

BRITISH MUSEUM.

EXCAVATIONS AT EPHESUS

THE ARCHAIC ARTEMISIA

BY

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TEXT.

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PREFACE.

THE present volume contains, primarily, an account of the excavations on the site of the Ephesian Artemision, conducted on behalf of the British Museum by Mr. D. G. Hogarth; and the opportunity has been taken to include the results of Mr. J. T. Wood's excavation, in so far as these concern the earlier temples on the same site. The book is thus designed to serve as a definitive publication as regards the present state of our knowledge of the archaic Artemisia. It is proposed in due course to issue a second volume, dealing with the rest of the material, and particularly with the remains of the Hellenistic temple.

The site of the Artemision has been the property of the Trustees of the British Museum since the date of Wood's first excavation in 1869. His undertaking was brought to a conclusion in 1874; and from that date the site remained undisturbed for nine years. In 1883 an attempt was made to re-open the campaign: an influential committee was formed in London, and an appeal was circulated; a small sum of money was raised by public subscription, and in May of that year, with the sanction of the Museum authorities and of the Porte, Wood once more set to work. His principal object appears to have been the elucidation of the questions regarding the sculptures of that portion of the building which he erroneously called the Frieze. Unfortunately, no record seems to have been preserved, either official or otherwise, of the results of this enterprise, which however seems to have been practically unproductive of results. The few objects found came in April, 1884, to the British Museum as the gift of the "Ephesus Excavation Committee": they consisted of a number of small and, for the most part, unimportant fragments of the temple architecture, two small pieces of sculptured reliefs (legs of figures), and three inscriptions: the chief result achieved was the examination of a colonnade which surrounded the temple, and the survey of some fragments of the architecture of which this was composed.

In 1896 the late Mr. A. S. Murray visited Ephesus, and reported on the unsatisfactory condition in which he then found the site of the Artemision: the entire area was overgrown with vegetation, and the few visible remains were lying about in such confusion that no definite plan could be distinguished; he

regarded it as urgent that the site at least should be cleared, and that, if possible, the ground immediately surrounding the temple should be explored. For various reasons of Museum administration, however, nothing could be undertaken until 1902, when Mr. Murray was able to return to the matter with a definite proposal which was submitted to the Trustees in the autumn of that year.

In view of the unsuccessful attempt made in 1901 by the Austrian expedition to find the great altar, Mr. Murray did not anticipate any important results from a renewal of excavations, but he recommended the Trustees to take action for three reasons: first, with the view of resolving any doubts that might remain as to the possibility of further discoveries, particularly in regard to the sculptures of the two temples; secondly, in order to obtain an accurate plan of both structures, so far as these could be determined by the remains; and lastly, in order to leave the site in a condition which should be more in accordance with the modern requirements of scientific excavation. In carrying out the scheme, Mr. Murray decided not to recommend that the work should be placed under the supervision of any of the Departmental officials, who were closely engaged in Departmental work, and whose services could not at the moment be spared, and suggested the engagement of Mr. D. G. Hogarth. Mr. Henderson, who had acquired on the site of Cyzicus some acquaintance with excavation, and who happened conveniently to be living in Constantinople, was further engaged as architect.

At last, in the autumn of 1904 (after Mr. Murray's death), the preliminaries were all settled, and the work was begun of which this volume gives the narrative. By the beginning of December the site had been cleared, and a certain amount of trial trenching done, chiefly on the west of the temple platform and in the southern peribolus, and it was decided to continue the work in the following spring. The clearing away or reduction of the great mounds thrown out at the east and west by Wood were a preliminary difficulty, and, unfortunately for the excavation, the winter and spring happened to be abnormal in rainfall, so that the site was under water when the work of the second season began. In the middle of May the central shrine was examined, which proved so rich in deposits of votive offerings. The works were closed on June 17th, 1905.

In accordance with Turkish law, the objects found were handed over to the Constantinople authorities; a limited number of duplicates, and the fragments of marble and terracotta found, fell to the Trustees as excavators' share. For purposes of study and publication, however, the entire series was deposited for a year in the British Museum, and the Turkish portion has now been returned to Chinli Kiosk; casts of the ivory statuettes and coins are retained in London.

It had originally been proposed to leave the site in the condition in which it stood at the close of the season of 1905: that is, with the pavement laid bare and, so far as possible, cleared of rubbish, and the architectural remains and the evidence of different levels as much exposed as was necessary in order to make the plans and the history intelligible to the studious traveller. Unfortunately this was not to be: probably, as Mr. Hogarth suggests, the low-level excavation had opened up new springs; whatever the cause, the pit in which the temple lies speedily became a pond, and has remained so ever since.

In October, 1905, the Turkish officials reported that the villagers of Ayasoluk and the locality were suffering from a severe outbreak of malaria, which they attributed to the insanitary condition of the site of the Artemision. As a matter of fact, in the opinion of competent authorities, the site was then no worse—indeed, much better—in this respect than it had been before the excavation, owing to the clearance of shrubs and undergrowth. Moreover, it was notorious that, in consequence of the abnormal rains, some of the healthiest villages round Smyrna were equally affected. For various reasons, however, it was judged expedient to accede to the official request, and it was decided to fill in the site as far as the ordinary water level—that is to say, slightly below the level of the Croesus temple. This is shortly to be done.

For valuable assistance during the excavations, special thanks are due to the Austrian Archaeological Society (especially to Dr. Heberdey); to Mr. H. A. Cumberbatch, C.M.G., H.B.M. Consul-General at Smyrna; and to Mr. A. Barfield, Manager of the Ottoman Railway.

In the revision of the text, and in the preparation of the plates, Mr. Hogarth has had the active co-operation of the staff of this Department.

CECIL SMITH.

Department of Greek and Roman Antiquities.

January, 1908.

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ERRATA.

The scale of the Plates at the end of this volume is sometimes slightly too large; the correct measurements, however, are usually given in the text.

Owing to the large size of Mr. Henderson's original drawings, reproduced in the Atlas, slight distortions by contraction and expansion have taken place during reproduction. These affect (1) the scale affixed to Plates I, III, IV, VI-X, XII, which are defective in length by amounts ranging downwards from $\cdot 003$ in $\cdot 50$, and that on Plate V, which is slightly in excess of line measurement; (2) the alignment of certain details, *e.g.*, in Plate I the lines of the northern step and gullies and of the datum level in the section below should be quite straight; in Plate II the lines in sections A-B, C-D, and the upper courses of the Basis should also be straight. In Plate VIII the reproduction is larger by $\cdot 006$ than the companion elevations on Plates VI, VII. On Plate XIII the *acroterion* (a conventional suggestion like the sculptures shown on the column drums) should appear in rear-view on the sectional elevation and in side-view at the E. end of the S. elevation. On Plate II *for* 1 : 8 *read* 1 : 80.

Absolutely accurate dimensions, by which the slight variations on the Plates can be checked, are given in Chapter XV.

LIST OF ABBREVIATIONS.

The following are the principal abbreviations used in this work :—

- | | | |
|-------------------------------|-------|---|
| <i>Aphaia</i> | . . . | Aegina, das Heiligtum der Aphaia. By A. Furtwengler and others. Munich, 1906. |
| <i>Ath. Mitth.</i> | . . . | Mittheilungen des kais. deutschen Archaeologischen Instituts. Athenische Abtheilung. From 1876, <i>in progress</i> . |
| <i>B. C. H.</i> | . . . | Bulletin de Correspondance Hellénique. Athens and Paris. From 1877, <i>in progress</i> . |
| <i>B. M. C.</i> | . . . | Catalogue of the Græk Coins in the British Museum. From 1873, <i>in progress</i> . |
| <i>B. S. A.</i> | . . . | The Annual of the British School at Athens. From 1894, <i>in progress</i> . |
| <i>C. I. G.</i> | . . . | Corpus Inscriptionum Graecarum, edited by Boeckh and others. Berlin, 1828-1877. |
| <i>Enkomi</i> | . . . | Excavations in Cyprus (Bequest of Miss E. T. Turner to the British Museum). Excavations at Enkomi. By A. S. Murray. 1900. |
| <i>Forschungen in Ephesos</i> | . . . | Forschungen in Ephesos, veröffentlicht vom oesterreichischen Archaeologischen Institute. By O. Benndorf and others. Vienna, 1906. |
| <i>Goluchow</i> | . . . | Collections du Château de Goluchow. L'Orfèvrerie. By W. Froehner. Paris, 1897. |
| <i>Her.</i> | . . . | The Argive Heraeum. By C. Waldstein and others. Boston and New York, 1902-5. |
| <i>Ilios Schliem.</i> | . . . | Ilios: the City and Country of the Trojans. By H. Schliemann. 1880. |
| <i>Jahreshefte</i> | . . . | Jahreshefte des oesterreichischen Archaeologischen Instituts. Vienna. From 1898, <i>in progress</i> . |
| <i>J. H. S.</i> | . . . | Journal of Hellenic Studies. From 1879, <i>in progress</i> . |
| <i>Myc.</i> | . . . | Mycenae. By H. Schliemann. 1878. |
| <i>Naukratis</i> | . . . | Naukratis I, II. Third and Sixth Memoirs of the Egypt Exploration Fund. By W. M. F. Petrie and others. 1886, 1888. |
| <i>N. C.</i> | . . . | Numismatic Chronicle. From 1838, <i>in progress</i> . |
| <i>Olympia IV.</i> | . . . | Olympia: Ergebnisse der Ausgrabung. Edited by E. Curtius and F. Adler. IV. Die Bronzen. By A. Furtwaengler. 1890. |
| <i>P. C.</i> | . . . | Histoire de l'Art dans l'Antiquité. By G. Perrot and C. Chipiez. From 1882, <i>in progress</i> . |
| <i>S. G. D. I.</i> | . . . | Sammlung der Griechischen Dialekt-Inschriften. By H. Collitz, F. Bechtel, and others. From 1884, <i>in progress</i> . |
| <i>Troja Dörp.</i> | . . . | Troja and Ilion. By W. Doerpfeld. 1902. |

THE ARCHAIC ARTEMISIA OF EPHEBUS.

CHAPTER I.

LITERARY EVIDENCE.

By D. G. HOGARTH.

THE Ephesian Artemision, which ranked among the Seven Wonders of Hellenistic and Roman times, was not the earliest building erected on its site. This fact has been established both by the references of ancient authors and by the excavations conducted thirty years ago by the late J. T. Wood; but the number of previous foundations, and almost all details concerning them, remained unknown till 1904. Before describing the results of the latest exploration I will recapitulate both classes of pre-existent evidence, beginning with the literary. In the following pages the Temple built in the 4th century will be called the *Hellenistic*; that of the second half of the 6th century, the *Croesus*; and all earlier structures, *Primitive*.

A.—PRE-IONIAN SHRINE OF THE EPHESIAN GODDESS.

Pausanias (vii. 2, 4), after stating that the sanctuary at Didymi was older ἢ κατὰ τὴν Ἰώνων ἐσοίκησιν, adds, πολλῶ δὲ πρεσβύτερα ἔτι ἢ κατὰ Ἴωνας τὰ ἐς τὴν Ἄρτεμι τὴν Ἐφεσίαν ἐστίν. He goes on to mention a tradition concerning "Amazon" builders of an Ephesian shrine of the Goddess, which is found in all ages of classical literature, from Pindar to Solinus. Eusebius (*Chron.* i. 134) assumes the existence of such a shrine. Women τοῦ Ἀμαζόνων γένους are also mentioned by Pausanias as resident about the "Hieron," ἱκεσίας ἔνεκα, in company with Leleges, Lydians and Carians, at the epoch of the first arrival of Ionians. These references clearly imply a tradition of a primaeval local cult of the Mother Goddess, in which a principal share was borne by παρθένοι (unwedded women)—a feature of the cult which Achilles Tatius (vii. 13) shows to have long survived at Ephesus. But the locality of this earliest Hieron remains doubtful. The only definite evidence as to the situation of a primaeval shrine of the Mother Goddess in the Ephesian district is afforded by a passage

B

of Tacitus (*Ann.* iii. 61), which records the pleadings of the Ephesians before Tiberius for recognition of their ancient right of asylum in the Artemision precinct. The delegates stated that the cradle of the city's cult was at *Ortygia*, where the Goddess was called Leto, and the incidents of her *ἱερὸς λόγος* took place.¹ The continued existence of a very holy shrine at that place is also attested by Strabo (xiv. 1, 20). *Ortygia* is almost certainly to be identified with the modern glen of Arvalia, under the north slope of Mount Solmissus. This Ephesian plea, when the circumstances under which it was made are considered, may be taken as conclusive proof that local tradition in the early Imperial age did not regard the Artemision site in the plain as having been occupied from time immemorial by a sanctuary of the Mother Goddess, but as having inherited a sanctity translated from *Ortygia*.

B.—EARLY ARTEMISIA ON THE PLAIN SITE.

Three passages in ancient authors, the earliest being of Hellenistic period, imply that a smaller shrine (or shrines) preceded the larger on the plain site. (a) Callimachus in his Hymn to Artemis (v. 248) says of her Ephesian sanctuary: *Κεῖνο δέ τοι μετέπειτα περὶ βρέτας εὐρὸν θέμεθλον Δωμήθη*. (b) Strabo (xiv. 1, 22), quoting probably from the Ephesian Artemidorus, says that the temple built by Chersiphron was *enlarged* by another. (c) Aristides Rhetor (*Or. de Conc.*, p. 776), speaking of the respect shown by Persians to the Artemision during their domination, remarks *αὐτὸς νεὸς μείζων ἢ πρόσθεν ἔστηκεν*. The last passage certainly refers to a smaller shrine antecedent to the great Artemision built in the 6th century B.C., which alone was contemporary with Persian rule in West Asia. The verse of Callimachus also refers almost certainly to such a primitive shrine. The reference in Strabo depends on the identification of Chersiphron's foundation, to be discussed later; but it may be remarked at once that, since the area of the temple of the 4th century exceeded that of the 6th only by a slight extension of the steps, this passage also ought to refer to some shrine earlier than the great temple of the 6th century.

From Dionysius Periegetes (v. 828) and Callimachus (v. 239) we hear of a primitive tree-shrine on the Artemision site, though the former authority speaks of an elm, and the second of a beech. If the existence of a temple or temples prior to that built in the reign of Croesus be admitted (and the actual remains on the site leave no manner of doubt), certain other records concerning the earliest

¹ This must be the *κώμη ὀρεία* of Leto alluded to by Athenaeus (i. 57). See Ramsay, *Cit. and Bish.* i., pp. 85, 132, on such *ἱερὰ κώμαι* in connection with shrines of the Mother Goddess.

foundation must refer to such a temple or temples. These are the statements of Pliny (*N.H.* v. 31 and xxxvi. 14), that the site for the Artemision was chosen in marshy ground between two streams (or two arms of one stream, the Selinus) to lessen the peril of earthquake, and that the first foundations were laid on an absorbent bedding of layers of charcoal¹ and fleeces at the instance of Theodorus of Samos. This last statement may be interpreted to mean that Theodorus was the first architect of a regular temple on the site, but not necessarily of the earliest tree-shrine.

Next in order must be considered certain statements, about whose reference there is much question. The difficulty arises from two doubts about the authors—all of late period and contemporary with the latest Artemision—who make them: (a) whether they were aware that any building preceded that of the 6th century, and that certain facts, which they recorded, might and did refer to such a building; (b) whether they regarded the successive temples as distinct at all (as modern archaeologists with their ideas of stratification regard them) or not rather as one continuous whole, which experienced restorations. This involves the further doubt, whether they meant to describe pre-existent features, or features of their own time. In the case of Pliny and Vitruvius for example, there is much reason to suspect that both give us at one moment archaeological, at another contemporary facts, not necessarily from confusion, but from lack of understanding why these should be distinguished.

1. Strabo, in a passage already cited, mentions *Chersiphron* of Knossos as the first architect, and says his temple was made larger by *another* unnamed. Immediately afterwards he states² that *Deinocrates*, Alexander's architect, built the latest or Hellenistic temple. He seems, therefore, clearly to refer to *three* Artemisia.

2. Pliny (xxxvi. 14) begins with the words "Graecae magnificentiae vera admiratio *exstat* templum Ephesiae Dianae," which, with the explorers of Didymi, MM. Pontremoli and Haussoullier,³ I take as a clear indication that in the descriptive passage which follows he is thinking of the Artemision of his own day, *i.e.*, the latest temple. After making the statements about the earliest foundation quoted above, Pliny goes on to describe the temple, giving dimensions of platform and columns, which we know to be appropriate to the Hellenistic. At the end he names *Chersiphron* as the architect, saying nothing of *Deinocrates* or any other. This probably means that he regarded the Artemisia, which we regard as distinct and successive, as one indivisible

¹ See also for the *ἀνθρακες* Diog. Laert. ii. 8, 19 and Hesych. Mil. fr. 34.

² Suggesting, however, a doubt—*ὅν φησιν εἶναι Δεινοκράτους ἔργον.*

³ *Didymes*, p. 100.

Artemision, and named the architect of the first temple of regular Greek form as the author of the whole.

3. Vitruvius has four passages containing information about early Artemisia :

(a) iii. p. 70 (ed. Rose). *Ephesi Dianae ionica a Chersiphronē constituta.*

Then follows an architectural description which suits best the Artemision of Vitruvius' own time.

(b) vii. p. 159. Chersiphron began and his son, Metagenes, completed the building.

(c) vii. p. 161. *Primumque aedis Ephesi Dianae ionico genere ab Chersiphronē Gnosio et filio ejus Metagene est instituta, quam postea Demetrius ipsius Dianae servus et Paeonius Ephesius dicuntur perfecisse.* This same Paeonius, the author adds, was co-architect of "the Apollo Temple at Miletus."

(d) x. p. 249. A record of a certain device invented by Chersiphron for the transport of the drums of columns from the quarry, and afterwards adopted by Metagenes for the epistyle blocks. Vitruvius here implies that Chersiphron built the structure only up to the tops of the columns, a fact supported by Pliny's ascription to Metagenes (*N.H.* xxxvi. 21) of a device for lowering the epistylia into position.

Vitruvius, like Pliny, does not mention Deinocrates as architect of the latest temple.

From all the foregoing passages, taken together, it may, I suggest, be legitimately inferred, without reference to any other class of evidence, that:—

1. There was originally a small Tree-Shrine on the site, not reckoned by Greek tradition an "Artemision" at all.

2. A stone building was erected round and over this, with whose foundation the name of Theodorus of Samos (7th century B.C.?) was connected.

3. The first temple of any size and of a definite order of Greek architecture was built by Chersiphron of Knossos, and was remembered by the prevalent tradition as the original Artemision. If this was in fact distinct from Theodorus' foundation, it was confounded with it by that tradition. Chersiphron's work was brought to completion by Metagenes. His was an Ionic temple (*cf.* another passage in Vitruvius, iv., p. 55), the first erected in that style in Asia, the Doric having been used in the earlier Panionion; and it was the outcome of a local artistic development in the direction of *muliebris gracilitas*. These considerations render it improbable that Chersiphron's building was erected

very early in the Ionian period. It must have been of massive proportions; for, otherwise, the devices used for conveying and raising its parts would not have been remembered as in any way extraordinary.

4. Chersiphron's temple was succeeded by a larger one, not built by Metagenes, for we are not told that the latter did more than continue his predecessor's building from the epistylia upwards. Who then was the architect of this larger temple? The names given by Vitruvius (vii., p. 161) naturally suggest themselves—*Demetrius and Paeonius of Ephesus*. These men are said to have *completed* the work of Chersiphron and Metagenes. This may well mean that they brought the Artemision to its final form and general dimensions.

Which, however, of the Artemisia, that we know, was built by Demetrius and Paeonius? If Strabo's accuracy be insisted upon, then it was not the Hellenistic Temple, for that was the work of Deinocrates,¹ but an earlier one, either that of the 6th century or some other. If the former, then we must explain Vitruvius' statement that this Paeonius built also the "Apollo temple at Miletus": for that cannot have been, as usually supposed, the great Didymi temple whose remains are still extant, since it was not founded before the time of Alexander. There need, however, be no difficulty, since (1) there was an earlier Apollo temple at Didymi: (2) Vitruvius does not say Didymi at all, but *Miletus*, where Wiegand has found an early Apollo temple.

There is, however, a possibility that between the 6th century temple and the Hellenistic intervened a distinct restoration. So far as literary evidence goes, this possibility rests on a chronological datum of Eusebius, compared with a passage in Macrobius.² Eusebius (*Chron.* i. 134) under date Ol. 96, 2 = 395 B.C. (cf. Jerome's version, and Syncellus, *Chron.*, p. 258 c.) places a *second* conflagration of the Artemision (ὁ ἐν Ἐφέσῳ ναὸς αὐθις ἐνεπρήσθη), the *first* burning having been the work of the Cimmerians in the 'Amazon' period. Macrobius (*Sat.* v. 22, 5) cites Alexander Aetolus, a poet of the 3rd century B.C., as authority for a great poetical contest, held at Ephesus *dedicato templo Dianae*, in which Timotheus, son of Thersander, won the day and a reward of 1000 pieces of gold. Timotheus reached manhood about 430 B.C. and died shortly before the birth of Alexander. Therefore this dedication cannot have been that of the Hellenistic Temple. If, however, the reference concerns the Artemision at all (which cannot be regarded as certain, for there were other temples of Artemis in the Ephesian district), can it not be referred

¹ I see no reason whatever for ruling out Deinocrates, as do MM. Pontremoli and Haussoullier (*Didymes*, p. 101).

² See *Jahreshefte*, viii., *Beiblatt*, p. 23, for the latest discussion of this point by R. C. Kukula.

to the dedication of the Croesus Temple? It is quite possible. As will be shown presently, there is good reason to connect with that temple Pliny's statement that the Artemision took one hundred and twenty years to build. If so, the dedication of the building begun about 550 B.C. would fall about 430, when Timotheus was already grown and probably, like most lyricists, come early to the zenith of his poetical power. As for Eusebius' statement, it has often been remarked (*e.g.*, by Kukula *l.c.*) that while mentioning this conflagration, he records no later one, although the most momentous and famous of all is supposed to have occurred thirty-nine years afterwards, synchronic with the birth of Alexander. It is impossible not to suspect that Eusebius' entry really refers to the latter, or, at least, to a disaster which Herostratus may have done no more than complete, after some restoration of the Croesus Temple, greatly damaged thirty-nine years earlier, had been undertaken. The synchronism of the last, but possibly least signal, catastrophe with Alexander's birth and the epigrams it evoked (like the "frigid" saying of Hegesias of Miletus) would sufficiently account for the greater importance it assumed in popular tradition. Our authorities for Herostratus' arson are all late. From a statement of Valerius Maximus (viii. 14), it is to be presumed that the sole earlier authority for it was Theopompus. In any case it is very improbable that, after a conflagration in 395, the Artemision could have been wholly rebuilt and re-dedicated before 360, and that Timotheus could have carried off the lyric prize on that occasion, when at least four score years of age. The literary evidence, therefore, for a temple intermediate between the "Croesus" and the Hellenistic is very bad. With the supposed material evidence, adduced by Wood, we deal later.

Provisionally, therefore, and paying due respect to the statements of Strabo (*i.e.*, Artemidorus), we have no foundation with which to connect the names of *Demetrius* and *Paeonius* except the Sixth Century (Croesus) Temple. In that case Chersiphron and Metagenes were architects of a prior structure, the first referred to by Strabo; and it must have been with a column in the façade of this Primitive shrine that the city connected itself by a rope, when Croesus first descended in arms on the Ephesian plain; since we find him a good deal later presenting the majority of the columns of a new Temple. There are two possible indications of rebuildings of the Artemision, referable perhaps to Primitive structures: (*a*) Hesychius (*s.v.* Λύγδαμης) states Οὗτος ἔκαυσε τὸν ναὸν τῆς Ἀρτέμιδος. Callimachus (*Hymn.* iii. 251) also refers to this Lygdamis as having invited the Cimmerians to Ephesus, but implies that they were beaten back. Perhaps the Temple outside the walls did not escape so easily as the

city. (b) Baton of Sinope¹ (Suidas *s.v.* Πυθαγόρας) states that Pythagoras, an Ephesian tyrant anterior to the time of Cyrus, caused a desecration of the "Hieron," and was ordered, in expiation, *νεὸν ἀναστήσαι*. But was either this Hieron or this new temple the Artemision? The prehistoric Cimmerian sack, dated by Eusebius in 1146, can have had nothing to do with any Artemision in the plain, for none was yet in existence.

In regard to the Sixth Century Temple, we have one or two certain *data*, and others of more doubtful reference. In the forefront must be placed Herodotus' statement (i. 92) that most of the columns of the Artemision, standing in his day (latter half of the 5th century), were the gift of Croesus of Lydia, to whom it owed also certain treasures presumably also then extant. These statements in no way conflict with the probability that the Temple in question was not quite finished or dedicated until 430 B.C. The latter inference is derived (cf. the passage of Macrobius quoted above) from comparison of two statements of Pliny (xvi. 79, and xxxvi. 14). In one he says that the cypress doors of the Artemision of his own day had been in existence nearly four hundred years. In the other, that the Artemision took one hundred and twenty years to build. If this Artemision were that of his own day, begun after the arson of Herostratus (356 B.C.), it would not have been finished till about 230, and the cypress doors would have been only three hundred years old. *Ergo*, it is more probable that Pliny is recording a tradition of the earlier temple, more especially since he seems, as we have seen, to ignore the architectural distinction between the earlier and the latest Artemisia.

Several authorities² state that the Artemision was erected by common contributions of the great cities of Asia. Since the Roman king Servius, according to Livy (i. 45), imitated this practice in providing for the erection of a Diana temple in Rome, we must understand by the Artemision in question a pre-Hellenistic structure. The descriptions of actual architectural members given by Pliny and Vitruvius we prefer to ascribe to the temple of their own day; and even the statement of the former that the 127 columns were *a singulis regibus factae* can hardly refer to the 6th century temple, if Herodotus was correct in saying that the majority of the latter's columns were the gift of a single donor, Croesus. An explanation of this king's munificence has been acutely inferred by Benndorf³ from a fragment of Nicolas of Damascus (*fr.* 65), where it is stated that Croesus sequestered the Ephesian property of a rich

¹ See Müller, *Frag. Hist. Gr.* iv. 248. Suidas, however, possibly did not get his fact direct from Baton. See Benndorf in *Forsch. in Ephesos*, i., pp. 27, 241.

² Pliny, xvi. 79: xxxvi. 14; Vitruv. vi. 1: x. 6; Dionys. Hal. iv. 25; Aur. Vict. *Vir.* III. vii. 9.

³ *Forschungen in Ephesos*, i., p. 29.

Lydian, Sadyattes, who had opposed his succession. This, suggests Benndorf, paid for the king's columns and gifts at Ephesus.

The flamboyant description of the foundation-works of an Artemision, contained in a truncated passage of Philo of Byzantium (*Sept. Mir. ad fin.*), should be referred wholly to the Hellenistic structure, in view of the fact that the latter part of the description (the platform with ten steps) will suit no earlier temple. The rest of the passage in question, including the statement as to the quarry in Prion, from which the foundation material was drawn, agrees well with the extant archaeological evidence that a colossal reconstitution of the platform took place in the 4th century.

The witness of Herodotus as to the Artemision in his day is sufficient proof that the Croesus Temple had suffered no change up to that date. We are told that Xerxes spared it alone of all the Ionian temples,¹ and the respect with which the Persians treated it afterwards is often mentioned,² or implied—*e.g.*, by Thucydides (viii. 109) and Xenophon (*Hell.* i. 2, 6), who record acts of reverence performed by an official Persian at the shrine in 411 and 410. A statue of Lysander was dedicated there, in 404 according to Pausanias (vi. 3, 15), and Agesilaus deposited his treasure under care of the goddess in 395,³ the very year in which Eusebius dates a conflagration.

The Croesus Temple came to an end by fire in the 4th century B.C., but whether all at once, or by two conflagrations, must remain doubtful (see above, p. 6). Its final catastrophe is said to have been due to the crime of one Herostratus in 356 B.C., whose name was afterwards erased from all civic records, and only preserved to posterity by the history of Theopompus (above, p. 6). Its columns, according to Strabo (xiv. 1, 22), quoting Artemidorus, who relied on extant civic decrees on the subject, were "disposed of" by the next builders (*διαθέμενοι*). The word need not mean, as it is usually interpreted, that the columns were *sold*. It may equally well signify that they were *re-used* as building material in the Hellenistic Temple. As a matter of fact, re-worked Croesus drums have been found in considerable numbers on the site, having been used for Hellenistic foundations and wall material, though not again for columns. An enormous mass of limestone foundation material, according to Philo, who is confirmed by existent remains, was laid over the whole Croesus platform, and the Temple was rebuilt from bottom to top at a higher level. This latest structure, the Hellenistic, will be the subject of a subsequent volume.

¹ Strabo, xiv. 1, 5; Solinus, 43.

² Aristides Rhet., *Or. de Conc.*, p. 776.

³ Xen. *Hell.* iii. 4, 18; Diog. Laert. i. 1, 8.

CHAPTER II.

EARLIER RESEARCHES.

By D. G. HOGARTH.

A.—EXCAVATIONS OF J. T. WOOD.

No material evidence, bearing on the earlier Artemisia, was known before 1870. There were, indeed, certain archaic architectural fragments built into the walls and the aqueduct of Ayassoluk; but they remained unremarked, or not recognised as parts of the Artemision. Representations of the Temple on coins of the 2nd century A.D. had been used as evidence since the 18th century; but these portrayed only the latest structure. The site itself was deeply buried and its precise locality unknown. The earlier modern visitors to Ephesus identified with the Artemision the colossal remains of a Roman gymnasium in the west of the city hard by the port; but this error was abandoned later in favour of an undefined site in the northern plain at the required distance of seven *stadia* outside the city walls. The best guess at the true position of the temple was made by H. Kiepert in the map which he supplied in 1843 for Guhl's *Ephesiaca*; but the same cartographer, thirty years later (1872), and after the true site had actually been found, revived the old error and placed the Artemision again in the western marsh.

On the last day of 1869, J. T. Wood, working for the British Museum, struck a marble pavement at a depth of nearly twenty feet. Since the preceding year he had been following, by means of soundings, an ancient road which led northwards from the Magnesian gate of the city, and in May 1869 had come upon a wall which was shown by an inscription, built into its structure, to be that of the Artemision Precinct in the Augustan age. Thereafter Wood sank a number of pits, but at first too far down the plain to westward. Presently, however, acting on the advice of friends, who drew his attention to the persistent sanctity of the Ayassoluk hill, demonstrated by the successive foundations of the cathedral church of St. John Theologus and the Seljuk mosque of Isa Bey, he directed his patient efforts north-eastward, and at last came upon the Temple pavement about half a mile from the Precinct wall. He had found the site of the Artemision, and, as it chanced, had first touched remains of one of the earlier temples, the earliest, indeed, which he was destined

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to recognise. But the fact was not clearly demonstrated before the end of that spring season; nor was the stratification determined till the beginning of 1871. In January of the latter year the base and lowest drum of a column were found in position, showing that a stylobate had existed at a level more than 2.00 above that of the pavement first found. Later discoveries proved this higher level to be that of the Hellenistic Temple, which, however, had been so thoroughly quarried by searchers for building-stone and by lime-burners, that not only the superstructure, but both pavement and foundations had been almost wholly removed over an immense area, and the underlying stratum exposed.

Wood's observations of the earlier remains have to be gathered from scattered notices in his *Discoveries at Ephesus*, the most connected account being given on pp. 262-3. He never published afterwards any more precise account of the earlier stratum, nor even a plan which clearly distinguished the earlier from the later strata and existing structures from restorations; and his posthumous book, a popular account entitled *Discoveries on the Site of Ancient Ephesus* (By-paths of Biblical Knowledge Series), did not supply the deficiency. He states that he found about one half of an early temple pavement in position, nearly 7 feet 6 inches below that of the latest peristyle. It was composed of two layers, the upper only being of white marble, laid in irregularly-shaped blocks, which were accurately fitted and mortised between the western *antae* to receive the standards of a metal grille. On the west façade he observed the plinth of a Croesus column *in situ*, "as well as part of the base of one of the inner columns, consisting of the plinth and lowest circular stone." These plinths, he noted, corresponded in situation with columns of the uppermost stratum which were no longer existent, but easily placed by the survival of their foundation-piers. The first of these plinths he exposed as early as December 1st, 1870.

Wood also observed that parts of the early *cella* wall, showing a thickness of 6 feet 4 inches, together with the plinth of the south-western *anta*, were still existent at the west end; and that, occupying the centre of the *cella*, was a rectangular foundation which he named the Great Altar, but did not further explore or describe. To determine the character of the early foundations, he had four pits sunk—two within the *cella*, a third against the outward face of its south wall, and a fourth in the northern peristyle. In the two first-named he observed "at a depth of 5 feet 9 inches a layer 4 inches thick of a composition which had the appearance and consistency of glazier's putty"; but on analysis, this did not prove to correspond to Theodorus' ingenious bedding of fleeces, but is a species of mortar. Under this he found, however,

what he believed to be a layer of charcoal, and then putty again. He had discovered at an early period of his excavation a fine Ionic capital which he referred to the earlier Temple, and later he recovered other fragments of early capitals, cornices, cymatium and bases, as well as drums. Finally he had the good fortune to unearth many fragments of early sculptures representing figures under life-size, which he supposed to belong partly to the *θρυγκός* of his Great Altar, partly (*e.g.*, lions' heads) to the Temple parapet. The majority of these were found after he had blown up certain concrete piers which stood in the *cella* space, and were supposed to be foundations of a Byzantine church; but a few were unearthed at the extreme east of the site near the lowest step of the Hellenistic platform. Certain other fragments of relief-sculptures on a larger scale were found "at a low level on the site of the Temple" (no more precise locality is recorded), which proved to be drum-sculptures of early *columnae caelatae*. These latter are presumably those that Wood, in another passage (*Discoveries*, p. 276), ascribes to an earlier Temple than any he had actually found; but whether he thought this had stood on the same site or not, he did not say. It may be mentioned at once that in this distinction he was probably wrong. All his early fragments are of sufficiently identical style to have belonged to one and the same Temple, if the building of it was spread over a number of years, as is stated by Pliny.

This is practically all that Wood published about his discoveries in the early stratum, after the termination of his excavations in 1874. His record did not go into detail concerning either the architectural or the plastic remains, and it showed serious sins of omission, some of which are very hard to account for, if he watched his excavations while in progress. One error of observation must be particularly noticed now, since its correction did not depend altogether on later excavations.

Predisposed, no doubt, by the assumption¹ that a Temple, with which the name of Paeonius was to be connected, was begun about 400 B.C. and only just completed when Herostratus conceived his disastrous ambition to become famous by a crime, Wood thought he found a distinct stratum of remains, whose top was at a level nearly 4 feet above the lowest pavement and about 3 feet below the Hellenistic stylobate. Large patches of a highly-polished white marble pavement, he says, "remained in position" at that level, and were only discovered on the removal of the *upper portion* of the foundation piers of the church (p. 263). With this pavement he connected two marble blocks resting on a mass of foundations at the west end of the *cella*, and showing a

¹ Based on Eusebius, *Chron.* i. 134: see above, p. 5.

deep groove for the bronze wheel on which a door had swung (Fig. 1). He had, however, omitted to observe not only that these blocks are not in their original position, but that his pavement slabs intervened between the upper and lower portions of homogeneous piers composed of concrete, in all parts of which Roman burnt brick and fragments of inscriptions of as late period as the 2nd and 3rd centuries A.D. are ingredients. The pavement in question therefore, if a pavement at all, was that of the "church" itself, built long after the Christian Era, and composed of earlier materials. There is no other trace of any stratum intervening between Wood's lowest and his highest. His "last Temple but one" was a myth, and his "last but two" was the only one that he found preceding the Hellenistic Temple. (See later, p. 255.)



Fig. 1. Grooved Threshold Block, resting on Hellenistic foundations.

In this connection a word must be said to explain the strange fact that not only is a late Roman or Byzantine stratum found on part of the site at a lower level than that at which remains of the Hellenistic Temple lie on other parts, but that the late concrete goes down in places even lower than Wood's lowest pavement, *i.e.*, it is bonded with the 6th century stratum. It has been said

already that the Hellenistic stratum has been almost wholly quarried away. This, composed as it was of huge blocks, has been removed with a thoroughness which can hardly be ascribed to the builders of ordinary houses at any period. Also the removal was effected (to judge by the character of the concrete put afterwards in its place, and by the alluvial deposit which, subsequently, accumulated over all to a depth of about 15 feet at the least) at no recent period, certainly at none so recent as that in which Ayassoluk was built. The foundations of mediaeval Moslem structures close to the Artemision site itself have been found to lie not more than 5 feet below the present ground level, *i.e.*, fully 10 feet above the Hellenistic stratum. The quarrying of the Hellenistic stratum must have been carried out between the Gothic sack, which took place in 262 A.D., and the foundation of the building to which the concrete piers belonged—a *terminus ad quem* which must be put as far back as

possible to allow for that great accumulation of silt which Wood found overlying the remains of his "church." We know that during the earlier Byzantine period a huge structure was raised on the hill of Ayassoluk near the Artemision site. This was the Cathedral of St. John Theologus, built at the instance of Justinian. In this case we have the conditions required at about the requisite date. In order to build so great a Cathedral, founded under Imperial auspices, this stupendous quarrying of marble and even limestone foundation-blocks in the Artemision may reasonably be supposed to have been carried out; but hardly for a lesser purpose. The site seems to have been stripped almost everywhere right down to, and even below, parts of the Croesus stratum, which doubtless at that time, as now, was under water for part of the year. The mass of material removed amounted to many thousand cubic metres, of which great part consisted of enormous blocks; and this quarrying was probably all done within a very few years. If the church of St. John is ever excavated, more fragments of the Artemision will probably be found in its ruins than have ever come to light on the site of the Temple itself.

B.—INFORMATION DERIVED FROM WOOD'S MATERIAL.

Wood never rehandled the problems suggested by the archaic fragments which he had found; but he sent to the British Museum, at one time and another, consignments of marbles, whose broken condition rendered it necessary to keep the majority in the workshops for a considerable period, while the tedious task of piecing fragments together and finding their mutual relations was being proceeded with. This task fell mainly to the late Dr. A. S. Murray, at first as subordinate to Sir Charles Newton, later as his successor in the Keepership of Greek and Roman Antiquities. Long and continuous efforts were made first to fit together the fragments of early sculpture of small scale; but it was found that hardly any two of these could be brought into certain connection. Sir C. Newton discussed these small scale reliefs in the *Portfolio* for June, 1874, and a conjectural restoration was made indicating the general character of the composition of which they had formed part. Thereafter attention was directed to the early sculptured fragments of larger scale, and a drum of a column was set up, to which some of them might have belonged. Finally two early capitals were reconstituted from numerous fragments, and set up on models of the upper part of their shafts. Dr. Murray brought his results before the scientific public in two papers, the first of which was contributed to the *Journal of Hellenic Studies* in 1889,¹ and dealt with the sculptures; the

¹ Vol. x., p. 1, plates iii., iv.

second was read to the Royal Institute of British Architects on November 18th, 1895,¹ and dealt with the capitals. He also treated of the early Artemision in his *History of Greek Sculpture*, Vol. i.

