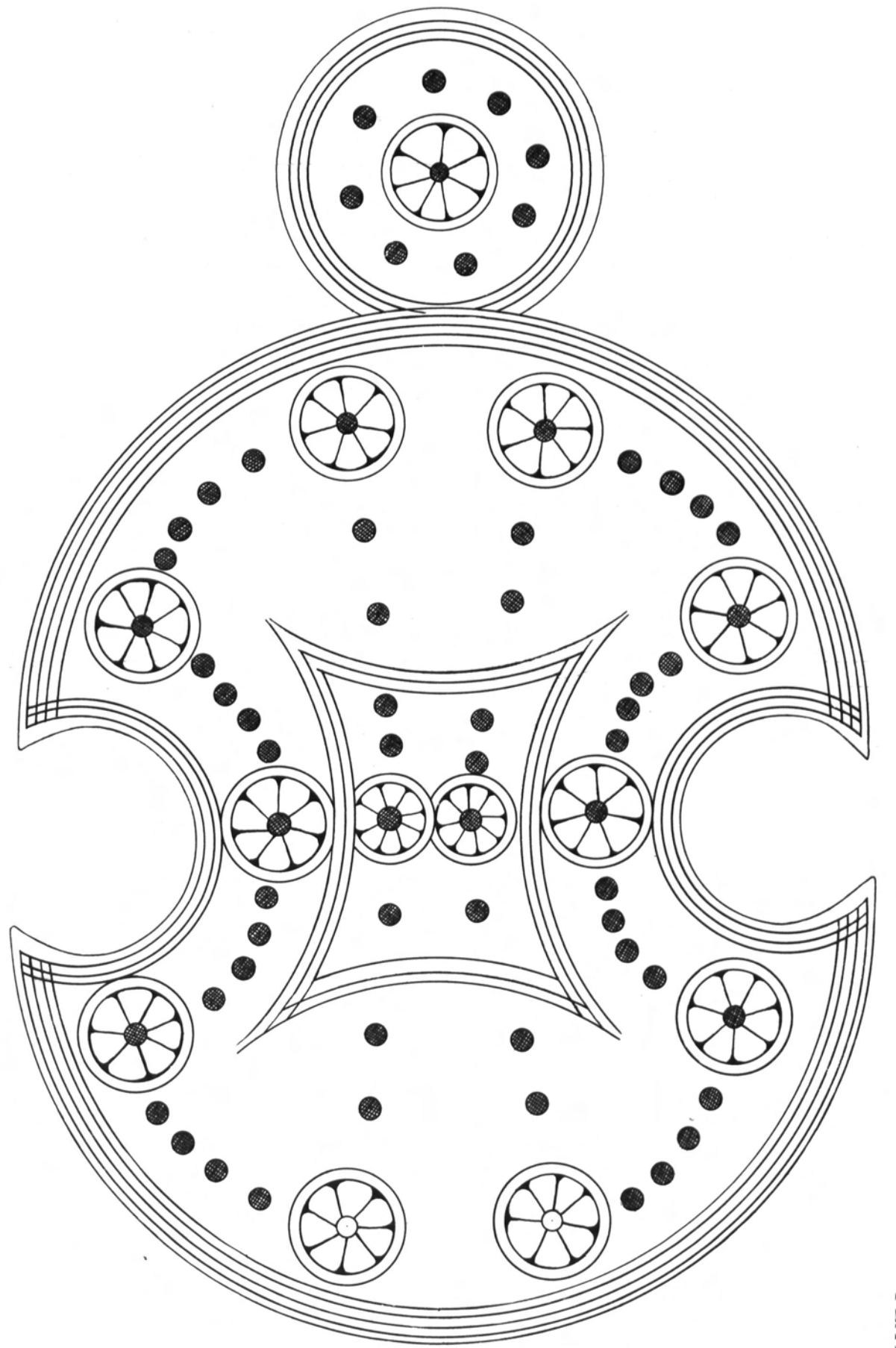


d





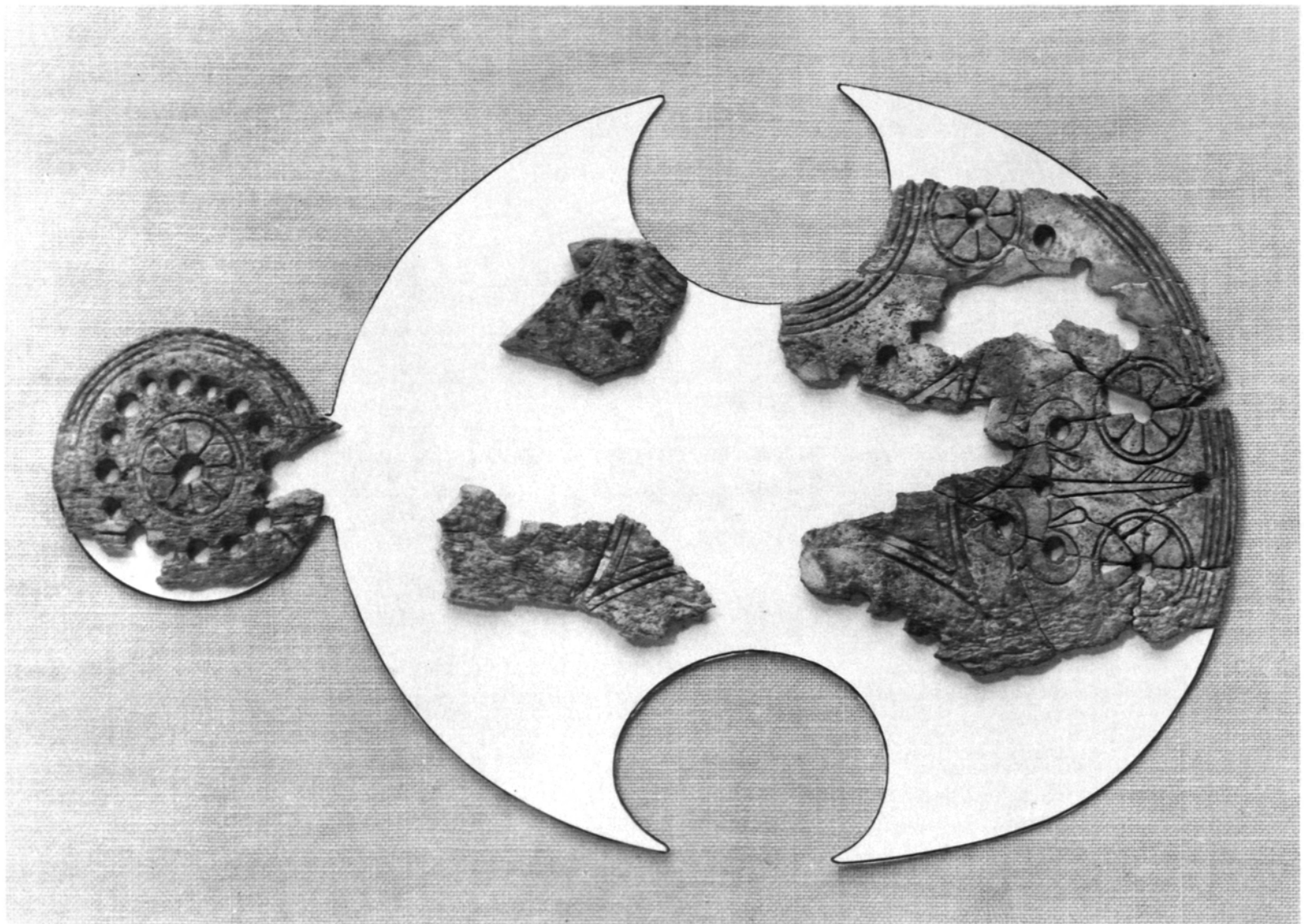
a



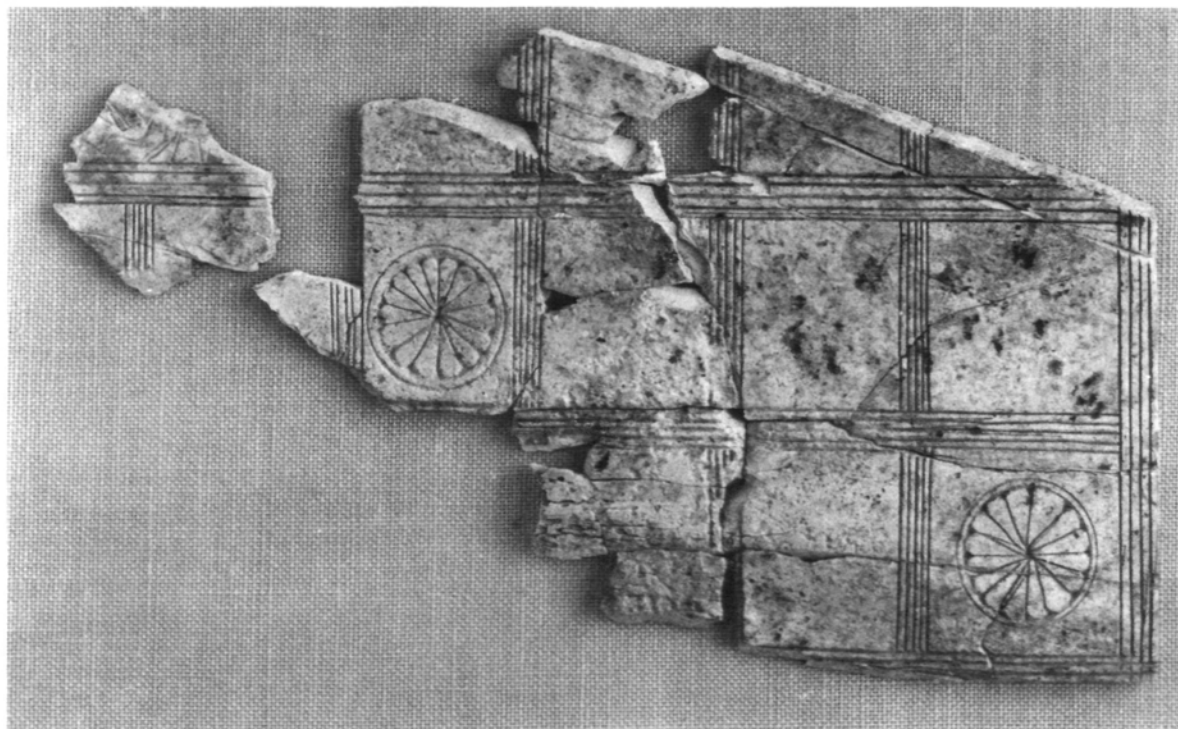
b

222

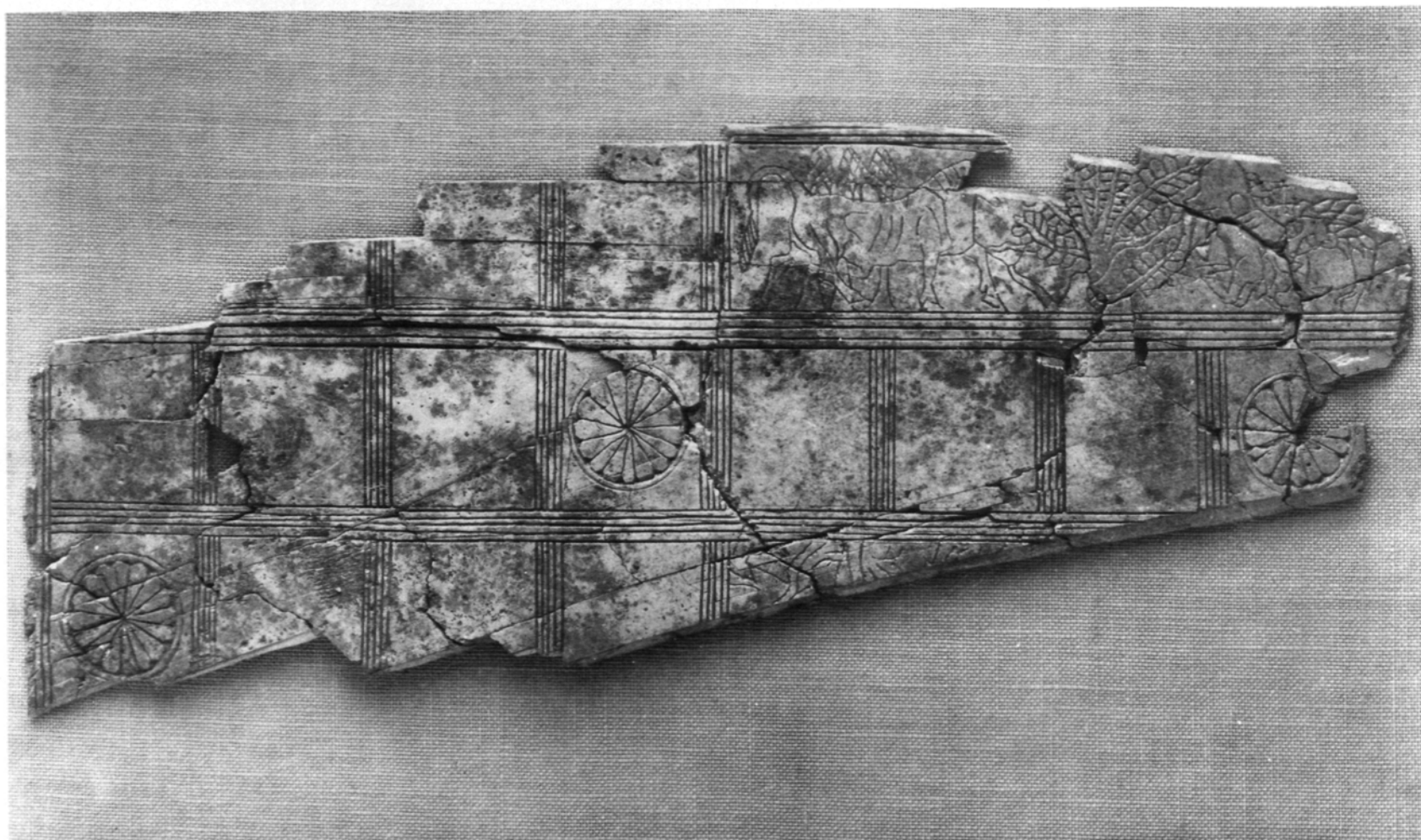
PLATE 50



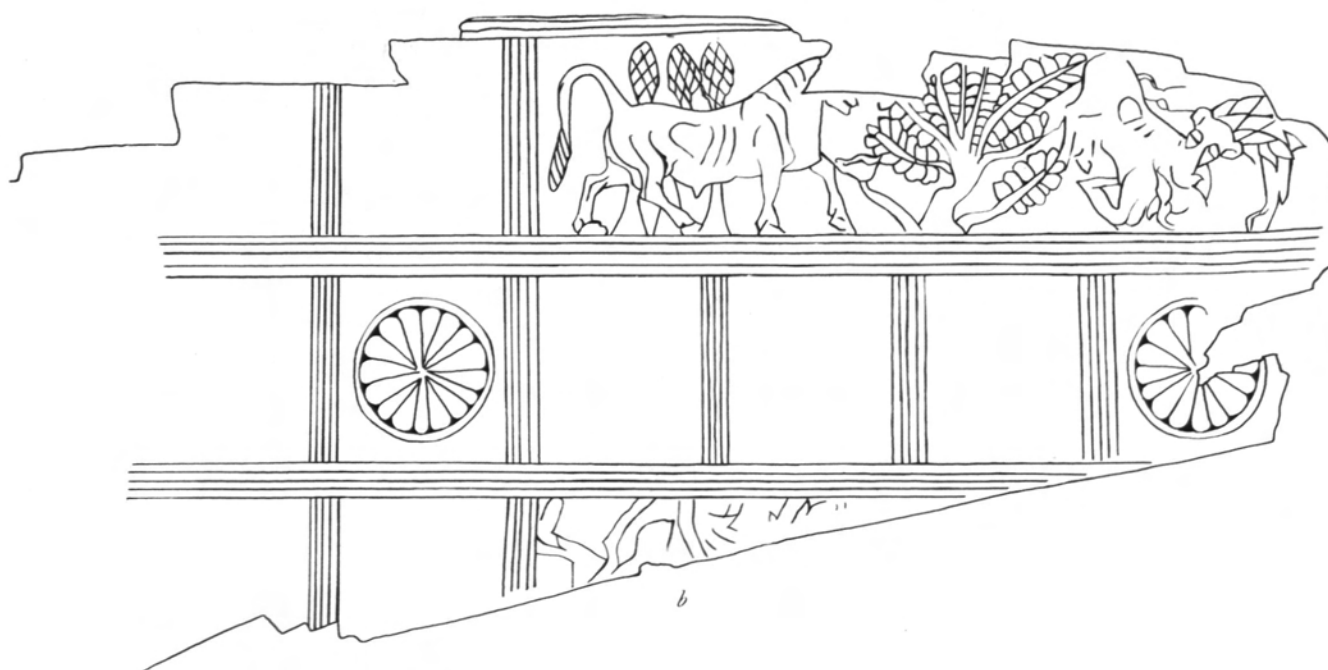
223



224



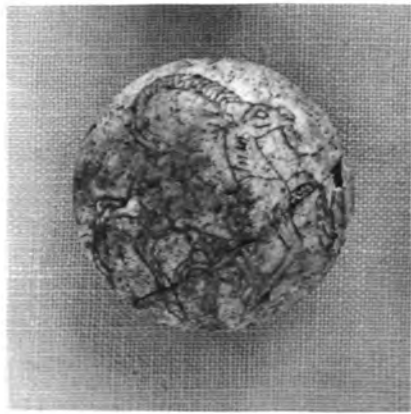
a



b

225

PLATE 52

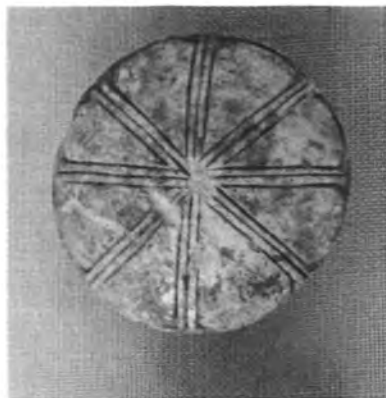
226 *a*226 *b*

227

228 *a*228 *b*

229

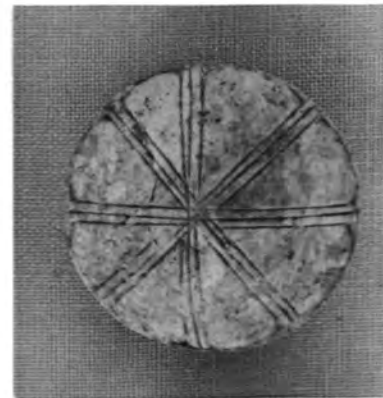
230



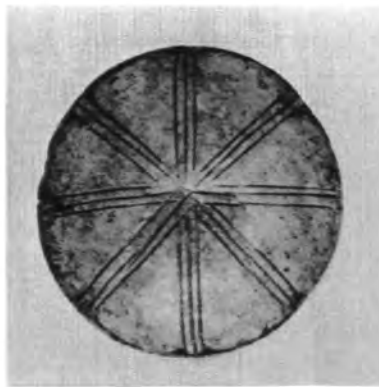
231



232



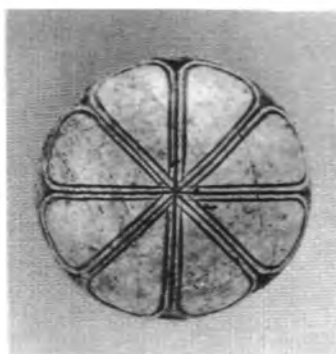
234



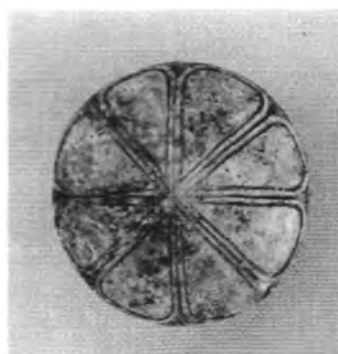
233



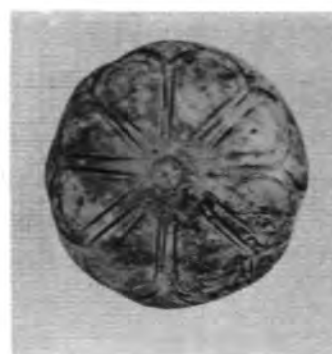
235



236



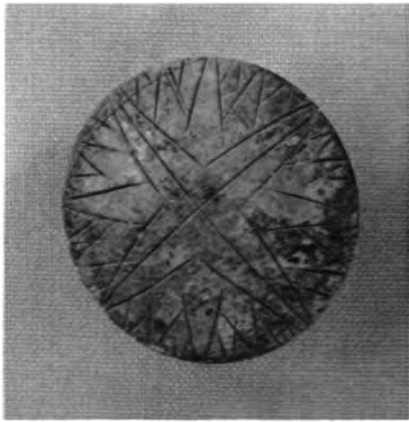
237



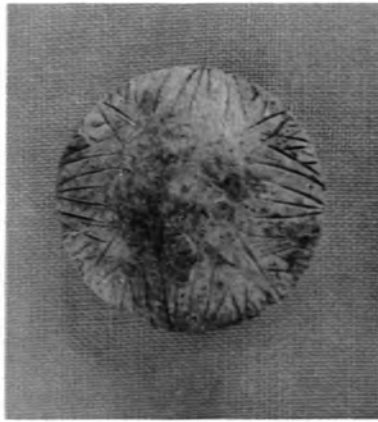
238



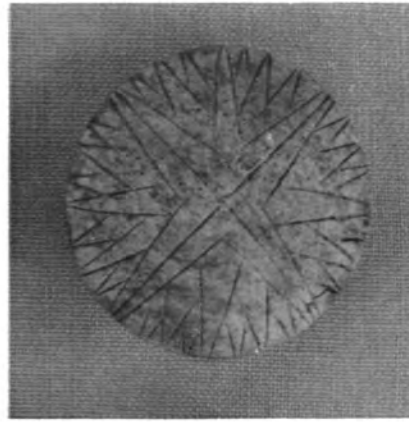
239



240



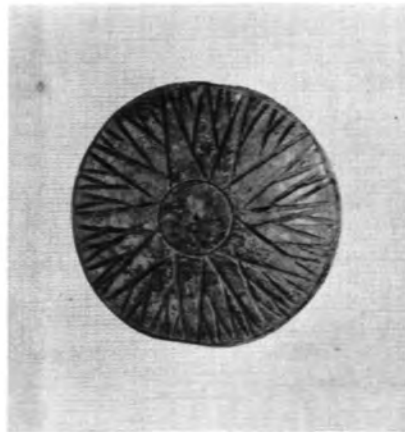
241



242