1. *The small scale reliefs.*—Noting that out of about 100 fragments hardly any two could be fitted together after infinite experiment, Dr. Murray rejected Sir C. Newton's view (adopted by Wood) that they had formed the *θρυγκός* of the altar of Artemis Protothronia, described by Pausanias² as standing at Ephesus in his time. They must, Dr. Murray thought, have belonged to a much longer frieze. At the same time he held that Rhoecus, the sculptor of the altar in question, was of too early date for the style of these reliefs. Having observed the similarity between the surface work of these fragments and that of those which undoubtedly formed part of the Hellenistic parapet, he proposed that they be considered to have formed part of the parapet of the Croesus Temple, their subject or subjects being divided into groups, as in metopes, by lion-gargoyles, of which several remains had been found, one showing clear evidence of connection with reliefs. He restored the profile of the parapet, conjecturing its height by comparison of the Xanthian Harpy Tomb, and being guided as to the "batter" by the outline of actual fragments of the top and bottom of the parapet. Certain fragments of its reliefs he replaced conjecturally, not claiming more than relative truth for his arrangement. Of the subject of only one group, however, did he propose an interpretation. In that he saw a Greek and a Centaur in combat. Traces of brilliant red and blue colouring are still to be detected on fragments of these reliefs. In Dr. Murray's view, then, the Croesus Temple had a gutter-parapet, with projecting lion-gargoyles, the whole carved in high relief with delicate figure subjects, on a scale somewhat smaller than that of the Xanthian Harpy Tomb frieze, although the parapet was presumably elevated at a much greater height above the spectator. In fact, if the columns of the Croesus Temple, like those of the Hellenistic (according to Pliny), were, indeed, 60 feet high, the details of its parapet could not have been distinguished from below. (See later, p. 287.)

Dr. Murray added a suggestion as to the authorship of these reliefs. Comparing them with the work of Archermus, as seen in his Niké at Athens, he conjectured that their sculptor may have been Bupalus, son of Archermus, for the possibility of whose share in Ephesian decoration about the date of Croesus he adduced some evidence.

Some critics have subsequently agreed with Wood in regarding the parapet reliefs as examples of Ionian art of considerably later period than the column

¹ *Journal R.I.B.A.*, 1895, p. 41.

² x. 38, 3.

sculptures. If the latter are to be referred to the time of Croesus, the former, these say, must be ascribed to the early part of the succeeding century. As, however, the parapet would be among the last architectural members to be placed in position, there is no difficulty in supposing it part of the same Temple as the column-reliefs, especially if the statement of Pliny that the Artemision took 120 years to build is to be referred to the Croesus Temple. (See p. 301.)

2. *The large scale reliefs.*—That the large scale fragments of relief belonged to sculptured drums was suggested with conviction by Sir C. Newton, and repeated by Wood. The concavity of their beds is of just the required curve. To Dr. Murray belongs the credit of working out a demonstration of the fact, by restoring conjecturally one such drum, upon which he placed three fragments of relief found by Wood, but without insisting on the absolute truth of their positions. (See p. 295.) That the style of these reliefs accords with what we know of Ionian sculpture in the time of Croesus, and therefore that they may well be the work of Bupalus (whatever be thought of the parapet reliefs), has not been called in question. The analogy of the later Temple strongly supports Dr. Murray's assumption that the sculptured drum was placed lowest in the early column; but there is no absolute proof of the fact.

3. *Columns.*—(a) *Bases.*—Fragments of moulding sent home by Wood were sufficient to show the nature of the members of which the Croesus column-bases were composed, but not their necessary relative arrangement. According to Dr. Murray's restored base, placed under the restored sculptured drum (but without any claim being made that it formed part of the same column), the uppermost member in the case of a *columna caelata* was a flat band, but in that of a fluted column, a curved moulding; below this came a torus, horizontally fluted, whose uppermost edge perhaps bore the dedicatory inscription, if any there were.¹ Various fragments of such inscribed members were found by Wood, on two of which, apparently from one and the same column, occur the letters ΚΡ and ΘΗΚ. (See p. 294.) These were restored by Mr. E. L. Hicks as Κρ[οῖσος ἀνέ]θηκ[ε]. In the restored Croesus base in the British Museum a third inscribed fragment, showing the first letters of Βα[σιλεύς, is prefixed for the sake of demonstration, though the bedding of the fragment proves that it is not from the same column as the other two. While some of the inscribed fragments may well have belonged to a *columna caelata*, others seem to argue that fluted columns, without reliefs, were also among those inscribed. The rest of the base Dr. Murray restored according to the general

¹ The fact that the inscribed dedications are so cut as to be seen *from above*, argues that they formed part of the bases; but the exact position of the inscribed member cannot be said to be certain.

idea suggested by a Hellenistic base already set up in the Museum; and he found various early fragments which make up such a base, differing only in certain points of detail from the later example. The deeply-cut Croesus base he believed to be a development of an original cylindrical plinth.

(b) *Capitals*.—Two restorations of capitals were worked out and set up; but consideration of them must be deferred to the chapter on the Croesus structure, since an important fragment from one of the two was not sent home by Wood, but left on the site, to be there observed by the Austrian architect, Dr. W. Wilberg, and recovered by us in 1904.

C.—NEW SURVEY OF THE CROESUS REMAINS *in situ*.

In 1894 the Austrian Archaeological Institute obtained a *firman* for excavations at Ephesus, and although unable to open new ground on the British property in which the Artemision ruins lie, undertook a fresh examination of the remains *in situ* abandoned by Wood twenty years before, and already thickly overgrown with trees, brushwood and reeds. This examination was carried out with great care by Dr. Wilberg, the architect attached to the Austrian expedition, and its results were circulated among those interested early in 1904.¹ To a small scale plan giving details of the Croesus plinths, bases, walls, foundations and pavement which were still visible, were added valuable notes on early architectural fragments, both left upon the site and to be seen in later structures in and about the village of Ayassoluk.

Dr. Wilberg's plan (Fig. 2) and notes, so far as they go, have not been seriously affected by our subsequent excavations. In this place it is only necessary to state summarily the main points in which he improved on Wood.

1. A plan was given clearly distinguishing Croesus, Hellenistic and restored structures.
2. The Croesus remains in and near the surviving N.E. column base, in the south-western *anta*, and between the western *antae*, were shown.
3. Careful dimensions of all visible early remains were recorded, and a calculation was made of the area of the whole Croesus Temple from the situation of the remaining column-bases and base-plinths.
4. The central rectangular structure (Wood's "Great Altar") was planned, and the extent, to which its uppermost courses are preserved, indicated.
5. The characteristics of the Hellenistic and Croesus foundations were distinguished.

¹ Now included in vol. i. of *Forschungen in Ephesos*, 1906.

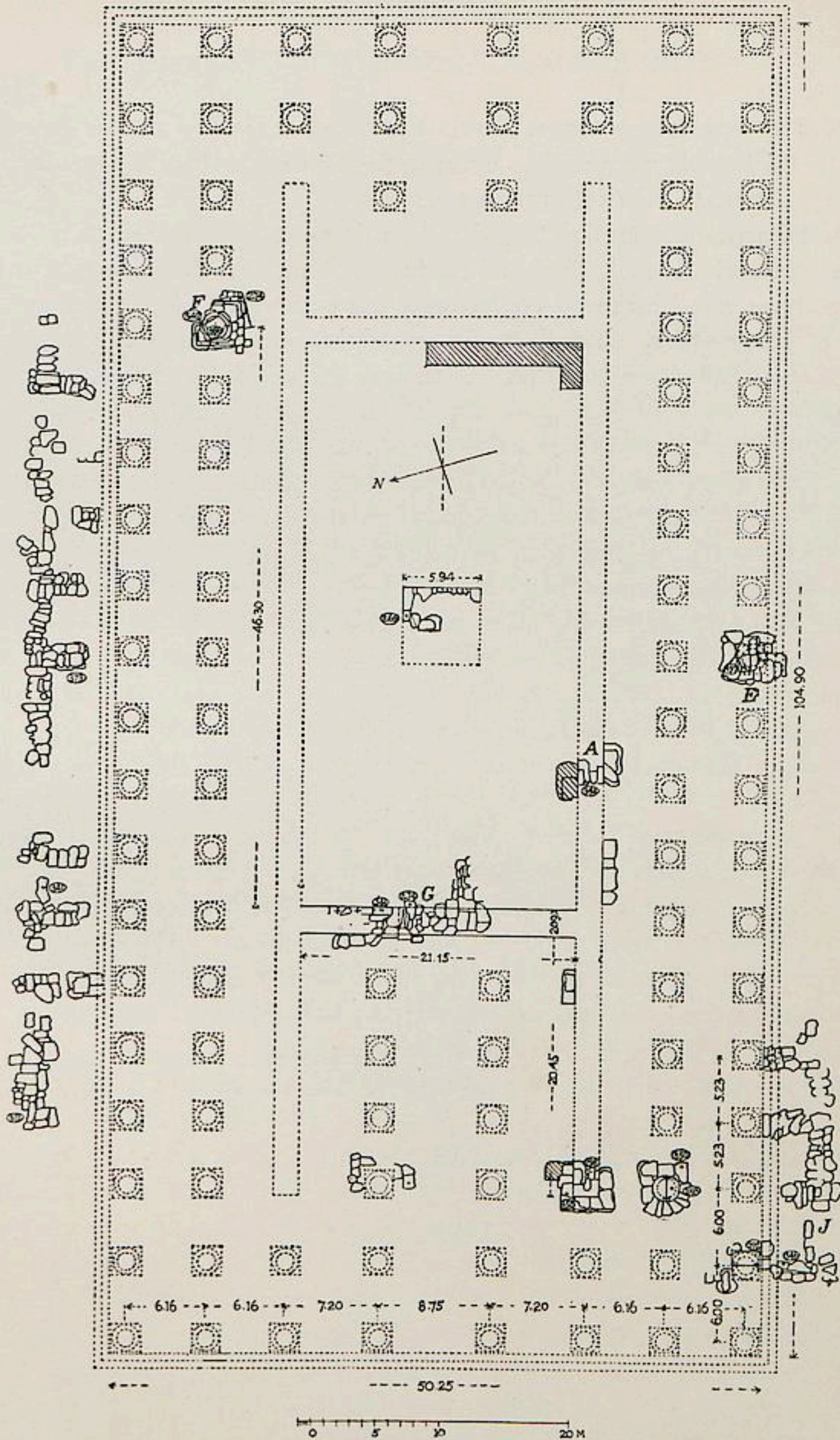


Fig. 2. W. Wilberg's Plan of the Croesus Temple (reproduced with permission from *Forschungen in Ephesos* i., fig. 181).

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6. The grooved stones, supposed by Wood to belong to the doorway of a Temple intermediate between the Croesus and the Hellenistic, were definitely referred to the latter.
7. Dimensions and illustrations of marble roof-tiling were given.
8. An early Ionic capital built into the Turkish aqueduct of Ayassoluk was published, and conjectured, from its small size, to belong to an inner order. Another of very slightly less diameter, lying on the ground within Justinian's Gate, was also noticed. (See later, p. 270.)

CHAPTER III.
EXCAVATIONS OF 1904-5.
By D. G. HOGARTH.

At this point knowledge of the early structures on the Artemision site stood when, on behalf of the British Museum, I resumed Wood's work on October 3rd, 1904. In the task before me I had the able assistance of Mr. A. E. Henderson, R.B.A., as architect, surveyor, and draughtsman. For the overseeing of the workmen I used Gregorios Antoniou, of Larnaca, who has had a longer experience of excavation work than perhaps any man on the active list in the Levant, having served first as a labourer and then, for over a quarter of a century, as an overseer on all sorts of sites. To his organising capacity, diligence, vigilance, and probity the success of our excavations is largely due. The work was watched on behalf of the Imperial Museum by M. Théodore Makridy Bey, well known for his archaeological explorations in Syria and Asia Minor.

The main objects proposed were three. (1) To open out the Croesus stratum afresh, in order that a detailed plan might be made of all its remains *in situ*, and any further fragments of its architecture and sculpture be recovered. (2) To dig both under that stratum and round about it in order that its limits might be determined, and Wood's conclusion, that no earlier remains underlay it, be tested. (3) To probe that part of the surrounding Precinct which was British property, so far as was necessary for the determination of the character and condition of the remains at various levels, and of the probable cost of a more thorough exploration.

Dr. K. Humann, acting for the Austrian Institute, purchased in 1895 two plots of land marching with the British boundaries on the north-east and the west, and there Professor Benndorf dug pits in 1897. His chief effort was directed to the west end, where it was surmised that a Great Altar might have stood before the Artemision façade, and he made two large quadrangular sinkings on a prolongation of the axial line of the later Temple.¹ The pit nearest to the façade yielded some inscriptions of the Imperial Age, a Hellen-

¹ For a statement of Prof. Benndorf's results from this exploratory digging, see *Anzeiger der kais. Akad. der Wissenschaften* (Phil. Hist. Klasse) xxxiv., pp. 16 ff. (1898), and (more fully) *Forschungen in Ephesos*, i., sect. vi. (1906).

istic head and fragmentary architectural sculpture of the Roman period at a high level; but no trace of a building of any importance was found. At a depth of 8 metres, at a level roughly corresponding with that of the paved court-yard surrounding the Temple platform, a patch of pavement of polygonal marble blocks came to light, with sherds of the 6th and 5th centuries immediately overlying it and a layer of mortar above these. Upon a trial being made further west at the same level, this pavement was not again found, and indeed the second pit led to no discoveries whatever. Professor Benndorf then abandoned the enterprise, and eventually allowed me to use his large pits as receptacles for dumps.

Before our excavation began, the central part of the site offered a deep hollow coinciding on the west and east very nearly with the limits of the Hellenistic peristyle, but on the north and south extending to the lowest steps. In this hollow space some fragments of the Croesus stratum were visible here and there to anyone who succeeded in penetrating the brake with which all the area was overgrown. Upon the western and eastern ends of the site, however, Wood had thrown the dumps of his last two seasons, and his mounds rose green and shrubby to elevations varying from 6 feet to 15 feet above the Croesus stratum. Mounds of less height (4 feet to 10 feet) covered the lateral limits of the Hellenistic platform, north and south. It was obviously politic to clear first the hollow and least encumbered space, and so expose the area of *cella* and peristyle, and to leave the deeply covered extensions of the platform and the steps, east and west, for further consideration.

The dense growth, which choked the hollow, was mainly rooted in mounds of loose earth and stones, overlying the Croesus platform. These were the result of Wood's latest operations, especially his demolition of the "church" piers by blasting. In the intervals between these mounds lay pools at various levels, relics of spring inundation, which were prevented from escaping to the true level of the ground-water by the massive foundations of the Croesus Temple, laid on an impervious clay bed, and from evaporating by the thick screen of vegetation. After the brake had been cleared, an operation which took the greater part of a week, the sun soon sucked up this surface water, and no more was met with in the autumn season above the Croesus pavement. When, however, work had to be resumed in the succeeding March, after a very rainy winter, the general level of ground-water had risen to .95 above the pavement of the Croesus peristyle, and by the end of June had not fallen below that pavement. All work, therefore, on the Croesus level and below it had to be done in 1905 with the help of a powerful steam-pump.

In the following account the operations will be distinguished into three divisions. (1) The clearance of the Croesus platform. (2) The excavations beneath that platform. (3) The explorations in the Precinct. Each of these operations will be described as continuous, and the process of discovery will only be narrated in so far as it led to observations upon relative stratification and position, which have a bearing on the architectural and archaeological problems to be dealt with in the subsequent chapters. A great part of the work, it should be remembered, consisted in moving *débris* which had been turned over thirty years previously, and was devoid of any significant stratification whatever. The *datum* from which all levels are reckoned is the highest surviving stone of the Hellenistic Temple, *i.e.*, the highest in the column base at the N.E. corner. (Fig. 3.) All figures of level so reckoned are therefore preceded by the *minus* sign. Measurements are given on the metric system.

I. EXPLORATION OF THE CROESUS STRATUM.

This operation, which was being carried on throughout both seasons of the excavation, was mainly a re-clearance of already searched material. So far as I could judge, the whole of the *débris*, which was removed in 1904-5 from above the pavement level of the Croesus *cella* and peristyle, had been turned over by Wood. So also had that overlying the eastern steps, except at the extreme corners. In the case of the deposit lying below the level of the Croesus peristyle, upon the western *perron* and steps, the disturbance had been less complete. Great rifts had certainly been made in it by Wood's extraction of fallen Hellenistic drums; but evidently he had not excavated the lower western steps along their whole length, below a certain level. Similarly, upon a part of the northern flank, his explorations had left a patch of deposit untouched, extending between the piers about 3.00 inwards from the lowest step. On the southern flank he seems to have explored everything down to the Croesus foundations. In examining the Croesus platform, therefore, I broke fresh ground only at the



Fig. 3. N.E. Column Foundation, used as Datum.

N.E. and S.E. corners; in the extreme W. centre; towards the eastern end of the N. flank; and in a few shallow pockets where the upper layer, or two upper layers, of pavement had been abstracted. These occurred most often in the N.W. part of the peristyle, and in the western part of the *cella*.

I determined to undertake the tedious, costly and unremunerative task of removing from the main part of the Croesus platform all the superincumbent mass of *débris*, left by Wood, because it was necessary not only to make a detailed plan of all remains of that platform *in situ*, but thereafter to explore beneath it. The obligation to open the site for the inspection of future scholars did not seriously weigh with me, after I had come to realise that its relapse into a marshy jungle, after one or two years, could not be avoided without annual re-clearance. The fate of a great uncultivated hollow, sunk some sixteen feet below surrounding fields, and three or four feet below the normal level of ground-water in early spring, is not doubtful in a climate like that of Ephesus. The neighbouring pits, abandoned by the Austrians in 1897, had become choked by 1904 with impenetrable jungle out of which rose reeds over ten feet high. Had it been certain that there was nothing worth examination under the Croesus platform, I should have adopted the less expensive plan of merely turning the soil over and backwards; and even had that platform been of less massive construction, it might have been possible to adopt the same plan, and examine the upper and lower strata simultaneously by sections. But as the case stood, I had no choice but to make a clean sweep of Wood's mounds and shoot their contents outside the area. This task was accomplished with carts, donkeys, barrows and basket-labour; but it proceeded slowly, since most of the loads had to be conveyed not only to a considerable distance, but to levels from fifteen to twenty feet higher than the bearers' starting point. A contractor's railway, kindly lent by Prof. Heberdey on behalf of the Austrian Institute, was used in the second season for moving the upper part of Wood's east and west spoil-banks; but the slopes up to the dumping grounds were too high and abrupt for this to be of profitable service on the Croesus level. The *débris* was dumped mainly on the southern side, where the British property extends for a considerable distance, and Wood had already spread a thick layer of rubbish; but as much ground as possible was left unencumbered for a future explorer of the Precinct. The Austrian pits on the north-east and west were also utilised for dumping. The complete clearance of the Croesus level, however, was not carried out beyond the limits of the peristyle. By the time that the area of the surrounding steps was reached in the second season, it was

known that the Primitive structures were of much less extent than the Croesus platform, and, indeed, almost wholly contained within the limits of the Croesus *cella*. The *débris*, therefore, lying over the Croesus step-area below the peristyle level, was merely turned over by sections. As soon as all had been examined, and the pumps were dismantled, the ground-water began to rise rapidly, and in less than a week covered the whole Croesus stratum anew to a depth of several inches, submerging the underlying strata to a depth of over a metre, although the season was mid-summer. One effect of the deep excavation, which I carried out in the central area, has been to tap several powerful springs, and convert the whole site into a tract of permanent inundation. Except in a dry autumn season, I doubt if even the Croesus stratum will ever again be visible to tourists.

The system of clearance pursued was, first, to cut a broad passage down the axis of the platform from the western end, exposing the Croesus pavement, wherever preserved. This passage served thereafter as the main avenue for transport vehicles, which passed up to the high ground outside the area, west and south, by inclined ways cut in the flank of Wood's western dump. Lateral passages were cut at a later stage south and north from the centre of the site, and continued by other inclined ways. On all sides of the passages the great rubbish heaps were cleared away, all fragments of architectural and other value being set apart, and the rest (often needing preliminary breaking up with stone-hammers) being loaded into carts and donkey-panniers. Marble blocks over a certain weight, even if of no architectural interest, had to be gradually lowered and left *in situ*, as also had some huge masses of Byzantine concrete, since they would yield to no smashing agency but explosives. As many pieces of this concrete, however, as possible were broken up in the hope of recovering sculptures and inscriptions; but the reward of the tedious process was slight. It was satisfactory, nevertheless, to find in this way not only a further fragment of early sculpture, but also inscriptions, which will be published hereafter in the volume on the latest Temple. The epigraphic style of these supplies a chronological *terminus a quo* for the concrete itself. When the heaps had been reduced to an uneven level, about .20 above that of the Croesus pavement in *cella* and peristyle, the ground was left to be picked over by a line of men advancing methodically from the west over the whole area. This final process was not begun till the third week of October, by which time a considerable area had been roughly cleared ahead; but thereafter it proceeded regularly while the further removal of the eastern heaps was being carried forward. Neither process was completely finished by the close of the first

season. Since the axial passage had to be left free for transport purposes to the last, the centre of the *cella*, containing the rectangular foundation which Wood called the High Altar, could not be seriously attacked till a late moment, and thus the discoveries destined to be made thereunder were postponed to the last days of the first season.

While this double clearance was proceeding, independent trenches were opened along the extreme eastern and northern edges of the Temple site as defined by Wood, in order that his measurements and levels of the whole Hellenistic platform might be tested by the rediscovery of the remains of the lowest step and the pavement of the surrounding court, and by the opening out of the eastern corners. At a later stage short trenches were also cut across the line of the southern limit, and last of all along the western limit. The results of these will be stated presently.

(a) *Cella and Peristyle*.—The re-clearance of Wood's rubbish from the platform naturally led to few discoveries or observations of importance, and the result can be quickly stated. (1) All the fragments of *early reliefs*, which we add to Wood's collection (with two exceptions which occurred in rammed earth between north-eastern marginal piers of Hellenistic date, whose examination will be described below), were found either in his heaps or in holes between patches of Croesus pavement, filled with alluvial silt; that is to say, although all had doubtless been used as filling for the Hellenistic foundations, none (except the two first-mentioned) were found by us in the positions in which the Hellenistic builders had placed them. One fragment of early sculpture was extracted from a mass of Byzantine concrete. (2) Our fragments of *Hellenistic sculpture* all occurred among Wood's rubbish left on the platform. Of our fragments of *Roman sculpture* a large proportion was found in the trenches dug along the skirts of the later platform, and had been lying on the lowest step, on the paving of the surrounding courtyard, or in the marginal gutter. In these trenches no objects other than Roman occurred. (3) *Architectural fragments* in considerable number were recovered. (4) The few unpublished *inscriptions* on stone, found by us, lay in superficial rubbish, but not all in *débris* disturbed by Wood. One occurred in a patch neglected by him near the north-eastern corner, and another in a similar patch on the south-west edge of the Hellenistic platform. Others were found in the Precinct, and the rest on the platform, where they had escaped notice in his operations. Six were extracted from masses of Byzantine concrete. All, without exception, were astray from their original situations, and all, as will be stated in a later volume (where their exact find-spots will be given), are of a

period later than the Hellenistic. (5) Many large flat-headed bronze nails, showing traces of gilding, were found scattered over the west centre of the platform, mostly outside the *cella*; these probably belonged to the great western doors. (6) Two spots, where Wood or some earlier searcher had dumped sherds and terracotta fragments, were discovered, one in the north-east corner of the peristyle, another immediately north-east of the south-western *anta*; but these rubbish heaps, though carefully picked over, yielded nothing of any significance. Nor were any other sherds or terracottas of value found in the disturbed superficial rubbish on the platform. (7) The meagre list is completed by a few fragments of stone statuettes, of which one, found on the exposed plinth of the south-western angle of the Croesus *cella* wall, alone is of interest (p. 321, Fig. 101); by clay "loom-weights" and whorls; and by other small objects of no importance. On the whole it was made evident that Wood, or his men, had searched the *débris* with very fair diligence, and left little to reward the long and tedious task which was set to their successors.

(b) *The Perron, Steps, and Courtyard.*—The area of the platform outside the peristyle had been explored by Wood, as already stated, only as deep as the level of the peristyle pavement, except in a few isolated spots. Since the original upper surface of much of that area (*e.g.*, of the steps and probably the western *perron*) lay at a level slightly lower still, I had the deposit upon the greater part of it turned over anew. That overlying the two ends, east and west, could not be got at until a great part of Wood's higher mounds had been removed, an undertaking which was entrusted to a contractor at the beginning of the second season and not completed until far into May. This tedious and expensive operation proved so unremunerative that, had I been able to postpone it till the limits of the productive Primitive strata were definitely known, I should probably not have recommended it at all. But at the close of the first season we knew only that there was a rich Primitive stratum of unknown extent; and test-trenches, which I had already driven through the mounds, although they revealed extreme denudation at both the east and west ends, had also shown that Wood had not dug in those quarters quite to the bottom. When the second season opened, the lower levels were deeply flooded and operations had to be begun on the higher ground without the possibility of further information about the Primitive strata being obtained until such time as a steam-pump could be procured. The result was that the clearance of Wood's east and west dumps was nearly finished before I could learn that the work was scarcely worth while. It must be admitted, however,

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that, after all, the clearance gave us certain new information, besides making the excavation coterminous with the limits of the Temple and leaving nothing for a successor to attempt.

The denudation of the eastern and western ends of the platform is so much more complete than that of the centre, that I can only explain it by supposing that, while the latter area was protected in Byzantine times by the existence of the building called by Wood a church, the ends remained open for quarrying operations. Indeed, the "church" may have been largely built out of their material. There is positive evidence that a low stratum at the east end, at any rate, lay exposed to view in very late times. At three points, viz., in the northern half of the eastern edge, in the east centre, and on the south-eastern



Fig. 4. Late Structure built upon the east end of the Croesus Platform.

edge, remains of rude constructions, built of rough blocks bonded with mud-mortar, were found bedded on the silt immediately overlying the Croesus, and far below the Hellenistic level (Fig. 4). The remains on the south-eastern edge were rude foundations, made partly of re-used Hellenistic blocks. The others were remnants of huts, of which that on the north-east had a well beside it.

These could only have been built after the Hellenistic and underlying Croesus structures had been quarried away and the site abandoned long enough to allow of about 20 of silt accumulating over it. At the west end traces of a similar rough hut were found in the centre, 2.00 west of the outer extremity of the Hellenistic piers, but inside the limit of the Croesus steps, which, as will be shown later, projected far on this front. Since, however, some 16 feet of silt had had time to accumulate over even these constructions, before Wood's day, they must be referred to a period long anterior to the Turkish occupation.

With that exception absolutely nothing of importance was found within the limits of the platform east of the peristyle except the few fragments of Croesus paving and steps marked on the plan (*Atlas*, I.) (Fig. 5) and one or two broken terracottas (*e.g.*, a "Leto and child"), extracted from a remnant

of untouched inter-pier filling (p. 28). Wood's overlying dump was creditably empty of antiquities, and yielded nothing but a few fragments of bronze and glazed ware of Turkish time, defaced Byzantine coins, and coarse Roman terracottas (*e.g.*, a votive ear).

The excavation of the west end, which was evidently the fore-part of the Croesus, as of the Hellenistic, Temple, yielded more important architectural information than that of the east. The remains of the *perron* there discovered will be discussed in Chapter XV. The preservation of so much of the Croesus foundations and steps at this end may have been due to a landslide, which baffled the quarrymen. As will be remembered, it was at this end also that Wood found his best-preserved sculptured drum and most of the fragments of other Hellenistic *columnae caelatae*.

Here we also unearthed a fragment of a Hellenistic drum, with drapery upon it, and the lower part of a marble head, half life-size. Between the blocks of Croesus foundation in the west centre, and on the perished marble surface of the step itself, lay Roman bricks and a fragment of late sculpture (hand resting on a lion's head) doubtless from a



Fig. 5. Remains of Croesus Platform at N.E. angle.

statuette of the goddess; and a roughly lined well had been sunk in an open space just east of the step. These circumstances prove late inhabitation of this end also, after quarrying had removed part of the *perron*. Our failure, however, to find any trace of the Croesus foundations at either corner of the west front, or indeed north or south of the prolonged lines of the *antae*, seems too complete not to serve as a basis for arguing that this *perron* was only a tongue-shaped projection, not carried along the whole west front (see later, p. 249).

When the Artemision was rebuilt for the last time, its platform was raised, as Wood discovered, over 2.00 above the Croesus level; and in order that the area of the stylobate should remain the same at the higher elevation, it was necessary to expand the step area. The extension was supported by massive piers constructed of rough limestone blocks, running inwards, and connected

E 2

one with another by cross-walls of similar construction (Fig. 6). There remained, accordingly, a series of rectangular spaces contained by the piers, the cross-walls, and the outer faces of the earlier platform; and these were filled in with rammed earth and rubbish, to make a solid bedding for the Hellenistic steps above. Such filling could contain nothing later than the date at which the Hellenistic platform was begun, viz., about the middle of the fourth century; but it was reasonable to hope it might include objects belonging to the previous Temple lately destroyed. In that hope I had the spaces investigated, and I found some of the filling intact, although round a large part of the circumference both piers and wall had been almost wholly quarried away, and the filling of the interspaces was found disturbed and denuded by water (*e.g.*, along the



Fig. 6. Piers supporting Hellenistic Extension of Platform on the north side.

whole south and east faces, almost all the west face, and the western half of the north steps). The most profitable region was a short length in the eastern half of the northern steps abreast of the Croesus and Hellenistic column-base which still stands *in situ* in the north-eastern peristyle. It is also at this part of the circumference that the lower steps have been best preserved from the denudation which has

affected them elsewhere. Some circumstance restrained the Byzantine spoilers from quarrying this short stretch of the structure as completely as the rest, yet not from quarrying it altogether. There may have been a landslip from the north during the progress of spoliation; or possibly the inclined way, by which blocks were conveyed to the hill of Ayassoluk, was brought down to and over part of this corner of the site (the nearest to the hill), after the spoliation of the upper courses of the platform had lowered the level from which transport had to start. These patches of undisturbed filling, where most perfect, were not more than 3.00 long by 1.00 wide by .60 deep at their deepest points, *i.e.*, immediately within their cross-walls. The rammed earth was mixed with a great number of sherds and fragments of terracotta, glass, loom-weights, etc., besides marble chips and two fragments of early reliefs, similar to those found in the *cella* heaps. The sherds included some

painted red-figured ware, but no black-figured or other painted ware. The terracottas included interesting statuettes of "Leto and child," and a seated Goddess. Nothing of a date necessarily earlier than the beginning of the fifth century B.C. was found in these spaces, which had evidently been filled with the *débris* most readily obtained from recently formed refuse-heaps. Every object mixed with the earth, except the solid "loom-weights," was broken, and most objects were mere *disjecta membra*, thrown in pell-mell. The test of keeping apart the sherds, etc., from successive levels was applied, while certain of the least disturbed spaces were being excavated; but it proved conclusively that there was no stratification. The filling and ramming had all been done at one time. Lying, as they do, at a very low level, these spaces were the first to be flooded, and in the second season could only be investigated by the aid of a hand pump, supplementing the steam pump; and, where much denudation had taken place, as, *e.g.*, in the east and south, were not found worth cleaning out completely. It seems probable that Wood was right in his belief (*Discoveries*, p. 187), that a stream or flood-torrent passed along the south side of the site after its abandonment, and washed out, among other things, the contents of the spaces between the Hellenistic piers.

Reference has already been made to explorations carried out round the limits of the latest platform by broad trenches dug at various points along the line of the lowest step. These were carried along almost the whole length or the northern and eastern limits. But along the southern limit pits only were sunk at intervals; and along the western limit, owing to the immense depth of deposit, and the extreme saturation of the bottom soil, only three or four pits were made. Lengths of step not planned by Wood were thus found on the north and at the south-east angle (see plan, *Atlas*, I.); and the fragment used by him as an eastern limit was verified. Sections of the courtyard pavement, which was of uniform character wherever opened out, were obtained; and a broad gutter, on the north, east, and south, dug probably by the Hellenistic builders, at a uniform distance from the lowest steps on all those sides, was discovered. This was paved with tiles, and had been roofed with slabs, some of which were still in position, and at the north-east and south-east corners it was entered by tributary gutters descending from the higher ground of the eastern precinct. The north and south gutters discharged to westward below the site. The discovery of this gutter on the south, where no step has survived, supplied a criterion whereby to check Wood's measurement of the breadth of the latest platform.

The objects found in these marginal trenches were, without exception, of

Roman period or later, if fallen blocks of the Hellenistic Temple be not counted. The latter lay most thickly on the north side, where the foundations of a row of kilns probably explain their presence. They were in fact remnants of a collection of material made by lime-burners. These kilns stood at a higher level than, and partly over, the lowest step of the Hellenistic *podium*, where preserved, and account to some extent for its exceptionally good preservation on this flank. From the appearance of the deposit it was evident that Wood had not reached



Fig. 7. Remains of the Croesus Stratum, after excavation; from the N.E.

the level of the lowest step, much less that of the courtyard pavement, except at a few points, *e.g.*, in the east centre, where a short length of step is preserved. Elsewhere the lower limit of his disturbance lay about .40 above the courtyard pavement and roughly on a level with the Croesus stylobate. Below his limit we found various objects, none of any importance, *e.g.*, two colossal marble hands of coarse style on the north central margin, a marble foot in the south-east, a Roman inscription on a re-used block in the north-east, opaque glass roundels in the south-east gutter, and many imperial bronze coins, the majority being found in the gutters (Fig. 7).

II. EXPLORATION BENEATH THE CROESUS PLATFORM.

Wood, as has been said (p. 10), made four soundings through the pavement of the Croesus platform in the last year of his excavation, but failed to come upon, or at least to recognise, any underlying stratum of structural remains independent of the foundations of that platform. He reached a bedding of "putty-like clay" within the *cella* and was then satisfied that he had attained to the bottom of all things. It must be presumed that his measurement was reckoned from the surface of the pavement, as represented by the slabs on which the surviving fragment of the west wall in the northern half of the *cella* is based. Unfortunately in this case there is no record of details. We are told neither the exact situation of Wood's pit nor the character of the strata through which it was sunk. Wood must have found it necessary to remove massive foundation-blocks immediately below the under-pavement, and perhaps something besides at a still lower level; for in many parts of the *cella*, as we afterwards found, a Primitive stratum of remains would have been tapped ere a depth of 5 feet 9 inches below the Croesus pavement was reached. When we came to explore the lower strata in the west end of the *cella*, we observed that the Croesus foundations had been removed, and the underlying deposit disturbed, over an irregularly shaped area situated on the longitudinal axis about midway between Wood's "Great Altar" and the door. This may well have been the result of one of Wood's soundings; but if so, it is surprising that he got no inkling of the structural remains which we found to occur immediately below the Croesus foundations in this quarter.

It was intended from the first to test and enlarge Wood's exploration of the lower strata. Our deep operations were carried out at different times both under the Croesus platform and outside its area, and may, for convenience, be described here in two divisions, (1) those in the marginal step-area and peristyle, (2) those within the *cella*.

1. *Marginal Step-Area and Peristyle*.—Deep soundings were made at various times during the two seasons at several points round the margin of the Croesus peristyle, both within the area of its steps and under their Hellenistic extension; but in every case without structural remains being found underneath the Croesus stratum. On the south of the site (H 11¹) a broad and deep cut was made from the inner end of the Hellenistic piers to a point 2.00 outside the cross wall, and driven through the foundation and the paving of the

¹ These references are to the General Plan given in the *Atlas*, plate I.

courtyard; but nothing appeared below these except, at first, a layer of chips, and finally clean saturated sand, into which a 5-foot bar could be driven up to the top. This cut, since it was made to serve as a "sump" to collect water for the large pump, was continually being dredged and deepened; but no remains were discovered in it below the Hellenistic and Croesus levels. Two sinkings were made at the west end (G 14, C 14) through what would have been the Croesus steps, had they extended westwards on an even front (see below, p. 249); but once through the chip layer we found ourselves in clean saturated sand without being able to touch hard bottom within 5 feet. In the west centre, however, a solitary fragment of foundation in yellow limestone was uncovered, which lay lower than the lowest Croesus step, and outside it. For a discussion of this probably Primitive structure see later, p. 71. The lower levels were also sounded nearer the edge of the stylobate in G 13, E 13, and D 13. At the east end sinkings were made in A 3, 2, 1, and H 3; and on the north side in A 4, 5, 6, 7, while the bedding between the Hellenistic piers was being examined. In all these soundings the sand, presumably the bed of the original marsh, was found under the Croesus layer of marble chips. But at so low a level does this saturated sand lie that we were never able to keep a pit sunk in it clear of water, even with pumps; and all investigations below the chips were in the nature of dredging operations.

Soundings were also made within the area of the peristyle, but, as far as possible, without disturbing surviving patches of Croesus pavement. The first pit was sunk in E 12, close to the corner of the south-west *anta*, at a point where the two uppermost layers of Croesus pavement were seen to be missing. The third layer was found in place at a depth of .49 below the surface of the platform. On breaking through this, we came upon a belt of clayey sand about .15 thick and mixed with much burnt stuff, immediately underlying the slabs. Below this again were marble chips, mixed with a very few sherds of fabrics proper to the earlier part of the 6th century B.C. Under these again lay saturated sand, into which we persevered for about half a metre depth, baling out the constant inflow of water; and finally we probed with a 5-foot bar without being able to touch hard bottom.

A second pit was made in F 9, where for the first time we observed massive blocks underlying the triple Croesus paving. Later operations within the *cella* showed these to be of the same date as the pavement. Below the blocks was a layer of chips, and then bottomless sand. The same result awaited soundings made later in F 6, 5, 4, 3; E 4; D 4; C 5; C 7; B 7; C 9, 10; D and E 10; but in certain of these pits, though no Primitive

structures were revealed, one or two objects, lying on the sand or mixed with the overlying chips, came to light, of probably earlier date than the Croesus stratum. These will be particularised later, and their "find-spots" indicated. Like the sherds, found in the pit in E 12, and described above, they witnessed to the existence of a Primitive stratum of human remains on the site; but they do not supply evidence for any Primitive structure beneath the Croesus peristyle.