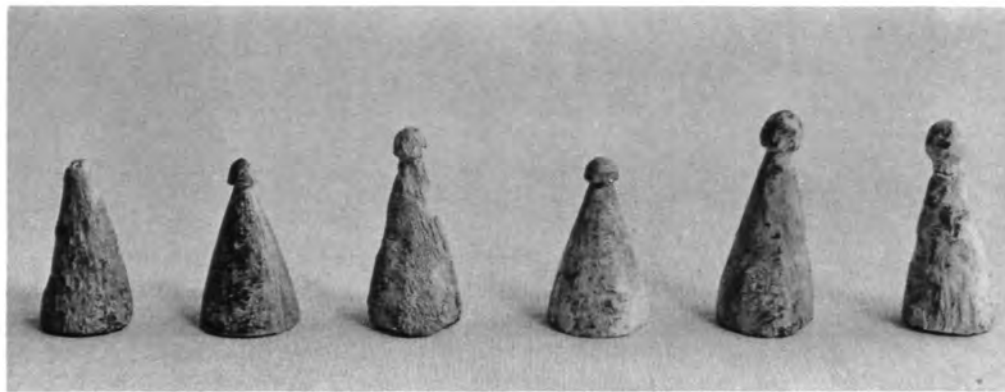
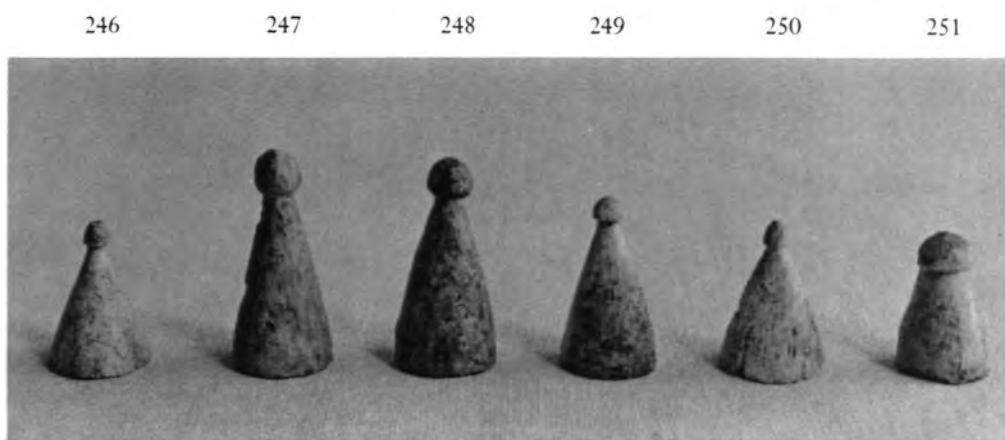
245



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254

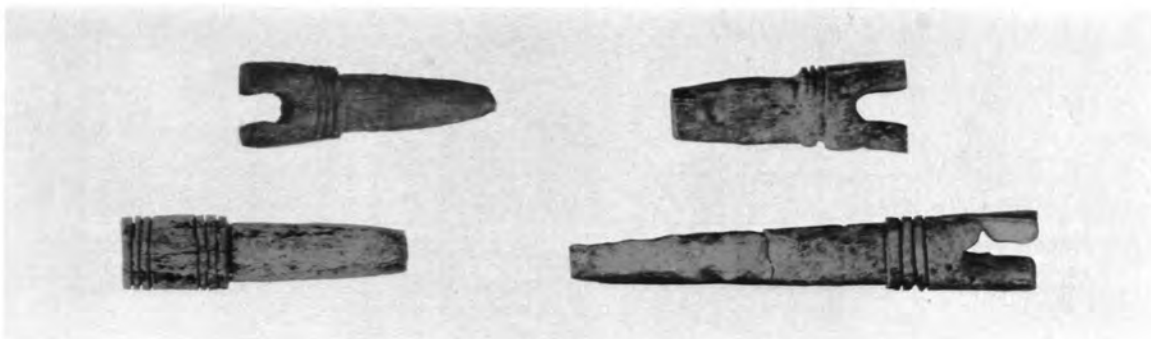
255

256

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261

260

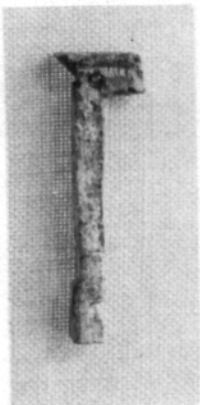
PLATE 54



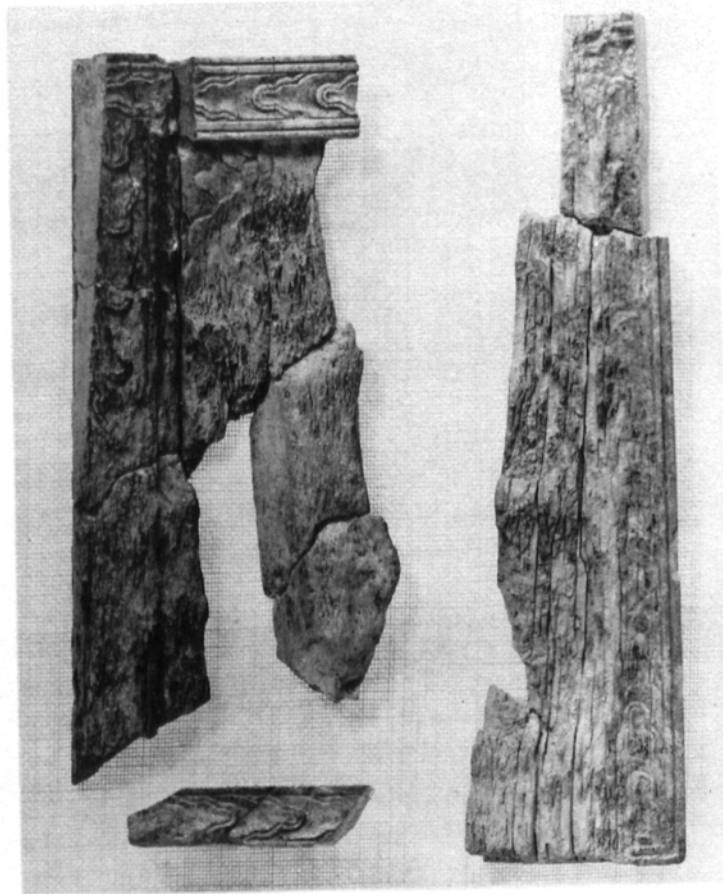
267



268

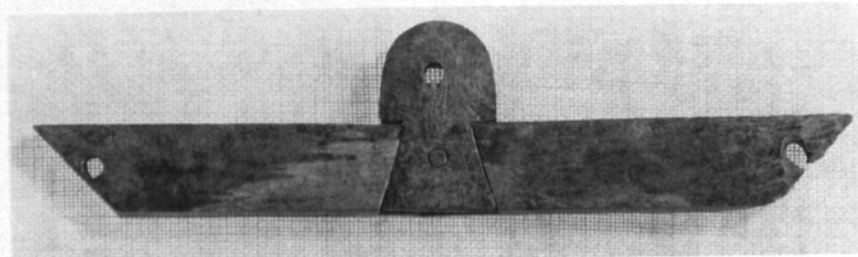
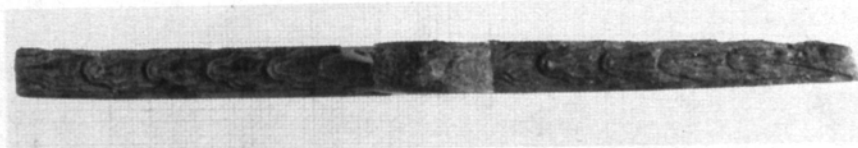


269

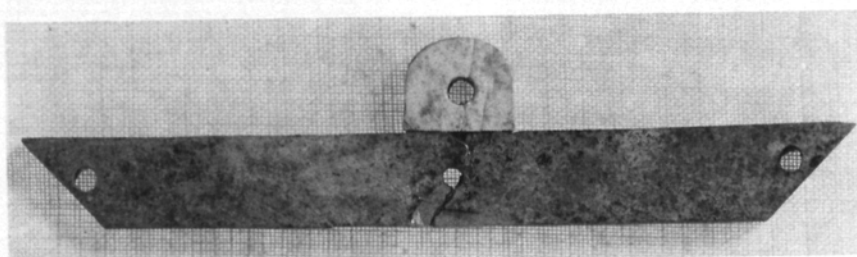


262

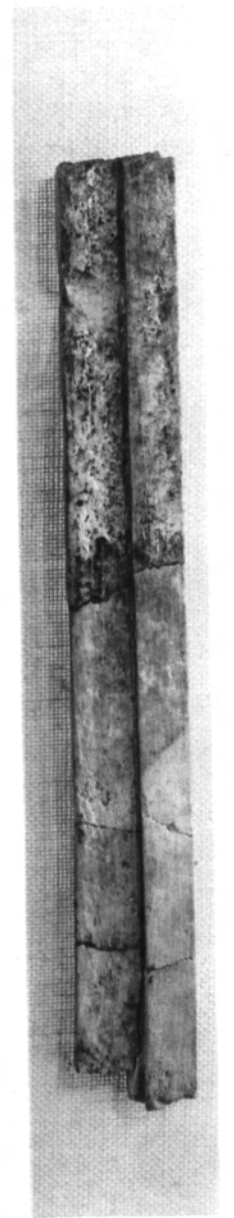
263



264



265

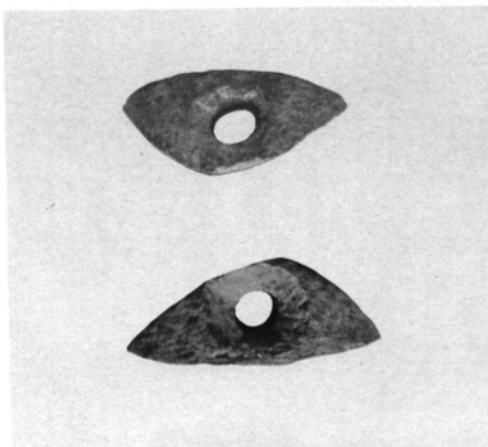


266

271

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275



276

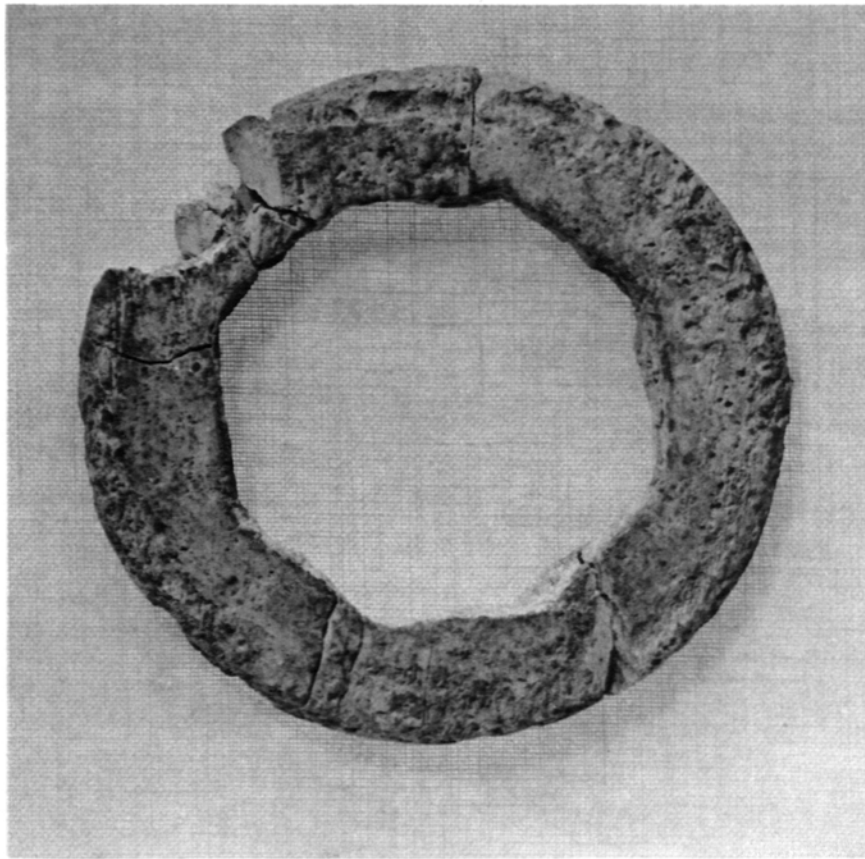


274

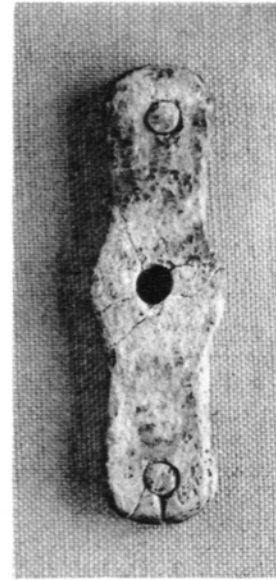




280



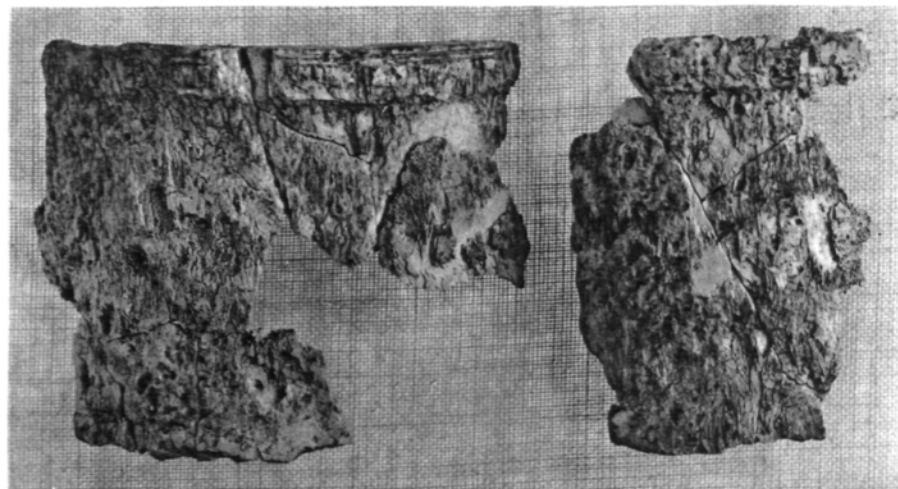
277



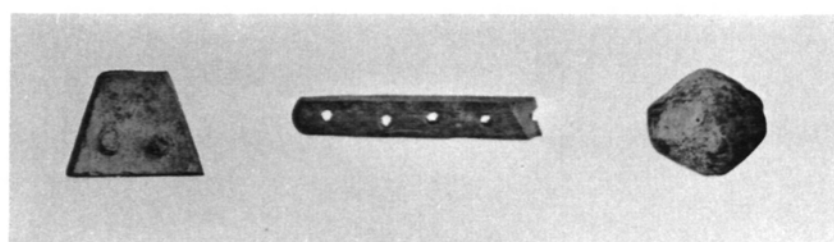
281



278



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286

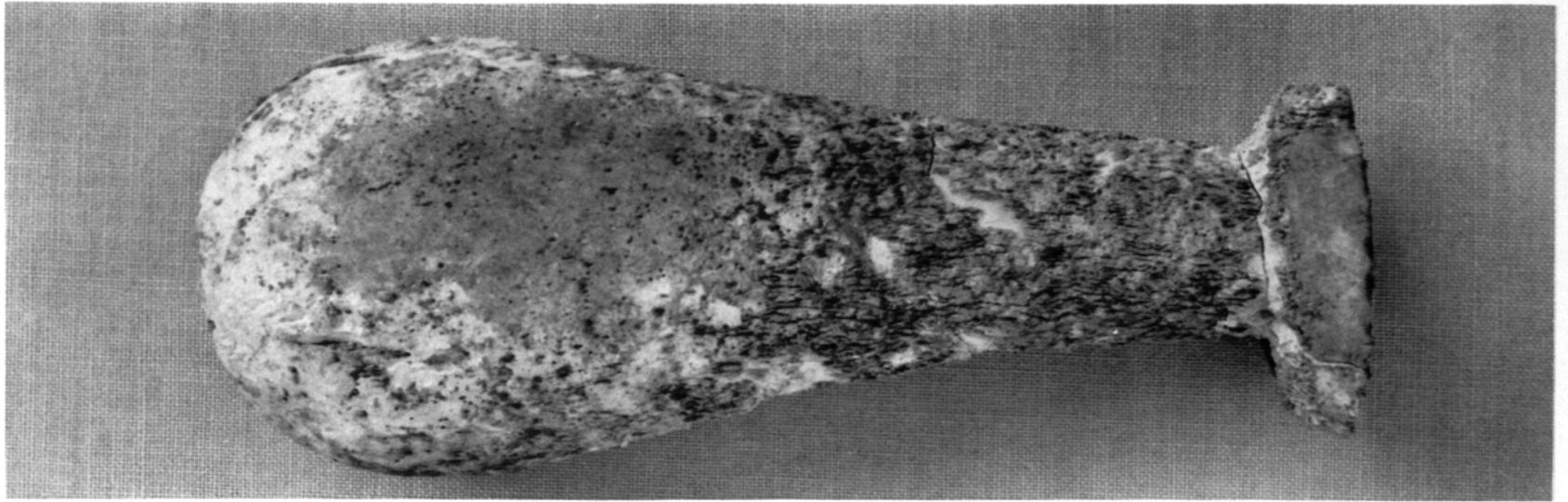


287

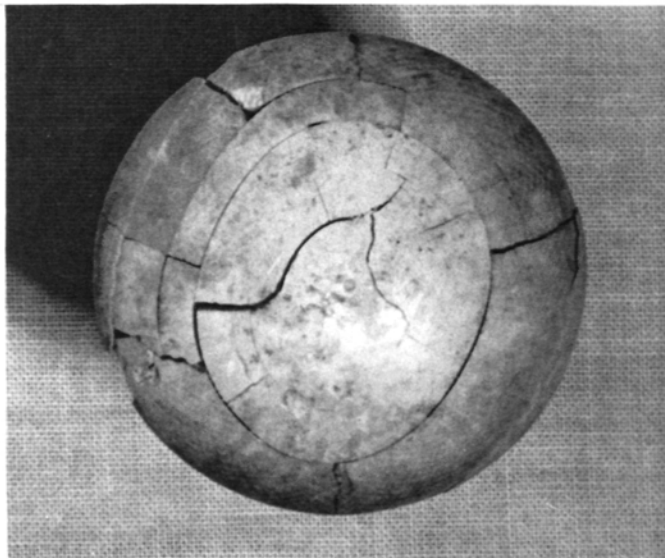


288