2. *Cella*.—If the search below the Croesus peristyle and steps proved almost fruitless, our fortune within the area of the *cella* was very different. The discovery of Primitive structures began with the clearing of superficial rubbish from around and within the rectangular foundation which lies at the central point of the Croesus Temple (the longitudinal and lateral axes intersect each other within it) and was called by Wood a "Great Altar." He had left the uppermost course visible on the east side, and on part of the north and south sides. Although not fully sharing Benndorf's disbelief in the possibility of an altar having stood at this point, I prefer to call this rectangle provisionally the *Basis*, reserving the question whether any part of it or the whole supported the cult-image, or whether any part of the whole served for sacrifice and dedication. As we were to learn presently, this Basis was a central feature not only of the Hellenistic and Croesus Temples, but also of a temple or temples more ancient. Owing to the Basis being on the line of our main cart-track, it was left untouched until nearly the end of the second month of the excavation. The superficial earth was removed from its centre on November 22nd, but some great blocks of Hellenistic foundation, which had been bedded upon its northern part, were not yet disturbed. The first clearance showed that, while the visible part of the eastern coigns was of hammer-faced marble, treated similarly to the Croesus wall-blocks, the main part of the east wall between the coigns was constructed differently from any other part of the Croesus Temple hitherto found, being of small squared blocks of whitish limestone, laid with smoothly worked outward, but rough inward, faces. On the next day a hole was made in the south centre of the Basis, which was seen to be filled, below the recent accumulation on its surface, with thin slabs and flakes of yellowish limestone, laid in uneven layers on sandy clay, now saturated with water. On the 24th I proceeded to clear out the southern half completely, and when the upper accumulation to a depth of about .40 below the surface of the eastern coigns had been removed, flakes of gold and electrum leaf began to appear. Presently a plaque in beaten electrum was found, and all further work was stopped until sieves could be brought into use. The saturated filling was now

F

collected into baskets down to a point about .50 lower still, below which it appeared so compact that, at the time, I believed I had reached the bottom of a shallow cist, whose top had collapsed. Further examination, however, corrected this view; both the upper slab-filling and the lower proved to be of absolutely identical character, and the slight difference in compactness was seen to be due only to difference of pressure.

Before describing the nature of any of the objects which were found in the filling of the Basis, I will relate briefly the successive stages by which the structure itself was revealed. The first hole made in its filling had led to the discovery of the missing west wall at a depth of nearly .40 below the surface of the eastern coigns; this differed in material and manner of



Fig. 8. Hellenistic Foundation Blocks bedded on the north part of the Basis.

construction from any other visible part of the Basis. Owing to floods it was not for another week that the hole could be extended and deepened sufficiently to show that on the other three sides survived remains of similar walls, enclosing a rectangle smaller than that originally visible; in fact, that the Basis which Wood saw was an extension of a smaller and presumably earlier Basis on the south, east, and north sides. When this fact had been learned, it was also seen that the objects hitherto found, *i.e.*, those between the higher layers of filling, had lain entirely within the lesser rectangle. The hole, made in the unencumbered south end of the Basis, was gradually extended to the bounding walls on west and south. On November 30th I had the Hellenistic foundation-blocks, after they had been measured and photographed, removed from the north end (Fig. 8). A bedding of thin slabs, evenly laid, appeared under them, and when these were lifted a large slab, crushed by the weight above it, came to light, showing lines ruled in double, as though by a mason "setting out" the position of something to be superimposed, and also faint traces of colour. These parts were carefully raised, replaced in their relative positions on a board, and so transported to a place of safety. Underneath lay slab-filling in layers as elsewhere, the removal of which soon brought a part of

construction from any other visible part of the Basis. Owing to floods it was not for another week that the hole could be extended and deepened sufficiently to show that on the other three sides survived remains of similar walls, enclosing a rectangle smaller than that originally visible; in fact, that the Basis which Wood saw was an extension of a smaller and presumably earlier Basis on

the north wall of the smaller rectangle into view. This ran under the position of the ruled slab, which must, therefore, have been placed where we found it by the builders of the extension.

As soon as all the bounding walls of the smaller rectangle were visible, I had the filling within them dredged out as far as was possible without the help of pumps; for these we did not possess in the first season. In the interstices of the lower filling were numerous bones of small ruminants and birds, and much carbonised matter. Clean river sand was reached at last at a depth of nearly 2.00 below the N.E. coign, and a 5ft. bar driven into this bed at several points reached no hard bottom; nor did deeper dredging bring any more objects to light. But the impossibility of continuing work under water in bitter December weather compelled me to postpone to another season the clearing out of all the corners of this rectangle and the removing of more than the upper layers of filling from the area of the extension. The Basis was abandoned on December 3rd, after being refilled with loose rubbish, and the ground-water, quickly rising above all its walls, effectually safeguarded its contents.

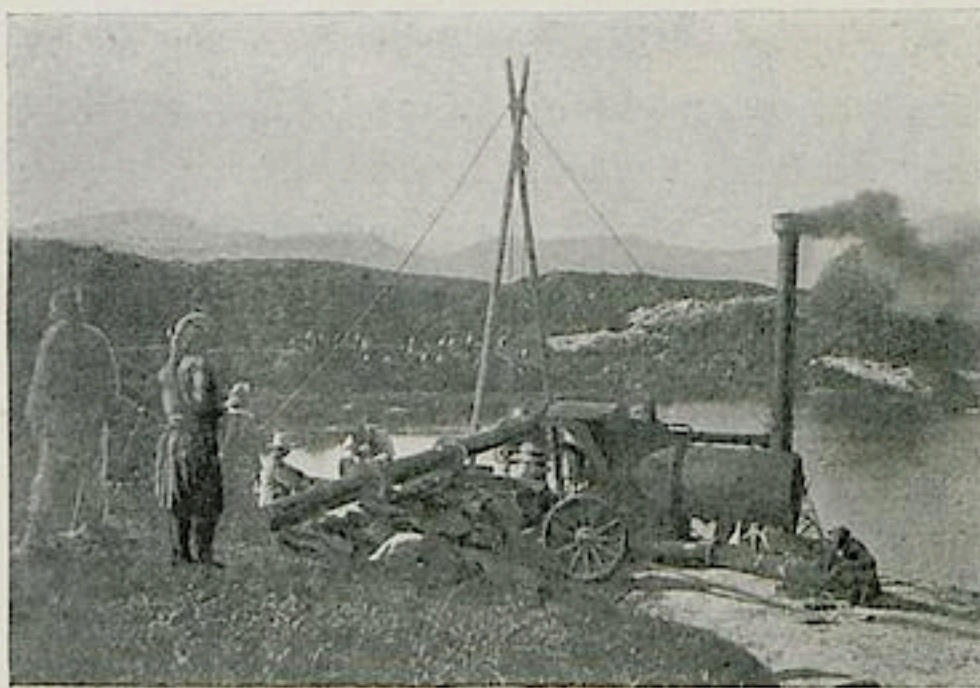


Fig. 9. Pump at work exhausting the flooded site in April, 1905.

Rather more than five months later—on May 15th, 1905—the protecting rubbish was again cleared out of the Basis, and the investigation of its original filling was resumed. During the past winter a rainfall much above the local average had raised the surface of the ground-water nearly a metre higher than the N.E. coign of the Basis, *i.e.*, had converted the whole site into a huge pond, in which the Croesus platform with all below it was drowned, and nothing emerged except the tops of the higher Hellenistic structures. I had, however, already installed a powerful steam-pump on the south-west edge of the excavation, and pumped out some 100,000 cubic metres of water into the ditches beside the Scala Nuova *chaussée* (Fig. 9). Thereupon the uppermost stones of the Basis could again be seen. The water below the Croesus platform was less easily dealt with, since not only did it re-enter faster and faster as its level was reduced, but the massive structures and the impervious clay of their foundation-bed

hindered its flow to the distant "sump" from which the suction-pipe had to lift it. After cutting channels through solid foundations at the cost of nearly a month's labour, I found that the ground-water could not be exhausted by direct pumping below -3.70 , and, therefore, in order to explore the lowest stratum, whose existence the work of the previous season had demonstrated, I had to isolate small areas and exhaust them with small auxiliary pumps. The Basis, which the good preservation of the *enceinte* rendered it easy to make comparatively watertight, was taken first and isolated. A 2-inch contractor's pump was rigged up on a frame above it, and the water was lifted into a flume and conducted outside the area of the Croesus *cella* to a point whence it could run away by gravity to the main "sump." But so rapidly did water re-enter that every morning, when work began, the Basis was found once more full, and its pump failed to exhaust it by midday without the help of a score of balers. Every corner and cranny of the inner rectangle was now re-examined, and the bottom sand scraped away to some depth. Even the clay bedding of the walls themselves was explored, that under the west wall in patches to obviate the collapse of the structure, that under the south, east, and north walls after the partial removal of the remains of the walls themselves. These were so scanty and so inevitably condemned for all time to come to be deeply submerged, that I had no hesitation in destroying them in part after measurement, in the hope of finding deposits under the corners of the rectangle; but this hope proved vain. The spaces included within the extension of the Basis to south, east and north, were also cleared out to the bottom, but yielded very few objects, and these entirely from the lower layers of filling. The only observation of importance to be recorded is this, that in the N.E. angle of the extension (see later) and in the lowest stratum of filling (-4.70) occurred an immense number of vertebræ, probably of sheep or goats.

The objects found within the Basis are described in a later section, and it is only necessary to say here that they numbered about 800 (beads, fragments of foil, and other fragments too far gone for recognition, not counted), and included a number of electrum coins, some scarabs, and the great majority of the articles of feminine jewellery which made up the collection eventually extracted from the lower Primitive strata. In fact, almost all the earrings, brooches, and hairpins in precious metal, and the *fibulae* and *fibula*-plates were found in the Basis; while all the statuettes and animal figures, in whatever material, all large fragments of ivory and bronze, such as may have formed part of coffers or furniture, and almost all the objects in crystal were found outside. No pottery, except a few minute sherds and two small plain vases, lay within the Basis. Its filling, indeed, was unmixed, so far as I could judge, with purely fortuitous

rubbish, and seemed to have been all inserted of set purpose and at one time, stones, precious objects, bones and all. It has been remarked already that the general character of the filling was identical from top to bottom. There was no apparent distinction of strata. But it should be stated here that below a certain level (about -4.00), the filling could not be properly observed *in situ*, but only after it had been dredged up. From that level down to the sand the search had to be carried on in the first season blindly under water, by men immersed to mid-thigh. In the second season, when only corners remained to be examined, the pumps rendered inspection before dredging more possible, but even then under only very unfavourable conditions, every stone or other object being thickly covered with liquid slime.

Before the season of 1904 closed some sinkings had been made in the lower strata outside the Basis on all four sides, and it was the result of these which rendered it certain that a second season must be devoted to exploration below the Croesus pavement. In a trench, dug along the west outward face of the Basis, a structure was discovered projecting from it, below the level of the Croesus foundations; and lying upon its surface were a small ivory statuette and some fragments of bronze ornaments. Flooded as this structure then was, I believed it to be a pavement. In the second season, however, it was seen to be a foundation, bonded with the west wall of the Basis itself (see p. 57). The Croesus foundations had been removed (by Wood?) from a narrow belt running westward for some 4.00 from the centre of the Basis; and in the free space thus offered, I sank a trench through the clay bed, but, being unable in an unenclosed area to reduce the water-level sufficiently, did not, at that time, get quite to the bottom of the stratum. Under the clay, however, early objects were found in dark earth, *e.g.*, parts of an early painted kylix, fragments of bronze hoop-bracelets and pins, a small ivory plaque, and a strip of plain gold foil, such as was used for diadems. Close to the north wall of the Basis extension a gold pin was dredged up from a slightly lower level than the ivory statuette. The trials made on the east and south yielded no small objects, but revealed the presence of an angle of wall enclosing the south-east corner of the Basis at a radius of $.60$. Since large blocks of Hellenistic foundation projected over this, the fact was sufficiently established that older structures existed at more than one point outside the Basis.

When it was desired to resume work in the lower strata outside the Basis, the whole area of the Croesus *cella*, now deeply flooded, had to be converted into an enclosed pool by dams of mud and stone which were built across gaps in its outer walls and their foundations, as soon as the great steam-pump had

reduced the general water-level to a point .50 below the Croesus pavement. Smaller areas were afterwards isolated within the larger one from time to time. While the steam-pump, by repeatedly exhausting the surface water on the peristyle and steps, checked inflow into the *cella*, the water within was kept still further below the general flood-level by the use of a separate pump and by baling, the now exhausted Basis being used as a secondary drainage "sump." The work increased in difficulty as the clearance of the bottom-sand expanded; for, while the advance of summer did not perceptibly diminish the leakage from all sides of the site, several large springs were tapped under the *cella* itself, which contributed an even greater volume of water from below (Fig. 10). In the later stages of the excavation, it was only by keeping the steam and hand-



Fig. 10. Pumping out the Basis in May, 1905. Hellenistic Foundation Blocks in foreground.

pumps going at intervals from dawn to dusk, and by making balers work at high pressure for the first five hours of morning, that we could get any part of the lowest stratum clear for examination in the latter half of the working day. When the search was finished in the *cella*, and that area was left to itself on June 10th, the water rose in less than forty-eight hours to the base of the

Croesus pavement, and in a week washed again over its surface. Under these extremely unfavourable conditions the searchers were always dredging in slime, or groping under a turbid sheet of water; and while the levels of low-lying structures could be ascertained precisely, only the *approximate* positions and levels of the loose objects contained in the liquid ooze could be observed.

The exploration of the lower strata, undertaken in the second season, was pushed outwards from all walls of the Basis simultaneously, the latter being the one point at which the presence of Primitive structures and the depth of the stratification had been clearly ascertained. The outer limit of the Primitive stratum was reached earliest on the shorter lateral axis, and on the north side. The southerly region had to be left undisturbed till nearly the end of the excavations, since the flume of the pump, fixed over the Basis, passed in that direction

On the north a thickening of the extension wall was revealed, and at a

distance of about .50 from its outer face a structure composed of small limestone blocks, and running parallel to the N. wall of the Basis, quickly came into view. This was bedded on rubbish, which, when scraped out at various points, was found



Fig. 11. Foundations immediately north of Basis. On right, outer face of the Basis (dimly seen); parallel to it on left, *B* wall; next on left, *D* foundations; and at extreme left, *C* outer wall. Eastern return of *D* foundations seen in middle distance.

strips of electrum-foil, and many scraps of gold and electrum. This filling was investigated down to the sand. The newly revealed structure proved to have no northward face, but to be engaged in another parallel line of foundations.

Beyond this, again, occurred a stratum of large blocks, which were seen to be foundations of the Croesus pavement (Fig. 12). On their being removed the lowest course of a well-built wall, .85 in thickness, came into sight. This had faces both south and north, and rested on a foundation, itself based on a bed of earth and pebbles, and at one point supporting a mass of Byzantine concrete in which a fragment of a Croesus drum was visible.



Fig. 12. Croesus Foundation Block bedded on *B* and *C* structures, in north part of *D* cella.

This latter fact shows that even the Croesus foundations had been quarried away here and there, before the Byzantine builders came on the scene (Fig. 11). Beyond the line of this wall, to

to contain potsherds, scraps of gold and electrum foil, beads, and other fragments. The space between this structure and the outer limit of the Basis proved to be filled with packed rubbish, but squared stones only occurred in the upper strata. Below these were rammed earth and small pebbles, among which were found various objects, *e.g.*, a ribbed cylinder of bone, a large bone roundel, three "candle-lamps," two long

northward, no other structure was discovered below the Croesus foundations, although the investigation was continued up to and beyond the limit of the area of the later peristyle. The lower stratum, interposed between Croesus foundations and bottom-sand, proved to be packed rubbish everywhere outside the Primitive N. wall last mentioned, and to contain a very little pottery, and still fewer objects of other fabrics. A small bronze bowl, and some unrecognisable scraps of the same metal and of coloured paste, were all that rewarded our search.

After the failure of repeated trials at various points, there was no conclusion possible but that we had probably found the northern limit of the area containing Primitive structures. Since the wall last mentioned ran exactly parallel to the northernmost face of the enlarged Basis, it seemed probable that it was built in relation to that Basis, and that at a like distance from the south face of the latter a corresponding bounding wall would be found at a low level.

On the *south*, therefore, such a wall was sought. It has been stated that in the first season a structure had been revealed close to and facing the Basis on the south at the same distance as that just described on the north. It remains to be said that the interval between this structure and the south face of the Basis extension wall, which had been thickened as on the north, contained precisely similar filling to that in the northern interval. Some ivory fragments with finely incised pattern, a second ribbed bone cylinder, and some scraps of bronze ornaments and flakes of gold and electrum foil were found in this filling.

This structure outside the Basis proved of the same character as the northern outside structure; and its outward face had been similarly obliterated by another line of foundation sunk partly to, partly through, it. It was in vain, however, that we sought beyond this for a farther bounding Primitive wall, running parallel to the Basis and abreast of it. The mass of superimposed Croesus, Hellenistic, and Byzantine foundations had been much less thoroughly quarried on this flank, and being in great part under water, was not to be wholly removed except with dynamite. We had to be content, therefore, with sinking pits at wide intervals across the supposed line of the southern boundary, where it was practicable to do so; and in two of these we eventually came upon two short lengths of wall of thickness and material identical with those of the northern limit, and with one course preserved above the foundations, showing true faces north and south. These fragments lay exactly in a line. Trials made beyond this line in the southern peristyle area had the same negative result as those in the northern. Therefore we were forced to

assume that we had found the limit of Primitive structures on the south flank also. The position of these fragments of the south wall is shown on the plan (*Atlas II.*). One of them, it will be observed, lies west of the Primitive western wall, and must, therefore, be presumed to be part of one of the western *antae*. Great difficulty was experienced in investigating the foundations of these fragments and even in keeping them clear of water long enough to measure them, since it was to the south-western region of the site that the steam pump was drawing the drainage. In getting down to them in two pits near the end of the west wall we found several objects in the earth packed between and under later foundation blocks. On the top of the Croesus foundation, just at the point where the distinction between it and the overlying Hellenistic blocks was clearly marked, lay several candle-lamps and fragments. From -3.90 down to -4.30 occurred fragments of painted pottery and a bronze gryphon-head, together with many bronze fragments, an ivory statuette, and an ivory ram.

On the *west* the limit was less quickly found, partly because the larger space, which had to be dug over, proved more productive both of early structures and objects than any other region on the site except the central Basis. With the exception of the denuded axial belt, already mentioned, almost the whole of this area was covered with massive blocks of Croesus foundation laid evenly upon a clay bed, and presenting an upper surface so accurately levelled and fitted that it might have been supposed to be a pavement, had we not already observed elsewhere the slabs which formed the true floor. These blocks were all removed by us up to the line of the west wall of the Croesus *cella*. Along the extreme flanks of the area foundations of a different kind (continuous with those already described north and south of the Basis) filled up the remaining space as far as the north and south walls of the Croesus *cella*, and overlay the Primitive bounding walls on each flank.

We began on May 16th to open out the structure projecting before the west wall of the basis and supposed in the previous season to be pavement, but could not get down to the bottom of it till the Basis itself had been cleared out to the sand, and could be used to drain off the water from its immediate neighbourhood. The clay bed of the Croesus foundations had been removed at this point as well as the foundation-blocks themselves, and the superficial rubbish was much mixed with sunken fragments of the Croesus stratum, among which we had found in the earlier season a piece of the Parapet, showing the trunk and neck of a draped sword-girt figure, and now we found a fragment of a lion gargoyle. On the 18th, after breaking a drainage

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channel through the north-western corner of the Basis, we began to dredge the ooze near that point, finding fragments of a foundation lying to south of the westward prolongation of the north extension-wall of the Basis. Under these when removed, and also where no such foundations existed, objects occurred abundantly, the prolific stratum being about .50 thick and resting on the black bottom-sand. Here were found that day among ivories, a Sphinx, a miniature chariot wheel, an incised dish, a lotus-handle, and a broken curved handle; several crystal studs and roundels, a large onyx bead or pin-head, a silver gilt hilt-plate, a good deal of pottery, including four small painted aryballi, and many bronze ornaments, some showing traces of gilding. One shapeless oxydised lump found with these, when cleaned, proved to be a small statuette of the goddess. Bone pendants, of the form illustrated on plate xxxv., occurred in considerable numbers. To these were added next day a painted hawk in glazed terracotta, found immediately beneath a stone belonging to the low broken foundation described above as extending southwards from the north-western angle of the Basis; the following ivories—a female statuette with spindle, whose head was recovered later in the sieves, a lion, a fragment of a horse's head, and a recumbent goat; a large bronze statuette of the goddess, and four terracotta statuettes; an electrum hawk, two silver ditto, one with a gold collar, eight electrum coins, a lion-head pendant, and many miscellaneous fragments of ornaments in precious metals and bronze. All these lay in the bottom stratum and in most cases deep down in the stratum; *e.g.*, the statuette, figured on plate xiv., was discovered lying on the black sand itself.

It is unnecessary to prolong a list whose items will appear in a later section. In describing the excavation of the rest of the western area I shall make mention only in general terms of the objects found, leaving particular specifications for a later section, except in the case of a few objects of peculiar interest.

The open space immediately in front of the Basis was exhausted after a week's work, and was found to be bounded on the west by a rectangular structure or foundation of small limestone blocks, whose centre was filled in with stones and sand, with hardly any admixture of precious objects or pottery, except four electrum coins. The whole structure was based on yellow clay-like sand, which in turn rested, like the bed of a structure connecting it with the platform projecting from the Basis, on the black sand. The intervals between the walls of these structures and the nearest lines of foundations running east and west (*v.* plan, *Atlas*, II.), were more productive, being filled in with rammed earth and pebbles, and containing several objects—ivory fragments, perished paste, crystals. A small jar containing nineteen electrum coins, found in the south

interval, deserves special mention (see p. 74). The rest of the area was covered by Croesus foundations, except for a ragged belt down the axis. In this belt the lower stratum had been disturbed, and we found practically nothing. If the disturbance here was Wood's, his workmen, if not himself, must have anticipated our discovery of Primitive objects; but there is no record of the fact. On either side of this belt the Croesus foundation blocks were *in situ*, and on their removal, together with the bed-clay, fragmentary structures came to light which will be described in the following chapter.

It was in this western part of the area that the two most abundant springs were tapped in the black sand, and thereafter the whole stratum of earth below -4.30 became liquid. The north-west angle of a large cross wall, similar in character to the Primitive boundary on the north, but broader, was found on May 25th, and its return eastward was seen to be in line with the north boundary wall, of which a further fragment, well preserved on the inner face, had now been found about half-way between the Basis and this north-west angle. The north wall was seen to continue farther west so as to form an *anta*. Since, however, a fragment of such a continuation of the south boundary also was found, as has been said above, and trenches driven westward from the line of the west wall just discovered at four points failed to show any trace of a farther boundary, we concluded that in the latter wall we had found the western enclosure of the Primitive shrine, and that beyond it projected *antae*. That shrine, in fact, was, like its successors, a temple *in antis*, with the same relative proportions, but on a smaller scale (see plan, *Atlas*, I.).

This western wall was eventually traced right across to the southern boundary, being well preserved to the height of one course above foundations, except in the middle, where, however, its line was continued by large slabs of a yellow, red-veined marble laid crosswise at the level of its uppermost foundation. Both east and west of this wall, at its north-western angle, objects were found in the bottom stratum, *e.g.*, a small statuette with gold diadem and fragments of the fine white-faced and painted ware described below on pp. 221-2.

Within the south-west corner the lowest stratum proved very productive over a considerable area, yielding an iron sword, which was so much corroded that it fell to dust when lifted; the fragments of the dish with ibexes; a wooden hawk, once covered with gold foil, of which fragments bearing the impression of the feathers lay near; among ivories, a statuette with hawks, a large rampant lion, a duck's head, a comb, the forepart of a horse, and a crouching boar; also a Bes head in paste, and many smaller objects. But it should be remarked that these objects were always found in little isolated "pockets," and not

distributed freely throughout the stratum, as at the north-west of the Basis, and within the Basis itself. The only precious metal found at the west end was foil, evidently detached from cores of ivory, wood, or bronze. In only one spot, however, did we find any remains tending to explain these "pockets." On the north side of the area appeared the remains of a sort of cist built of small stones, and sunk in the bottom stratum. It contained only two electrum coins and a crystal bobbin; but the ivory statuette, bearing vases in its hands and a pole and hawk on its head, was found just outside the cist. The jewellery, so frequent in the Basis and found also in lesser quantity immediately outside, failed in the western area.

Running across the centre of the west Primitive wall, a roughly built conduit, bedded on earth and evidently belonging to the Croesus Temple, was opened out (see p. 263). Wood's pitting at this point had disturbed all the strata above the lowest, and allowed much foul ooze, full of decayed vegetable matter, to soak into the denuded belt which has been described as running down the centre of the *cella*. The south centre of the area also was partly denuded of Croesus foundations, much disturbed, full of foul deposit, and unproductive.

When all the open space in the western part of the early area had been exhausted, I had certain high-lying Primitive foundations, which had all been measured and photographed, destroyed in order to investigate the earth below them, and make assurance doubly sure that the stratum productive of small objects continued beneath. The result was quite conclusive. Five electrum coins, a scarab set in silver, a gold horn, several electrum hairpins, an electrum plaque, and the ivory plaque figured on pl. xxvi. 6, besides objects of less importance, were found in the bedding of the wall nearest to the southern face of the Basis. In view of the information to be obtained, I had no hesitation in destroying these foundation structures, since they lay much below the level of ground-water even at the driest season. Their sites are in fact now flooded many feet deep, and will probably never again be seen by human eyes.

The early area *east* of the Basis remains to be described. It proved less productive both of structures and small antiquities than the western area, although fortunately its main divisions and boundary were equally clearly marked. The denudation and disturbance of strata observed immediately west of the Basis were much more thorough on the eastern side. The Croesus foundations had been ripped up entirely from this part of the early area, except along a narrow belt on the northern flank, and only there were the underlying clay and earth found by us intact. Elsewhere the lower stratum had

been turned over right down to the sand, and one can only be thankful that the objects it still contained can be dated by comparison with many others found in less disturbed earth elsewhere. I am at a loss to know to whom to ascribe this deep excavation. It can hardly have been of Wood's making, for not only does he give no hint of such work in his book, but, had he been responsible for it, he must have made discoveries as to the character of the Basis itself, as well as the contents of the lower strata, which he certainly did not make. Perhaps this ground was hastily searched in Byzantine times after the quarrying operations had been carried down to a low level, and possibly had revealed some chance object in precious metal. That, nevertheless, certain precious things were left for us, is easily to be explained by the difficulty of finding anything at all in such slime, without elaborate care and the use of sieves.

As for early structures, we found very few stones still in position one upon another until the eastern Primitive boundary was opened out; but plenty of stones from ruined structures lay loose in the slime. In the space between the thickened east extension wall of the Basis and the first parallel wall (see plan, *Atlas*, II.), which was filled, like the corresponding intervals on north and south, with rammed earth, occurred a few objects in bone and ivory (*e.g.*, the carved dish, plate xxvii.), and some scraps of gold and electrum. A part of this space had been protected by a patch of large Croesus foundation-blocks abutting on the south-east angle of the Basis, and under the clay bed of these were found a broken alabastron and some fragments of painted pottery, *e.g.*, of small aryballi. After beginning operations on the south side of the area beyond this parallel wall, we had very little reward for some time. The earth was much disturbed, but not wholly empty. The figurine in amber, a glazed terracotta hawk, the rudest of our ivory statuettes, the snake and an electrum hawk-brooch were found in the sieves in deposit taken from this quarter. Among the blocks tumbled from an upper stratum into this ooze were two bits of Croesus sculpture. Both lay almost on the line of the destroyed southern Primitive boundary. It was not till the workmen had passed over to the northern half of the eastern area, after a fortnight's comparatively barren toil, and had begun to remove the belt of Croesus foundations, that many objects were found. But at last a pocket of productive earth was exposed close to the east face of a foundation which, as on the north and south, encroached on the outer edge of the parallel wall facing the Basis, and at a level below -4.30 . This pocket contained over 160 small stars in electrum, of two patterns, but all having eye-holes for attachment. The material on which they were sewn

or nailed had doubtless perished. With them was made a more interesting find, namely, that of fragments of a silver plate inscribed on both faces in early Ionian characters. All the fragments of this plate were picked out of the earth by hand, and none were added by the sieves, through which all the deposit in this neighbourhood was washed. Close by the "find-spot" of the inscribed plate, and at the same level, occurred a small hoard of objects in metal. It included silver hawk-brooches and fragments of very thin stamped silver, so minute that the pattern could not be made out; two bronze hawks, one with a hare in its claws; and two unusually long and broad strips of plain gold foil, probably diadems. At a later stage I had a good deal of the nearest foundations destroyed in the hope of finding more fragments of the inscribed plate beneath them, but in vain. Nothing more of importance, except two electrum coins, was found in this quarter.

A second parallel wall on the east had long ago been found, which is probably the eastern Primitive limit. The southern wall east of the Basis, as has been said already, was very defective. Indeed the whole south-eastern region of the site, through which it should have run, showed signs of thorough disturbance right down to the black sand, and was filled at a low level with a chaotic mass of tumbled blocks of all ages (even the Roman), mixed with bricks, small stones, concrete, and mud. For example, a Roman inscription was found lying beside a fragment of the Croesus Parapet, both being below -4.00 . For some reason a great hole was made here by quarrymen or searchers for treasure, at a period subsequent to the Byzantine inhabitation of the site, but doubtless long before the Turkish epoch, whose remains in the neighbourhood lie much higher, divided from the earlier strata by a belt of clean sand, 4 to 6 metres thick.

East of this second parallel wall no structures were found except a fragment of foundation about 9.00 distant, and no objects at all, except some traces of perished bronze and paste. So unprofitable was the excavation that after clearing down to the black sand for a short distance eastward of the second cross wall, I investigated the rest of the space by a system of radiating trenches. Except in its north-west angle the Croesus foundations had all been removed and the strata beneath disturbed—a fact which precludes any sure inference as to the use made of this space in Primitive times. The poverty of its lower stratum, however, in comparison even with that west of the Basis, where the protecting Croesus foundation had equally been removed, suggests that it had been rather an open court than a part of the covered building, and had not been used as a place for dedication or custody of treasures.

III.—EXPLORATION IN THE PRECINCT.

Besides the re-exploration of the Temple itself, it was proposed from the first to carry out certain tentative operations in the Precinct, with a view to determining the contents and state of preservation of its strata, and to estimating the outlay which a thorough excavation of any considerable area of it would entail. On these questions Wood had thrown very little light. My operations had naturally to be undertaken within the boundaries of the British property. On the northern and especially the north-eastern side of the Temple, these boundaries approach very near to the edge of the Hellenistic platform, and such interval as there is has been piled high with Wood's dumps. On the north-east the adjoining property has been acquired by the Austrian Institute and explored with discouraging results in 1897 (see p. 19). On the western side the case is similar. The British boundary leaves little room, and that room is entirely occupied by Wood's dumps, piled more than 5 metres above the general level. Here also the Austrians had explored the adjoining field. On the south, however, a large tract of British property extends almost to the Scala Nuova road, and although cumbered with dumps in the immediate vicinity of the Temple, offers plenty of space at the normal level of the plain. Here, therefore, I determined to sink chains of pits to the lowest possible depth. At the same time I wished to supplement Professor Benndorf's soundings on the west side by making at least one large sinking on the same axial line as the Temple, between the lowest steps and the nearest of his pits. The object of this was to settle, if possible, the question raised by him whether remains of an external Great Altar were to be found before the western façade. There are two references in ancient authors to sculptured altars connected with the Artemision.¹ Each author evidently alludes to a structure of some splendour; but whether to one or to two structures, whether to altars within or to altars without the Temple area, or on the west side or not, is not clear.

(I.) *Soundings on the South.*—These soundings unfortunately were not begun till just before bad weather had set in, and many became deeply flooded ere they had gone very far down. In the second season the level of ground-water had risen so high that it was impossible to continue the pits. The plan adopted was to sink chains of pits in three rows each 100 feet in length, more or less. The pits were rectangular, measuring 3 metres by 2, with an interval of 3 metres between each. Some had to be enlarged subsequently by encroaching on the intervals, and all were dug with almost perpendicular walls, the sandy clay

¹ Strabo xiv. 1, 23; Pausanias x. 38, 3.

proving sufficiently firm. Had their results been promising enough I should have cut away the intervals and converted each chain into a long trench. Two of the chains were dug obliquely through the western part of the area, one (A) from hard by the north-west angle of the Turkish mosque-tomb, which stands near the southern boundary of the property; the other (B) parallel to it on the west at a distance of 100 feet. An oblique direction (340°) was adopted in order that these two lines of pits might cut across any walls built parallel with the axial line of the temple, which lies nearly due east and west. The third chain (C) was made in the south-eastern part of the property, and was forced by the extension of Wood's dumps in that quarter to take a direction due west and east. I was unwilling to sink through Wood's dumps, partly because of the extra labour involved, partly because of the danger to workmen threatened by the unsound earth which would lie round the mouths of the pits.

(A) *Five Pits*.—No. 1 (from the south) hit at once on remains of Turkish graves, the marble flooring of a mosque-tomb being found at $\cdot 90$. At $\cdot 90$ further down was a grave containing two skeletons, but no sign of objects buried with the dead. Turkish remains (largely of Roman brick) continued for $1\cdot 40$ deeper down, making a mediaeval stratum $3\cdot 20$ in thickness. This was succeeded by yellow sand, through which we were unable to go, owing to a heavy storm which flooded the pit. But in No. 2, where the stratification was the same, an inner angle of structure, lying $108^\circ \times 198^\circ$ and roughly parallel with the Temple axis, was struck at $5\cdot 37$. There were three courses of rudely squared unmortared blocks, with four foundation courses, resting on earth, containing Roman sherds. Continuing down for $2\cdot 00$ more, we found nothing else but sandy earth and water, which stopped work at $7\cdot 35$ (24 feet 2 inches) from the surface. In the next pit, No. 3, we got a little deeper, after finding a wall of ashlar at $5\cdot 70$ and cutting through a mosaic pavement at $6\cdot 50$. Under this pavement were black glazed sherds, and at $7\cdot 00$ appeared a thin marble pavement on which lay fragments of painted plaster, red, white, and black. This was bedded on marble chips, mixed with river-sand and shells. Water coming in on all sides stopped us at $7\cdot 40$ (24 feet 4 inches). The two other pits in this line, lying nearer the face of Wood's high dumps, became hopelessly flooded when about $4\cdot 00$ deep, and had to be abandoned. No interesting small objects of antiquity, except two fragments of Roman inscriptions, were found in the A pits.

(B) *Six Pits*.—These were the last dug, and the most hindered by flooding. None were carried down lower than $7\cdot 00$ (23 feet). In No. 3 two layers of rough pavement were found at $5\cdot 90$ and $6\cdot 90$, each more like the floor of a

courtyard or road than a house. The mediaeval stratum contained extensive brick remains of vaulted tombs, one of which had a cupola 2·30 in diameter at the base and 3·00 in height, almost intact. It was empty. No small objects of antiquity, except rough sherds, were found in any of the pits, no walls of good construction below the mediaeval, and no marble or mosaic pavements.

(C) *Six Pits*.—In this region the mediaeval stratum was thinner, the foundations of Turkish structures not going down below 1·50. Below these was a stratum of river-sand and gravel over 2·00 thick, laid in even layers as if by the natural action of water. Below that again, in No. 1 (from west), we struck on five lines of earthenware pipes, laid one over the other at slightly different angles, but all having a general direction and fall slightly north of west. Between the lines was a thin bedding of clay. The highest pipe lay at 3·60, the lowest at 5·10. All were of very solid construction, being about ·15 in diameter, with a ·05 bore, and the different sections were so firmly cemented one into the other that we found it easier to break them at other points than those of junction. Just below the level of all the pipes, but slightly to the south, was a rough pavement like that of a road. This pit was carried down into water at 8·00 (26 feet 3 inches) without anything further being found except a coarse bedding of small stones supporting the pavement.

In another pit (No. 4) the same pavement, with a rough bounding wall on the south, was struck at 6·80. Its direction was about 293°. The pipes were not found here, but some terracotta fragments (bird-mould and arm of a miniature throne with lion in relief, of Roman date) occurred on the pavement. In the next pit to eastward were found a pavement of small squared blocks at 5·30, and a high wall and foundations at a slightly lower level, the general direction being parallel with the pavement in No. 4. Pits Nos. 3 and 4 were carried down into clean sand at 7·10.

The labour and expense of sinking pits to depths between 23 and 27 feet were very poorly repaid. The soundings proved (so far as they can be said to prove anything) that (1) a mediaeval Moslem cemetery occupied this region, whose remains form an uppermost stratum varying from 3½ to 1½ metres in thickness. (2) A long period of desolation preceded the use of the region for Moslem tombs, during which a stream seems to have passed over the south-eastern part of it, while silt was slowly accumulating over the rest to a depth of some 2 metres. (3) Remains of the Roman period in a state of utter ruin occupy the ground at a level roughly between 5·00 and 6·00 below the present surface. Those seen by us consisted of buildings of rough character in the western part of the area, and of a roadway or quay in the south-eastern

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region. Beside this roadway or quay a system of pipes, for drainage or more probably (their small bore being considered) for water supply, was carried. The direction of these pipes seems to argue that they were not laid to the distant city on the south-west, but to conduct a supply to the Precinct itself. The multiplication of pipes laid one over the other in slightly varying directions, but of identical size and fabric, points to an elaborate system of distinct supply to different quarters. (4) About 1·00 below the Roman stratum there are scanty remains of a Greek stratum, representing a period at which buildings were few and widely spaced in the Precinct. But our trials were quite inconclusive on this point. (5) Nothing really useful can be done in the way of exploring the Precinct without the removal of deposit to a depth of at least 20 feet over a considerable area. Where Wood's spoil-banks overlie the region, this superficial deposit is as much as 30 feet thick. If this mass could be dumped on the exhausted Temple site itself, which is hardly worth leaving open in its flooded condition, the work could be done with fair ease and rapidity; but in order to expose the Roman stratum over an area, say, 100 metres square (it would hardly be worth considering a lesser area where remains are probably widely spaced), the excavator would have to face a preliminary non-productive outlay of at least £3,000, to which would fall to be added subsequently the expense of exploring the lower strata—a work which could not be effectually done without the aid of powerful pumping machinery. Nor, in my own opinion, would the ultimate return be likely to be great. The fearfully denuded condition of the Temple-remains, and the evidence they afford for the long and continuous labour of quarry-men and lime-burners on the site, argue strongly against the likelihood that many remains of value have been spared in the Precinct. The smaller marble structures would go into the kiln before the more massive, and such a concentration of small early objects of value, as was found in the centre of the Temple, is not to be looked for in its environs.

(II.) *Sounding on the West.*—In order to sound between the Austrian pit and the western limit of the Temple we had to cut through the highest of Wood's dumps. Laborious as this operation was, it had a utility independent of the sounding, since without it the Austrian pits on the farther side could not have been used as dumping grounds for the Temple rubbish. I marked out on October 5th a cutting 20 feet wide, whose centre was bisected longitudinally by the protracted line of the axis of the Temple, and set a gang to drive it through from west to east on a level which would run 4·00 below the crest of the mound. The earth down to that depth, and for half a metre lower still, was

loose sandy clay removed by Wood from the upper stratum of the Temple site. This cutting was finished in a fortnight, and thereafter a strip along the northern half of it was utilised as a cart track. In the middle of the cutting, in Wood's disturbed earth, occurred a mass of blocks, among which were fragments of a Roman inscription. On October 29th we began at last to sink through untouched deposit, having reached the original surface on which Wood dumped his rubbish, and, at 1.00 depth, found ourselves in mediaeval Turkish remains represented by a rough wall about one metre high, bedded on earth, and by many fragments of glazed ware, bronze and bone. Under this, as in the south-eastern Precinct, lay fluvial deposit containing a few water-worn sherds of blue glazed ware and broken iron objects in its uppermost layer, but below that nothing. This deposit proved to be 4.30 thick. The sections of it on the sides of the pit showed even alternate strata of fine gravel and black sand; and there can be no possible doubt it was laid by water. As in the south-east of the precinct, so here, a stream or flood-torrent must have passed for some centuries before the period of Turkish occupation. At last, at a depth of 6.85 below the present level of the plain, a layer of chips, mostly marble, was exposed, below which lay coarse mud and gravel down to water at 7.85 (25 feet 9 inches). The stratification was the same all through the cutting. There was no sign of building material or pavement, and no small objects of antiquity were found. The lowest point reached was 4.72 below the level of the Hellenistic stylobate (the *datum*) and 2.50 below the Croesus stylobate.