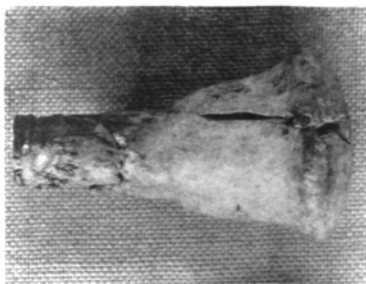
PLATE 56



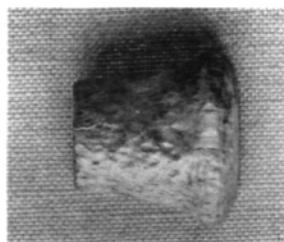
289



290



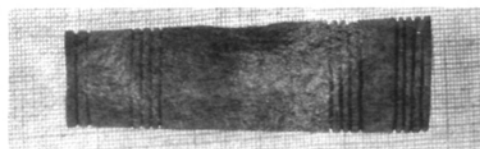
291



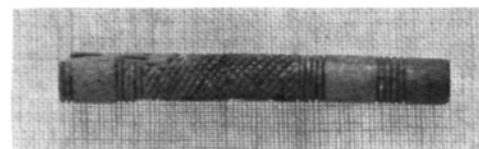
293



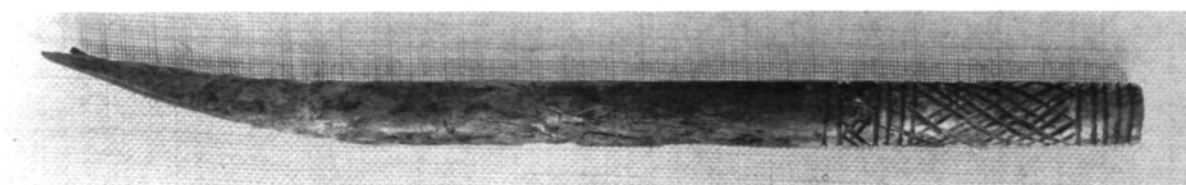
292



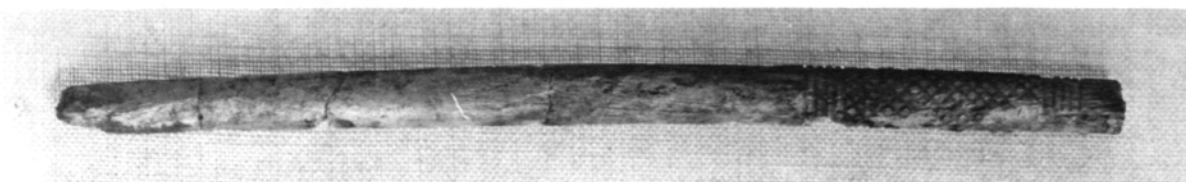
294



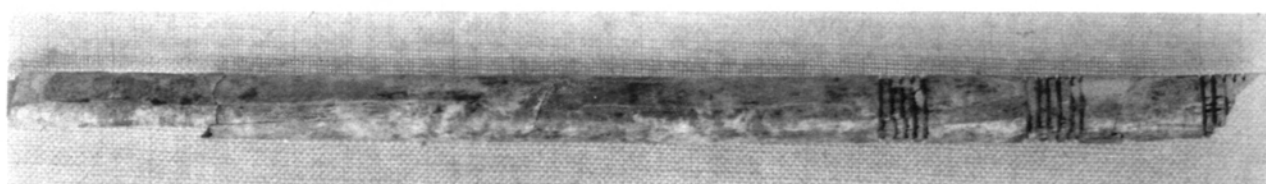
295



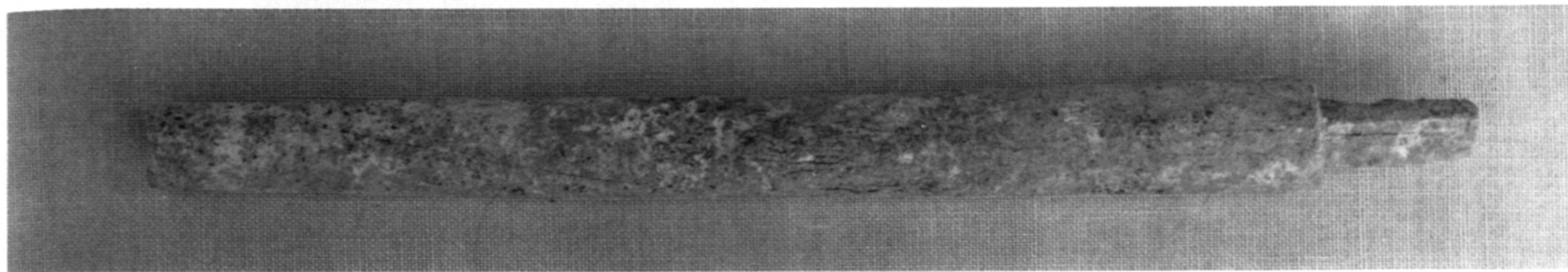
296



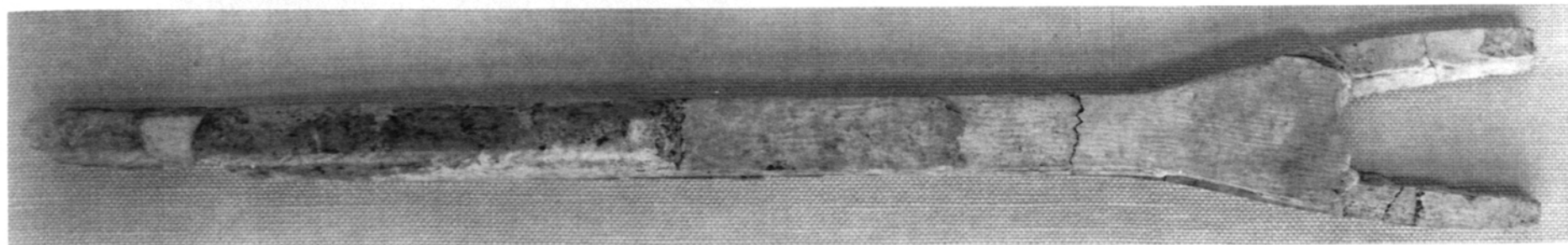
297



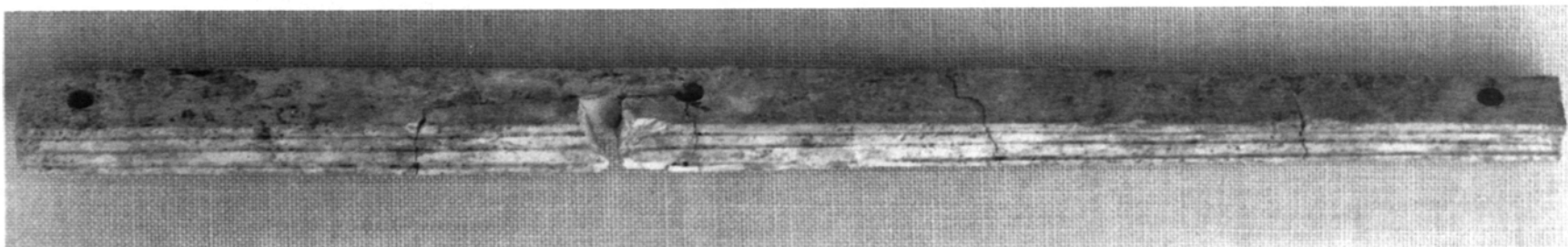
298



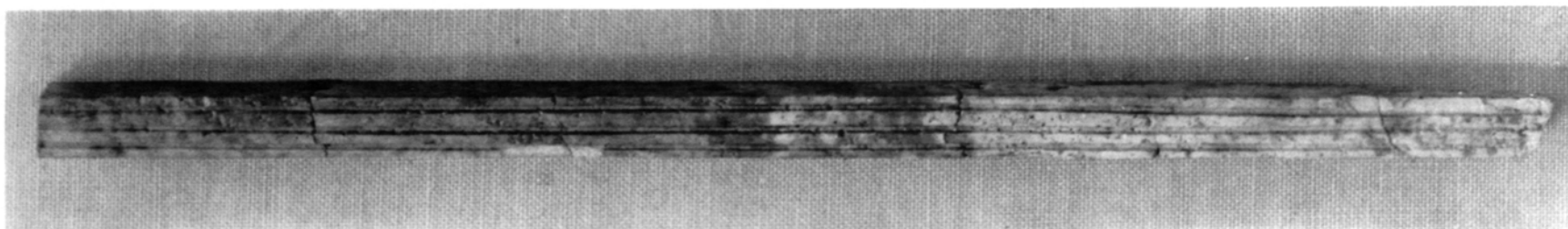
299



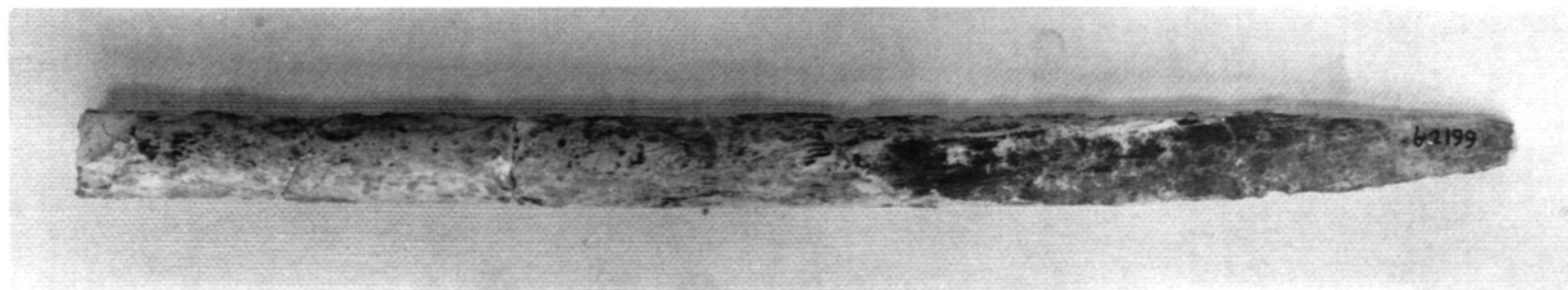
300



301



302



303



304

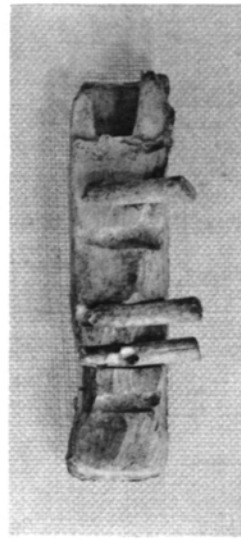
PLATE 58



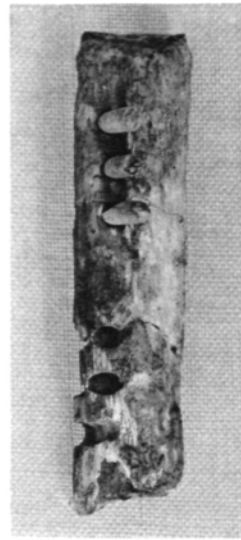
307



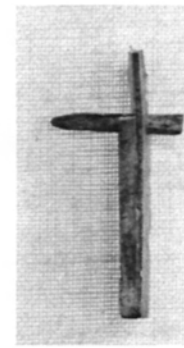
308



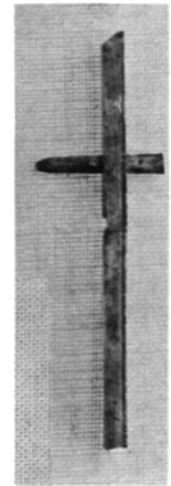
305



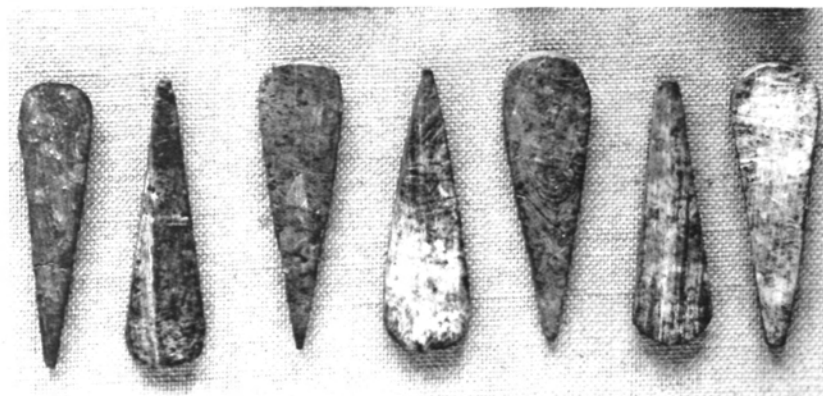
306



309



310



311

312

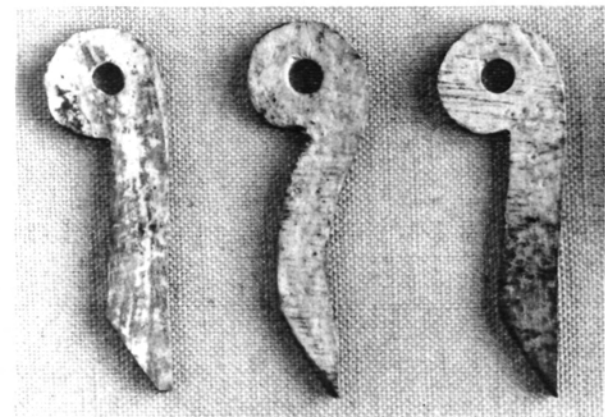
313

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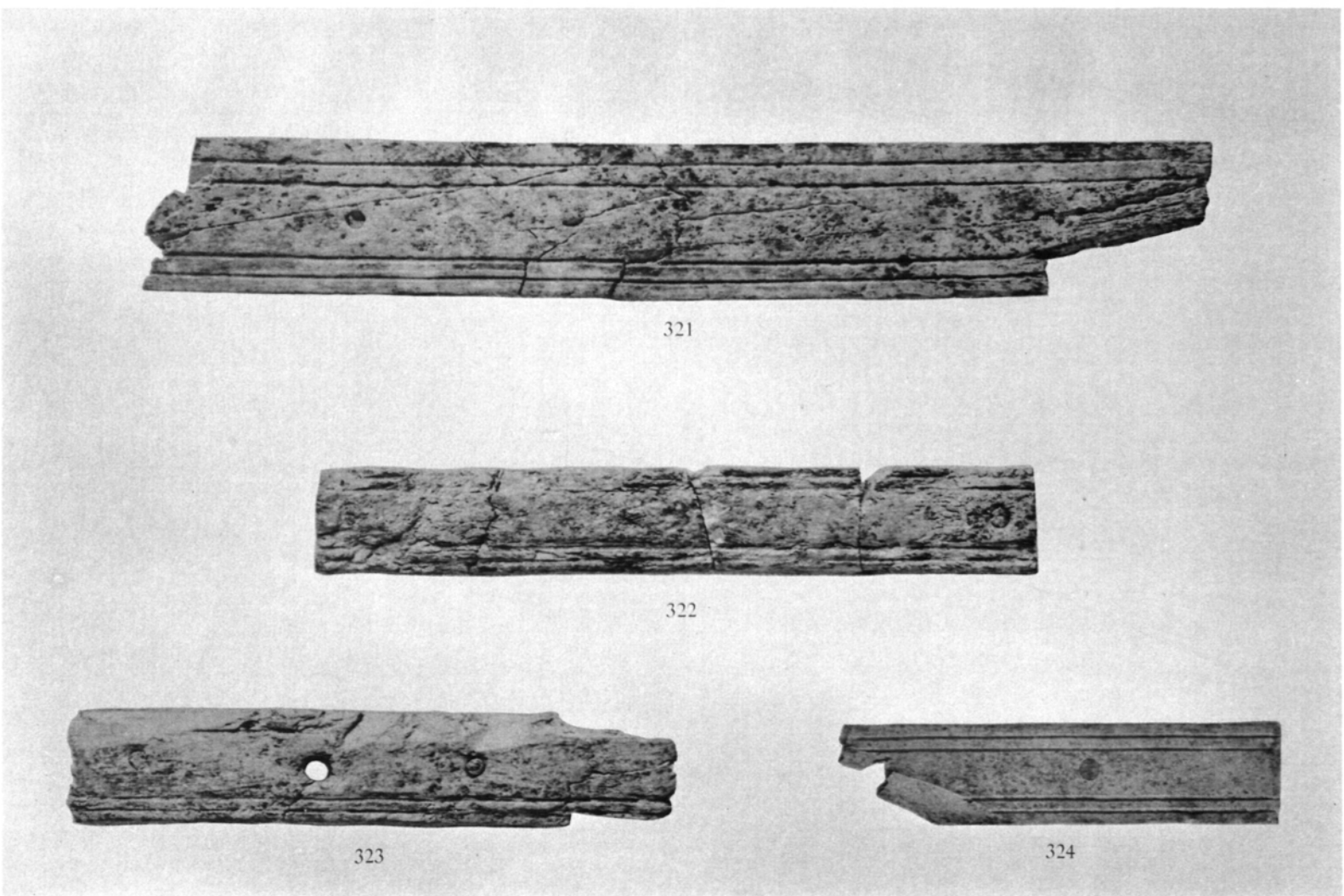
317



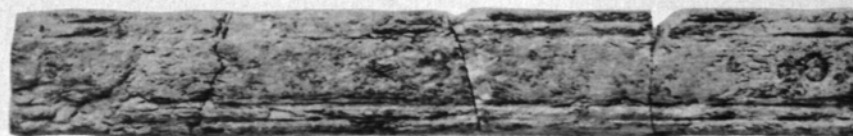
318

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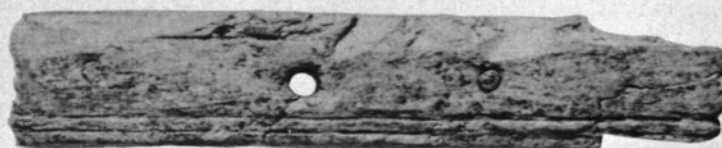
320