If there had been any remains of a large Altar in the area dug by us, we must have come upon them. As it was, our results were even more negative than Professor Benndorf's, who, it will be remembered, found a small patch of pavement to the west of our cutting. But except for that, his lowest strata and ours were so utterly empty that I venture to conjecture that in reality we were both digging within the area of the shallow Sacred Port, or of a connecting canal, which came up to the foot of the façade of the Temple itself. Professor Benndorf's pavement may have been a fragment of one quay or causeway,¹ and my chips the bedding of another.

¹ See *Forsch. in Ephesos*, i. p. 212. It is there stated that Humann believed this pavement to be the foundation of the Peribolus floor. But, from indications observed elsewhere, we have no reason to suppose the latter to have been of such massive construction.

CHAPTER IV.

THE PRIMITIVE STRUCTURES.

TEMPLES *A*, *B*, *C* (ATLAS, I., II.).

By D. G. HOGARTH and A. E. HENDERSON.

The Primitive remains, so far as they were of structural character, were found to be contained within the area of the Croesus cella, with one exception to be mentioned later. On various grounds, which will be stated presently, we conclude that they represent three successive small Temples, each of which was a modification of its predecessor. These will be designated hereafter Temples *A*, *B*, and *C*. Although the whole Primitive period of the Artemision was perhaps short, the structural evidence, particularly that afforded by the Central Basis, leaves us no choice but to divide it into these three sub-periods of construction. Apart from possible destruction by invaders, such as the Cimmerians, a reasonable explanation of such frequent modifications may be found in the water-logged nature of the site. The early builders, as there is abundant evidence to show, found the instability of the ground and the constant rise of ground-moisture a continual difficulty; and though they repeatedly raised the floor of the shrine to higher levels, that difficulty was not overcome even by the Croesus architect who undertook the draining of the site and put in for the first time really massive foundations on the top of previous constructions: for even thereafter considerable settlements occurred at many points of the platform, and the latest builders found it expedient to make a gigantic addition to the massive work of their predecessors, and to raise the solid pile of foundation-blocks to a total thickness of over three metres, before they ventured to erect the *cella* and colonnade, whose great height and size evoked such admiration in Hellenistic and Roman times.

TEMPLE *A*.

The site of the Artemision we know to have been originally a marsh, formed by the deposits of two left-bank tributaries of the Cayster, or two arms of one tributary; and since the lowest foundations, found by us upon the site, are not more than two metres above sea-level, this marsh may be assumed to have

been part of a small marine delta and, in the main, flat. The original natural surface is represented by fine saturated river-sand which we found everywhere underlying the earliest foundations. When this was exposed at the lowest level, a five-foot bar could be driven into it to the head at all points without touching anything hard. The surface of the sand-bed lies about -5.10 (reckoned from the *datum*) and -2.00 from the highest level of the Croesus pavement. Among the foundations actually found by us bedded on the original sand, the chief are those of the earliest *Central Basis*. On this account, and for



Fig. 13. The Central Basis from the W., half excavated. In the central foreground, green schist wall of *A* with projecting foundation. On the right are seen in section the *B* and *C* thickenings; ditto on the left; at the back, the rough inner face of the *B* thickening on the E. side, and some of the slab filling.

other reasons to be mentioned hereafter, we may safely regard this structure, at any rate, as belonging to the first shrine founded on the site. Other possible relics of structures of the same period will be considered presently.

The *Central Basis*, it will be recalled, is the rectangular structure situated at the intersection of the longitudinal and lateral axes of the Croesus platform, upper stones of which, on three sides only (N., E. and S.), were exposed by Wood and regarded as foundations of the Great Altar of the Croesus Temple. The exploration of this structure towards the end of our first season, resulted, as

has been related, in the discovery of an earlier Basis, of different material and smaller dimensions, underlying the courses seen by Wood.

The western wall of this earlier Basis did not appear till -3.57 , *i.e.*, nearly $.40$ below the surface of the highest courses of the later structure. It proved to be constructed of blocks of green schist laid in five courses which progress in height from top to bottom, the highest having a vertical dimension of $.21$, the lowest of $.29$. The whole height of the wall is 1.21 . The outward face is of good upright tooled ashlar. The blocks have flat beds and upright joints throughout almost the whole thickness of the wall, which varies from $.58$ to $.42$; and they fit tightly together, retaining in their interstices traces of a fine white clay used as mortar (Fig. 13). The whole wall stands on a double-coursed

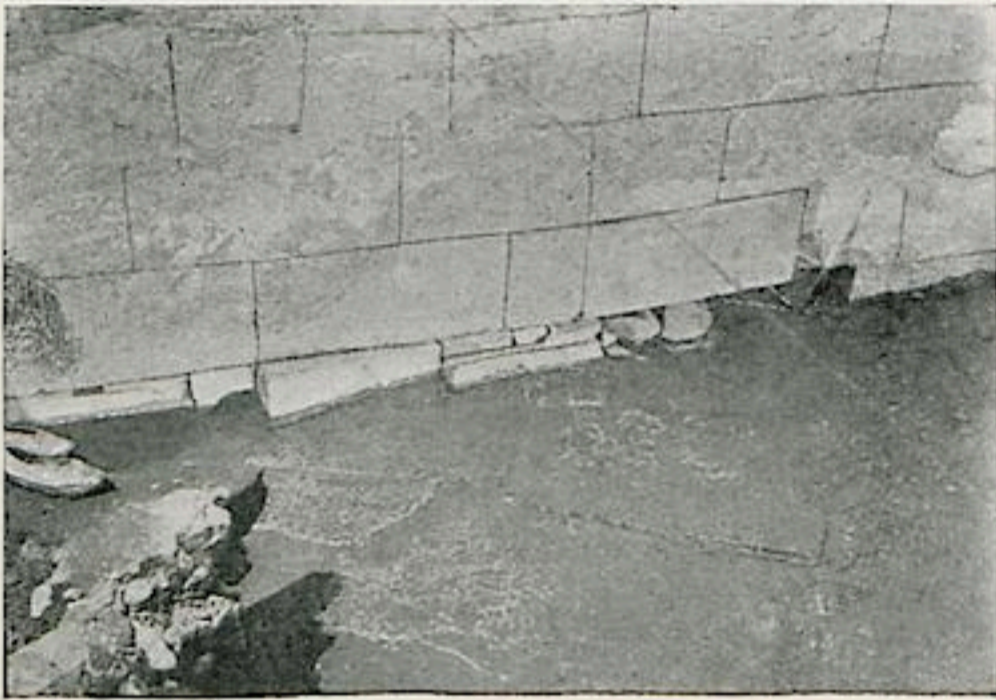


Fig. 14. Lower Courses of W. Wall of A Basis.

foundation of yellow limestone slabs, varying from $.19$ to $.12$ in thickness, which project a little from both faces; and these in turn are bedded on a layer of white clay, from $.15$ to $.10$ thick, which rests on the bottom marsh-sand (Fig. 14). From the top course to the sand-bed the total dimension of the wall is 1.50 . As our clearance proceeded, the other three walls of the rectangle came into view; but their highest remaining courses lay at lower levels. The most ruinous was that on the east, only one course of which survived above the foundation. In all other respects, however, the N., E. and S. walls, with their foundations, correspond with the west wall, and show a significant feature in common with it—they have *no inner faces*, the green schist blocks being only roughly shaped at the back. The rectangle, therefore, was intended to be filled in with a solid core, bonded with the outer casing; and consequently it may safely be assumed that the filling actually found inside is coeval with the walls. The rectangle measures, in all, 4.34 along its western and eastern faces, and 2.86 along the northern and southern, length standing to breadth as nearly as possible as $3:2$.

The filling of the interior, which was eventually removed by us entirely on account of the treasure it contained, was composed of fragments of laminated

other three walls of the rectangle

yellow limestone, similar to those which form the foundation courses of the walls, but less carefully shaped and assorted. Deprived of this filling, as the result of our removal showed, the outer walls are not stable; and it must therefore originally have been packed in as each course was laid in position. The filling slabs were roughly bedded on layers of argillaceous sand, course by course, down to the marsh surface. This filling mounted to the top of the western schist wall.

We began to explore the inside of the smaller rectangle on November 22, but the discovery of treasure (see p. 33) did not begin until the 24th, when we had penetrated to the level of the top course of the western schist wall; and then only within the more restricted area which we knew later to be that of the earlier rectangle. In the subsequent exploration of the enlarged area of the later rectangle, certain objects were found, mainly in the filling of the eastern addition; but these were so few and small that their presence is easily accounted for by leakage from the old filling, three faces of which had been exposed by the collapse of the green schist casing. The whole mass of the core, when we explored it, was saturated with ground-water, and the objects in metal and other materials, imbedded between its slabs, were masked with slime, and, except in rare cases, indistinguishable by the eye until slabs and clay alike had been washed through sieves. There can be little doubt that such was the case also in antiquity; and this fact, apart from the restraining influence of superstitious fear, sufficiently explains why the treasure, which we ultimately found, was not remarked and removed by the first enlargers. After that enlargement there was no further risk of its discovery. An added layer of empty filling was eventually piled on the top of the old, and upon this again, without penetrating it, the Hellenistic builders laid foundation blocks of their elevated platform, three of which we found *in situ*, undisturbed by Wood, overlying the northern half of the Basis (see fig. 8).

The tooling of the outward faces of the schist blocks is so carefully executed, and their alignment so accurate, that it is practically certain that all these faces were intended to be visible from top to bottom. The original pavement around the Basis must therefore have been laid almost on the sand itself, or at least on a thin clay stratum, and cannot have risen to a higher level than about -4.70 . That there was such a pavement made of flat limestone slabs may be presumed, if the nature of the marsh surface be considered, although no slab remains in its place near the Basis. The later restorers doubtless lifted it entirely and re-used the material. It probably rested on the projections of the limestone foundation course which supports the schist wall.

It is not very probable, however, that the original shrine consisted only of this schist Basis and an open pavement. There would have been, at any rate, in all likelihood, an enclosing Temenos wall. As a matter of fact we found two small patches of foundation on the south side, which are bedded very low, and cannot well be explained as parts of any later restoration. One of these consists of four courses of laminated limestone, whose bed is -5.02 ; the other, also of four courses, bedded at -4.94 , is in line with the first in a direction parallel to the longitudinal axis of the schist Basis. In these patches we propose to see scanty survivals of the south wall of the primitive Temenos. Neither patch is well enough preserved to show a face on any side, or to indicate the thickness of the wall which it supported. If accepted as remains of a South wall, these patches imply an enclosure not less than 35.00 W. to E. by 18.00 N. to S. The approximation of these dimensions to the usual proportion of $2:1$, observed in laying out the area of Hellenic temples, is significant.

Another isolated patch must be referred to *A*, or, at least to *B*, owing both to the low level of its bed, and its incompatibility with later structures. This was exposed rather more than 10.00 east of the eastern face of the early Basis. It is bedded as low as -5.10 , and consists of rather unusually large slabs of laminated limestone, the highest surface of whose four courses rises to -4.45 . It has perhaps true outward faces to W. and E., and measures 6.00 N. to S. Its broken ends show that it continued in both directions. It is over 2.00 broad at its broadest, W. to E. This last dimension is greater than that of any Primitive walling on the site, and the foundation therefore may probably have been the remains of some large platform structure, possibly an altar standing within the Temenos. The area suggested for this primitive Temenos coincides very nearly with that over which objects similar to those found in the filling of the early Basis were discovered. These occurred west of the Basis right up to the main Primitive cross wall, which we shall ascribe to *C*, and on the east more sporadically as far as the patch of low-bedded foundation just described; but not beyond.

There are certain other foundations, agreeing in axial direction with the early Basis, and unquestionably anterior to its first restoration, which we call Temple *B*. These lie immediately west of the Basis. The chief is a large rectangle, 4.45 N. to S. by 2.76 W. to E., slightly exceeding the Basis in area, and according exactly with its axial line (Fig. 15). It is separated from it by a space nearly 3.00 wide, in which occur other foundations, to be discussed presently. Its edges are roughly coursed and made of laminated limestone; but the filling was found to be of very rough

character, mere clay and small flattish stones. The bed is rather irregular, but never above -4.85 , and the highest surviving stone lies at -4.22 . When it was gutted and partly destroyed at the close of our search, no objects similar to those in the Basis filling were found under its foundations; but four electrum coins (p. 75) and a few beads occurred in the upper part of its filling. On all grounds, therefore, but one, it is naturally to be referred to the same period as the Basis; and that one is this. Whereas the Basis wall was evidently left visible down to its lowest course, and the surrounding pavement must have lain, as stated above, not higher than -4.70 , the western rectangle shows roughly faced courses rising about $.50$ above that level. It is, of course, not impossible that an outer skin of better masonry has been lost, and that what now remains is only a core; but there is no vestige of such a skin, and, after all, the existent facing is not more rough than that of most primitive Greek buildings. It is quite possible, also, that it was originally plastered. It suffers from comparison with the schist masonry of the Basis, which is of exceptional excellence for its period. We conclude, therefore, that the western structure also belongs to Temple *A*.



Fig. 15. Western *A* Rectangle from the S.E., partly gutted. T-shaped foundation projecting in the foreground.

Between it and the Basis intervenes a T-shaped mass of foundations, agreeing in axial direction with both rectangles, constructed in the same material as the western, and bedded equally low (the eastern part even lower, on the same level as the Basis foundation). The head of the T is 2.82 long, the stem 1.66 broad in the middle, and the two together measure 2.88 from W. to E. The highest surviving point is -4.43 . In considering the period to which this foundation belongs, certain facts must be noted. (1) It abuts on the western platform with a straight joint. (2) Its lower courses are bonded throughout, and form one mass of construction. (3) The lower courses of the foot of the T are continued through the Basis wall behind, occupying the place of the lowest schist

course (Fig. 16). (4) The whole rests on a double foundation course of limestone slabs, apparently one and continuous with the foundation course of the Basis. (5) The edges are fairly straight, and may well represent original facing.

The conclusion from these considerations should be that this **T** foundation must be regarded as being of the same period as the early Basis, and having formed an approach, possibly a step-way, to the platform which the latter constituted. The fact, however, that it does not bond with the western platform suggests that the latter was due to an afterthought, and was an addition to the buildings within the primitive Temenos, not contemplated at the first foundation, but erected there before the first general restoration

(*B*) was undertaken.

It should be said that, whereas our destruction of part of the head and the western end of the **T** stem resulted in no discovery of *A* objects, a few were found under the extreme S. edge of the **T** foot, when the outermost block was removed. No significance, however, could be attached to this discovery, in view of the fact that the bottom hereabouts was



Fig. 16. Foot of the **T** Foundation abutting on and bonded through the W. wall of *A* Basis.

nothing but liquid slime, in which objects could slip some distance laterally, and that the edges of the foundation were found exceedingly loosely compacted and ruinous. The whole block of central structures, including the Basis, measures 8.45 W. to E. by 4.45 at the broadest, N. to S.

TEMPLE *B*.

In restricting the remains of *A* to what has been described, and regarding all other Primitive structural survivals as belonging to restorations, we rely not only on the generally higher level of other foundations, and the slight incongruities of their axial directions, but also on the obvious fact that the Basis was enlarged, and the original structure largely obliterated before the Croesus period. It will be best to describe the Basis enlargement at once, since it affords the most unquestionable evidence of restoration.

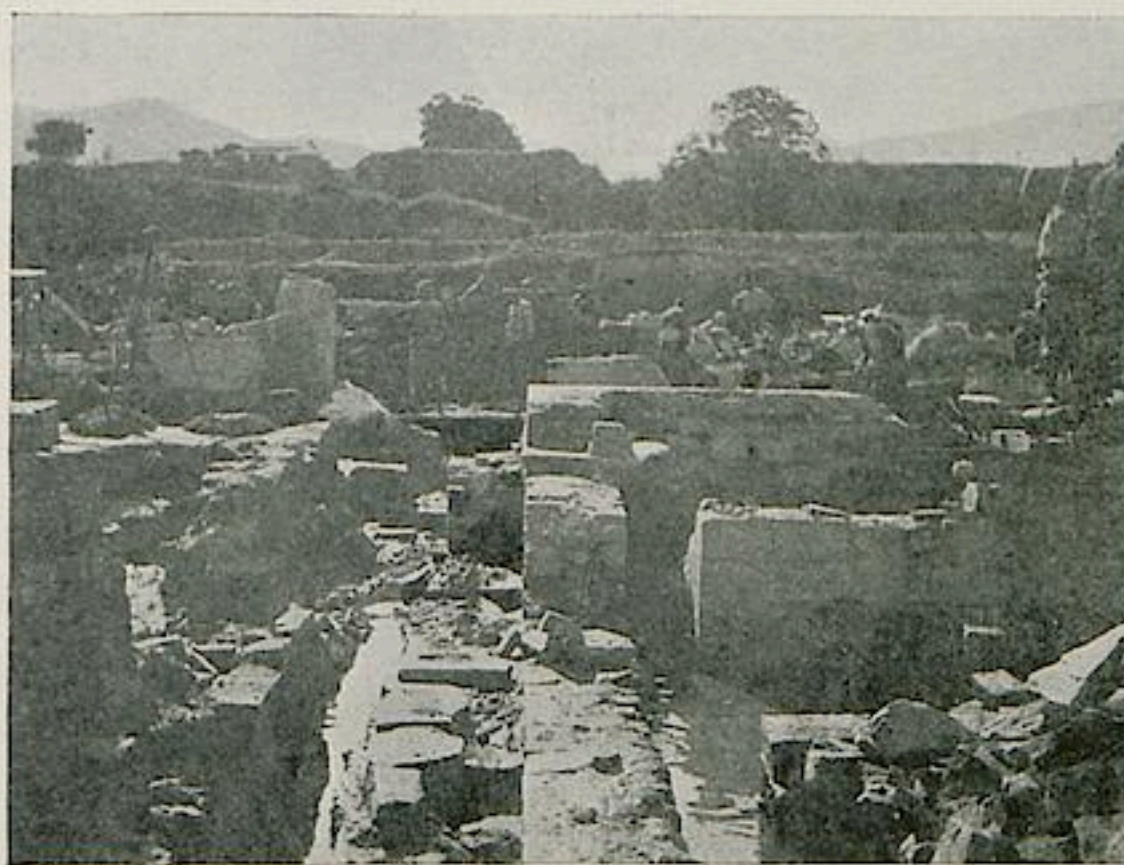
(1) We found, as has been described, on clearing the original Basis completely, that the green schist walls failed in part on the north, south, and east, though everywhere one course at least remained *in situ* above foundations ;



Fig. 17. N. Face of Basis, showing *B* walling under *D* coigns. A fragment of *C* enlargement seen projecting at the left (N.E.) corner.

and, further, that new walls from .55 to .60 thick had subsequently been built outside these ruined faces, which enlarged the area by 1.95 from N. to S. and 1.74 from W. to E. (Fig. 17.) These new walls were not constructed, like the old, of green schist ashlar, but of small yellow limestone blocks very carefully laid in from 14 to 16 courses, with vertically worked outward faces ; but, like the green schist, they were only very roughly dressed on the inner side. They were bedded upon a foundation

of their own material at -4.85 , and we found them carried up to the same height as the uppermost schist course on the western side (Fig. 18). The axis, however, of the new Basis was very slightly varied from that of the old. The spaces between new and old walls were filled in solid with slabs and sand ; but before that was done, the ruinous faces of the old rectangle were roughly restored with limestone slabs, which we found so laid as to be flush with the former schist faces, and themselves to show fairly vertical faces and make straight joints with the newer filling. There had evidently been a collapse of the old Basis on the east, due, perhaps, to settlement ; and probably some small part of the original filling had slipped eastwards



D Foundations. *B* Enclosure. *C* Extension Wall. *B* Extension Wall. *A* Western Rectangle in foreground and *A* Basis behind.

Fig. 18. North Side of the Basis and Parallel Foundations of *B*, *C* and *D* periods.

through the gaps, carrying with it the few *A* objects which we found in the east extension. As the old walls were about to be hidden by the addition, it was apparently not thought worth while to replace the heavy schist blocks, three or four of which we observed re-used in neighbouring foundations.

The original height to which this new platform was carried was determined for us by an interesting discovery, made on November 30th, as soon as the three blocks of Hellenistic foundation, superimposed on the north end of the Basis, had been removed, together with a little superficial accumulation of dust and chips. There were then revealed remains of a flooring of yellow limestone, overlying most of the north end of the Basis, including the north addition. It had been shattered by the pressure of the great blocks just removed; but the

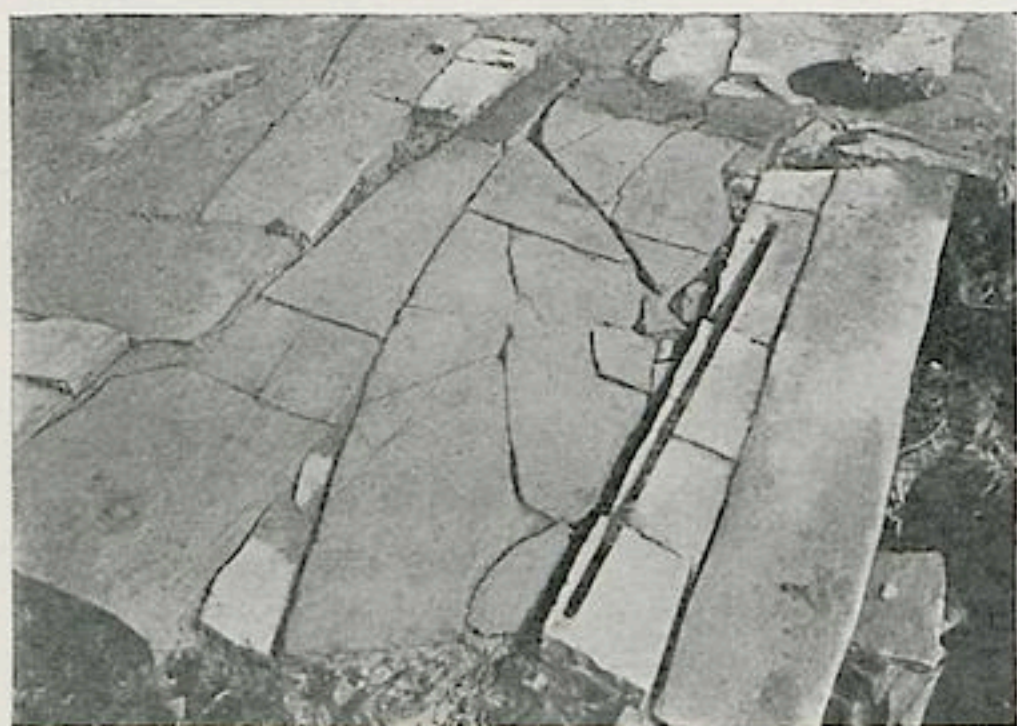




Fig. 19. Ruled Slab in position on N. end of Basis; from the N.W.

fragments of one large slab retained their relative positions. This measured 1.70 from E. to W. by 1.00 N. to S., and was .04 thick. In about its centre the surface showed parallel lines ruled on the stone, thus , the parallels being about .10 apart; and these would appear to have been "setting-out" marks to indicate the position of something to be erected on the floor (Fig. 19). The slabs were deeply stained with black blotches either by the action of fire or vegetable decay, but more probably the former; and the surface, when first revealed, bore evanescent traces of red colouring, apparently disposed in a pattern; but these remained visible only for a few minutes. There is no doubt that here we found part of the Basis pavement laid down by the first enlargers, and perhaps that part on which the cult-statue was to be erected. Under the flooring appeared the ordinary limestone filling, the raising of whose uppermost *laminae* revealed a large electrum *bullae* and a small unpainted vase, lying within the area of the earliest rectangle. The level of this flooring was -3.52. Fragments of similar flooring, at the same level, were found also at other points of the enlarged Basis area, viz., in the north-eastern, south-eastern, and south-western corners, where they had been laid as bedding for a later superstructure (Temple *D*, see p. 261).

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These slabs were of greenish hue and laminated, of material similar to, but not quite identical with the earlier schist blocks, and they must be referred to a later period (*D*).

(2) The new north and south walls of the Basis were also continued to the westward and joined by a cross wall so as to enclose the western structures of *A* in one oblong with the Basis. Of these continuations the foundations are all existent. The return of the southern prolongation abuts on the south-western corner of the western rectangle of *A*; but, not lying quite in the same axial direction as the earlier structures, it falls away at the north-western corner, leaving a space, $\cdot 14$ at its widest, which was filled in with rubble. These walls, like their eastern parts, were from $\cdot 55$ to $\cdot 60$ thick, bedded at $-4\cdot 85$ and faced on their outward sides only. The small spaces, about $\cdot 30$ wide, left north and south of the westernmost structure of *A*, were filled in solid with rubble bonded in to the outer walls; but it is a question whether the larger spaces north and south of the T-shaped structures of *A* were so made solid or not; for all filling there had become loose and indeterminable. Overlying the western wall of the new enclosure we found some fragments of highly-worked limestone rubbed to a smooth surface almost like marble. Their level was $-4\cdot 43$, which (if they represent pavement) must be taken as the floor-level of the western part of the new rectangle. In this case there was a step or steps up to the Basis at the eastern end, whose floor lay nearly $1\cdot 00$ higher. It should be remarked that at several points below the foundations of these walls, as prolonged to west, and in the filling north and south of the western platform, objects of *A* period were found. These were too numerous for it to be supposed that all had slipped to their positions; nor was the ground here nearly so slimy and liquid as it had proved to be under the west face of the Basis.

So far there is little or no doubt about *B* structures. The two original central platforms were enlarged by restorers and thrown into one block, so as to form one stepped platform. But it is less easy to be certain what modifications, if any, took place in the Temenos at this period, more especially since there is so little evidence to show what its original form and arrangement had been. Outside the central platform of *B* we found remains of three rectangles of enclosing walls. Since one of these obviously represents a further extension of the platform itself by the addition of a block or vestibule on the west, and a slight enlargement all round, we have certainly to take into account a *second* restoration, *i.e.*, Temple *C*; and for the other two rectangles, which form outer enclosures, we must choose among three, not two periods.

The innermost of these two is divided from the limits of the central

platform of *B* period by spaces which are not equal on all sides, or even on corresponding sides; and as its walls do not lie quite in the same axial direction as the platform, the spaces vary in breadth very slightly also on the same side.



Fig. 20. Fragment of *B* Western Girdle wall (in foreground). Behind it, *D* Foundations. On the left, *B* and *C* Girdle walls.

On the east the interspace narrows from 1.50 at the south end to 1.40 at the north; on the north from .96 at the east to .90 at the west; and on the south from .80 at the west to .70 at the east. But there is rather a serious discrepancy between the whole interval on the north and that on the south. Of the west wall, we found a trace at the south-western corner (Fig. 20). The bed-

level of the walls of this inclosure, which rest on white clay, is also variable, ranging from -4.50 on the north down to -4.70 on the south. It should be said further that only the merest foundations remain at any part, the upper courses having been more completely removed than from any other Primitive walls. The outer facing has been destroyed on all sides by the Croesus builders, who, as will be noticed later, put in foundations of a rectangle which encroaches on the outside periphery of the one we have been describing (Fig. 21).

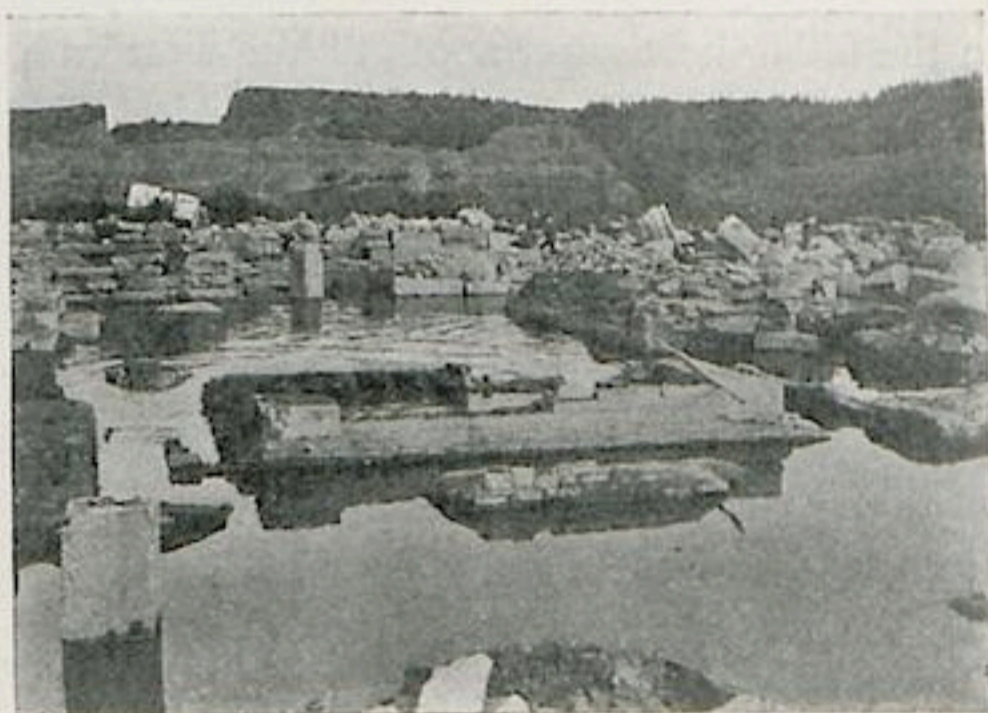


Fig. 21. Basis seen from E. Fragment of *D* intrusive Foundations in front of E. face of the Basis.

In spite, however, of this enclosure not having the *B* Basis quite truly in its longitudinal axis, there seems no choice but to refer it to the first restoration (*B*). If its axial direction is not quite the same as that of the *B* platform, it accords still worse with that of the Basis of *A* period; while the discrepancies between the north and south intervals are as serious in the case

of *A* as of *B*. Moreover, several objects of *A* period were discovered when the foundations of the south wall of this enclosure were lifted. If these walls are not of *A*, they cannot any better be referred to the period at which the second enlargement of the Basis was carried out, *i.e.*, *C*; for, as is apparent on the plan, they approach too near to the limits of that enlargement for any use to have been made of the interspaces. As foundations of *C* walls they are quite meaningless. As foundations of *B* walls they enclose an ambulatory or passage of an average width of $\cdot 78$ on the north and south and $1\cdot 45$ on the east, running round the platform, and they may very well define the ground plan of a *naos* or *cella* erected to cover the *B* platform. Such a building would have had an internal breadth of about $8\cdot 00$ and a length of not less than $16\cdot 50$, this proportion being once more¹ that most usual in Hellenic *cellae*.

It is practically certain that the pavement level of the Temenos was now raised very considerably, since some parts of the walls of *B* period are not bedded much lower than $-4\cdot 50$. Indeed, the floor level may very well have been brought up throughout to that of the slabs found by us on the west edge of the central platform, *viz.*, $-4\cdot 43$.

Possible reasons for the enlargement of the Central Basis and construction of a wall uniting it in one oblong with the west platform will be given later.

TEMPLE *C*.

Yet another reconstruction and a fresh amplification of the Primitive Artemision were undertaken, for which we found evidence more complete and satisfactory than exists for the previous restoration. The foundations of the edifice which we call *C* lie generally at a higher level than those of *B*, usually descending not lower than $-4\cdot 50$. They are bedded on clay, which rests on a stratum of stones and earth, overlying the marsh sand, and composed to some extent of *débris* of earlier constructions. The axial direction of *C* coincides with that of *B*.

In this case again we have the indubitable evidence afforded by another enlargement of the Basis and Central Platform. We found remains of new foundations built against the north and south sides, so as to widen the platform by about $1\cdot 20$, the new abutments varying from $\cdot 55$ to $\cdot 64$ in thickness. On the north-east the new foundation was preserved up to $-3\cdot 52$, *i.e.*, for almost $1\cdot 00$ above the clay bed and exactly up to the floor-level of *B* (see p. 60); but as the north abutment was opened out by us

¹ See p. 56 above for probable proportions of the original Temenos.

westward, it proved more ruinous, falling in places to a single course above the clay bedding. The southern foundation was also well preserved at its east end, rising to -3.74 , and also ruinous at its west end. Between these foundation walls and the clay intervenes a layer of thin slabs projecting slightly from the outer faces. These foundations were prolonged west of the platform of *B* to enclose a space or court measuring about 4.50 from east to west. Where the northern and southern foundations no longer abut on the platform of *B*, they are thickened so as to measure $.84$ to $.80$ in width, and their return on the west, which is very fragmentary, is of the same dimension. This return very probably coincided almost exactly with the destroyed west wall of *B* "*cella*."



Fig. 22. Fragment of *C* (?) Foundation running along under W. wall of *A* Basis. *B* Thickening and Enclosing Walls seen behind.

On the east side of the Basis we found the *B* face obliterated by a new skin of limestone slabs, making a straight joint with it and thickening it by $.45$. This bonds at the angles with the *C* thickening walls north and south. A settlement has caused displacement of the central stones of this new face, and a triangular rift is visible, extending almost all the height of the wall. It seems possible that this settlement took place while the work of construction was in progress, and had to be corrected by the uneven coursing, which the outer face now shows. Twelve courses of this new wall have such rough outer faces as would befit foundations, and rise to -3.51 , or practically the same height as the east end of the north thickening wall. At that level begins a superstructure, whose eastern face is flush with the *C* foundations, but whose northern and southern faces, which are preserved, do not accord with the northern and southern faces of the *C* substructures, being set back in the one case $.55$, in the other as far as $.94$. For that reason this superstructure, although partly composed of ashlar limestone of similar nature to that used in *C* walls, must be considered to belong, in the main, to a later building, and will be considered in another chapter (p. 261).

On the west side of the Basis it seems possible that an addition was

also made in the shape of a wall built against the old schist face, and over the foot of the T-shaped platform referred to *A* period. The reasons for presuming the existence of this vanished wall are (1) the fact that the upper part of the north and south walls, built in *B* period to enclose the Basis and west platform in one oblong, appears to have been cut away flush with the old western face of the Basis; (2) certain fragmentary foundations were uncovered by us running beside the western face of the Basis (see chap. iii., p. 42). If such a western addition existed, it provided a new westward face to the raised east part of the platform (Fig. 22).

The platform of *C*, as enlarged, almost filled the space which had been enclosed by the whole outer rectangle of *B*, and the interval left on the south between old and new walls became a mere strip not $\cdot 20$ wide. This being so, it is highly probable that the walls of the earlier *cella* were now razed, and left much as we found them, *i.e.*, as ruinous foundations, over the top of which pavement was laid. In any case



Fig. 23. *C* Western Enclosure Wall, seen under later foundation.

a new outer rectangle was now laid out, parts of all four walls of which we were fortunate enough to lay bare, preserved above their mere foundation courses.

The new rectangle enclosed an oblong space round the central platform, measuring in all, externally, about $31\cdot 00$ from E. to W. and $15\cdot 50$ from N. to S.—*i.e.*, again, in the Hellenic proportion of 2 to 1. The central platform now lay towards the east end. Of the western wall of the new rectangle we opened out remains along almost the whole length, finding that the highest course of foundations consisted of large limestone slabs (Fig. 23) averaging $2\cdot 20$ by $\cdot 75$ in superficies and $\cdot 10$ to $\cdot 15$ in thickness, laid crosswise so as to project $\cdot 20$ to $\cdot 50$ beyond the upper ashlar faces. We probably found here the supporting fringe of the temple pavement, which thus effectually rested

K

on the foundation of the walls (Fig. 24). In that case the level of these slabs, -4.17 , is especially important, since it determines the *C* pavement level as about -4.10 . Below the slabs are five foundation courses of limestone



Fig. 24. Slabs underlying *C* Western Enclosure Wall.

blocks, roughly laid, and bedded on clay at the low level of -4.92 . At the north-west angle one course of ashlar survives above the slabs, returning eastwards to form the north enclosing wall and westwards to form an *anta* (Fig. 25). This fragment gives the exact breadth of both west and north walls, that of the former being 1.37 , that of the latter $.85$. The *anta*, 1.80 long but broken off, corresponds to a similar westward projection of the south wall.¹ The ashlar course in position here, as well as all the ashlar remaining in other walls of the rectangle, is made up of small limestone blocks of all shapes, laid flush in plain mortar between margins, which have outer faces accurately squared and vertically tooled, with upright joints and level beds. These walls, seen in horizontal section, present the appearance of small polygonal masonry, or coarse concrete, and have kept their compactness and alignment wonderfully well.

From its angle with the west wall, the north wall of the *C* temple was traced eastward to a point a little over 8 metres beyond the east face of the Basis, where it was found to return southward. Just at the point of return, both outer and inner faces were found well preserved up to one course above foundations, and the inner angle made by the cross wall was well defined. The cross wall, like the north wall, is $.85$ broad (Fig. 26). The two are of precisely similar construction and bonded with one another. Beyond the point



Fig. 25. Inner N.W. Angle of *C* Enclosure Wall.

¹ The builders of the subsequent Temple *D* are responsible for the destruction of these *antæ*, which crossed the line of the western foundations of the Croesus *cella*.

of return we were unable to discover further traces of the north wall ; and, since we failed also to find any remains of a south wall east of the return, the latter may be determined to be the eastward limit of the *C* temple. There occurs, however, a fragment of foundation parallel to it, and 9·60 metres further east. This foundation is about 2·00 long, with broken ends, by 1·44 broad, and therefore corresponds roughly to the dimension of the west wall. The level of its bed, however, is $-3\cdot64$ —*i.e.*, very considerably higher than that of any foundation courses in the other walls of the rectangle, higher even than the surviving ashlar course on the west wall, whose surface is $-4\cdot08$, or those on the north wall (middle), $-3\cdot92$, and on the cross east wall, $-3\cdot81$. As the three levels last quoted show, there is a fall in the site from east to west—a fact known also from other observations ; but that fall is too slight and regular to account for the elevation of this easternmost foundation, if it be part of the enclosing wall of the *C* temple ; for the ashlar upon it, had it survived, could hardly lie at a lower level than $-3\cdot50$. This foundation, moreover, is not simply that of a cross wall 1·44 broad ; for against its western face abuts another foundation $\cdot47$ thick, which, though its surface lies $\cdot33$ lower, seems to form one mass with it. Unfortunately, this fragment was not discovered till the last day of the excavation, when the fruitless search prosecuted for many days in the rest of the area east of the cross wall, for both architectural and other remains, had led to hope being abandoned in that direction, and to the pumps, which alone made deep excavation possible, being dismantled. We were, therefore, unable to investigate the lowest courses of this fragment, or to be quite sure how far it extended north and south. But, considering both its level and its composite character, we have little doubt that it is no part of the enclosing wall, but the remains of an isolated structure of the same period, perhaps a pedestal or altar.