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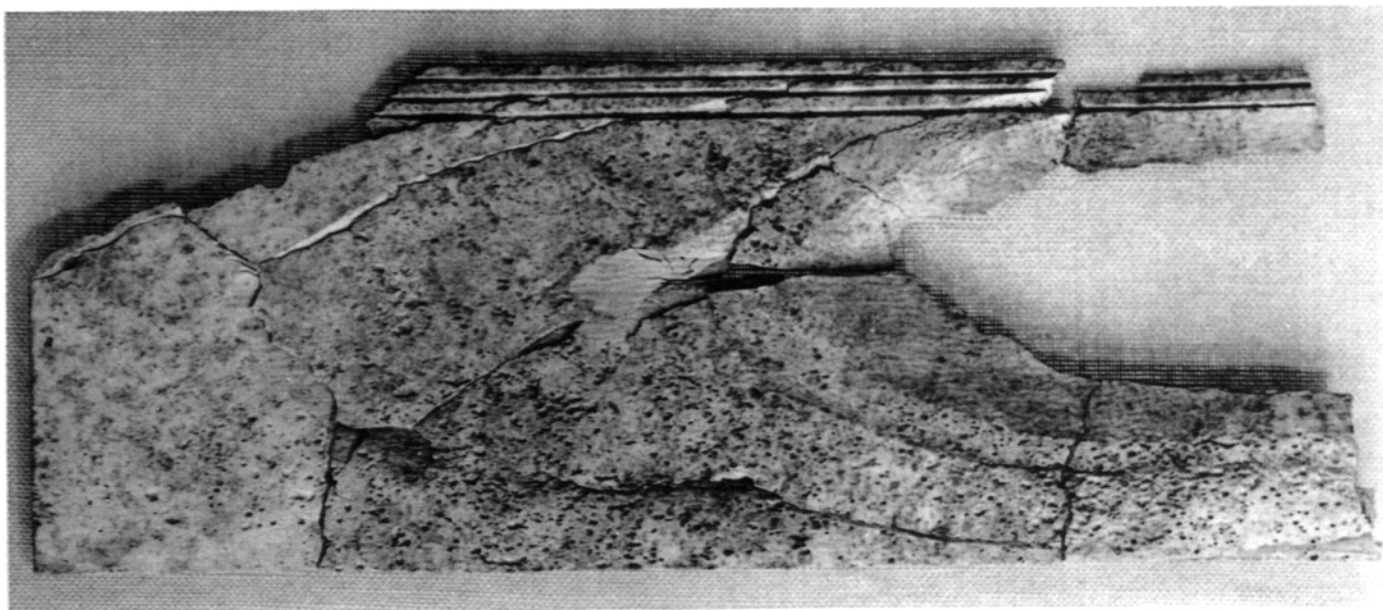
322



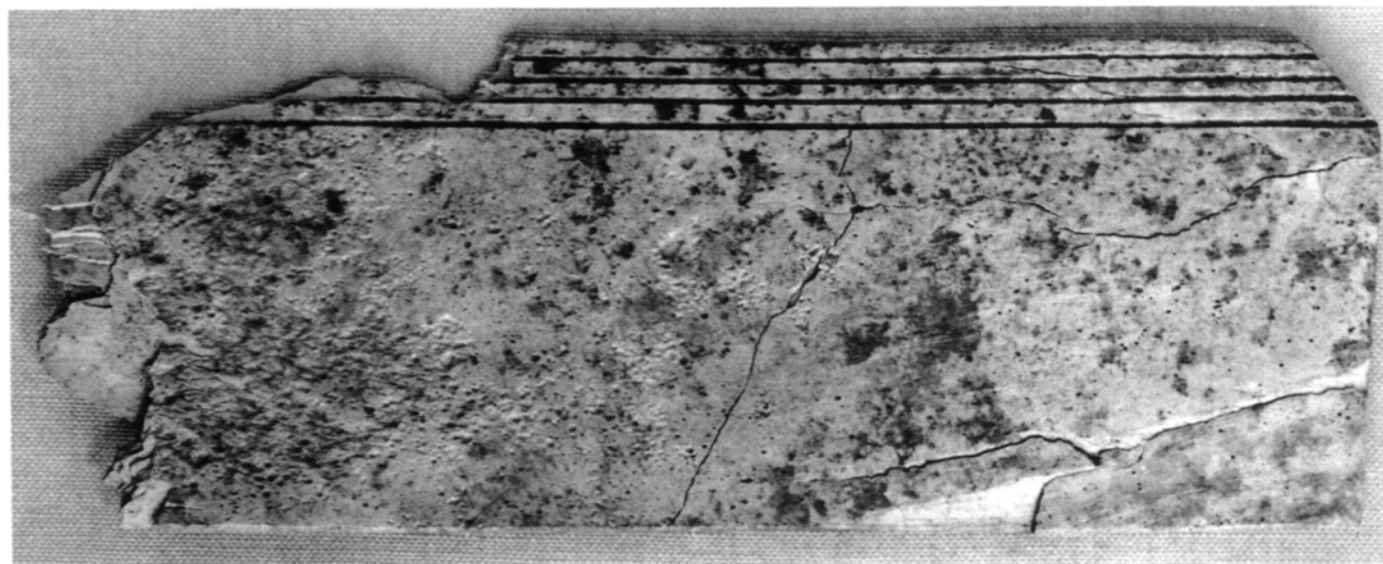
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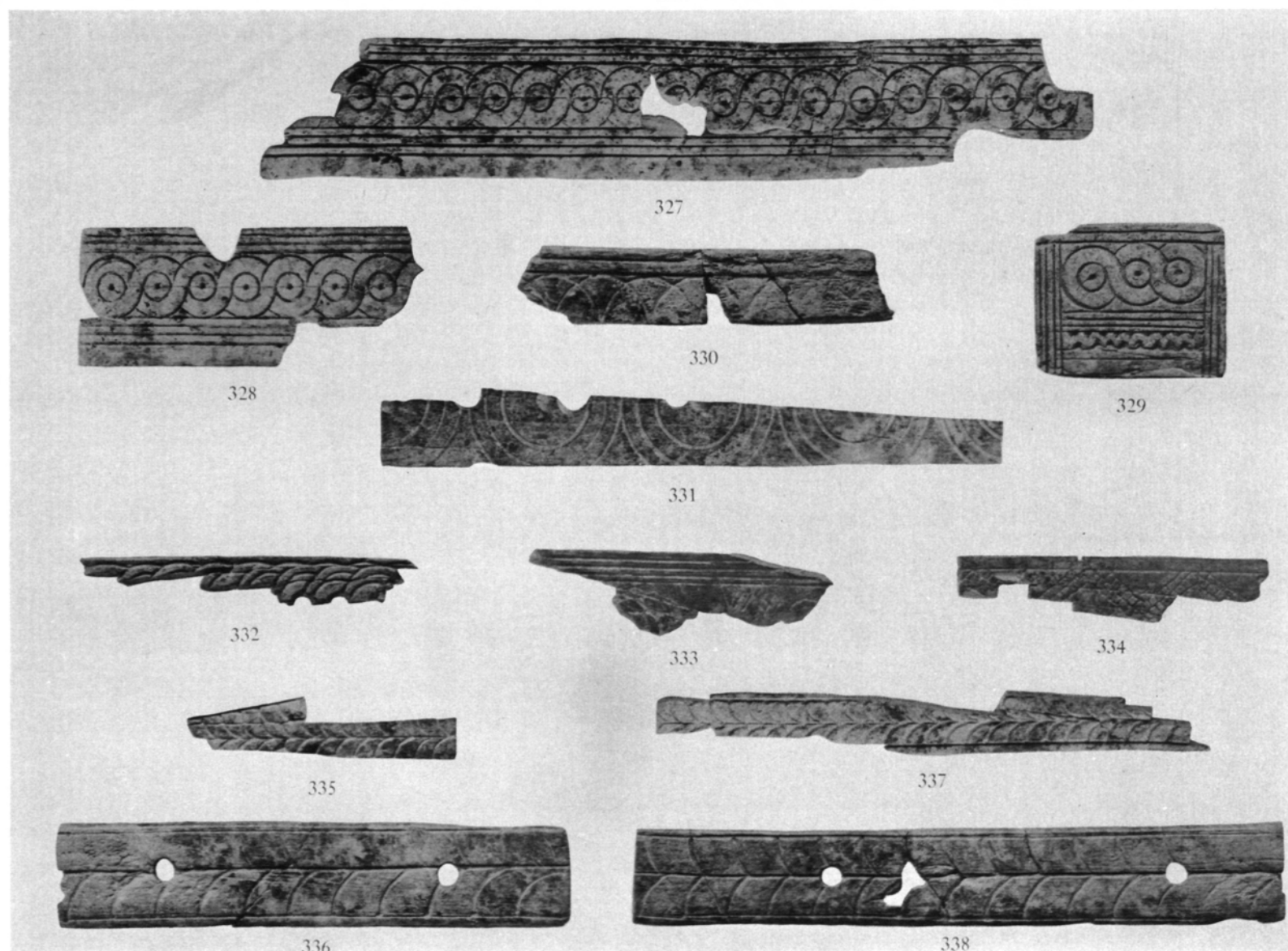
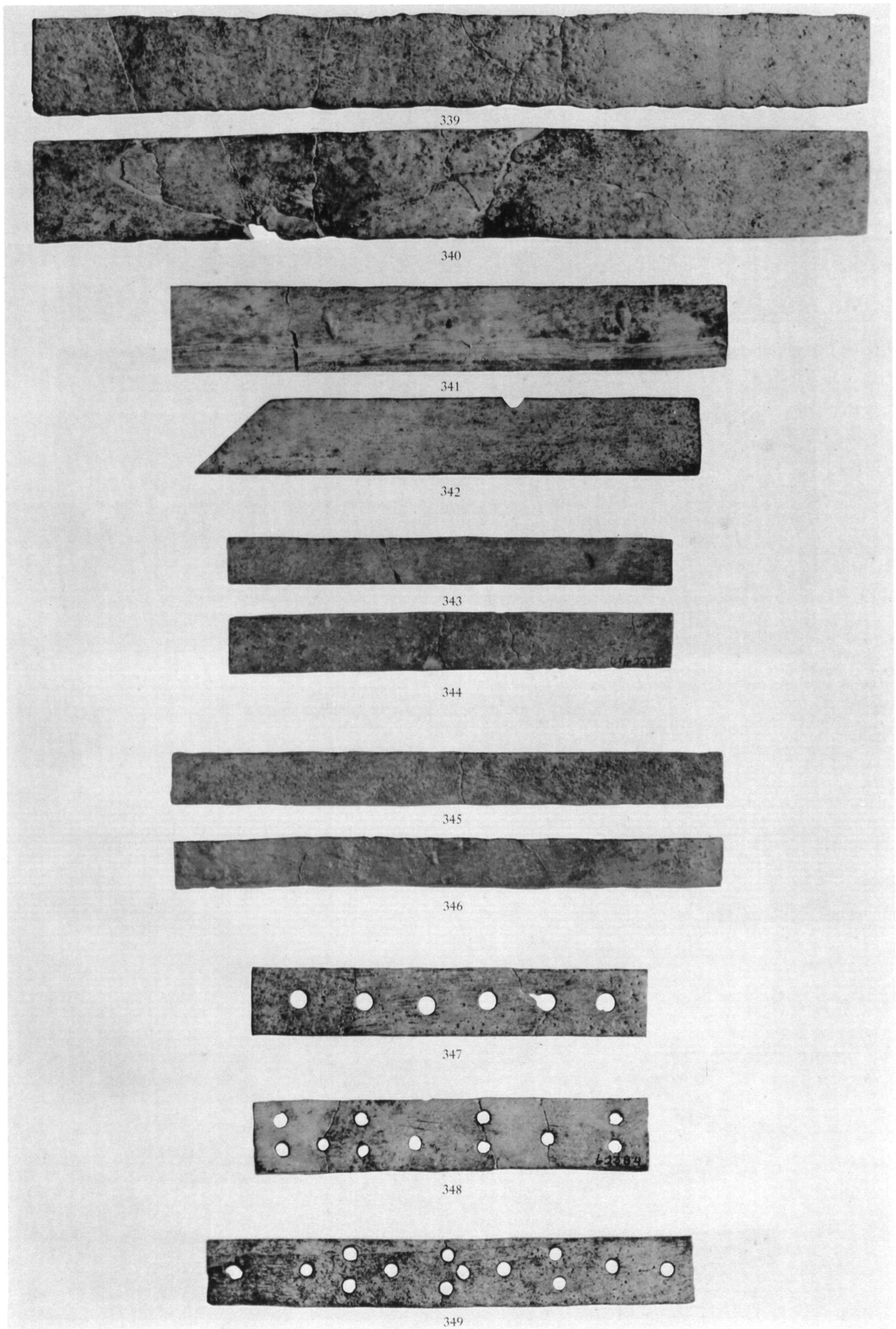


PLATE 60



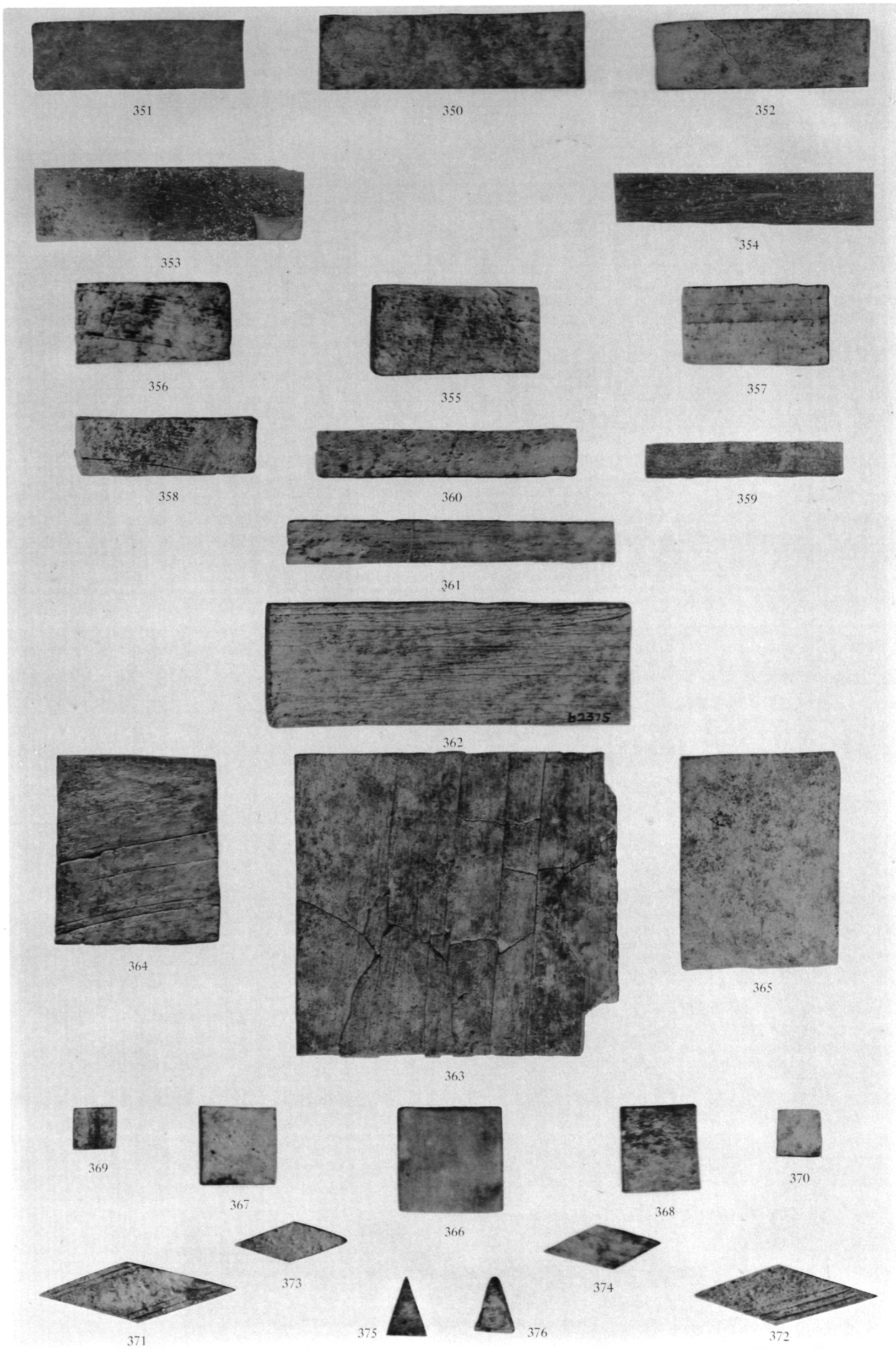


PLATE 62

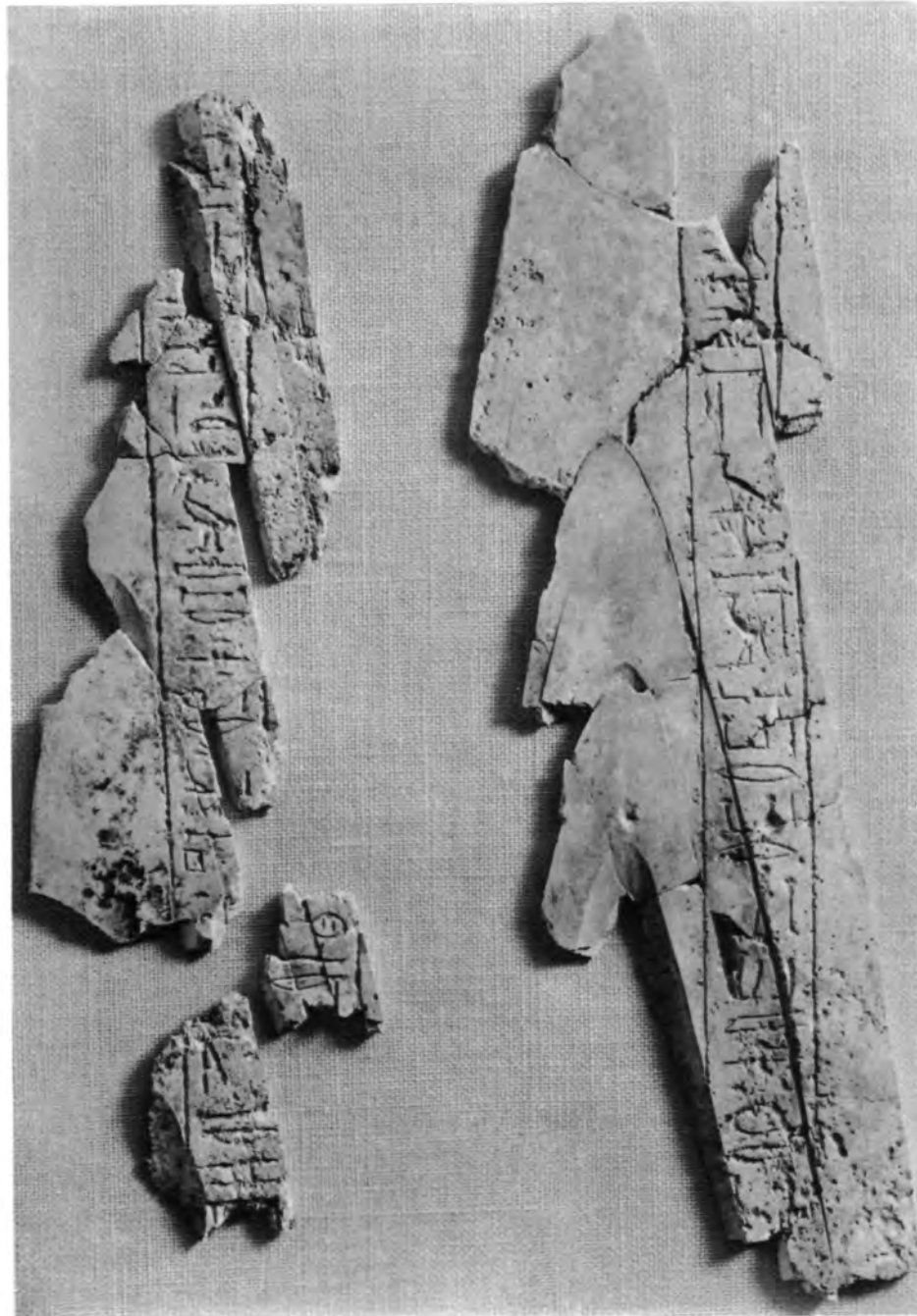




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