Fig. 26. Eastern Enclosure Wall of *C*. Lowest ashlar course preserved.

The south wall of the *C* temple has been ruined almost beyond recovery by the founders of the Croesus Temple ; but one fragment of it (in the south-

western *anta*) was laid bare, on which one course of ashlar survives to the full width above the foundations. The breadth is $\cdot 85$, and the superficial level $-4\cdot 08$, in both of which respects the fragment corresponds exactly with the northern *anta*. Its structural character is also the same (Fig. 27). We tried to find this south wall again at several points eastward, but though we came upon many blocks probably belonging to it, could not be sure, in the slime, that any of these remained in their original positions.

This wall completed the outer enclosure of *C*. As with the earlier enclosures, the destruction of this in most places to foundation level has deprived us of any sure evidence as to the direction from which the temple was entered. But it may be observed that, if we place its eastern limit correctly, and are

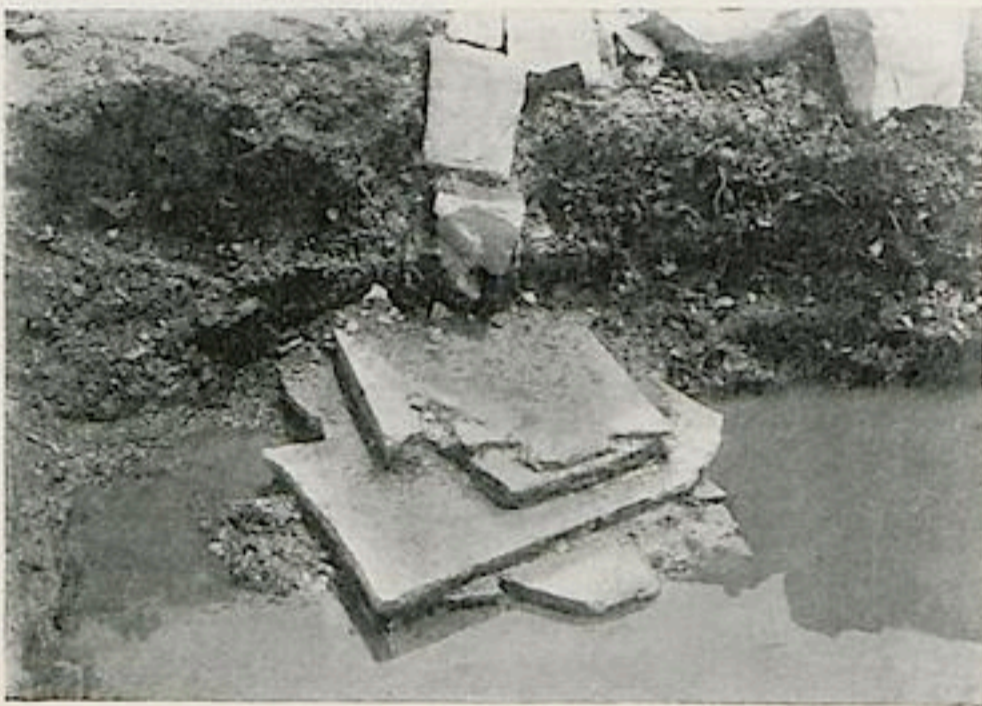


Fig. 27. Fragment of S.W. *anta* Wall of *C*. One course of ashlar bedded on slabs.

justified in regarding the eastern part of the central platform as the Holy of Holies and Basis of the cult-stature, the much larger space enclosed to westward of the Basis seems to imply, on the analogy of later Hellenic temples, that the approach was from the west.

It should be added that the well-preserved outward north and south faces of the foundations of the enclosing

walls were carefully examined without any sign being found that there had existed either any outer structure or any other pavement. Nor by numerous trials was any Primitive foundation at all found outside these walls.

There remains to be considered the possibility of an inner enclosure also having been built at this period to enclose the central platform. This possibility is suggested by the occurrence, in the south-west corner of the outer enclosure ($2\cdot 45$ within the west wall and a rather less distance within the south wall), of a solid block of foundation $1\cdot 92$ in length, which seems to belong to a wall running eastward with a breadth of about $\cdot 85$, and leaving a passage about $\cdot 70$ wide between itself and the central platform of *C* period. The line of this foundation coincides almost exactly with that of a deep-laid foundation of the Croesus Temple (see p. 253), and its almost complete destruction elsewhere has been due, no doubt, to the fact that, being built of small irregular and unbonded

stones, it was not considered adequate to support an important superstructure contemplated by the Croesus architect (probably his inner order of *cella* columns). The remaining fragment has vertical and accurately squared faces both west and north, and seems to represent the original western extremity of a wall. It is bedded on the usual clay at -4.53 , and consists of nine courses whose upper surface lies at -3.64 . It is, thus, nearly one metre high, and probably owes its survival to its being an end, and better constructed than the rest of the wall (Fig. 28). We searched in the corresponding position upon the north side of the Temple area for fragments of a similar inner wall, but without success, the destruction wrought by the Croesus builders proving to have been complete on that side.

Such are the remains of the Primitive structures contained within the area of the superposed Croesus *cella*. The evidence they offer for understanding or reconstructing the plans of the successive Primitive shrines is deplorably imperfect and in



Fig. 28. Fragment of *C* Inner Enclosure on S.W. (under the man's feet).
D Foundations continuing it on left, and foundations of *D* *cella*.
S. Wall in background.

some points not a little obscure; but the following conclusions may be hazarded:—

1. We have to do with three periods of construction prior to the Croesus foundation (middle of sixth century B.C.).

2. In these periods a Temple *cella* of dimensions not greatly inferior to those of the Croesus and Hellenistic *cellae* was evolved by degrees from a small and possibly roofed Statue-Basis with platform or altar to the west of it, standing in the open within a walled Temenos.

3. This evolution was marked by three successive changes—

(a) The Temenos floor was raised twice from its original bed upon the marsh sand to surface levels of about -4.45 in the first restoration (*B*), and finally of about -4.10 in the second (*C*). These successive

elevations were evidently undertaken to obviate the increasing dampness of the site.

(b) The two central platforms were united into one in the first restoration (*B*) by a girdle wall, which was made solid with both so as to thicken and strengthen their outer skins. The low space between the two, which had contained their respective step-ways of approach, was now filled up, at any rate to the new pavement level (-4.45), and possibly became flush with the surface of the west platform, upon whose new western thickening we found slabs, apparently pavement, lying at this same level. The west platform, under these circumstances, would have ceased to stand up above the floor, and was, in fact, obliterated. The east platform, however, still stood nearly 1.00 above the new floor, since the pavement at its northern end, found by us in position, lay at -3.52 . It is possible that, to replace the obliterated west platform or altar, a new one was built east of the Basis (see p. 56 above).

In the Second Restoration (*C*) the Basis was not heightened, but once more enlarged and strengthened all round by a girdle wall, and this was prolonged on the north and south to thicken the western parts of the girdle wall of *B*, and also to enclose a new space to west, the enclosing walls being made of more massive dimensions when no longer abutting on *B* walls. This last feature is important, for it goes far to confirm the conjecture which naturally suggests itself in explanation of these successive thickenings of the outer skins of the Basis and west platform, viz., that they were carried out in order to obtain stronger support for some such superstructure as a *naos* or *baldachino*, covering, during periods *B* and *C*, both the Basis and the area immediately west of it, and perhaps (if note be taken of the strengthening of the *west* face of the Basis in period *C*) divided into two parts, or consisting of a portico and an eastern *adyton*. This may equally well have had solid walls or been a canopy supported on pillars. In any case the erection of some covering superstructure alone will explain reasonably the successive modifications which the central area of the shrine experienced. Possibly there was a small *naos*, standing over the original Basis, which was ruined by the settlement of the eastern part of its pedestal (see p. 59). The *B* builders restored it of larger dimensions; and the *C* builders again amplified it, erecting a structure of which probably we found remains in the fine limestone ashlar still standing on the east foundations of the *C* Basis, but reused and added to by the builders of the Croesus temple (*D*).

(c) The whole central block of structures was enclosed by the *B* builders within an oblong rectangle, whose proportions were those of a typical Hellenic *cella*. This may have been a regular roofed Temple building, or merely an inner Temenos. Its walls were removed by the *C* restorers, and a much larger enclosure was laid out round the same centre, which took the form of a temple *in antis*, probably entered from the west, and of the proportions proper to a Hellenic *cella*. From remains of a foundation discovered inside this rectangle, it appears possible that there was an inner colonnade, running between the outer walls and the central platform, which may have supported a complete roofing, or defined the limits of an inner *hypæthron* containing a central covered *naos*. The greater breadth of the western wall of the outer enclosure (nearly .60 in excess of the other walls) would be explained if it had to carry the weight of a façade of columns disposed between *antæ*, or served for the support of the lengthwise beams, laid upon the inner colonnade. No trace was found of external colonnades, but our inability to search thoroughly beneath the massive foundations of the Croesus *cella* walls to north and south, without blowing them up with dynamite, renders this negative evidence inconclusive.

It is probable that the Primitive temples stood within a considerable Precinct, which not only would have been paved with limestone slabs, but possibly contained an altar or other isolated structures. Remains of some such structures have been described as existent some distance east of the main enclosure (pp. 56, 57); and another possible trace of a structure of the same period was observed by us when we came to investigate the western limits of the Croesus platform. This is the exception alluded to at the beginning of this chapter (p. 52). It consisted of an isolated patch of four yellow limestone blocks, evidently in their original position, distant 21.60 from the outer face of the westernmost cross-wall of the *C* temple (square D. 14 on plan, *Atlas I.*). This patch measured 2.25 in length by from 1.00 to .80 in breadth; and the blocks were .28 in depth. They were bedded and jointed like *C* blocks elsewhere, similar to these in material and grouted with the same white clay mortar. The eastward face of the fragment was smoothly finished with a slight batter. The surface of the fragment lay at a level of -4.20, and its bed at -4.48—levels which correspond roughly with those of *C* structures elsewhere. It was not a relic of mere pavement, because on the surface was to be seen an incised line ruled .011 from the eastern edge, evidently as a guide for the imposition of an upper course, set slightly back. Underlying

the Croesus foundations at this point, as it does, this fragment must be ascribed to the Primitive period and probably to *C* temple; but it is almost certainly a relic of an isolated structure, situated outside the Primitive Temenos. Where so little is left, no conjecture as to its nature is of any use. It was the only trace of a pre-Croesus structure found outside the area of the Croesus cella.

Before the contents of the lower strata are described, the structural evidence for Primitive temples on the Artemision site may be briefly compared with the literary, set forth in Chapter I.

(1) There is ample proof, from excavation as well as from literature, that before the large Temple of the sixth century was built, the Artemision site was occupied by smaller structures.

(2) The latest of these, at any rate (our *C*), had the proper proportionate dimensions and the form of a Hellenic temple *in antis*. It was entered probably from the west end, like its successors, and had at least one order of columns. This temple may very well be that smaller Ionic one which immediately preceded a larger, as recorded by Strabo, following Artemidorus; and if he be taken as our best authority, it must be supposed to have been built by Chersiphron and Metagenes. It was, in fact, the temple remembered by later tradition as the *original* Artemision, because it was the first of a definite Hellenic order of architecture and of the later Temple form.

(3) The structural evidence, however, witnesses clearly to still earlier shrines on the site, which seem to have consisted of small buildings, sheltering *sacra*, within a Temenos. The latter perhaps remained of the same area in both cases; but the central building was enlarged considerably in the second of these shrines (our *B*). It will be recalled (p. 3) that the literary evidence witnesses also, though less certainly, to two successive shrines on the site before Chersiphron's building. The second and latest was inferred to be a stone building erected over and round an original tree-shrine of very small dimensions. The tree-shrine may be held to be represented by our Basis *A* with its altar or dependent platform on the west, enclosed within a paved *temenos*; and the building erected over it, by the restoration *B*, which amplified these central structures and united them in one platform, in a manner hardly to be accounted for except on the supposition that a considerable superstructure was to be erected on the new platform. This new edifice was perhaps vaguely remembered by later tradition as preceding the "first Artemision" and connected with the name of Theodorus of Samos. In any case the

fundamental work, ascribed to this early architect, must be identified with one of the Primitive structural strata, not with the Croesus temple, which rests in all its central portion, not on the marsh, but on earlier structures.

On the whole, therefore, with due allowance made for the necessary inexactitude of literary statements made about structures, which had disappeared some centuries previously, there is remarkable correspondence between what the authorities would lead us to expect in the matter of Primitive structural remains and what has actually been found by excavation.

CHAPTER V.

THE COINS.

BY BARCLAY V. HEAD.

[Plates I, II.]

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| SECT. IV.—THE COIN-TYPES | ... | ... | ... | ... | ... | 88 |

SECT. I.—THE FIND-SPOTS.

Eighty-seven early electrum coins¹ were discovered by Mr. Hogarth in the course of his excavations on the site of the Artemision at Ephesus, all of which have been submitted to me to classify, and to describe independently of the exact find-spots of the individual specimens comprised in the successive finds within the area of Mr. Hogarth's excavations.

I am able, however, before classifying the coins according to their types and several denominations, to place on record the following information communicated to me by Mr. Hogarth.

During his first season's work only 18 specimens were discovered. They were extracted from between the evenly-laid slabs of the small rectangular basis, which appears to have been the centre of the earliest temple or shrine, and to these 18 must be added two more, a 'Third' (No. 33) and a 'Twenty-fourth' (No. 54?), found in the second season in the same place. These 20 coins are marked (*a*) in my descriptive list.²

In the course of his second season's work 19 more specimens were emptied by Mr. Hogarth himself out of a small pot or jar found buried in rammed earth between the western basis (see p. 43), which is of 'A' period, and the girdle-wall of the 'B' central platform, and at a very low level (on the bottom

¹ [See ADDENDUM, p. 93, for the addition of six small coins to this number. According to information received, two more electrum coins at least were found, but concealed and sold by workmen.—D.G.H.]

² Four small coins have to be added (see Addendum, p. 93), making 24 in all.

sand itself - 5.00). This earth seems to have been rammed in at the time when the *B* foundations were laid, and the jar itself must, in that case, have been deposited at the end of the *A* period. These coins are marked (*b*) in my list and have been identified by Mr. Hogarth from his notes and recollections; for, unfortunately, when the boxes containing the coins were opened by the Museum officials at Constantinople, the distinction between the box containing the 19 'jar-coins' and the other boxes was ignored, and the various lots were cursorily examined *en bloc*. Mr. Hogarth, nevertheless, has fortunately been able to identify positively all but two 'Twelfths' of the Cock type (which are probably Nos. 30 and 31 in my list) as belonging to the set of 'jar-coins' (*b*). This accounts for 39 out of the total number of 87 specimens,¹ and of the remaining 48, Mr. Hogarth is able moreover to specify the find-spots of 10, distinguished in my list by the letters (*c*), (*d*), and (*e*), viz. :—

- (*c*) 4 coins (No. 74, a 'Twelfth' of the Stag type, and 3 'Twelfths' of the Lion type) found in the filling of the western basis itself, and attributed to the *A* period.
- (*d*) 1 coin (No. 52, a 'Sixth' of the Lion series) found in the rammed earth, on the north of the western basis, similar to the stratum in which the jar was found.
- (*e*) 5 coins (No. 79, a 'Twenty-fourth' of the Horse's Head type, and 4 of the Lion type :—1 'Twelfth,' 2 'Twenty-fourths,' and 1 'Forty-eighth') extracted from *underneath* the foundations of the southern wall of the *B* cella.

All the above 49 coins, marked in the list (*a*), (*b*), (*c*), (*d*), and (*e*), the exact find-spots of which are known, must have been originally deposited where they were found, during the period of the construction of the First Temple (*A*).

Of the total of 87 specimens, the find-spots of the remaining 38 (for the most part very small coins) cannot be so precisely identified, as these coins came to light among the results of dredging operations, and in many cases were not detected till the slime had passed through the sieves.²

It may be accepted, therefore, as quite certain that all the coins recovered by Mr. Hogarth were found within the small area of what he calls the Primitive shrines (see Chap. IV.), and at levels below - 4.00, *i.e.*, in the bottom metre of deposit.

¹ With addenda, 43 out of 93. See p. 93.

² [Thirteen of these were found under *B* foundations (see p. 63), but unfortunately these types were not recorded by me at the moment, and the coins were mixed with others from other parts of the W. Area before I had repaired my omission.—D. G. H.]

All the denominations, both large and small, comprised in these remarkable finds must consequently have been current in and around Ephesus during the period of the erection of the First Shrine or Temple of Artemis, and I am disposed to regard them as originally a single *ἀνάθημα* to the Goddess, notwithstanding the fact that they were not all found in the jar which contained nearly all the larger denominations.

SECT. II.—WEIGHTS, ETC.

Such an *ἀνάθημα* would probably consist of a round sum of money, equivalent to a definite number of staters without fractions, dedicated by the *κτίστης* of the Temple, or, at his expense, and buried in adjacent spots during the laying of the foundations.

If we could be sure that the 87 electrum coins¹ recovered by Mr. Hogarth constituted the original *ἀνάθημα* in its entirety it would not be difficult to form an approximate estimate of its money-value either in silver or in pure gold, for there can be no doubt that the Lydian *λευκὸς χρυσός* or electrum, however variable in purity it may have been, was conventionally accepted at more or less fixed rates of exchange by weight as against both pure gold and silver.

Unfortunately, however, as Mr. Hogarth is aware, certain specimens were clandestinely appropriated by his workmen; but, as the area within which the coins were found was small, and the supervision exercised was very strict, it is probable that the deposits have been recovered with only very trifling exceptions.

On this supposition, viz., that these coins make up together the sum total of an *ἀνάθημα*, the sum of the weights as given in the Tables below may be of some historical interest, while, if the finds be not quite complete and if the sum total of the weights may be consequently ignored, the individual weights of all the different fractions of the stater will still be well worth recording, as their deducible averages will help to confirm or to modify the averages already calculated from similar coins of the same period, published by me in B.M.C., *Ionia, and Lydia*, in my *Historia Numorum*, and in the *Numismatic Chronicle*, 1875 and 1887.

The standard according to which the coins in these finds are (with perhaps the single exception of Nos. 86, 87, assigned to Phokaea) adjusted with marvellous accuracy (if we bear in mind what very simple apparatus for weighing, casting, and striking were at the time available), is the variously-called '*Asia-Minor*,' '*Græco-Asiatic*,' or '*Phœnician*' silver standard.

* ¹ [Plus six, v. *Addendum*.]

The silver mina of this standard (used in Lydia and Ionia for electrum also) weighed from 11,000–11,500 grains Troy, the stater or 50th part of the mina, 220–230 grains, and the numerous fractions of the stater in proportion, down to its minutest subdivision less than $2\frac{1}{4}$ grains, the 96th part of the stater.

The present lot of coins comprises specimens of all the denominations from the $\frac{1}{2}$ stater downwards, but it contains not a single stater. Their weights, in grains, are as follows:—

TABLE OF WEIGHTS.

| HALF STATERS. | THIRDS. | SIXTHS. | EIGHTH. | TWELFTHS. | TWENTY- FOURTHS. | FORTY- EIGHTHS. | NINETY- SIXTHS. |
|------------------|---------|---------|---------|-----------|---------------------|--------------------|--------------------|
| 109·3 | 73·6 | 36·4 | 25·4 | 19·0 | 9·8 | 4·2 | 2·2 |
| 110·5 | 72·4 | 36·7 | | 20·0 | 8·8 | 4·5 | 2·2 |
| 110·4 | 72·0 | 36·0 | | 18·3 | 9·0 | 3·6 | 2·0 |
| | 74·0 | 36·0 | | 18·3 | 8·2 | 4·6 | 2·0 |
| | 73·4 | 35·8 | | 18·4 | 8·4 | 4·5 | |
| | 73·4 | 36·5 | | 18·0 | 9·0 | 4·5 | |
| | 73·4 | | | 18·0 | 9·0 | 4·6 | |
| | 73·4 | | | 18·0 | 9·0 | 4·4 | |
| | 72·6 | | | 18·6 | 9·0 | 4·0 | |
| | 72·6 | | | 17·8 | 9·0 | 4·9 | |
| | 72·6 | | | 18·4 | 8·5 | 4·5 | |
| | 73·0 | | | 18·4 | 9·0 | 4·4 | |
| | 73·0 | | | 18·2 | 8·5 | 4·4 | |
| | 72·5 | | | 18·0 | 8·5 | 4·3 | |
| | 72·7 | | | 17·8 | 8·2 | 4·3 | |
| | | | | 18·2 | 9·2 | 4·7 | |
| | | | | 18·5 | 9·0 | 4·4 | |
| | | | | 17·5 | | 4·4 | |
| | | | | | | 4·4 | |
| | | | | | | 4·6 | |
| | | | | | | 4·0 | |
| | | | | | | 5·0 | |
| | | | | | | 5·0 | |
| 330·2 | 1094·6 | 217·4 | 25·4 | 329·4 | 150·1 | 102·2 | 8·4 |
| Total | | | | 2257·7 | | | |

AVERAGE WEIGHTS OF THE VARIOUS DENOMINATIONS.

| | | | | | | | |
|--------|-------|-------|------|------|-------|------|-----|
| 110·06 | 72·97 | 36·23 | 25·4 | 18·3 | 8·829 | 4·44 | 2·1 |
|--------|-------|-------|------|------|-------|------|-----|

MAXIMUM WEIGHTS.

| | | | | | | | |
|-------|----|------|------|----|-----|-----|-----|
| 110·5 | 74 | 36·7 | 25·4 | 20 | 9·8 | 5·0 | 2·2 |
|-------|----|------|------|----|-----|-----|-----|

The sum total of the weights of these 87 coins amounts to 2257·7 grs. Troy. This is equivalent to ten pieces of pale gold Lydian electrum (uncoined bullion) of 225·77 grs. each, a weight which very slightly exceeds that of the silver staters of the so-called 'Asia Minor' or 'Phoenician' standard (*circ.* 224 grs.), which was prevalent at a much later date when silver money had come into general use.

Uncoined silver had, doubtless, been always exchangeable, and apparently at a commonly accepted fixed rate, *by weight* during the earlier period, as against pure gold, *also by weight*, and, probably at a more variable rate, as against pale gold or electrum, both before and after the invention of coining. The proportionate relation of silver to pure gold, in the East generally, seems to have remained almost steady, from very early times down to Alexander's conquests, at about 13·3 to 1, and that of silver to electrum less steadily, no doubt on account of the variable quality of the latter metal, at between 8 and 10 to 1, as I have elsewhere pointed out (B.M.C. *Ionia*, p. xxv. ff.).

It is therefore highly probable that the total weight, 2257·7 grs. of electrum may have been equivalent to as much as ten times that weight in silver, *i.e.*, to two so-called 'Asia-Minor' or 'Phoenician' silver minae of 11,288 grs. (=732·46 grammes), each silver mina consisting of one hundred silver half-staters (uncoined in the earliest period) of 112·8 grs. each. The equivalent value in pure gold of two such silver minae, at the old rate, 13·3 to 1, would be 1697·5 grs., the present metal value of which at 2*d.* per grain would amount to about £14 sterling. Now 1697·5 grs. of gold corresponds almost exactly with 10 of the heavier gold staters of the Lion and Bull type (169 grs.) as *subsequently* struck by Croesus (B.M.C. *Lyd.*, Pl. i. 14). The ἀνάθημα (if such it be) would thus seem to have consisted of a definite round sum of two silver minae in the equivalent and more convenient form of an indefinite number of small electrum coins of various denominations and types previously weighed in the scales and verified as correct.¹

This may account for the presence in the deposits of such extremely minute fractions as *ninety-sixths* of the stater weighing only $2\frac{1}{4}$ grs. each, which may well have been thrown into the scales to make up for deficiencies in the weights of the larger pieces, such as *half-staters* of only about 110 grs., which are some $2\frac{1}{2}$ grs. under their proper normal weight, a deduction no doubt purposely made in order to cover the cost of mintage and to bring in a profit as well. Such infinitesimal pieces could, in point of fact, have been of very little practical use except as make-weights for money-changers, as they are

¹ [See Addendum, p. 93.]

far too small to have commonly passed from hand to hand as current money. But as make-weights extremely small fractions would be indispensable to dealers in the precious metals, so long as gold, electrum, and silver, whether in the form of bullion or as coin, continued to be exchanged by weight and not merely by tale.

The following is a descriptive list of the coins comprised in the finds. The sizes of the coins are given in English inches, and the weights in grains Troy.

SECT. III.—LIST OF THE COINS.

(i) TIME OF GYGES (?), 687–652 B.C.

Primitive Issues.

Sixth.

- | | | | |
|-------|-------------------|--|--|
| (b) 1 | Striated surface. | | Two incuse square overlapping punch-marks. El. .35, wt. 36.4. |
|-------|-------------------|--|--|

Eighth.

- | | | | |
|-------|------------------------|--|-------------------------------|
| (a) 2 | Convex surface, plain. | | Obscure. El. .3, wt. 25.4. |
|-------|------------------------|--|-------------------------------|

Twelfth.

- | | | | |
|---|---------------|--|--|
| 3 | Doubtful type | | Rough incuse square. El. .25, wt. 19. |
|---|---------------|--|--|

Twenty-fourths.

- | | | | |
|-------|------------------------|--|--|
| (a) 4 | Striated surface. | | Rough incuse square. El. .2, wt. 9.8. |
| 5 | Striated surface. | | Rough incuse square. El. .2, wt. 8.8. |
| (a) 6 | Convex surface, plain. | | Rough incuse square. El. .2, wt. 9. |
| 7 | Flat surface, plain. | | Flat surface, plain El. .2, wt. 8.2. |

Forty-eighths.

| | |
|------------------------------|---|
| 8 Striated surface. | Rough incuse square. El. .15, wt. 4.2. |
| (a) 9 Convex surface, plain. | Rough incuse square. El. .15, wt. 4.5. |

Ninety-sixths.

| | |
|--|--|
| 10 Convex surface, plain. | Rough incuse square. El. .1, wt. 2.2. |
| 11 Convex surface consisting of four pellets (?). | Rough incuse square. El. .1, wt. 2.2. |

(11) This minute coin may possibly belong to the Lion's paw series. See *infra* Nos. 54-70.

(ii) TIME OF ARDYS II., 652-615 B.C., OR SADVATTES, 615-610 B.C. (?).

(a) Goat Types.*Half-stater.*

| | |
|--|--|
| (b) 12 Fore-part or bust of goat l., on a surface irregularly striated with crossed lines. | Three irregular incuse punch-marks, the middle one oblong, the two others square. El. .55, wt. 109.3. |
|--|--|

Thirds.

| | |
|--|--|
| (b) 13 Fore-part or bust of goat r., on striated surface. | Two irregular square incuse punch- marks. El. .45, wt. 73.6. |
| (b) 14 Same die (?). | Same double-square punch-mark. El. .5, wt. 72.4. |
| (b) 15 Same die (?). | Same double-square punch-mark. El. .5, wt. 72. |

Twelfths.

| | |
|---|--|
| (b) 16 Bust of goat r., on striated surface. | One irregular square incuse punch- mark. El. .2, wt. 20. |
|---|--|

Twenty-fourth.

- | | |
|-------------------------|---|
| 17 Bust of goat r. (?). | One irregular square incuse punch-mark. El. .2, wt. 8.4. |
|-------------------------|---|

Forty-eighth.

- | | |
|--------------------|--|
| 18 Head of goat l. | One irregular square incuse punch-mark. El. .15, wt. 3.6. |
|--------------------|--|

(β) Cock Types.*Half-staters.*

- | | |
|--|---|
| (b) 19 Two cocks face to face: between them an uncertain oblong object: the field irregularly striated with crossed lines. | Three irregular incuse punch-marks, the middle one oblong, the two others square. El. .6, wt. 110.5. |
| (b) 20 Same die (?). | Same triple punch-marks. El. .55, wt. 110.4. |

Thirds.

- | | |
|--------------------------------------|--|
| (b) 21 Same die (?). | Two irregular square incuse punch-marks. El. .45, wt. 74. |
| (b) 22 Same die. | Same double-square punch-mark. El. .45, wt. 73.4. |
| (b) 23 Same die. | Same. El. .45, wt. 73.4. |
| (b) 24 Same die. | Same. El. .45, wt. 73.4. |
| (b) 25 Same die. | Same. El. .45, wt. 73.4. |
| (b) 26 Same die. | Same. El. .45, wt. 72.6. |
| (b) 27 Same type, but different die. | Same. El. .45, wt. 72.6. |

M

Sixths.

- | | |
|--|---|
| (b) 28 Same die (?), but only the heads and necks of the cocks appear on the <i>flan</i> . | Two irregular square incuse punch-marks. El. .3, wt. 36.7. |
|--|---|

Twelfths.

- | | |
|---|---|
| 29 Heads and necks of two cocks, face to face. | One irregular square incuse punch-mark. El. .25, wt. 18.3. |
| (b?) 30 Same or similar die: right hand cock's head distinct, traces only of left hand cock's head. | Same punch-mark. El. .25, wt. 18.3. |
| (b?) 31 Cock or fore-part of cock l. | One irregular square incuse punch-mark apparently crossed diagonally. El. .25, wt. 18.4. |

(iii).—TIME OF ALYATTES (?), 610–561 B.C.

Lion Types.*Thirds.*

- | | |
|--|---|
| (a) 32 Lion's head r., with excrescence on forehead. | Oblong incuse formed by two overlapping punch-marks. El. .5, wt. 72.6. |
| (a) 33 Similar (different die). | Similar: apparently from same punches. El. .5, wt. 73. |
| 34 Similar (different die). | Similar. Same punches (?). El. .5, wt. 73. |
| (a) 35 Similar (different die). | Similar. Same punches (?). El. .5, wt. 72.5. |

Sixths.

- | | |
|--|--|
| 36 Lion's head r., perhaps with letters in front (cf. No. 72). | Oblong incuse formed by irregular square punches. El. .4, wt. 36. |
| 37 Similar (globule on Lion's forehead). | Similar (punch-marks overlapping). El. .4, wt. 36. |

Twelfths.

| | | |
|--------|--|---|
| (e) 38 | Lion's head r., with excrescence on forehead. | Irregular square incuse punch-mark. El. .25, wt. 18. |
| (a) 39 | Same die. | Similar. El. .25, wt. 18. |
| (c) 40 | Same die. | Similar. El. .25, wt. 18. |
| (e) 41 | Same die. | Similar. El. .25, wt. 18.6. |
| (c) 42 | Same die. | Similar. El. .25, wt. 17.8. |
| (a) 43 | Similar (different die). | Similar. El. .25, wt. 18.4. |
| 44 | Similar (different die). | Similar. El. .25, wt. 18.4. |

Twenty-fourth.

| | | |
|----|---|---|
| 45 | Lion's head (?) r., of rough and barbarous work. | Rough incuse square divided into four quarters by rude cross adorned with pellets (?). El. .25, wt. 9. |
|----|---|---|

Forty-eighths.

| | | |
|--------|--|---|
| (a) 46 | Lion's head r. | Rough incuse square crossed by parallel lines. El. .2, wt. 4.6. |
| (a) 47 | Similar. | Similar. El. .2, wt. 4.5. |
| 48 | Similar. | Similar. El. .2, wt. 4.5. |
| 49 | Similar. | Rough incuse square. El. .15, wt. 4.6. |
| 50 | Similar. | Similar. El. .15, wt. 4.4. |
| 51 | Similar, but of rough and barbarous work. | Similar. El. .2, wt. 4. |

M 2

Sixth.

- | | | |
|--------|--|--|
| (d) 52 | Lion with globule on forehead, recumbent l., on double exergual line which is divided into rectangular compartments. | Oblong incuse formed by two roughened square punches of different sizes. |
| | | El. .4, wt. 35.8. |

Twelfth.

- | | | |
|--------|-----------------------|----------------------|
| (b) 53 | Lion's head to front. | Rough incuse square. |
| | | El. .25, wt. 18.2. |

Twenty-fourths.

- | | | |
|---------|---------------------|------------------------------|
| (a?) 54 | Lion's paw. | Irregular square punch-mark. |
| | | El. .2, wt. 9. |
| (a) 55 | Same die. | Similar. |
| | | El. .2, wt. 9. |
| (a) 56 | Same die. | Similar. |
| | | El. .2, wt. 9. |
| (e) 57 | Same die. | Similar. |
| | | El. .2, wt. 9. |
| (e) 58 | Same die. | Similar. |
| | | El. .2, wt. 8.5. |
| 59 | Same die (?). | Similar (but rougher). |
| | | El. .2, wt. 9. |
| 60 | Same die as No. 59. | Similar (but rougher). |
| | | El. .2, wt. 8.5. |
| 61 | Same die as No. 59. | Similar (but rougher). |
| | | El. .2, wt. 8.5. |
| 62 | Same die as No. 59. | Similar (but rougher). |
| | | El. .2, wt. 8.2. |

Forty-eighths.

- | | | |
|--------|-------------|----------------------|
| (e) 63 | Lion's paw. | Rough incuse square. |
| | | El. .15, wt. 4.9. |
| (a) 64 | Similar. | Similar. |
| | | El. .15, wt. 4.5. |
| 65 | Similar. | Similar. |
| | | El. .15, wt. 4.4. |

| | |
|-----------------|-------------------------------|
| 66 Similar. | Similar. El. .15, wt. 4.4. |
| 67 Similar. | Similar. El. .15, wt. 4.3. |
| 68 Similar. | Similar. El. .15, wt. 4.3. |
| 69 Similar (?). | Similar. El. .15, wt. 4.7. |
| 70 Similar (?). | Similar. El. .1, wt. 4.4. |

(iv) ALYATTES (?). 610-561 B.C.

Lion Types. Inscribed.

Third.

| | |
|--|--|
| 71 Lion's head l., with globule on forehead: in front, downwards, $\text{L}\alpha\text{A}\text{A}\text{A}$. | Two irregular square incuse punchmarks. El. .5, wt. 72.7. |
|--|--|

Sixth.

| | |
|---|--|
| 72 Similar type and traces of same inscription. | Two irregular square incuse punchmarks. El. .4, wt. 36.5. |
|---|--|

Twelfth.

| | |
|--|---|
| 73 Lion's head r., with globule on forehead: in front, downwards, $\text{L}\alpha\text{A}\text{A}\text{A}$. | One irregular square incuse punchmark. El. .3, wt. 18. |
|--|---|

(71-73) For other coins bearing this inscription, see B.M.C. *Lyd.*, pp. 2, 3, and *N.C.*, 1890, 203 ff.

(v) COINS OF GREEK CITIES. REIGN OF ALYATTES (?).

Stag Type. Ephesus (?).

Twelfth.

| | |
|---|---|
| (c) 74 Fore-part of stag l. head turned back. | Incuse square crossed by irregular transverse lines. El. .3, wt. 17.8. |
|---|---|

(74) For a *sixth* of this type, wt. 36 grs., see B.M.C. *Ionia*, Pl. iii., 11.

Human Head Type. Uncertain Mint.*Twelfth.*

- | | |
|--|--|
| 75 Human head l., of very archaic style, eye and ear very large. | Rough incuse square. El. .25, wt. 18.2. |
|--|--|

Bull's Head Type. Uncertain Mint.*Forty-eighth.*

- | | |
|-------------------|--|
| 76 Bull's head l. | Rough incuse square. El. .2, wt. 4.4. |
|-------------------|--|

(75) A silver stater with a human head upon it very similar to the head on this coin was classed by me, probably wrongly, to Knidos. (B.M.C. *Caria*, Pl. xiii. 7.)

(76) A *sixth* of this type, of somewhat later style and with a seal as adjunct symbol (B.M.C. *Ion.*, Pl. iv. 15) points to Phokaea as the probable place of mintage of No. 76.

Horse's Head Type. Kyme (?).*Twelfth.*

- | | |
|------------------------------------|---|
| (a) 77 Horse's head l., harnessed. | Rough incuse square. El. .3, wt. 18.5. |
|------------------------------------|---|

Twenty-fourths.

- | | |
|---|---|
| (a) 78 Horse's head and fore leg l., harnessed. | Rough incuse square. El. .25, wt. 9.2. |
| (e) 79 Horse's head l., harnessed. | Rough incuse square. El. .25, wt. 9. |

Forty-eighth.

- | | |
|---|---|
| 80 Horse's head l., harnessed (indistinct). | Rough incuse square. Similar to Nos. 77-79. El. .15 wt. 4.4. |
|---|---|

77-80. For other archaic coins of this type see B.M.C. *Ion.*, Pl. ii. 11, and *Aeolis*, Pl. xix. 4-7.

Beetle Type. Uncertain Mint.*Forty-eighths.*

- | | |
|-------------------------------|--|
| 81 Beetle, apparently flying. | Rough incuse square. El. .2, wt. 4.6. |
| 82 Similar. | Similar. El. .2, wt. 4. |

Ninety-sixth.

- | | |
|-------------|----------------------------|
| 83 Similar. | Similar. El. .1, wt. 2. |
|-------------|----------------------------|

81-83. This type on electrum coins seems to be unpublished. The Beetle as a coin-type (though not with expanded wings) is, however, met with on some rare archaic silver coins. (Imhoof and Keller, *Tier- und Pflanzenbilder*, Pl. vii. 13.)

Gryphon's Head Type. Phokaea ?*Twelfth.*

- | | |
|-------------------------------|--|
| (a) 84 Head of gryphon (?) l. | Rough incuse square. El. .25, wt. 17.5. |
|-------------------------------|--|

Ninety-sixth.

- | | |
|---------------------------|--|
| (a) 85 Head of gryphon r. | Rough incuse square. El. .1, wt. 2. |
|---------------------------|--|

Seal Type. Phokaea.*Forty-eighths.*

- | | |
|---|--|
| 86 Head of seal l. | Rough incuse square. El. .2, wt. 5.0. |
| (a) 87 Similar, but different die. ¹ | Similar. El. .2, wt. 5.0. |

84-87. For other early electrum and silver coins with seals, seals' heads, and Gryphons' heads see B.M.C. *Ionia*, Pls. iv. and xxiii., and *N.C.*, 1875, Pl. x. 6.

¹ This specimen has unfortunately been lost, but not before it had been weighed and cast.

SECT. IV.—THE COIN-TYPES.

CLASS I.—TIME OF GYGES, 687-652 B.C. (?)

Primitive issues.

Of the 87 coins above described, Nos. 1-11 are specimens of extremely early date. They comprise some of the most primitive essays in the art, or rather craft, of striking, while still in a hot condition, with a roughened punch, small bullets of electrum, previously cast and adjusted with care to the required weights, 6ths, 8ths, 12ths, 24ths, 48ths, or 96ths of the stater.

Of the eleven specimens of this kind in the present find, Nos. 2, 6, 9, 10, and 11 can only be described as mere bullets of electrum with a rude punch-mark on the reverse. No. 7 is a flat *flan*, plain on both sides, and without a punch-mark. The rest show on the obverse nothing but rough hatchings or striations indicating that the dies on which the lumps of metal were placed had been intentionally roughened in order to keep the pieces from slipping while the punch (single, double, or triple, according to the size of the lump of metal) was being hammered into the upper surface, or 'reverse.'

The smallest coins of this early period may be regarded rather as money-changers' make-weights than as coins commonly current by tale, for, to be generally acceptable as current from hand to hand, a piece of metal must always have been impressed with some recognisable stamp or signet on the part of the issuing authority as a guarantee of value, and must also have been large enough to be easily handled.

With the exception of Nos. 1-11, above described, all the other coins in the present find bear a recognisable signet or type of this nature.

I have here classified them according to these types, placing first in chronological order those which in fabric and style seem to be the most archaic. The arbitrary divisions according to the reigns of the Lydian kings are more or less conjectural, though there is reason to think that the rude and unengraved specimens belong, at the very latest, to the reign of Gyges (687-652 B.C.), and that none of the coins struck from dies engraved with animal types in this hoard are subsequent to the reign of Alyattes, who died in 561 B.C., but there is nothing to prove that they may not have been *buried* at a somewhat later date.

CLASS II.—SUCCESSORS OF GYGES, 652–610 B.C.

(a) Goat Types.

The coins of Class II. (a), Goat types (Nos. 12–18) seem to follow immediately after the *striated* pieces of Class I. This is clear from the fact that the striations across the field of the obverse are still retained, the goat's head having evidently been engraved on dies previously striated after the primitive Lydian fashion.

The selection of a goat's head for the earliest presumably Lydian coin-type was prompted, no doubt, by mixed religious and commercial motives. The goat, as a well-known symbol of the god Hermes, the protector of flocks and herds, of traders,¹ and of travellers, was a most appropriate type for the money of a people like the Lydians who, according to Herodotus (1.94, 1), were the earliest retail traders (κάπηλοι). It is not improbable that this particular issue may have been required for one of those splendid religious festivals such as that which Gyges celebrated at Sardes after his capture of Magnesia ad Sipylum,² which gave occasion for markets or fairs.

That the goat-issue was a special one is also probable, as the goat's head does not recur on later electrum coins of Lydia. It is possible, however, that these goat's head coins may have been struck not at Sardes itself, but at Aegae, in Aeolis, in which case the goat's head coins might be explained as the earliest example of a 'type parlant.'

The goat is no less appropriate as a coin-type in Asia Minor, if we confine our attention to its purely commercial aspect, for no country in the ancient world was more renowned for its flocks of sheep and goats, and for its woollen manufactures, weaving and similar industries, than Anterior Asia Minor.

(β) Cock Types.

Next, apparently, in order of date comes an issue of coins stamped with two cocks face to face (Nos. 19–31), engraved on striated dies, like the goat's head coins, and therefore assignable to about the same period, the latter half of the 7th cent. B.C. (roughly 652–610 B.C.) The remarkable facts that nearly all the specimens with cock-types in this find, though of different sizes, seem to be from one and the same die, and that all of them were found in the

¹ Cf. the name of the Lydian town Hermokapelia = "Mart of Hermes," B.M.C. *Lyd.* p. lvi.; also Poll. vii. 15. ἐμπολαῖος Ἑρμῆς καὶ ἀγοραῖος; and Diod. v. 75, φασὶ δ' αὐτὸν καὶ μέτρα καὶ σταθμὰ καὶ τὰ διὰ τῆς ἐμπορίας κέρδη πρῶτον ἐπινοῆσαι; and the epithet, παλιγκάπηλος, Aristoph., *Plut.*, 1156.

² Πανηγόρεις ἐποίησατο μεγαλοπρεπεῖς. Nic. Damasc., *F.G.H.*, iii., p. 396, fr. 62; Radet, *La Lydie*, p. 279.

same jar (see *supra*, p. 74), prove that they belong to a single issue, doubtless, like the previous series with the goat's head, struck on the occasion of some special festival in the course of which cock-fights may have formed part of the spectacular games.

The cock was a bird absolutely unknown in Greece proper much before the Persian wars.¹ It was originally indigenous in Persia, and there held sacred as the herald of dawn among the Zoroastrian sun-worshippers. Perdrizet² has already given good reasons for his opinion that this Persian bird³ found its way into European Greece along the great royal route from the East through Asia-Minor; and that it had probably become acclimatised in Lydia some half-century or more before it was mentioned by any Greek writer,⁴ or represented by any Greek artist.

If this be so, the cock on these early Lydian coins is one of the oldest representations of the bird at present known.⁵ The rapidity with which the domestic cock, when once introduced, spread throughout the west needs no comment. One cause of its popularity was doubtless its combative instinct. Cockfighting soon became a common sport, and the present issue of electrum money, showing two cocks facing one another preparatory to a fight, and with an uncertain object (perhaps only an ornament) between them, was probably a Festival coinage.

CLASS III.—ALYATTES (?) 610–561 B.C.

Lion Types.

It will be seen that the Lion types (Nos. 32–70) are by far the most numerous in these deposits, amounting to nearly half of the whole number of coins found. From the absence of striations on the obverses in the field around the lion's head, which are conspicuous on the coins of Classes I. and II., I infer that they belong for the most part to a somewhat later date than the others, though the lion's head, symbolical on the one hand of the cult of the great mother-goddess Kybele, and on the other hand, as derived from Assyria, of Royalty, might well have been expected to be the earliest Lydian coin-type. Whatever its original significance may have been, there can be no doubt that,

¹ Dr. Budge tells me that the cock was also unknown to the ancient Egyptians.

² *Sur l'introduction en Grèce du coq.* *Rev. Arch.* 1893,¹ p. 157 ff.

³ Περσικὸς ὄρνις, *Ar. Av.* 485 ff.

⁴ The earliest Greek writer who mentions cocks is Theognis (v. 864) in the second half of the 6th century B.C.

⁵ For other cock-types on archaic coins, which however are later in date than these Lydian electrum pieces, see B.M.C. *Ion.* pl. i. 24; ii. 5; *Lyc.* pl. vi. 3.

from the time of King Meles (*circ.* 730-716 B.C.¹), who, according to tradition, begat a lion with one of his concubines,² this royal beast was revered as the special divine protector of the city of Sardes, and, as such, was adopted as the *παράσημον*, or arms, of the royal family of Lydia, for several centuries the predominant power in Western Asia Minor. The lion or the lion's head on the larger electrum coins, and on the smaller denominations the lion's paw, may therefore be regarded as signets or seals of the kings of Lydia. On some of the (presumably) latest issues this lion's head is accompanied by an inscription. (See Class IV. Nos. 71-73.)

CLASS IV.—ALYATTES (?) 610-561 B.C.

Lion Types Inscribed.

Nos. 71-73, stamped with the head of a lion, the Lydian emblem of royalty, are differentiated from similar coins of Class III. by the addition of an inscription which, if it has been correctly interpreted by the late M. J. P. Six,³ is to be explained as the name of King Alyattes written with digammas, $\text{I}\text{B}\text{A}\text{I}\text{A}\text{A}\text{A}$ (= *Φαλφεῖ[ατῆς]*). No one, so far as I know, has disproved the possible accuracy of Six's conjecture, which may therefore be accepted, provisionally, as an indication of date. Alyattes reigned from 610 to 561 B.C., when he was succeeded by his son Croesus.

Croesus, 561-546 B.C., there is good reason to suppose, effected a great reform in the coinage of Lydia. He appears to have abolished the ancient electrum money, which, owing to its varying intrinsic metal value, had fallen into disrepute, and to have substituted for it a new issue of coins of pure gold and pure silver, the types of which were the fore-parts of a lion and a bull face to face. (B.M.C. *Lydia*, p. xxi.)

Now, as I have pointed out above, the total value of the present finds seems to have corresponded exactly with ten of the heavier gold staters (169 grs.) of this Croesic type. Such an equivalence may of course be a mere coincidence, but, if the find be intact,⁴ it is worth recording as a round sum of money which a founder might be likely to have dedicated to the goddess as a *tithe* or *δεκάτη* (cf. *Darembert et Saglio*, s.v. *Donarium*). The absence of any of these pure gold coins of Croesus from these deposits may be accounted for either on the supposition that the *ἀνάθημα* was

¹ Radet, *La Lydie*, p. 79.

² Herod. i. 84, 3.

³ *N.C.* 1890, 203 ff.

⁴ See Note to p. 74, and Addendum.

dedicated in the reign of Alyattes before the reform of the Lydian coinage and the substitution of pure gold coins for electrum, or on the less probable hypothesis that it was dedicated by Croesus himself as a memorial (*μνήμα, μνημείον*) of the miscellaneous currency of various types and denominations which had been superseded by his new pure gold and pure silver coins. It is tempting, but hardly convincing, to look upon this curious collection of ancient electrum coins in this light, and to compare it with Pheidon's famous *ἀνάθημα* of demonetized *ὀβελίσκοι* in the Temple of Hera at Argos, which Aristotle (fr. 481)¹ believed to consist of specimens of the antiquated money of Peloponnesus superseded by Pheidon's new silver coins struck in Aegina. The evidences adduced by Mr. Hogarth² in favour of an earlier date than 561 B.C. for the foundation of the earliest shrines and consequently for the burial of the coins seem, however, to preclude the adoption of this opinion, however tenable it might be if the foundations could be assigned to the time of Croesus.

CLASS V.—COINS STRUCK AT GREEK CITIES, CONTEMPORARY
WITH THE LYDIAN ISSUES. (?)

Various Types.

The 14 small coins (Nos. 74–87) which I have here included in a single class appear to me to differ, both in style and in their incuse reverses, from those which I have conjecturally assigned to Sardes (Nos. 1–73), and I have little hesitation in attributing them to some of the flourishing Greek ports, such as Ephesus (No. 74), Kyme (Nos. 77–80), and Phokaea (Nos. 84–87). The types of these specimens, Fore-part of Stag, Fore-part of Horse, Head of Gryphon, and Head of Seal, are well known as emblems (*παράσημα*) on the coins of those cities. The few remaining types, No. 75, Human head; No. 76, Bull's head; and Nos. 81–83, Beetle, must remain for the present of doubtful attribution. All these little coins are certainly contemporary with the early electrum currency of the Lydian Empire before the time of Croesus. Perhaps the latest specimens in these deposits are Nos. 86, 87, of Phokaea, which I have elsewhere assigned to the period of the Phokaeian Thalassocracy, 602–560 B.C. (B.M.C. *Ionia*, p. xx). This last date corresponds with that of the end of the reign of Alyattes. The earliest specimens without types in these remarkable finds may have been issued about 700 B.C. The limits of issue are thus in my opinion 700–560 B.C.

¹ Cf. *Etym. magn.* s.v. *ὀβελίσκος*.

² Chap. XIV., *infra*.

ADDENDUM.

Six small coins were overlooked until the boxes of miscellaneous foil and bits of metal, recovered in the sieves, came to be examined at leisure, subsequently to the compilation of the above lists. Of these, four were found in the filling of the Basis, and are, therefore, marked (a), like the others which came from the same place. They are as follows:—

| UNCERTAIN TYPE. | | | | | | |
|----------------------|----------------|---|---|---|---|--------------|
| (a) | $\frac{1}{24}$ | · | · | · | · | wt. 9 grs. |
| LION'S-PAW TYPE. (?) | | | | | | |
| (a) | $\frac{1}{48}$ | · | · | · | · | wt. 4·4 grs. |
| (a) | $\frac{1}{48}$ | · | · | · | · | wt. 4·4 grs. |
| (a) | $\frac{1}{96}$ | · | · | · | · | wt. 2·4 grs. |
| | $\frac{1}{96}$ | · | · | · | · | wt. 2·0 grs. |
| | $\frac{1}{96}$ | · | · | · | · | wt. 2·0 grs. |
| Total | | | | | | 24·2 grs. |

This small addition raises the sum total of the weights of the coins from 2257·7 grs. (as given above) to 2281·9 grs., but it does not invalidate the inferences which, in the preceding pages, I have ventured to suggest.

A number of small globules of fused electrum of various sizes and shapes, which formed part of the Artemision finds submitted to me for examination, seem to belong to the category of beads and other ornaments distinguishable by their paler colour from the struck coins.

B. V. H.
June, 1906.

CHAPTER VI.
GOLD AND ELECTRUM JEWELLERY.

BY D. G. HOGARTH.

(PLATES III-X.)

By far the largest number of objects found were made of either gold or natural electrum of varying qualities. I have classed all these together because, to have divided gold from electrum in a catalogue based on the purpose of the objects described would have been (1) to relegate to different sections objects whose only characteristic distinction consists in a slightly greater or less percentage of gold; (2) impossible to have carried out scientifically without subjecting a large number of articles to a process of assay, to which there are obvious objections in the case of delicate and fragmentary articles of jewellery. In the following section, judging by colour and weight, I distinguish the objects as G. = practically pure gold; G. E. = electrum of dark colour containing a large percentage of gold; and E. = pale electrum.

Weights are given in grains, without fractional values; but if objects are very fragmentary, or composed of more than one metal (*e.g.*, electrum, or gold, on silver) weights are not appended. Dimensions are stated only in the case of objects which cannot be exactly measured from the full-size reproductions on the plates, and at the same time are fairly complete.

The great majority of these objects, as will be seen by the notes appended, were found in the filling of the Basis. The great number and variety, and the comparatively good preservation of the Basis jewels, render them a valuable standard for dating a great number of objects in other materials found in less well-determined positions.

To each item in the following catalogue is prefixed the reference to the plate on which it is figured. Where no such reference is given, the object is not figured.

FIGURINES.

These are, in many cases, metal shells which have become detached from cores, probably of wood, but possibly also of ivory or a composite material.

I. ANTHROPOID.

- iv. 2. Shell, G. E., made in two plates front and back, like an Enkomi figure (*Enk.*, p. 19, fig. 36); upper half only to below the breasts, which are very flat. Both the front and back parts of the shell have even and sharp lower edges; and therefore the figurine, when perfect, either was not more than a bust, or had distinct plates coating the lower half. The features are slightly rendered, the eyes protrude, and there is little superficial detail (*e.g.*, no clear indication of hair, wig, drapery or arms). H.¹ .042, W. 44. (S. W. corner of Primitive area.)
- iv. 1. Shell, face only, E. Features, especially nose, strongly marked; eyebrows a continuous ridge; no eyeballs. H. .034. W. 16. (W. area.)
- iv. 3. Shell, full-length, much crushed. Palest E. Draped to feet, all sign of which has perished; arms pendent. H. .063. W. 30. (W. area.)
- iv. 6. Head, G. plated over hollow silver core; broken off at throat and crushed. Veil or wig falling back from forehead. (W. area.)
- iv. 4. Shell, E. full-length, draped. Veil falling back from forehead; arms pendent. H. .030. W. 10. (Basis.)
- iv. 14. Hollow, full-length, E., apparently complete, made of a single plate joined at the back, and closed below with a plate; pin-hole in the base-plate; semi-aniconic below the waist. H. .023. W. 13. (Basis.)
- iv. 15. Seated, with hands on knees. E. on silver core. Draped as No. 4. (Basis.)
- iv. 13. Tiny figurine of E. foil; traces of a pin below. (Basis.)

All these figurines seem to be female, and probably are representations of the Goddess. For the erect and seated types of the latter see *Ivories* and *Terracottas*. The smaller specimens were probably pendants, or possibly (where there are indications of shafts or pin-sockets) heads of pins or finials.

II. BIRDS in most cases certainly, and in all cases probably, Hawks. See later ch. XVIII. for a discussion of the Hawk in connection with the Goddess. All or some of these figures may have been held in the hands of statuettes.

- iv. 20. Shell palest E., much crushed at back and chipped. Feathers rendered by conventional pointillé work. The core seems to have been paste. H. .025. (Basis.)
- iv. 9. Shell, palest E. The feathers on the head are not marked, but on the back and wings are rendered conventionally by dots and horseshoe incisions. H. .034. W. 18. (Basis.)

¹ B = Breadth. D = Diameter. H = Height. L = Length. Th = Thickness. W = Weight.

- iv. 8. Two very fragmentary shells of hawks facing front, with claws crooked round perches; palest E. One has an iron pin in the crest, as though it had supported some superimposed object. H. .035 and .023 respectively. (Basis.)
- iv. 36. Solid, standing on rectangular plate, G. Finely modelled; the wing-tips crossed. H. .024. W. 217. This is the heaviest gold object in the Treasure. (Basis.)¹
- vi. 62. Solid, standing on perch, and based upon a thin rectangular plate, G. Feathers finely rendered in archaic conventional style by chevrons on the wings, and in belts on the breast: wings crossed. H. .016. W. 42. (Basis.) This specimen is the most eagle-like of all; but is, at the same time, sufficiently representative of a falcon or kestrel to fall into the Hawk class.
- Hollow, standing on rectangular plate, E.; rough work, no feet being indicated. H. .011. W. 9. (W. area.)
- iv. 12. Shell, E.: has been fixed on something, probably the Goddess's hand. For style cp. Bronzes xv. 15. W. 3. (W. area.)
- iv. 18. Five small E. shells, much crushed. (W. area.)
- iv. 16;
vii. 19. Three silhouettes cut out of thin G. E. plate: may be doves, but are more probably, like the rest, hawks. A fourth specimen, with ring through shoulder, is described under Pendants (VII. 20). Two have heads to R, two to L. W. about 8. (One from Basis; the rest, W. area.)
- iv. 10. Rude specimen made of flattened G. wire. W. 7. (W. area.)
- iv. 11. Head and upper part, hollow, apparently complete, E. Cp. glazed terra-cotta bird xliii. 4. (W. area.)
- iv. 19. Lump, G., rudely resembling a bird, and perhaps only a freak resulting from hot metal dropped into water. W. 6. (Basis.)
- Tiny solid figure of good work, G. E. W. 12. (Basis.)

III. MISCELLANEA.

- iv. 17. *Frog* in G. foil; right hind leg broken. Scales or skin-folds indicated by incised circlets. Convex, as though once fitted to a curved backing. W. 9. (Basis.)
- vii. 38. *Ass* or *Goat head* (or, possibly, a *Fly*) in G. foil. This tiny object recalls certain animal profiles in "Hittite" inscriptions. W. 2. (Basis.) Cp. "fly pendants" at Enkomi (pl. viii. and xi. nos. 397-8).

¹ Re-arrangement of the gold objects before reproduction, during my absence in Egypt, has led to certain of these being separated from their kind, especially on Plates vi. and x.

ORNAMENTS.

I. BROOCHES.

a. "Displayed" Hawks.

All are in hollow E., and have flat backs with either pins or staples and catches. In a few cases, both pins and staples are preserved. All but one were found in the Basis.

- iv. 21. Feet on perch, with fan of tail feathers below. There has been a single vertical pin on a hinge behind, but no catch or trace of one survives. H. .026. W. 45.
- iv. 28;
x. 40. Same type, but less good work. Double vertical pin on a hinge falling between three staples, through which a tie-bolt must have been passed. H. .031. W. 97.
- iv. 22;
x. 35. Same type, but more naturalistic: double pin as in the preceding, but crossed. H. .022. W. 49.
- iv. 27. Same type, but decorated with granular and pointillé ornament. Staples on back for horizontal single pin. H. .032. W. 56.
- iv. 23. No tail-fan; staples for horizontal single pin. H. .027. W. 46.
- iv. 24;
x. 41. Similar to preceding. Single pin with catch. H. .016. W. 25.
- iv. 29. Two double pins were also found, detached doubtless from brooches of the above types.

These "displayed" hawks have obvious Egyptian prototypes, though rather in the shape of pendants than brooches; cp. Fontenay, *Bijoux*, p. 138; Goluchow, pl. i. 2. The granular pendant figured in Fontenay (*l.c.*) recalls our iv. 27; and if, as Fontenay suggests, the Cairo specimen be not Egyptian, it is probably an Ionian jewel. Similar idea and granular work of rather later style are exhibited in the three "Bee-demons" found at Thera, figured by Pfuhl (*Ath. Mitth.* xxviii., pl. v. 1-3, p. 225), and ascribed by him to the 6th century (cp. *ibid.* p. 285). Cp. also the similar bee-demons found at Cameiros, and exhibited in the British Museum.

b. Horse-shoe form.

- iii. 2;
iv. 35. Highly ornate, G., with flat back-plate and single pin and catch-hook. In the centre a blossom of six petals, alternately plain and foliated. Round the arc are erect barley-corns alternating with flower-cups of four petals. The horseshoe terminates in two lion-heads. This brooch is very highly finished and in perfect preservation. D. .025. W. 107. (Basis.)

With this type of lion-head compare Assyrian representations, *e.g.* the

o

rhyton carried by the suite of Sargon at Khorsabad (P. C. ii., fig. 23). Cp. also the type seen on early "Etruscan" earrings, *e.g.* Martha, pl. i. 13.

c. Stars.

iv. 31;
x. 34. Four bow-coils back to back, divided by bee-bodies, which form four points of a star. E. In the centre a blossom of six petals; on the back-plate, 7 staples. W. 48. (Basis.)

iv. 26. Three bow-coils, back to back, with plain cones or barley-corns between. G. Two staples on the back. W. 19. (Basis.)

These are the first specimens noticed of a class of patterns, which will be considered later in relation to the gold plaques.

d. Miscellanea.

iv. 30. Thin disc G., with single pin and catch behind. Flattened blossom of four petals in the centre, and similar flattened blossoms alternating with erect blossoms round the circumference. W. 44. (Basis.)

iii. 3;
iv. 33. Cicada with folded wings; hollow G.; single pin and catch. L. .016, W. 15. (Basis.)

Similar insects, forming pendants, were found at Mycenae (Schliemann, *Myc.* p. 176., nos. 259, 260). Our specimen is, I believe, the first actual τέτιξ brooch found. See F. Hauser in *Jahreshefte* ix., p. 75 ff.

II. FIBULÆ.

a. Plain bows.

v. 6. 4 silhouettes, G., being miniature *simulacra*, cut out of foil. (Basis.)

b. Enriched bows.

v. 1, 2. Continuous coil ribbing. 3 specs., E. W. 19. (Basis.)

v. 4, 5. Moulded belts. 3 specs., E. W. 19 to 18. (Basis and W. Area.)

v. 3. Granular belts; G. E.; W. 19. (Basis.)

vi. 70. A straight bar (L. .037) with same ornament as v. 3; catch-hook at one end, and spiral beginning of pin at the other. E. (Basis.) This unusual fragment must belong to a very flat fibula-bow, somewhat resembling certain bronze types found at Enkomi (p. 16, fig. 27), and gold types found at Mycenae in graves of the Lower Town. (*Eph. Arch.*, 1888, pl. 9, nos. 1 and 2.)

The other enriched fibulae, described above, are all of one general type, that called *kleinasiatisch* by Furtwängler, in *Aphaia*, p. 403; and discussion of them will be reserved till the larger number of bronze specimens come to be dealt with.

III. SPIRAL EAR-DROPS.

11 complete specs., and many fragments.

- vii. 49. Moulded ends. Solid G. W. 136. (W. area.)
Plain thickened ends; G.; W. 45. (Basis.)
- vii. 43. Plain ends, not thickened, fine wire; 5 specs., one G. plated on S., the rest E.; W. 5. (W. area.) Also fragments of 3 or 4 others.
- v. 7. Ends swelling into broad circular plates, turned upwards. Perfectly plain. G. plated on S., much oxidised. W. 131. (Basis.)
- vii. 50. Globular ends; G. plated on S., much oxidised. W. 78. (Basis.)
Fragments of at least five other silver-gilt specs.

On this type of ear-drop, of which highly ornate specimens have been found in gold and silver, *e.g.*, in Cyprus (Amathusian graves—*Enkomi*, pl. xiv., nos. 1-4, 8, 8a), and in Melos (*Arch. Zeit.*, 1884, pl. 9, nos. 9, 10), etc., see P. C. iii., p. 817. The specimens there figured are more probably Ionian than Phœnician work. Cp. also Pollak, pl. x., nos. 210, 211 and *Ilios Schliem.*, p. 497, nos. 878-80. Ear-drops of this type have been found in position on a skull at Praesos, in Crete. See *B. S. A.* xii., p. 68, fig. 3.

IV. PINS AND PINHEADS.

This is a very numerous class, there being nearly 50 complete pins of an ornate kind, and more than double that number of loose heads. A good many loose pins were found which might be fitted to many of these heads. The types of head are the following:—

a. Imitations of rush-work cistae?

- v. 39. Cylindrical, hollow, with convex rush-work top; E. Two belts of rush-work round the cylinder, and beading above and below. L. (with pin) .063, W. 109. (Basis.)
- vi. 1. Globular, E., with top similar to the preceding, base-plate and beading, but no rush-work belts. Head only. (Basis.)
- vi. 2, 3, 4, 24. Tops composed of strands, centering on buttons, E.; flat undersides, from which the pins start without interposed cylinders or globes. 4 specimens. One such head is E. plated over silver. (Basis 3 and W. Area 1.)
- vi. 48. Cylinder with medial ring, E. (profile of 3-form); rush-work top. No sign of pin-hole, or of attachment; but the object can hardly be other than a pin-head. (W. area.)
- vi. 49. Globes and cones of rush-work, with vertical strands; E.; 3 specs. In one

case a necking of granular beading surrounds the pin-hole. (Basis 2 and W. area 1.)

I have not been able to discover any parallels to this rush-work type; but the *cista mystica* is possibly represented by the cylindrical specimens. Compare its form on Ephesian coins (*e.g.* B. M. C. *Ionia*, pl. xii., nos. 1 and 8).

b. Floral.

- v. 36. Two tiers of eight incurved sepals and a third tier of six open petals, with granular centre; the whole rising from a cup with granular rim; G. On the points of the lowest sepals are balls (fruits?), and on those of the second tier balls and cups alternately. W. 81. L. (with pin), .065. (Basis.)
- v. 16, 23; Blossom of four recurved petals, G. set upon a flat disc with granular rim.
vi. 32. W. 19. (Basis.) Similar pins, which have lost their flowers, and similar flowers detached from base-plates, were also found.
- v. 41. Cylinder E., edged and belted with granular work, and with convex daisy top. W. 70. L. (with pin) .057. (Basis.)
- v. 18. Open blossom of four petals with granular centre; G. plated on S., with S. pin. (Basis.)
- vi. 33, Blossoms of six petals fully open, E.; 5 specs. (Basis 3 and W. Area 2.)
37, 21. Heads only.
- vi. 39, 54. Recurved blossoms of four and six petals, 2 specs. (Basis and W. Area.)
Heads only.
- vi. 34. Blossom of six recurved petals rising out of a similar blossom and set on a disc base with beaded rim. G. (Basis.) Head only.
- vi. 25. Blossom of six petals with granular ribs in open work within a granular ring. E. (W. Area.) Head only.

c. Fruits.

- v. 31. Lemon-shape; G., with horizontal fluting and granular knob-finial rising from open blossom with six recurved petals; set upon circular base-plate with granular rim; granular necking round pin-hole. W. 110. L. (with pin) .083. (Basis.)
- v. 25. Apple; E., rising out of four-leaved calyx, granular necking round pin-hole. L. (with pin) .059. W. 32. (Basis.)
- v. 14. Peg-top shaped fruit, G. E., with finial tuft of recurved and pointed petals (*cf.* Pendants, x. 57); a granular belt round the spheroid. L. (with pin) .055. W. 17. (Basis.)
- v. 30. Apple; G. E., with six-petalled blossom finial, set on a base with granular

*

rim. L. (with pin) .060. W. 48. (W. Area.) Cp. *Ivories*, xxxiii., nos. 1, 6, 10, etc.

- vi. 5, 27. Melons; with smooth lobes. 1 G., and 2 E. (Basis 2, and W. Area 1.) Heads only.
- v. 26. Ditto, with alternate lobes ribbed; 3 specs., G. and E. (Basis 2, and W. Area 1.) Heads only.
- vi. 6, 36. Ditto with lobes divided by granular stripes, 2 specs. E. (Basis and W. Area.) Heads only.
- vi. 35. Ditto E. Rind rendered naturalistically. (W. Area.) Head only.
- vi. 26. Barley-corn with tuft finial, and vertical granular stripes. E. (Basis.) Head only.

d. Spheroids (not necessarily fruits).

- v. 20. Elongated; E.; with vertical granular stripes. L. (with pin) about .068. W. 55. (Basis.)
- v. 27. Ditto, pear-shaped, and plain, with knob-finial, E.; granular rings above and below. L. (with pin) .052. W. 18. ("Ambulatory" N. of Basis.)
- v. 8, 11, 12, 13, 17, 19, 22, 28, 29, 40. Ditto, plain. Some 16 specs., G. and G. E. Slight enrichments of moulded or granular work round pin-holes in some cases. (Basis and W. Area.) Also 21 loose heads.
- v. 33. Ditto, fluted vertically, with knob-finial; granular rim to base plate; silver pin. (Basis.)
- v. 24. Ditto, fluted vertically; 3 specs.; E. (Basis.)
- v. 37. Ditto, E.; fluted horizontally except in lower part, and set on a base with granular rim. L. (with pin) .067. W. 55. (Basis.)
- vi. 15, 29; x. 47. Globular, set on square plinths formed by four double-axes (*labrys*); 3 specs. G. E. (Basis.) Heads only.
- v. 15, 35; vi. 7, 9; 10, 12, 38. Globular, plain, or enriched with vertical, medial, or terminal belts of granular work; 33 specs., G., G. E. and E. Heads only. (Basis.)

e. Whorl-shape.

- vi. 41. Double whorl with inverted daisy pattern, and enriched with medial ridge of granular work. 3 specs. E. (Basis.) Heads only.
- vi. 28. Ditto, enriched with vertical stripes. 2 specs. E. (Basis.) Heads only.

f. Clusters.

- vi. 13, 14, 17, 31. Clusters of large globular grains, G. and G.E. 10 specs., of which 8 are composed of four beads, 2 of eight beads. (Basis 8. W. Area 2.)

- vi. 11. Cluster of five large conical grains. E. (Basis.)
 v. 9; Conical clusters of small globular grains. One complete G. pin. L. .043,
 vi. 63. W. 8. (Basis.) Also a head. (Basis.)
 vi. 18, 19, Cylindrical and cubical clusters of ditto. Many sizes. G. and G.E.
 20, 22, These are bored right through, and may therefore be beads; but more probably
 23. they are pin-heads. About 30 specs. (Basis and W. and E. Areas.) Similar
 clusters of grains were found as ear-drops at Enkomi (pl. viii.); cp. also
 cluster-rings found at Mycenae (*Myc.*, p. 361, nos. 533-538).

g. Paste or enamel centres.

- v. 32; Certain heads, in their present state, seem to be mere rings or cups, once
 vi. 30. filled with paste or enamel, *e.g.*, complete pin with cylindrical head and wires
 crossing above. L. about .030. E. (W. Area.) Open-work globes. G.
 (Basis.) Heads only.
 Concave-sided cylinders. G. (Basis.) Heads only.
 Plain cups. 2 specs. E. (W. Area.)

h. Caps.

- vi. 16, 42; Usually of G. or E. plated on silver, and quite plain, resembling fine
 v. 10, 21. nail-heads. One closes a silver cylinder, open below, and has a rim of
 granular work. Another is set on a bronze pin. Some 6 specs. in all.
 (2, Basis.)

j. Miscellaneous.

- vi. 8. *Wheel* with six spokes, ending in globular beads; three of these are
 broken off. The hub has enrichment of granular rings above, and shows signs
 of having been attached on the plain under-side to a shaft. (Basis.)
 iii. 8. Square box showing female (?) masks with wigs on each side. The whole
 surmounted by a conical cap with granular rim and rush-work strands centred
 on a button. E. Head only. W. 48. (W. Area.) Perhaps the finial of a
 wand rather than of a pin.
 v. 38. Sword (?) or Torch (?) E.; with cross-bar. W. 25. (W. area.)
 iii. 5; *Bee*, G.E., of very fine work and naturalistic style. Wings, body and head
 iv. 32. covered with fine granulation. Broken pin projecting from below the thorax.
 W. 24. (Basis.)

With this bee compare that from Crete in the British Museum (P. C. iii.,
 p. 829, fig. 592). Bee-"demons" were found in the Theraean cemetery (Pfuhl,

Athen. Mitth. xxviii., pl. v., nos. 1-3) and also at Camirus. Cp. *Stars and Appliqués* for Bees used as decorative motives.

v. 34. *Labrys* (Double-axe), of thin E. plate on E. pin. L. .017, W. 5. (Basis.)

The *labrys*, as an *ex voto*, has already been found in the Ephesian neighbourhood among the Aidin jewels figured in *P. C.* v., figs. 204, 6, and *B. C. H.* iii., p. 129. (Cf. *Olympia, Bronzes*, iv., pl. 26, nos. 525-7.) It is, of course, very common as a symbol of Zeus Labrandeus on coins of Carian cities, etc. Its frequency and significance among Aegean remains have been abundantly recognised since the recent exploration of Crete. See, *inter alia*, Evans, *Myc. Tree and Pillar Cult*, § 5: *B. S. A.* vii., pp. 52 ff: and my article on the Dictaeon Cave, *B. S. A.* vi., pp. 108 ff. We have already seen it used as a decorative motive on pin-heads (Pl. vi., nos. 15, 29): and shall see it again on earrings (pl. vi., nos. 58, 59). Two ivory examples are noticed below, figs. 31, 32. On the *labrys* as an attribute of the Goddess, see Chap. XVIII. This electrum example, like the smaller ivory one, may have been held in the hand of a goddess-statuettes of the axe-bearing type known from Knossian gem-sealings, and coins of the Syrian Laodicea. (See p. 337.)

The larger specimens of these pins were perhaps used to fasten garments (cf. De Cou in *Her.* ii., p. 207 ff.); but the smaller can hardly have been placed elsewhere than in the hair. There is nothing in this collection to support the theory that pins found in temple-deposits represent currency rather than ornaments, taken from the person and dedicated *ex voto*.

V. EARRINGS.

vi. 43, 44, 45, 66. a. *Plain Hoops*; the common type; hoop and pin in one piece without distinction; no pin-hole: G. or E.; thickened more or less in the centre of the hoop. Various sizes and qualities, from little rings of fine E. wire, hardly swelling at all, to heavy G. hoops (up to 57 grs.), with conspicuous central bulge. The curve of the hoop varies considerably, some specimens (cp. also *Bronze*, pl. xviii., 18) approaching the high arch characterising certain specimens found at Enkomi (pl. x., nos. 412-5). About 100 specimens from Basis and all parts of the Primitive Area.

vi. 40. One of these fine wire earrings, the ends of whose hoop are contiguous, has a single bead-drop still attached by a ring; W. 5. (W. Area.) This fact suggests that many of the drops, etc., included below under *Pendants*, originally dangled not from the throat, but from the ear.

vi. 55. Silver-gilt heavy plain hoops thickened in the centre; 3 specs. (W. Area.)

b. Enriched Hoops, with pin distinguished from the hoop.

- vi. 53, 69. Moulded or beaded belt dividing pin from swelling hoop, which has a rather high arch; G. E.; 2 specs., one larger than the other; heaviest W. 19. (Basis.)
- vi. 68. Three belts of beading, G.; W. 18. (Basis.)
- vi. 57. Granular clusters at the ends of the hoop, and studs between, E.; W. 2. (W. Area.)
- vi. 72. Cushion moulding or "quilting" crossing the hoop, which is very broad; G.; beaded lines dividing cushions; granular rims and ring round base of pin, which fits into a socket. W. 140. Pin slightly broken. (Basis.)
- vi. 50;
x. 36. Ribbed cushions divided by belts of four-leaved blossoms, G. Barley-corns erect along beaded rims of the hoop (cp. Brooches, *b.*); beaded spirals round base and hole of pin. W. 126. (Basis.)
- vi. 64, 56. Cushions (a) divided by plain belts, G.; 2 specs., beaded rims, W. 92 (Basis) or (b) without dividing belts, but with beaded edges; E. high hoop: W. 6. (Basis.)
- vi. 71. The hoop divided longitudinally into three ribbed cushions with granular beading between each cushion and along their ridges. E.; W. 70. (Basis.)
- vi. 67. Cushions crossed by plain or beaded medial ridge, E.: 2 specs.; W. 35. (W. Area.) One specimen has three studs at either end of the hoop.
- vi. 52. Triple Hoop. Broken spec. G. (W. Area.) Cp. earrings worn by ivory statuette, pl. xxii.
- x. 39. The three divisions of the hoop distinct, connected by bars at the central points, and ending in balls; G.; W. 75. (W. Area.)
- vi. 47, 74. Beaded stripes following the sweep of the hoop and dividing longitudinal "cushions." G. E.; silver pin; W. 21. (Basis.) Also four specs. with gold pins. (W. Area.)
- vi. 60. Beaded, plain, and moulded stripes alternating, and following sweep of hoop; beaded ring round pin-hole. G. E.; W. 58. (Basis.)
- vi. 51;
x. 37. Granular belts crossing the hoop, and dividing blossoms of six petals. G. Ridges of granular work following the rims of the hoop, which are beaded. W. 131. Pin broken. (Basis.)
- vi. 58;
x. 38. Three axes divided by triple beaded belts. Beaded rims. E.; W. 38. Slightly broken. (Basis.)
- vi. 59;
x. 46. Five axes with stud-centres, divided by single granular belts. Granular rims, with projecting studs. E.; W. 77. Pin broken. (Basis.)
- vi. 65, 75. Beaded or plain rings encircling hoop; 2 specs. E. and G.; W. 35 and 39. (W. Area.)

- vi. 73. Broad belts of rush-work; beaded rims; E.; W. 44. Pin broken.
(W. Area.)

The common type goes back in the Greek lands to the Enkomi jewellery at any rate (*Enk.* pl. viii.); and with high arched hoop and flattened under-side is to be seen in the same hoard (pl. x., nos. 412-5; cf. *Ilios Schliem.*, p. 487, no. 839). In Mesopotamia the common form was found in the early graves of Warka (P. C. ii., fig. 424). Similar hoops with drop-pendants have a wide range, being met with in Cypriote graves of the sixth century and observed in the ears of Syracusan coin-portraits of the fifth century (Hadaczek, *Ohrschmuck*, fig. 30). The high arched type occurs in Magna Græcia (Hadaczek, fig. 38) in the sixth century. While most of the enriched hoops described above cannot be precisely paralleled, certain specimens found at Hissarlik (*Ilios Schliem.*, nos. 840, 841, 883, 884) are practically identical with our types, pl. vi. nos. 75, 72. Our type pl. vi. no. 74 has been found in Bohemian graves of the Bronze Age (Hadaczek, fig. 124). The type pl. vi. 52; x. 39, with the three ridges of the hoop either separated or not, occurred at Hissarlik (*Ilios Schliem.*, p. 460, nos. 695, 699, 703; p. 462, nos. 752-764).

VI. RINGS.

- ix. 4, 8,
9, 26. None were found which were certainly finger-rings. The largest specimen (silver-gilt), D. .015, W. 8 (W. Area), may have been the diadem of a statuette (pl. ix. 4). The rest are all too small for any human finger, and whether granular, serrated or plain, are doubtless detached enrichments of other objects, *e.g.* pins. About a dozen specs. (Basis and W. Area.)

VII. PENDANTS.

a. Beads.

- x. 42, 44,
48, 50, 52,
53, 55, 56,
60, 69, 75,
76, 77, 83. Plain, globular, pear- or whorl-shaped, with suspension rings: G., G. E. and E.; 223 specs., of all sizes, ranging downwards from a large hollow G. bulla (no. 69), found under the Basis floor (p. 60), which weighs 142 grs. Over 100 were found in the Basis filling.
- x. 74. Fluted vertically or horizontally. (Basis.)
Flower or fruit-shape.
- x, 43, 57,
86, 88. Globular, with bud at point. G. E. 8 specs. (5 from Basis.)
- vi. 61. Ditto with open blossom at point. 3 specs. (2 from Basis.)

P

- vii. 11. Flat, pear-shape, or lance-head pendants; the metal is turned over at
12, 25. the head to form a ring. G. E. 12 specs. (Basis and W. Area.)
- vii. 17; Long and tube-like, closed by a rosette, and enriched by beaded rings.
x. 51. G. E. 6 specs. (W. Area.)
- x. 71; Open or half-open blossoms, dependent from rings. G. E. 3 specs., the
vii. 7. largest weighing 19. (Basis.)
- vii. 5. Cluster of grains in pyramidal shape, with suspension ring. Compare
Hadaczek, figs. 25, 26, 28, 29.

b. Amulets.

Crescents.

- vii. 6. Ornamented with stamped concentric circlets between double linear
borders; thin G. plate: suspension ring. W. 17. (Basis.) Cf. *Ilios Schliem.*,
p. 501, no. 917.
- vii. 1, 2, 3. Plain, E.; 7 specs. with and without rings. W. ranging from 32 (W. area)
to 11. (Basis.) Compare spec. from Cameiros (*Arch. Zeit.*, 1884, pl. 9).

Hawks.

- vii. 27, Compare *Brooches, a.* E.; ring through head: flat back. 2 specs., W. 41
28. (Basis) and 9. (W. Area.)
- vii. 20. Silhouette, E.; ring through shoulder; possibly a dove, but the beak is
more like that of a hawk. W. 5. (Basis.)

Anthropoid.

- iii. 11; Solid G. figurine, female, fully draped in long robe with cloak above, and
iv. 25. holding tortoise-shell lyre of primitive form in L. Bracelets on wrists. H. .013.
Hair or wig parted in the middle and cut square behind; feet shown. Suspen-
sion ring at back between shoulders. W. 24. (W. Area.) Perhaps represents
Artemis "Chelytis" (p. 327) or "Hymnia."
- iii. 9. Tiny head with wig, hollow E.; ring above. W. 2. (W. Area.) For such
figures pendent from earrings, see Hadaczek, fig. 10; *Enkomi*, p. 19, fig. 36, and
many later examples (Hadaczek, pp. 37 ff.). Also Pollak, pl. 20, nos. 525, 526,
528 (the first of these is from Asia Minor, and the second possibly of Anatolian
work). For similar heads with wigs, cp. Pfuhl, *Ath. Mitth.*, xxviii., pl. v.
1-3 ("Bee-demons"), and the "Lydian" jewel from Aidin (*B. C. H.* iii., pl. iv.).

Other animal forms.

- iii. 7; Lion-head, E., with protruding tongue and teeth clearly shown, features
vii. 18. outlined in beaded work; muzzle slightly broken R. Two staples behind.

W. 45 (W. area). The type recalls "Hittite" treatment of the lion-head :
cp. Eyuk lion, P. C. iv., fig. 341.

- iii. 4;
vii. 4. *Hare* (?), *Sheep*, or *Calf* (?), very minute, one ear or horn broken. Hollow E.
Bored for suspension-ring or pin. (?) (Basis.)

Similar tiny animal-pendants have been found at *Enkomi* (pl. xiii., no. 20),
and in Italian graves.

- iii. 1;
vii. 45. *Fly*, with ring in head, G. ; details outlined in fine granular work, disposed
in dog-tooth patches ; flat behind and socket in the thorax for a pin. W. 15.
(Basis.) Fly pendants are common in Egyptian pastes, etc. Cp. also fly in
crystal found at Cameiros, and now in the British Museum.

- x. 79. Annuloid pear-shaped object, with ring above and flat back, G. ; perhaps
a degradation of a fly-form. W. 9. (Basis.) Similar pendants occurred at
Enkomi.

Parts of Human Body (ex votos).

- vii. 21. Leg and foot, E. Hole for ring above. Toes indicated by scratches.
W. 5. (W. area.)
Leg-pendants are common in Egypt.

Though probably not pendants, the following *Amulets* may be noticed here :

- vii. 24. Object in shape of tongs, ending in human hands ; E. W. 4. (Basis.)
vii. 22. Two miniature hands of very rude work ; E. (W. area.)
vii. 23. Leg, E., rudely shaped out of wire, which is flattened to form the foot.
W. 6. (W. area.)

c. Miscellanea.

- vii. 9. Cylinder of fine granular work with swivel-handle ; G. ; upper edge
serrated : the other turned over to hold the paste filling in place. W. 47.
(W. area.)
vii. 13. Solid G. E. ring, with small hole for suspension in the handle. W. 62.
(W. area.) Compare Silver, pl. xii. 34, and *Ilios Schliem.*, p. 430, fig. 557.
vii. 14. Bell-shaped cap. E. W. 13. (W. area.)
vii. 46. Elongated spheroidal bead, E. ; the metal turned over at one end to form
a ring. W. 69. (W. area.) Cp. Pl. vii., nos. 11, 12, 25.
vii. 10. Three rods ending in rings and joined by cross-bars ; E. ; probably only a
fragment of a larger object. (W. area.)
Ingot-shaped bar. G. W. 9. (Basis.)
Flat globular bead, with two staples above, G. E. ; a fragment of a larger
pendant. (W. area.)

VIII. CHAINS.

Several fragments of fine chain ornaments.

- vii. 26. Circular links, E. (W. area.)
 vii. 31. Oblong links, E. (W. area.)
 vii. 30, 32-34. Four-strand rope, G. 8 fragments. (Basis.) Five of these fragments of chain have spheroidal beads attached; two have rings; and one a crushed rush-work bead, with six-petalled blossom. (Basis.)

This type of chain goes back, in the Greek lands at least, to the period of the Enkomi treasure (pl. xiii., no. 26) and that of the Hissarlik treasure ("Third City," *Ilios Schliem.*, p. 457, nos. 690, 1).

IX. APPLIQUÉS.

This very numerous class consists of objects in thin plate or foil, pierced for the most part with marginal holes. These may have been attached to a backing; but similar discs were found on a skull at Praesos in Crete strung together and forming a diadem. See *B.S.A.* xii., p. 68, fig. 3.

a. Amulets.

Representations of human members, probably affixed to small plaques of wood, but possibly, in some cases, fitted to statuettes.

Eyes. G. and E.

- vii. 35, 36, 42, 44. *Double* "spectacles," 6 specimens (2 from Basis); usually with holes for attachment at either end, but in some cases with one hole only between the eyes. The eyebrows and eyelashes are sometimes indicated. These objects vary much in workmanship, the eyes in two cases being mere rudely scratched circles.

- vii. 39, 40, 41, 47. *Single*; 17 specs. (7 from Basis). Same variety of detail as in the precedent class.

These belong to a class of objects found at all epochs, cp. *e.g.*, Hamdi Bey and Th. Reinach, *Necr. roy. de Sidon*, p. 105.

- vii. 48. *Ears.* 3 specs. (2 from Basis). G. and G. E. These have no attachment holes. Two are mere silhouettes.

Crescents.

- ix. 53, 54. Plain crescents of E. foil with attachment holes at either horn. Four specs. (Basis.)

b. Strips.

Doubtless for the most part frontal bands or diadems of statuettes; cp. large number found at Enkomi. (*Enkomi*, pls. vi. and ff.)

- ix. 29. Plain heavy G. foil; no pattern, except parallel lines ruled along top and bottom. Probably from sides of a casket or caskets, to which five other long and narrow strips may also have belonged. Three pieces; W. 36, 33 and 30. All found outside the Basis, but close to it on N. and E.
- ix. 58. Heavy G. foil with relief pattern of beaded spirals, and holes for attachment at each end. W. 14. (W. Area.) A diadem(?) (cp. *Enkomi*, pl. ix. no. 272.)
- ix. 50. Ditto; twisted rope pattern. W. 11. (Basis.) A diadem(?). (cp. Pfuhl, *Athen. Mitth.* xxviii., pl. v. nos. 13, 14.)
- ix. 56;
x. 19. Basket-work or *fascine* pattern; palest E.; many attachment holes above and below. One strip, apparently complete, weighs 12; and there are several fragments. (Basis.)
- ix. 30, 51,
52, 55, 57;
x. 8, 12,
13, 15, 20. Strips and other pieces of E. foil with impressed chequers, diamonds and points over the whole surface. (Basis.) See Pollak, pl. iv. no. 11 (from Sidon, cp. Hamdi Bey, etc., *Necr. roy. de Sidon*, figs. 32, 43, 44).
- x. 22. Small strip, plain E. foil, and strips of bordering with daisy heads in relief. Cp. Pollak, pl. iv. no. 6.
- ix. 2, 17. Strips of G. foil; with vertical ribs in relief, crossed at intervals by bands, forming a basket-work effect not unlike Roman *fascies*: once fitted to a convex surface. 1 (Basis) W. 10 and 3 smaller specs. (W. Area.) Similar casings occurred at Enkomi.
- ix. 31. Thin strip, the diadem of a statuette(?): pattern of daisies in relief: E. discoloured by silver. (Basis.)
- ix. 32. Serrated crown, plain G. (W. Area.)

c. Plaques.

Rectangular, and with attachment holes, unless otherwise stated.

Figure Subjects.

- viii. 2. Human-headed lion-sphinx, seated to R.; pigtail floating from head. Rush-work border; no attachment holes, but strips of foil turned over at the angles to form sockets for pins. G. Three specs., W. 7. (Basis.) Compare with this "pigtail" type *Ilios Schliem.*, p. 613, no. 1432; ivories from Spata (*Αθήν.* vi., pl. 1, figs. 4-7); and examples from Enkomi and Naukratis.
- viii. 1. Lion passant to L. and roaring. E. W. 7. (W. Area.)

- viii. 7. Gryphon passant to R. E. In the field above is some object, perhaps a bird. W. 3. (W. Area.) In the mutilated state of this plaque it is not certain if the head is that of an ordinary gryphon (cf. *Bronzes*, pl. xvi. 4) or of a cock (cf. *Enkomi*, p. 8).
- viii. 3. Winged lion, passant to L. with head turned R. and mouth open, apparently snapping at a butterfly or bee, which is conventionally represented high up in the field on the R. The field is filled with chequers and dots, irregularly disposed, to represent rocky ground and vegetation (?). Circular, E. Two almost complete specimens and fragments of a third. W. 6. (Basis.) The fantastic type and heavy style recalls nothing Asiatic very distinctly, unless it be (somewhat remotely) "Hittite" art in Cappadocia. Cp. Lion-hunt *stele* from Malatia (*Recueil de Travaux* (ed. Maspero), xvii. p. 25 and plate). But there is a suggestion of mid-European art about this style.
- iii. 6;
viii. 9. Human-headed lion-sphinx couchant to R. with head turned L. The fragments show the fore-part, one wing, and the lower part of hind-quarters. There seems to be a large wig or pigtail floating from the head. E. (W. Area.)
- iii. 10;
viii. 4. "Πότνια θηρῶν." Small nude human figure, with disproportionately large head and flat cap (?) standing to R., between two rampant lions, and below a frieze of blossoms (degraded lotus?); the whole within a studded border. The lions rest one fore-paw apiece on the shoulders of the figure, which seems to embrace either their paws or necks. One specimen almost complete and one preserving L. top corner only. E. (Basis.) The nearest parallel to the lions is the famous Phrygian heraldic group at Ayazinn (P. C. v., fig. 64). See later, ch. XVII.
- viii. 8. Horse (?) or Boar (?) moving to L. Rudely scratched. G. E. (W. area.) The doubling of the outline suggests that the subject is a pair of animals.

Coil-schemes.

- viii. 25. Four bow-coils back to back round a central boss: palmettes in angles. 15 specs.; E. (Basis.) Average W. 10.
- viii. 23. Similar, but larger. (W. area.) W., in spite of larger size, same as preceding, the percentage of gold being less.
- viii. 24. Similar; but blossom centre. (Basis.)
- viii. 11;
x. 33. Similar; but loops instead of palmettes in angles, and drops (seeds and pomegranates) pendent from the bows of the coils. Two specimens of same size. Weight, 8 G. and 5 E. Comparison of these two specimens affords a

relative standard of the weights of the purest gold and the ordinary palé electrum in this Treasure, the proportion being 8 : 5. (W. area.)

- viii. 26. Similar; but daisy centre and daisies in angles. No perfect specimen. (W. area.)
- viii. 27. Circular disc in heavy E. plate. Three coils, divided by drops; no central ornament. 2 specs. W. 42. (Basis.) These plaques bear an obvious resemblance to the Mycenaean plaques.
- viii. 29. Ditto, E. foil. Six coils with drops pendent from slightly angular bows; W. 10. (Basis.)
- viii. 28. Ditto, G. foil. Six beaded coils round a beaded boss within beaded border; W. 10. Basis. Note numerous attachment holes all round the circumference.

This group of patterns goes back directly to Enkomi (compare the ivory roundel figured in *Enkomi*, p. 14, fig. 23, which, however, shows rather flatter and stiffer coils).

Bee-Stars.

- viii. 13. Eight-point star formed by bodies and wings of four bees meeting in a common head. Palmette-border top and bottom. Three complete specs., E. (2 from Basis.) Also fragments of two others. W. 12.
- viii. 6. Similar, small spec.; G. (W. area.)
- viii. 14. Similar, but in lower relief. W. 7. (Basis.)
- viii. 15. Degradation of same type (?); E. 2 specs. W. 5. (Basis.)

Floral Stars.

- viii. 16. Eight-point star, resembling those just described, but without bee-forms. Double plaque, G., with ribbed border. W. 12 (Basis); and single, E.; with plain border. (W. area.)
- viii. 19. Circular thin disc with similar star. G. E. Perhaps a hilt-cap. W. 17. (Basis.) Compare Mycenaean plaques and "buttons." (*Myc.* p. 172, fig. 251.)
- viii. 18. Four-point star within egg and dart (?) border. G. E. W. 14. (Basis.)
- viii. 20. Ditto; plain line border. E.; 2 specs. (1 Basis.) W. 5.
- viii. 21. Ditto, E.; pointillé border and similar ornament in field; W. 4. (W. area.)
- x. 10. Floweret within beaded border. E.; 2 specs. W. 1. (Basis and W. area.) Nine similar flowerets arranged in a square. E.; 3 specs. W. 3. (W. area.)

Various Geometric Patterns.

- viii. 10. Cross *patée* and circlets within beaded border. E. ; W. 4. (W. area.)
- x. 14. Cross, ribbed, in ribbed square ; ribbed border above and below. 2 specs.
E. ; W. 4. (W. area.)
- x. 6, 9,
32. St. Andrew's Cross with diamond-shaped terminals, and dots or circlets
between the limbs. Beaded border above and below. Single plaques : 2 specs. ;
G. ; W. 3. (W. area), and 1 ditto ; W. 5. (W. area.) Double plaques ;
10 specs. ; G. ; W. 7 ; E. ; W. 3. (W. area.)
- x. 17. Similar cross, plain, with dots between the limbs. E. ; W. 3. (Basis.)
- x. 11. Circle in square within egg and dart (?) border. W. 3. (W. area.)
- x. 5. Double beaded spirals round a diamond centre. G. E. ; W. 2. (Basis.)
- x. 1. Four bosses with beaded borders, disposed round a centre of uncertain
form. G. E. ; W. 6. (Basis.) Much flattened and defaced.
- x. 24. Fret within ribbed border. (W. area.)
- x. 31. Four dots.

d. Blossoms, Stars and Crosses.

- x. 25. Five-point stars ; 2 specs. ; G. ; granular enrichment. (Basis.) No
attachment holes, and probably detached from metal backing.
- viii. 22. Bee-stars. Four bee-bodies with common head-point, divided by large
palm-leaves set round central flower of four petals. Attachment holes in points
of palm-leaves ; G. 5 specs. W. 12. (Basis 3, W. area 2.)
Five-point stars of degraded bee type, 2 specs., E. (W. area.)
- x. 16. Ornate cross *patée*, beaded ; diamond centre ; E. ; 2 specs. W. 4.
(Basis.)
- x. 39, 40. Plain four-point stars or crosses with embossed centres ; G. E. 132 specs.,
all found together just E. of Basis.
Crosses or stars of coil pattern, G. E. and E. ; 48 specs. Slight variations
in detail.
- ix. 41, 42. Four bow-coils, back to back ; attachment-holes round the ring-centre.
Two sizes. 28 specs. in all, found together E. of Basis (p. 45).
- ix. 38, 43,
44. Ditto ; but with the back-plate solid. 2 specs. (Basis), and 3 specs.
slightly variant. (W. area.)
- ix. 36. Ditto ; beaded rings between ends of coils. 3 specs. of small size.
(Basis.) 1 larger. (W. area.)
- ix. 35. Ditto ; without central ring, and with back-plate solid. (W. area.)
- ix. 33. Ditto ; with central boss and back-plate only partly cut away. (W. area.)
- ix. 47. Ditto ; coil-ends open and rings at the ends. (Basis.)

- x.45,46. Ditto; solid; no centre ornament, and no attachment holes. 8 specs.
(W. area.)

Floral Stars.

- ix. 49. Four-point stars with four-leaved floral centre; rings at four points; G.
4 specs. (Basis.)
- ix. 37. Ditto; rings at all eight points; E. 8 specs. (Basis.)
- viii. 17;
x. 23, 26,
27, 28,
29, 30. Flat flowers; heads of six and eight petals without attachment holes.
Many specs.; E. (Basis and W. area.)

e. Miscellaneous.

- x. 7. Circular disc; G. E.; covered with minute studs disposed in zones round
central boss. Hole above (for suspension?); W. 5. (Basis.) A miniature
shield?

Fragmentary plaques, etc.

- x. 4, 18. Several fragments of at least two large plaques; pattern of embossed
circles set round central boss, within a double egg and dart border. G. E.
(Basis.)
- x. 3. Triangular piece of foil with egg and dart border and spirals, blossoms and
stars, scattered in the field. (Basis.)
- x. 21. Geometric pattern of chequers and dots; E. (W. area.)
- x. 2. Fragments of large plaque of E. foil; eight embossed circles, with flower
centres, set in panels round flower of four petals, ribbed. (Basis.)
- viii. 5. Fragment with diamond centre surrounded by bow-coils.

X. BEADS.

- x. 62, 63. *Globular, plain*, of various sizes; G. and G. E.; 107 specs. from Basis and
85 from W. area = 192 in all.
- x. 49, 58,
64, 73, 78,
82, 87. *Globular, ribbed, or fluted*; G. and G. E. 11 specs. from Basis, 4 from
W. area = 15 specs.
- ix. 22; *Barley-corns* (i) plain; G. and G. E., 9 from Basis and 7 from W. Area
x. 45, 59, (ii) fluted vertically; E. 10 from Basis, 1 from W. area. These last were
65, 66, 67. found in groups of threes and twos adhering to back-plates of E. foil.
- ix. 10; *Tubular* (i) ribbed with open ends. G.; 10 from Basis, 18 from W. area
x. 61, 68,
70. = 28 specs. Cp. *Enkomi*, Pl. ix., and *Ilios Schliem.*, p. 460, no. 718. (ii) Closed
ends; E. 2 specs. (Basis.)

Q

- ix. 24. *Cylindrical*, swelling in the middle (i), resembling bronze objects pl. xviii. x. 54, 80, 42, 44, 45, but much smaller. (a) with granular belts round the mouths and 81, 84, 85. waist of the bead, and beaded ribbing; G. W. 62. (Basis.) (b) Similar but
ix. 21. smaller, in thin G. foil. (ii) Elongated spheroids with granular ribs and mouth-rings. G. 3 specs. W. 23. (Basis.)
ix. 27. *Fringed "tassel" beads*, pierced horizontally at base; G. E.; tassel fringes of four points; W. 4. (Basis 1, W. area 2.)

Composite Bead Objects.

- vii. 37. Three G. tubes soldered together; beaded rings round mouths and double-axe ornament on sides and ends. W. 37. (W. area.) From a necklace?
ix. 19. Plate made of 6 rows each containing 3 G. globular beads; each row bored with fine hole. W. 44. (Basis.)
ix. 7. Fragment of a similar plate whose beads have each supported a blossom of four petals, only one of which remains in place. The beads are fastened together by fine pins. (Basis.)

XI. MISCELLANEA.

a. Cap or Cover Pieces.

- vii. 29; ix. 1. *Square casings* of G. foil with chevron ornament, ending above in lion-heads of type similar to the lion-finials on the brooch, Pl. 3, 2. Two specs. L. .029. W. 18 and 17. (Basis.) These objects have rough edges below and are evidently caps once fixed on cores of wood or some other perishable substance. They may have been miniature sceptre- or pin-heads or knife-hilts.
iv. 5, 7; vii. 8, 15. *Circular discs* highly enriched, probably finial caps of dagger-hilts. Convex daisy pattern, E. plated over silver. The disc shows the stump of a silver shaft on the under side. (Found near the N.W. angle of the Basis with the group of objects enumerated on p. 42.)
Concave daisy; G. on silver.
Convex ditto; alternate petals ribbed or "quilted"; sunk centre; 2 specs. One has small hole in centre for pin attachments. G. on bronze. The other, E. on silver, had bronze shaft.
iv. 34. *Demilune* G. plated on silver; supported by rectangular plinth with incised ornament of zigzags, and crosses within circles, both on the demilune and the plinth. The latter is bored through at either end. A mass of oxidised metal adheres to the back. In its actual state the precise intention of this object cannot be determined; but most probably it is detached from a hilt. D. (at plinth) .028. (Basis.)

Horns ; probably once fitted on to the horns of figurines of oxen.

- vii. 51. Beaded ring round base ; G. ; curved tip. W. 74. (W. area, from under foundations of *B* girdle-wall on S. ; see p. 44.)
 ix. 16. Plain E. foil with curved tip. W. 46. (Basis.)
 ix. 15. Four specimens of plain foil, straight sugar-loaf shape. One has a ring through the base and was perhaps a pendant. Another has two holes in the lower part for attachment. (Basis.)

Pin Stud and Nail-head Caps.—Several plain or corrugated convex discs of G. and E. plate, evidently detached from convex heads of metal or wooden pins. Cp. *Ilios Schliem.*, p. 460, nos. 707–8.

b. Nails and Pins.—19 specimens.

- ix. 11–14. Five small “tacks” of G. E., 3 large round-headed nails L. ; .023 G. E. W. 18 to 19 ; G. pegs with loop at top, perhaps securing bolts of Brooches (see p. 97), etc. (Basis, 17 and W. area 2.)
 ix. 6. Spiral G. wire connecting two pointed S. cylinders, much oxidised. A brooch? (W. area.)

c. Sundries.

Leaf from an olive chaplet, G. W. 2 (Basis). It recalls the story of the stealing of a loose leaf from the crown of the Ephesian Goddess by a boy, who was visited with death (Aelian, *Var. Hist.*, v. 16).

- ix. 18, 20. *Bow-ties* in G. E. foil, probably *appliqués* (i) plain, W. 11. (W. area.) ; (ii) With two apples or balls ; fine holes have been drilled vertically through the ends of the bow. W. 20. (Basis.) Probably parts of necklace.
 vii. 16. *Snake*.—E. ; scales indicated by zig-zags. W. 103. (E. area.)
 ix. 23. *Studs*.—(i) Silver-gilt boss inclosed by a G. band, which is fixed in place by silver nails ; W. 79. (W. area.) (ii) Flower of fine beaded work ; G. W. 10. (Basis.)
 ix. 5. *Staple* ; stout pin with triple head-ring. E. W. 41. (W. area.)
 ix. 28. *Various fragmentary pieces, e.g.* (i) heavy plate with one beaded edge and the other slightly “keyed” as if for insertion. W. 47 (?). (ii) E. bar with hatched pattern. W. 13. (W. area.) (iii) Cylinder or cylindrical casing in ribbed foil. E. W. 10. (Basis.) With this last object compare a similar
 ix. 3. cylinder found near Aidin (P. C. v. fig. 208). (iv) Hollow bead with bar attachment. A fragment?

CHAPTER VII.

SILVER.

BY D. G. HOGARTH.

PLATES XI-XIII.

OBJECTS in silver were less numerous than those in gold and electrum, and only a small proportion was found in the Basis filling. The great majority resulted from the sieving of the lowest deposit immediately E. of the Basis. In the latter region a "pocket" of silver objects occurred which may represent the contents of a casket. All but a few of the silver objects recovered were so greatly decomposed that it was impossible to clean them to any good purpose; and even those whose surface was still good had mostly become spongy by internal loss of metal. Little could be done with most of them but to brush away the superficial chloride.

FIGURINES.

(a.) Anthropoid.

- xi. 23. Male, erect, nude and markedly ithyphallic. H. .035. Surface little worked and limbs indicated in a rudimentary way; *e.g.*, there have never been any hands, and the feet are formless knobs. W. 100. The metal is in unusually good condition. (E. area, from the "pocket.")
- xi. 11. Shell; female fully draped. Similar type to Gold, iv. 4; but the hands are somewhat more to the front; broken at the top. (E. area, the "pocket.")

(b.) Birds.

- xi. 2. Hawk, perched on oval stand; hollow. H. .020; W. 30. (Basis.)
- xi. 1. Ditto, the feet grasped by a human hand. H. 053; W. 215; hollow. (E. area; "pocket.") Doubtless from a statuette of the goddess.
- xi. 3. Ditto. H. .036; W. 52; hollow; much decayed. (E. area.)
- xi. 4, 5, 6. Seven ditto of solid metal; H. from .025 downwards; W. from 176 downwards. One specimen (pl. xi. 5) has a collar of electrum beads. W. 85. (Basis 2 and E. area 5.)
- xi. 9. One ditto; silhouette cut out of thick plate. (E. area; "pocket.")

- xi. 8. Two ditto ; hollow. One (W. 27) has a fragment of a curved pin attached to the head, and was probably part of a brooch or other ornament. (E. area.)

There were found also minute fragments of at least two other hollow specimens.

ORNAMENTS.

I. Brooches.

- xi. 10. *Hawk* "displayed." One specimen ; same type as Gold, iv. 22. Head broken off, and back-plate perished. (E. area ; "pocket.")
- xii. 27, *Fibulae*. 6 undoubted specimens. Several fragments of twisted wire
28. hoops, may belong to other specimens of a type akin to Gold, v. 1, 2, but not exactly repeated in any other metal.
- xi. 12. Flat thin plate, with pin in one piece with the bow ; unornamented. 2 specs. of such slight make that they were probably mere votive *simulacra*. The largest has D. .023. (Basis.) Cp. Gold, v. 6. Also a broader and more solid example, broken, pl. xi. 14.
- The rest are all of the "*Kleinasiatisch*" type, which occurs more frequently
- xi. 16. in bronze. (i). Plain bow, 1 spec. D. .021 ; W. 36. (ii). Bows
xi. 7, 22, enriched with moulded belts, 3 specs. Cp. Gold. D. (respectively)
29. .022, .021 and .021 ; W. 36, 38 and 19. (E. area ; "pocket.")
- xi. 32. *Stud or button*, in open-work, with three beads soldered to the lower surface. No staples or other sign of attachment, but probably a brooch. W. 16. (Basis.)

II. Ear-drops.

- xi. 30. With diamond-shaped frontal plates. 2 specimens. One slightly more ornate than the other. L. .023 ; W. 74. (Basis, and E. "pocket.")
- xi. 17, 18, Plain wire of varying thickness. No enrichment, except a moulding
24. where the ends begin to thicken. 10 specs. and fragments of several more. L. from .030, and W. from 107. (Basis 4 ; rest from E. and W. areas.)

III. Bracelets.

Only one specimen at all perfect, and some fragments, all found outside the Basis in the E. "pocket."

- xi. 13. Plain thick hoop with slightly swelling ends, overlapping. D. .045 ; W. .280. The small diameter suggests a nose- or large ear-ring perhaps, rather than a bracelet.

IV. Rings.

- xi. 15, 19. 11 specimens, all perfectly plain, and several fragments. (One from the Basis.) The two best preserved weigh 50 and 29 respectively. The diameters range from .029 downwards. The smallest specimens can hardly be finger-rings, and are probably structural embellishments.

V. Pins and Pinheads.

- xi. 28, 34-39. One complete pin was found, besides many headless pins and 14 heads which retain some part of their pins. These, so far as can be seen in their state of decay, seem all to be quite plain spheroids. Most of these are from the E. "pocket." About 40 other objects are probably pin-heads. The majority are spheroids of the types just mentioned. Particular mention should be made of:
- xi. 25, 33. 2 rush-work "*cista mystica*" heads of gold type, vi. 1, 48. H. .014. (E. "pocket.")
- xi. 20. 1 "rush-work" whorl-head. (Basis.)
- xi. 26. 2 convex daisy-heads (cp. Gold type vi. 41).
- xi. 31, 40. Fragments of two large globular heads decorated with electrum studs.

*VI. Pendants.**(a) Amulets.*

- xii. 11. *Foot and leg* to knee, with ring above for suspension: no superficial detail except divisions of toes. L. .018; W. 34. (E. area, "pocket.") Cp. Gold vi. 21. Also specimens from Dictæan Cave (*B.S.A.*, vi., p. 112, fig. 46).
Hand and arm rudely cut out of plate-metal: possibly from a statuette.
- xii. 10. Tubular ribbed bead with heart-shaped pendant.
- xii. 34. Solid ring with ring handle; of same type as Gold, vii. 13.
- xii. 6-9. (b) 16 small pendants, mostly spheroidal beads, with rings; L. from .025. Among these note:
- xii. 5. Tubular bead (L. .07) of Gold type, vii. 17.
- xii. 3, 4. 2 flat pear-shaped pendants: largest L. .029. Cp. Gold type, vii. 11, 12.

VII. Earrings.

- xii. 20-23. About 100 fairly complete specimens, and fragments of many more, almost all from the E. pocket. The great majority are plain swelling hoops of Gold type, vi. 43, etc. W. from 43 downwards. Exceptional types are:
- xii. 13, 16, 19. 7 enriched with beaded or plain rings. Heaviest W. 64. Cf. Gold, vi. 65, 68, etc.

- xii.15,17. 2 enriched with "cushion" moulding and studs. Heaviest W. 58. Cf. Gold, vi. 50, etc.
- xii.12,18. 3 flattened triple hoops. Cp. Gold type, vi. 52. W. about 45.
- xii. 14. 8 longitudinally ribbed hoops with beaded rims and cross ridges. Cf. Gold type, vi. 60. The heaviest weighs 92.

VIII. Beads.

- xii. 31-33. Four small plain globes, perforated: may be pin heads.
- xii. 1, 2. Nine tubular ribbed beads of Gold type, x. 68, etc., but swelling somewhat at each end. The longest is .018. (All but two from Basis.)
- xii. 29. One flat ribbed bead; a ring or piece of necking?
- xii. 30. One fluted spherical bead.

IX. Appliqués.

- xii. 26. Plaque; beaded cross *patée* with diamond centre: identical in design and size with Gold, x. 16. (E. Area "pocket.")
- Many minute fragments of very thin stamped casing. Geometric pattern resembling that on Gold plaque, x. 1. It proved impossible to fit any one of these tiny scraps to another and recover the pattern. (E. area "pocket.")

MISCELLANEA.

- xii. 25. Flat ring or rim of vase with chevron pattern; original D. about .035. Cp. *Olympia*, iv., pl. 30, No. 639. [Of lead.]
- 7 globular lumps like rude weights or coins, but without stamp. Weights, 18, 17, and 7. (4 from Basis.)
- Stud in ivory setting; perhaps a pin-head.
- xii. 24. 2 small discs of thin plate, one with remains of a socket on one face. Perhaps pin-heads of Ivory type, xxxiii. 16.
- xii. 36. Lump of solid metal roughly resembling a hawk. L. .018. W. 52.
- xii. 35. Small bar with central swelling; W. 44. Probably a broken handle. Cp. *Olympia*, iv. (text), pp. 134-5.
- Sockets, cap pieces, etc., broken from other objects.
- Several pins, etc., mainly of silver, have been included under Gold and Electrum (*q.v.*) because they are, or were, plated with these metals.

INSCRIBED PLATE.¹

The discovery of fragments of a thin silver plate, inscribed on both faces, has been mentioned on p. 46. These lay at a level of -4.00 just outside (*i.e.* east of) the intrusive *D* foundation, probably designed to support inner columns, which returns parallel with the eastern face of the Basis (see pp. 68, 69), and a little to south of its central point. So close did the fragments lie to this foundation that it seemed likely that more fragments might be found actually underneath the stones, and I had many of these removed subsequently; but in vain. Found as it was at a spot where disturbance of the Primitive stratum by the *D* builders had certainly taken place, this plate cannot safely be ascribed to the Primitive period. Possibly it slipped down when the Croesus foundations were being laid: possibly at even a later moment. In short, its age must be determined, if at all, on grounds other than its place in the *débris*.

The fragments were found partly doubled up, split along the creases, and in very bad condition. Almost all metallic quality has been lost from the silver, and the surface is greatly corroded in many places. Expert cleaners have not ventured to flatten out or rejoin the fragments; but photographs were taken with these as nearly as possible in their relative positions (Plate xiii.), and the sounder parts were "squeezed" with foil. On tracings from these squeezes the "facsimile" given below is based, the unsqueezed parts having been copied by hand.

The fragments found make the greater part of a thin plate measuring approximately $.23 \times .06$, and there is reason to think that these were its full dimensions when perfect, *i.e.* that only corners are missing. The upper and lower margins are preserved along most of their length. So also is a minute part of the left-hand margin (Face A. l. 4 *init.*). The only doubt remaining concerns the right-hand margin, which shows no clean edge; but it seems probable that, where the plate projects farthest, only insignificant chips have broken away, for lines 3 and 4 seem to read continuously, *boustrophedon*, without requiring any additional letters. If this be so, we can tell with close approximation how many letters are lost at the beginning and end of the less perfect lines. It will be observed that all the angles of the plate are defective—a fact which suggests that it was originally fixed by the corners, and has broken away. The further fact that the right-hand

¹ This object, which is probably not of quite so early a date as other objects in Silver, is dealt with here because, even if it is to be referred to the inception of Temple *D*, it precedes that structure, and may be said to fall at the very end of period *C* (see later, p. 139 ff).

angles are not broken more or less than the left-hand ones supports the view that but little more is lost from the one edge than from the other; and for further confirmation we may point to the last line on face A, which, if perfect, as there is good reason to think, is arranged just on the centre of the plate as it now is. Both the faces show lettering and orthography of the same type; on both the script is disposed between ruled lines, and the *boustrophedon* arrangement is used, but not consistently. On the other hand, on one face the characters are rather smaller, flatter, and more crowded than on the other, and blank spaces occur. For this reason and for others, which will be stated in the course of interpretation, I regard the face last described as the reverse and call it B., while the other face is called A.

In view of their importance and difficulty I have consulted various epigraphists about these texts, but the only one who went beyond my own interpretation was Dr. B. Keil, of Strassburg, to whom I am exceedingly grateful for the time and pains which he devoted to the study of the inscription. Unfortunately I was not able to submit to him the original plate, but only sent photographs, which do not give very satisfactory representations of the corroded and crumpled surfaces. In revising my article by the light of his notes, therefore, I have not found myself able to accept his variant readings, nor to agree with interpretations dependent on those readings; but, wherever there is a possibility of his view being right, I add it in the following commentary, and I shall have to acknowledge some luminous suggestions as to the general meaning of the texts.

As regards the photographs here published (Plate xiii.), it should be noted that a chip, giving the two certain letters $\rho\Gamma$ in the latter half of A. 5, has been doubled under the fragment upon its left and become invisible. On the reverse (B. 3) this chip gives also the letters $\nu\alpha$. In A. 1 (latter half) a chip, existent when I made my tracing, and giving the letters $\rho\Omega$, and, after a gap, $\xi\epsilon\tau\alpha\theta$, has crumbled away. On face B. this breakage occurs in the last line, but the tops of the letters remain. Likewise a chip giving the first two letters of *τριήγοντα* in A. 5, but showing nothing legible on the reverse, had become unglued when the plate was photographed, and is now to be seen, with another chip, out of place at the left-hand top corner of face B. I regret that, being absent when the photographs were taken, I was unable to restore these chips to their right places. The "facsimile" (Fig. 29), however, was made when all that is preserved of the plate was in relatively correct position.

R

ΤΕ ΠΑΡΑΦΟΝΤ ΑΜΝΕΑΙΤΟΠΡΣ ςΞΤΑΘ ΑΝΕΚΤΤΩΝΔ,
 ΜΖΟΡΙΞΙΑΥ: ΙΤΜΞΠΙΔΡΥΓΡΑΜ ΑΖΗ ΧΙΕΜΗΖΩΕΓΟΠΚΗ:ΟΖΥΡΧ
 ΕΙΝΤΩΠΡΩΤΩΙΧΡΥΣΣΩΜΕΙΧ ΤΘΗΣΑΝ: ΕΚΤΤΟΔΟΡΑΤΟΣ ΕΞΜΝΕΑΙ
 ΑΧΖΑΤΟΥΥΓΡΑ. ΟΖΥΡΧΙΑΣΜΜ ΜΑΖΘΑΤ ΖΑΔ ΜΕΘΜΕΙ ΑΔΑΚΕΔ: ρΑΤΞ
 ΤΔΙΗΦΟΝ ΤΑΜΝ ΑΙΕΘΑΔ ΕΞΤΑΘΗΣΑΝ: ΑΡΓ ΜΑΥΤΙ
 ΥΤΟΕΒΔΟΜΗΦΟΝΤΑ ΜΝΕΑΙ: ΚΑΘΑ ΝC
 ΔΕΚΑ ΕΚ ΤΟΑΝΟΣ:

FACE A.

ΙΟΙΝΙΕC ρ ΤΩΙΗΜΙΜΝΗΙ ρΡΑΙ
 ΟΥΙΟ ΣΙΝΜΡΑ Ι ΜΗΙΟΔΕΟΜΕΝΑΣ: ΙΥΟΥΤΑΜΝΕΑΙ: Ε
 ΔΥΟΤ ΑΤΖΜΕΘ ΜΗΤΥΑ: ΖΟΙ ΑΟΤΤΚΕΗΤ Τ ΧΕΙΑΚΙΞΗΤΑΙ
 ΟΥΙ ΥΟΜΕΝ: ΤΞΠΑΡΑΣΚΑΙΔΕΚ ΑΜΝΕΑΣ: ΕΓ ΕΝΟΜ ΤΟΔ Ε: ΕΚ ΤΟΥ ΤΟΙ .L.V
 : ΑΤΤΚΑΙΜΗΞΤ ΜΞΠΙΑΚ: ΖΗΤΑΙΦΖΗΤ ΜΟΙ ΜΙΜΗΗ
 ΔΕΡΓΑΤΟ ΕΘΑΤΕ ΠΑΡΑΦΟΝ ΤΑΜΝΕΑΙ: ΚΑΙΟΚΤΤΩΞΤΑΤΙ
 ΠΟΥ ΜΟΝ ΑΜΝΕΑΙ ΑΡΓΥΡΑΝ ΕΙ ΘΗΣΑΝ:
 ΔΙΕΡΤ

FACE B.

FIG. 29. Facsimile of the inscribed silver plate.

I give in this place a mere transliteration, indicating the number of letters probably missing, and omitting all restorations which are not quite certain. At a later stage I will add a reconstruction of the texts.

A.

1. (. ?) τεταραροντα μναι : το πρω[τον] εσταθ[ησ]αν :: εκ των δ . .
2. . . χρυσο : εκ πολεως ηνειχ[τθ]ησαν :: αργυραι πεντ[ε] : και ειφοσ(ι) μ[νε-
3. α]ι : ει τωι πρωτωι χρυσωι ηνειχθησαν : εκ ττο δορατος εξς μναι (: ?)
4. εσταθ[ησαν] : δεκα δε αι ενθενδε εσταθησαν μναι χρυσο : αργυρο τρες κα-
5. ι] τριηροντα μ[ε]αι ενθαδ' εσταθησαν : αργ(υρ)αι ναυτ
6. ντο εβδομηροντα μναι : καθα νφ
7. (Uninscribed) δεκα εκ ττο αλος : (Uninscribed ?)

B.

1. ρηγε τωι ημιμνη[ωι] ορα
2. ο ειφ[ο]σιν μναι[ς : ημι]μνηιο δεομενας : [τριη]ροντα μναι :
3. σ]τατηρει και εκττη εκ ττο αλος :: αυτημ θεν στα τουδ
4. . οα . νομεν : τεταρας και δεκα μναις :: εγενοντο δε : εκ ττουτο εν
5. η ημιμν[η]ιον της φιαλης : και πεντε ημικττα : (Uninscribed.)
6. (Uninscribed.)
7. (Uninscribed.)
8. . . δ' εργαζο[μ]εθα τεταραροντα μναι : και οκτω στατ[ηρες]
9. ποτ ον . α μναι αργυρο ανει[χτ]θησαν :
10. . αι . ε . τ . (Uninscribed ?).

Commentary.

Face A.

1. I. I indicate the possible loss of nine letters¹ at the beginning, but, as the photograph shows, there is no sign of any letter to the left of τ, although more space is preserved than is usually allowed for an interval between letters. I incline to the opinion that the text actually begins with τεταράροντα, which, for that reason, is set inwards. If so, the arrangement supports the view that A. does not, at any rate, continue B. In the gap between ΠΡΩ and ΕΞΤΑΘ there is room for three letters, though possibly only two are lost.

At the end of the line, if my belief as to the original margin having been but little chipped in ll. 3, 4 be correct, not more than two or three

¹ One can seldom be quite certain of the number of characters which would have filled any one lacuna on this plate, owing to the variant size and spacing of the lettering in different parts.

letters are lost. On the same supposition, there will not be room for more than two on the right of l. 2, which continues l. 1, *boustrophedon*. The broken letter to right of Δ in l. 1 is a round vowel, and, to judge by the curvature of the fragment remaining, rather Ω than O.

Note the double punctuation mark between ἐστάθησαν and ἐκ. It is certainly, like the similar one in the middle of l. 2, *a prima manu*, and not due, as Dr. Keil suggests of another example (B. 4), to correction. More will be said presently about the significance of these punctuation marks.

1. 2. The supplements suggested are all obvious. For the τ before θ in ἠνείχ[τθ]ησαν cp. l. 3, and for the form see Hoffmann, *Gr. Dial.* iii. p. 261. At the end occurs what is clearly an engraver's error, the omission of the final ι of εἴφοσ(ι). This is the only certainly uncorrected error in either text. The restoration, in itself obvious, of the end of this line and the beginning of the next depends again on my supposition as to the left-hand margin.
1. 3. Εἰν for ἐν is, possibly, an engraver's error. See Hoffmann, *op. cit.* iii. 391 ff., for dialectic rules, which do not, however, justify this particular form. Similarly the εἰ which begins (ἠ)νείχτθησαν is perhaps an error. Dr. Keil thinks the engraver has here actually corrected ξι to Η, and certainly the ι is unusually near to the ξ, and the two uprights and the middle cross-stroke of the latter are more decisively engraved than its upper and lower obliques.

For the form δόρατος where, after loss of digamma, δούρατος was to be expected, see Hoffmann, iii. 408. The complementary σ survives in ἕξ as late as a Chian text of the fifth century (*Sammlung Gr. Dial. Inschr.* 5653). I take the end of this line and the beginning and end of the next to be complete, the right-hand margin being only slightly chipped at this point. If anything is lost at the end of l. 3, it might be a punctuation mark.

1. 4. The detection of the punctuation mark after χρυσο I owe to Dr. Keil. The uppermost point is clear. Τρες for τρεῖς is again perhaps not dialectic, but an engraver's error.
1. 5. The restoration of the beginning is obvious. In the latter half, after the letters ρι which appear on a chip, obscured in the photograph, there is a partial breakage of two letters, and then a corroded space on which I read characters as in the facsimile above. Dr. Keil, however, sees ΗΚ where I see ΑΠ, and suggests ἀ(νέθ)ηκ[εν]. But this restoration is in any case impossible, the ρ after the initial Α being as clear as any character on the plate, though not visible in the photograph.

It may be said here, once for all, that the photographs are unsafe guides in the corroded spaces of this inscription, and that it is only on the plate itself that one can judge whether a line or mark has been really incised. In the present space the photograph certainly seems to show, after the breakage, (1) *alpha* with an upright crossing its right-hand angle; (2) the cross-stroke of the *alpha* continuing to meet a second upright, and making Dr. Keil's *eta*; (3) a *kappa*, which is larger than it ought to be and of confused outline in the lower part. From close study of the plate, however, I am convinced that the only parts due to the engraver are the right-hand upright of the *eta* and the higher part of the upright and lower oblique stroke of the *kappa*. The former character should therefore be *iota*, and the latter is more likely to be ξ than κ.

- l. 6. Five or six letters lost at the beginning, together with ten or more lost at the end of l. 5, leave room for considerable restoration. I shall make a suggestion later, and give also a different one of Dr. Keil's. The latter half of the line is hopelessly corroded.
- l. 7. So far as I can see there is nothing before δέκα; and I believe there never was anything except a punctuation mark after ἄλος.

Face B.

This face, which was the outer one, as the crumpled plate lay in the *débris*, is, unfortunately, in worse condition, and has been less carefully engraved, several mistakes having been made in the process, and, in most cases, corrected without more than perfunctory obliteration of the first hand. These *pentimenti* make parts of ll. 2, 3 particularly hard to read. The underlying characters are omitted in the facsimile for the sake of clearness.

- l. 1. The first group of letters is too doubtful to admit of any very probable restoration. In the latter half of the line, ξκπτοΔ]οπατ[οε is a reasonable, but not certain, restoration on the analogy of A. 3.
- l. 2. In the obscure first part, which precedes -μνηιο κ.τ.λ., about twenty-three letters occurred. The indications, which I can discern, are given in the facsimile. Dr. Keil, reading from the photograph, differs from me on all of these indications except the μ, and he restores ἀργ]ύρο (though he reads Ω) [έβδο]μή ρ[ο]ντ[α ήμι]μνηίο. But the letters ξιν are quite clear on the original plate, and there is certainly a round letter next but one before the *sigma*. The three final letters of ημιμνηίο are *a secunda manu*. The engraver seems originally to have inscribed ΑΗ.

- l. 3. Σ]τατηρει is clear. It will be observed in the photograph that the latter part of this word is palimpsest, written over an error. In the effaced parts of the latter half of the line Dr. Keil confirms the indications given in my facsimile, and suggests an interpretation which I shall discuss later.
- l. 4. Dr. Keil, while confirming my indications at the beginning, conjectures that in the fourth place stands ρ. He therefore reads ΟΟΑΡΥΟΜΕΝ: The possible meaning of this will be discussed later, and a different suggestion made. In the last part of the line nothing is clear except the final ΕΝ. The letters immediately following ττουτο have been rendered hopeless by the engraver's *pentimenti*. There is room for eight to nine letters in the gap after ττουτο.
- ll. 5, 6, 7. There has been nothing engraved in the left-hand portion of l. 5 and ll. 6, 7 have likewise been left blank.
- l. 8. Before the *delta* the oblique stroke high up can only be part of Ν or Υ. The indications after the first punctuation mark will be discussed later.
- l. 9. After ποτ there is room for nine letters or, better, for eight, before the next certain word, ΜΝΕΑΙ. Above the first fragmentary vertical stroke, a faint irregular circle meets the eye both on the plate and the photograph, but it is not incised, and is, I am sure, an accidental result of corrosion. The bottom of another upright very low down and to right should be the tail of ϑ or φ. The character, four places farther on, which I read Α on the plate, looks in the photograph more like a small ο.¹ I think this appearance is once more due to corrosion, which seems to cause roughly circular pock-marks on the surface. A scratch appears high up after the punctuation, but does not continue downwards on the folded edge of the fragment which is not visible in the photograph, and I have no doubt that the rest of the line was left blank.
- l. 10. Some entry has been squeezed in on the left hand of what is otherwise a blank marginal space.

Interpretation.

It is obvious that on both faces of the plate we have to do with *statements of account*; but the texts differ in two obvious and important respects. (1) While in A. the entries are all impersonal statements, in B. those who render the account speak in the first person in two, if not three, out of

¹ So Keil, who differs from me in this passage, and, misled, I think, by corrosion marks, which are less easy to distinguish from incisions on the photograph than on the plate, suggests a reading which I will mention later.

half-a-dozen clauses. (2) In A. values are dealt with in gross, nothing under a *mina* being referred to; in B. the account is in greater detail, half minae, staters, sixths, and twelfths (half-sixths) being specified. There are, also, other differences which will emerge on examination.

The texts have the difficulty common to ancient accounts, that the entries are very baldly and shortly put; and this is complicated by peculiar uncertainty as to the right distinction of the entries one from another. Two preliminary questions arise in this connection. First, *are the texts approximately complete, i.e.* (a) are they continuations of accounts which were engraved on a series of plates of which ours is but one member? or (b) was there originally considerably more text on each of these faces, *i.e.*, has more of the plate been lost on the right hand than will allow of the texts being restored with any probability? Secondly, are the abundant and various *punctuation marks* to be taken as having any bearing on the distinction and sense of the clauses?

To the first question I can only reply that it is very possible that our plate is the only surviving member of a whole series of such plates, possibly strung on a chain or string. This is the view of Dr. Keil, who notes, as I had noted, that whether text A. really begins with the first legible word or not, there is little or no room for any such introductory and explanatory formula as would naturally be expected to open the account. Were this plate, however, one of a series, no such explanatory formula would have been needed. At the same time, it must be said that (a) it is obviously possible that the account may have been intelligible, when rendered, without any such introduction at all, having reference to some notorious occasion and being merely a commemorative record; (b) at the beginning of A. there is room for some simple formula such as $\Theta\epsilon\acute{\alpha}$ or $\Theta\epsilon\acute{\alpha} \epsilon\upsilon\chi\acute{\eta}$ *vel simile quid*; and for something even longer at the beginning of B. (see later).

As to the amount of lost text on the right of our plate, I have already given my opinion, and (as a working hypothesis at any rate) I propose to presume only a very slight loss, and to attempt the interpretation of the plate as containing two texts sufficiently complete in themselves. If this attempt fails, it will then be time to take refuge in the *ultima ratio* of supposing that a considerable and unknown part of the text has not been preserved.¹

On the *punctuation marks* more must be said. These texts are unique,

¹ Rather unfortunately, as it seems to me, Dr. Keil in his study of the plate excluded the possibility of its being approximately complete. He was led to that view by desire to maintain one order of words in the various entries (see later, p. 128), and by the difficulty of giving to several clauses a thoroughly satisfactory sense, without assuming many lost words. I can only urge against his view that (1) certain exceptions to any rule of order of words occur, even on his interpretation; (2) certain clauses—*e.g.* B. 2, 3, which possible loss on the right-hand margin does not affect—are as obscure as, or obscurer than, any in which loss might be presumed.

so far as I know, among Greek inscriptions of any age or district, in showing great variety of such marks. Beside the more ordinary interpunctuations, which themselves vary from two to four points, disposed in a vertical column, we find double and even, in one case, triple columns, containing six, nine, ten, and twelve points. In archaic Greek inscriptions, as a rule, simple interpoints of uniform character throughout a text do not affect the sense (cf. Olympian bronze plates *passim*, e.g. nos. 3, 12, 16); and we find sometimes slight varieties, e.g. columns of two and three points in the same text (cf. Roehl, *I.G.A.* no. 492, the Sigeum *stèle*) without more or less pause being signified. In certain long inscriptions, however, an interpoint occurs once or twice only, and this at a distinct break in sense, e.g. *I.G.A.* nos. 349, 381. A glance at our texts will show that single interpoint columns, at any rate, occur both at pauses, e.g. A. 3, 4, ἕξ μνῆαι ἐστάθησαν : δέκα δὲ κ.τ.λ., and also where no pause is possible, e.g. A. 2, ἀργυραὶ πέντε : καὶ εἴροσ(ι) μνῆαι. The multiple columns, however, of which there are four examples, occur in every case where a slight pause is at least possible (A. 1, 2; B. 3, 4). I incline, therefore, to attach some narrative significance to them, while neglecting the simple columns. Not that the latter must be supposed to have been inserted always arbitrarily and for merely decorative purpose. They are a survival or a traditional feature whose object was evidently vague; the engraver sometimes used them to conclude an entry, but rather for the look of the thing than for any other reason; and they had so little narrative significance to him that, again for the look of the thing, he could insert them also in the middle of clauses, where there was no pause in the sense.

Since interpoints, therefore, offer only slight and dubious assistance, we must see if there be other guides to the distinction of entries. Text A. (1) records sums expressed in *minae*; (2) these are said sometimes to be *weighed* (ἐστάθησαν), sometimes to be *contributed* (ἠνείχθησαν, a word which implies that the contribution was of the nature of a *φόρα*); (3) the source, from which such sums are derived, is introduced by ἐκ; and (4) the nature of the metal is specified. Are these four elements necessary to the making of every entry? and are they always enumerated in the same order?

If either of these last questions admitted of a categorical affirmative, the interpreter's task would have been comparatively easy; but, as a matter of fact, there is no rule about the composition or order which has not obviously been broken even in the small total number of these entries. For example, it might be said that, following the ordinary practice in Greek lists of account, the *source* of an item opens an entry, if it were not that the sum precedes the

source certainly in the last entry on face A. and probably also in the first. Again, the specification of the metal, if it comes at the end of the first entry (?), comes in the middle or at the beginning of another in A. 2, probably at the end of one entry and at the beginning of the next in l. 4, and again at the beginning in l. 5. In short, these entries do not conform to any rigid rule of order, and the only guide to the distinction of them must be the common sense of the interpreter, controlled by syntactical necessities. One can but try if the text will admit of interpretation in more ways than one, and choose the way which seems most reasonable.

TEXT A.

(i) If the text really opens with the first legible word we begin with a bald statement that 40 *minae* were weighed out first. I restore τὸ πρῶ[τον], rather than το(ῦ) πρῶτο(υ). The latter, on the analogy of l. 3, might = τοῦ πρῶτου χρυσοῦ; but we should have expected (a) the express addition of χρυσοῦ, and (b) the dative with ἐν. Moreover, the broken space calls rather for three characters than two. At the end of the line, relying on the *data* given above (p. 123), I restore ΔΩΡ|ΩΝ. With regard to the first of the multiple interpunctuations, I note that, before it, we have not yet had either *source* or *metal* specified. On this account I believe ἐκ τῶν δ[ώρων ?] χρυσο(ῦ) to be part of the first entry, and if so, the double interpoint is, curiously enough, conjunctive rather than disjunctive.¹ The words following it are, in a sense, a separate entry, but *supplementary and explanatory* of the opening statement. I shall hope to show in the sequel that on the other three occasions when multiple interpoints appear, they introduce a supplement to, or explanation of, what has gone before. It is, perhaps, because this second entry is supplementary that the statement of *source* is not in the initial place which it usually occupies in items of Greek account. It stands, in any case, at the opening of its own half-entry. The first full entry then runs, 40 *minae* were first weighed out, from the gifts, in gold. These gifts must have been ἀναθήματα in the Temple itself. With χρυσο(ῦ) compare, in a subsequent entry (A. 3), ἐν τῷ πρώτῳ χρυσῷ, and the suggested explanation which I give of this phrase.

(ii) The second entry begins in normal fashion, with the source, ἐκ πόλεως, which, thus simply stated, can hardly mean any city but Ephesus itself, distinguished, throughout its history, from the Artemision. Then comes ἠνείχθησαν, signifying that the item was derived from without as a payment of φόρα. The

¹ This view, I am glad to find, is shared by Dr. Keil.

following words, as far as the first ἐστάθησαν in l. 4, admit of several interpretations according to the principle on which the clauses are arranged. The great difficulty is to account for the repetition of ἠνείχθησαν. If nothing serious is lost on the right, there are only two items of value, *i.e.* only two subjects for the three verbs, and it is necessary to make one of these refer either forward, or backward, to the subject of another. Three courses are possible: (1) To detach the first ἠνείχθησαν and understand it as forming, with ἐκ πόλεως, a *heading* having reference to the two statements which follow. (2) To make the second ἠνείχθησαν refer back, stating a supplement to the entry ἐκ πόλεως μνέαι. (3) To leave ἐστάθησαν high and dry in a clause by itself, referring back to both the two ἠνείχθησαν clauses. After much hesitation, I prefer the first course, since it involves the least distortion of the natural order of words; and I read the three clauses thus: Ἐκ πόλεως ἠνείχθησαν · ἀργυραὶ κ.τ.λ. ἠνείχθησαν · ἐκ τοῦ δόρατος κ.τ.λ. ἐστάθησαν. In that case, both the last items are contributions of the City.

There is, however, an obvious difficulty. The same sum in the same clause is stated to be both in *silver* and ἐν τῷ πρώτῳ χρυσῷ. What can the latter phrase mean which does not involve a contradiction in the terms of the entry? There is no parallel to this phrase that I know of; but one may suggest that χρυσός, so qualified, does not mean the metal gold, but either any *precious metal of standard weight, in ingots, or coined metal*. Of these two guesses I prefer the first, since the contribution of a great amount of coined *silver* money is not probable at this early stage in the history of Lydian and Ionian currency. Therefore, at a venture, I translate: 25 *silver minae were contributed in standard ingots*. On that interpretation it is intelligible why this sum, alone of all the items in this account, was not "weighed out" (ἐστάθησαν): for had it not already been weighed and reduced to standard form?

The second item of 6 minae is "weighed out." It is derived ἐκ τοῦ δόρατος. What is this source? Dr. Keil, citing a well-known Coan inscription (*S.G.D.I.* 3632, commented on by Toepffer in *Ath. Mitth.* xvi. pp. 411 ff.), and a Magnesian one, new to me (Kern, *Inscr. v. Magn.* no. 99), which both show that certain Temple-revenues included a toll on local wood-traffic, interprets δόρατος as meaning generically *wood*, and more particularly *ship-timber*. But ξύλον is the word used in these inscriptions, and it is very strange that the epic use of δόρυ for a *particular piece of wood*—a tree, a plank, or the like—should assume a generic meaning in a statement of account. The only general and abstract sense, which, as it seems to me, δόρυ could bear, is that

implied in our phrase "by the spear." In that case the source of the 6 minae is *spoil of war*; and so I understand it; although, so far as I am aware, there is no exact parallel to such a use of *δόρυ* in Greek. The smallness of the sum from this source suggests a tithe or some other percentage which the City was bound to devote to the goddess. There is a noteworthy omission in this entry: apparently it lacks specification of metal. But the connection of this entry with the preceding one, through common reference to the heading *ἐκ πόλεως ἠνεύχθησαν*, makes it possible to regard *ἀργυραὶ* in l. 2 as covering both items. Its rather unusual place at the beginning of the first entry may be due to its being designed to qualify both the following *μνέαι*.

(iii) *Δέκα δὲ . . . ἐνθάδ' ἐστάθησαν*. Two entries, in both of which the reference seems to be to contributions by the Artemision itself (*ἐνθένδε, ἐνθάδε*). The first entry is expressed with almost ungrammatical brevity, but clearly means: "10 minae in gold, drawn from here (*i.e.* contributed by the Temple), were weighed." The second runs: "In silver 33 minae were weighed here (*i.e.* in the Temple). As distinguished from the *δῶρα* in l. 1 these sums may be taken to have been drawn from the Temple treasure in bullion.

(iv) Now for the first time we are confronted by a seriously defective entry. The first letter after *ἀργυραὶ* is *ξ* or *κ*; the partly preserved letter after *ναυτ* can only be *ι* or *η*, and is more probably the former. I suggest this restoration, *αργυραι [ἐκ πτο] ναυτ[ικο ἐσταθησαν ἐπι πτο α]υτο εβδομηκοντα μναι*, = "In silver from the fleet (or ship-dues) were weighed for the same purpose 70 minae." *Παρα* or *μετα τουτο* might equally well be supplied, but perhaps with less point. Other restorations are, of course, possible, *e.g.* Dr. Keil's (for the last part) *εγενοντο ἐκ του]το*, suggested by the analogy of B. 4. In consideration of the large sum following he regards this as a summing up, or a statement of banker's profit on previous sums. But no previous items will make exactly 70, nor could they well produce a profit of that figure.

(v) *Καθα* might be restored *καθα[ραὶ* and referred to the preceding *μνέαι*; but *καθά[περ*, introducing the item *ἐκ πτο(ῦ) ἄλος*, which is somewhat *in pari materia* with *τὸ ναυτικόν*, is equally possible. The final entry is too far gone for completion; but it evidently recorded an additional sum of 10 (or -teen) minae derived from the salt, *i.e.* either salt-dues, or salt-pans. Salines still exist on the marshy Ephesian shore. For a later instance of such a source of temple revenue see the Coan inscription cited above. The sum derived from the "salt" here is comparatively small, and where the source is mentioned again in B. 3, it seems probable that it is smaller still. As in the quota *ἐκ τοῦ δόρατος*, so again in that *ἐκ τοῦ ἄλος*, one may conjecture that it was a tithe or

even smaller percentage. If that be so, the salines, or whatever was the source of salt, were not themselves property of the Temple.

TEXT B.

(i) The ambiguities of A. are redoubled in B., thanks partly to its more imperfect condition, partly to the less obvious nature of its contents. It is just possible that the faint indications in the first part of l. 1 point to such an introductory formula as ΔΞΕΓ]ΟΙΝΗ ΞΦ[ΞΕΙΑ; but I attach little value to this suggestion. The dative τῶι ἡμιμνηί[ωι and the possible ρ three places before τΩι perhaps point to some such beginning as Π]ρ[ὸς] τῶ ἡμιμνηί[ω] ἐκ τῶ δ]όρατος, = *In addition to the half mina from spoil of war*. The smallness of this sum again suits my suggested interpretation of ἐκ τοῦ δόρατος. The entry probably continues as far as δεομένας in l. 2. The latter part of it almost certainly reads χρυσ]ο(ῦ) (or ἀργυρ]ο(ῦ)) εἴροσιν μνέα[ς ἡμι]μνηίο(ν) δεομένας, = *in gold (or silver) 20 minae less half a mina*. In the middle of the entry we need a transitive verb to govern μνέας, and, on the analogy of later entries, it should be in the first person plural. The number of lost letters at the end of l. 1 is eight or nine,¹ and at the beginning of l. 2, six. I suggest δ]ορα[τος ἀννομ | εν χρυσ]ο. For the verb, see later on, l. 4. In support of it here I adduce the fact that repetition of formulae characterizes such statements of account.

If l. 1 be rightly restored, the first entry is a record by the priests, or some other body of officials, that *in addition to the half mina derived from war-spoil, they made up (or collected) 19½ minae*. In fact, it explains the composition of a lump sum of 20 minae.

(ii) A fresh entry begins with 30 minae, and continues at any rate to ἄλος in l. 3; after this occurs the "conjunctive" interpoint; then a very obscure clause, which should be a supplement to the clause preceding the interpoint; then another "conjunctive" interpoint; and finally, a third clause introduced by δέ and ending with ἡμίεκτα, after which is a blank. These three clauses may be taken as forming a single entry, but containing three statements.

(a) The first statement is clear. After μνέαι and the interpoint about ten letters are missing at the end of l. 2, and about seven at the beginning of l. 3, which runs on *boustrophedon*. Before στατήρει (if that be not a mistake for στατήρες) there must be some preposition, perhaps πρὸς; the entry so far lacks both a verb and a specification of metal. The lower part of a letter surviving after the interpoint indicates, almost without any doubt, ξ; and as the verb in this case must be intransitive, governed by μνέαι, one may restore with some

¹ The lettering hereabouts is unusually large; cf. the preserved characters in δ]ορα[τος.

probability ε[σταθησαν χ|ρυσο προς σ]τατηρει. Ἐκκτη may be a mistake for ἔκκτηι, governed also by πρὸς—a less serious assumption than that στατήρει remained uncorrected to στατήρες in a text where several engraver's *pentimenti* are to be seen. But this assumption is not, of course, absolutely necessary, since ἔκκτη can be a nominative in conjunction with μνέαι, a sort of addition to the main sum. I incline, however, to think that an *iota* adscript has dropped out. So far then we have the statement, 30 minae were weighed out in gold plus a stater and a sixth derived from the "salt." I suspect that it is only the stater and the sixth that were ἐκ τοῦ ἄλος. Such an assumption would account for the use of πρὸς. In that case the 30 minae were derived from Temple treasure, and the rest was a small tithe (see above on A. 7).

(b) Whoever tries to restore the second statement must bear in mind that the complete letters given in the facsimile in the latter half of l. 3 and the beginning of l. 4 are all as certain as any characters on the plate. There are missing in the first gap between ΑΥΤΗΜ and ΘΞΝ five or six letters, probably the latter; in the second gap, after ξΤΑ, five; at the end of the line, four; and one at the beginning of l. 4. Any restoration must fit these data.

To take, first, the best preserved part, the end of the statement. It closes with a sum of 14 minae in the accusative: before that appears a mutilated word having the termination of a verb in the first person plural, and such we may safely take it to be, on comparison of ἐργαζόμεθα in l. 8. It could be the transitive verb governing μνέας, and if we restore ΑΜΥΟΜΕΝ (Ionic imperfect without augment) we get a possible sense—*we made up* (or *collected*) 14 minae. The only other possible restoration is ΑΡΥΟΜΕΝ, for which see below. A specification of metal ought to occur in the statement, and as the letters, whole and fragmentary, in the first half of the entry do not seem to indicate one, we must find it in the gap before ἀνύομεν. The ο which immediately precedes is probably its last letter. Before that is to be seen a fragmentary curve which would suit the lower part of ξ; if so, restore ΧΡΥ|ΞΟ. Before this we find .ΔΥΟΤ which, written *boustrophedon*, can hardly be anything but τοῦδ[ε, since the termination of genitives in this inscription is not ου, but ο. The third gap is now filled.

Before τοῦδε there should be something to account for the genitive, and, probably, some substantive in agreement. The latter is probably indicated by the imperfect word ξΤΑ, after which are five vacant places: the whole could be στα]τήρος. In that case the preceding ΘΞΝ must be the end of a preposition governing the genitive. Out of the six places before -θεν, one or more must be

reserved for the completion of the preceding ΑΥΤΗΜ. For the preposition I can find none fulfilling the conditions and making an intelligible sense, except ἀνευ]θεν, and adopt it despite its purely epic use, noting that epic forms are not to be greatly wondered at in an early Ionian text. This restoration leaves only two vacant places after ΑΥΤΗΜ, and, after many attempts, I can suggest nothing more likely than the Ionic and epic form αὐτῆμ[αρ. The whole entry will then run: *On the same day, without reckoning this stater, we made up in gold 14 minae.* If this be right, the reference is back, across the conjunctive interpoint, to the preceding statement and to the stater there mentioned, and, incidentally, the reading στατήρει—a single stater—is confirmed. Dr. Keil suggested to me a different and very ingenious restoration: αὐτῆ μ[όνη ἀνευ]θεν στα[θείσα] τὸ ὑδ[ριδί]ο δ ἀρύομεν κ.τ.λ. = *this (vessel) alone, weighed without the pail with which we draw (water), etc.* But, in my opinion, this is vitiated not only by its assumption that some vessel has been mentioned in a previous lost passage on the right hand of the plate, to which αὐτῆ must refer, but by the absence of any verb to govern μνέας (Dr. Keil supposes an ellipse of εἶλκε). Also μ[όνη ἀνευ]θεν is too long for the first gap. Still, I admit that this curious coincidence of a possible ὑδρίδιον and a possible ἀρύομεν seemed to me at first attractive. To the former word Dr. Keil was of course disposed by the later occurrence of φιάλη (l. 5). My own restoration makes a statement which, as it stands, is in somewhat obscure relation to the general context, but clear enough in itself.

(c) The third statement contains only one gap, between τουτο and ημιμνηιον. In that gap the last letter is η and probably the last three are -ενη. At the beginning the indications look very much like ΜΜΞ. If a *mina* is mentioned here it is probably in the singular, since there is hardly room for a following numeral before the word ending -ενη, which itself looks like a participial ending agreeing with μνέα. Δεομ]ένη would be possible were the following ἡμιμνήιον in the genitive. Though the accusative, depending on δέομαι, is not impossible grammatically, the analogy of l. 2 is against our assuming its use here in such a connection. I am inclined to think that a transitive medial participle has to be restored which will govern ἡμιμνήιον and have some such sense as "including"; but I am unable to suggest a satisfactory word. There are two further difficulties. What is exactly meant by ἐγένοντο ἐκ τούτο(υ)? The smallness of the following values shows that we have here no summing up of previous items. Ἐγένοντο may, therefore, introduce a statement of *profit*, viz., 1 mina and 5 twelfths, made by interest upon the preceding 14 minae (ἐκ τούτου), which would be at the rate of about 7 per cent. But I doubt this

interpretation, and must in any case reject it if I adopt the second explanation of *φιάλη*, given below. I suggest, then, that *ἐκ* is used here simply in its common sense of consequence: "After this (i.e. the amassing of the 14 minae) there came to hand," etc.

What, too, is meant by *ἡμιμνήιον τῆς φιάλης*? Possibly a *half-mina made up into* (or *accounted for by*) a *φιάλη*, i.e. a *φιάλη* to whose making half a mina of metal had been devoted. Instances of bullion stored in the form of vessels, and especially of *φιάλαι* of a definite weight (such as 100 drachmas), are numerous in Greek statements of account—e.g. in those of the Treasuries of Athena on the Acropolis, and of Oropos, Delos, and Branchidae. Dr. Keil calls my attention to a Carthaginian parallel mentioned by Livy, xxvi. 47. The practice recalls, and probably is derived from, the early use of vessels (e.g. the *λεβῆτες* of Homer) as currency. There is, however, an alternative explanation. In Ptolemaic Egypt *φιάλη* was apparently the name for the 'collecting-box' of a Greek Temple (see Otto, *Priester u. Tempel im hellenist. Aegypten*, p. 396, note 2); and this may be its meaning in certain Delian entries (see Homolle in *B. C. H.* vi. p. 70; xiv. p. 460) and also in the Fayum papyrus published by Grenfell (*Tebtunis* I. 6, 26-8), where, in a list of temple revenues, occurs this entry: *καὶ τῶν λογενομένων ἐν Ἀλεξανδρείαι καὶ ἐπὶ χώραι εἰς θησαυροὺς καὶ φιάλας καὶ ποτήρια ὑπὸ τῶν ἀνδρῶν καὶ γυναικῶν*. Though authority is lacking for the word in this use before Hellenistic times, the custom of shrines is so conservative that it is not unreasonable to antedate this application of *φιάλη*; and certainly, if we understand it in such a sense in this passage, a better explanation is offered for the introduction of the odd five *ἡμίεκτα* at the close of the entry than we obtain otherwise. Like the half-mina, these small values were the result of an "offertory" in the Temple, and were probably in coin.¹

It should be noted that there is no specification of metal in this statement; perhaps because it records miscellaneous small details in various metals. At the same time, such a specification may have occurred in the broken passage at the end of l. 4.

(iii) After two and a half blank lines a fresh clause begins with l. 8. In this case there is no question of any possible previous loss exceeding the two (or less probably, three) letters missing from the beginning of the line. Of these the last before *Δ* is either *Υ* or *Ν*. As *ἐργαζόμεθα* is followed by *μνέαι* in the nominative, the verb must be in a relative sentence, and therefore we read at the beginning of the line *ΩΝ*] or *ΟΥ*], and, better, the former. There cannot

¹ I owe references in this connection to Mr. E. R. Bevan and Mr. C. C. Edgar.

have been any preposition, since ἐξ would probably be spelt in this text ΚΞ, and be much too long for the remaining space. The sense of ἐργαζόμεθα is, as Dr. Keil pointed out to me, probably that in which it is used in Aristoph. *Eg.* 840 and in Hdt. i. 24, in both cases with χρήματα, viz. to make (or earn) money. This sense brings it near that suggested above for ἀνύομεν; but there is doubtless a distinction intended in this text, on which something will be said later.

In the gap following μνέαι and the interpoint six or seven letters are to be restored; of the last letter there is preserved the upper part of a slightly curved and rather irregular stroke. If this curve is insisted upon, the letter can only be ξ, and the restoration of the whole gap would have to be ΚΑΙΤΡΞΞ; but there are obvious objections to this. Τρες is a doubtful orthography; and the smaller numeral ought to precede, not follow, τεταράροντα. The stroke in question may almost equally well be the top of an upright, irregularly engraved, like many others on this plate. Compare the right-hand upright in the Η of φιάλης just above. If this be so, ΑΡΓΥΡΑΙ is possible, and will give us the required metal-specification. ΧΡΥΞΑΙ would suit the space a little better, but the fragmentary indications worse. The specifications in this inscription now take the form of an adjective, now of a noun in the genitive, and there seems to be no hard-and-fast rule as to which shall be used.

Before attempting any restoration after στατή[ρες, in a gap which from first to last needs as many as fifteen letters, we had better look on to the next line. Here is a second mention of μνέαι in the nominative, followed by a verb which certainly reads ανει[χτ]θησαν and closes the text. This verb of course might serve both the μνέαι in ll. 8, 9, but in that case some distinction between the two sums would have to be introduced to account for the repetition of μνέαι. Such a distinction could only be made by reading χρυσάι in l. 8 in contrast to ἀργυροῦ, which we find in l. 9. Less objectionable, perhaps, than this restoration, is the introduction of a separate verb to fill the long gap at the end of l. 8, and to be construed with the first μνέαι—such as e.g. ΞΕΤΑΘΗΣΑΝ: . In that case we must assume that we have two distinct entries. Before the second μνέαι a numeral is certainly needed. All the fragmentary indications, as I read them, point to Τ[ΡΙΗΘ]ΟΝ[Τ]Α. The only other possibility is Τ[ΕΤΑΡΑΘ]ΟΝ[Τ]Α, but it is too long for the space unless the letters are crowded; nor do the fragmentary indications suit it. Before τ (if ἐστάθησαν be restored after στατ[ήρες]) we have space for about ten letters, of which the last two are ΠΘ. These probably form a genitive termination -πο(υ), since no preposition

can well have stood before the numeral in this passage. If there was a word in the genitive here, since its termination is not that of a metal-specification, it would probably have been a statement of *source* governed by ἐκ. If then ΕΚΤΟ has to be supplied at the beginning of l. 9, there are only three places at most left in the gap for the first part of the word -πο(υ). I hardly know what to suggest. Κόλ]που, "from the Gulf," *i.e. from the Harbour*, is not impossible, though rather long for the space; and in connection with this suggestion I look on to the final verb. This, at first sight, one takes for a dialectic form, or an engraver's error for ἠνείχθησαν. But it is no legitimate Ionic form, and its retention in a carefully corrected text, on the reverse of which ἠνείχθησαν is rightly written, tells against the theory that it is an engraver's error. I owe to Dr. Keil the suggestion that it is a dialectic aorist, not from ἀναφέρω but from ἀνάγω, and that the word means *brought up (from the coast)*. At the same time, I do not really doubt that it is after all merely a mistake for ἠνείχθησαν. Curiously enough, Dr. Keil made this suggestion as the result of a restoration of the previous passage ΠΟΤ Κ.Τ.Λ. as ἀ]πὸ τ[τὸ Πανόρμου], which I cannot accept, on consideration of the fragmentary letters to be read in the gap. Moreover with Πανόρμος, a place name, the definite article would not be expected in this text (*cf. C.I.G. 2953b, l. 28, and Strabo, xiv., 1, 20*). Τό]που might conceivably mean *from the District, i.e. the territory of Ephesus*, as distinct from the city itself (*cf. its use in such phrases as ὁ περὶ Θράκης τόπος, in the Attic orators, or, better still, κατὰ τόπους καὶ κώμας in Plato, Critias, 119 A.*), or *the Precinct*. As of the city so of its district, the word ἠνείχθησαν would be properly used; but it is not inappropriate, also, to a third possible restoration, κή]που, which is supported by the fact, known from Xenophon (*Anab. v. 4, 12*), that the Artemision had a plantation and a park of game about it. Perhaps the real source of this item of revenue was ἀφροδίσια, maintained in the κήπος (or the τόπος, if that means the "Precinct"), as in the precincts of some Egyptian temples. (See Grenfell and Hunt, *Tebtunis* i. 6., ll. 29 and 36-8, and references in note, *ibid.* p. 64.) On the whole, I incline to κή]που. The two entries will therefore run:—

And out of the total sum which we made, forty silver minae and eight staters were weighed out. Thirty minae in silver were contributed (or brought up) from the garden (?).

(iv.) The remaining letters forming l. 10, and probably to be restored κ]αὶ πέντ[ε, are obviously squeezed in on the margin of the plate, and may safely be taken as an addition to the previous item. It will naturally be asked why they were not engraved in the blank space after ἀνείχθησαν; and the

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only answer I can suggest is that they are as much a corrective as an additional entry, inserted *below* τριήκοντα μνέαι, as, in our modern fashion, a corrective addition would be inserted *above*. The whole entry might be written, *exempli gratia* :—

(καὶ πέντε)
 Εκ ττο κή]πο τριήκοντα μνέαι ἀργυρο ἀνει[χτ]θησαν.

The full text of A. and B., according to my proposed restoration, is as follows (orthography assimilated to the later conventions, and punctuation inserted according to sense) :—

A.

Τεσσαράκοντα μνέαι τὸ πρῶτον ἐστάθησαν ἐκ τῶν δῶρων χρυσοῦ· ἐκ πόλεως ἠνείχθησαν· ἀργυραὶ πέντε καὶ εἴκοσι(ι) μνέαι ἐν τῷ πρώτῳ χρυσῷ ἠνείχθησαν· ἐκ τοῦ δόρατος ἕξ μνέαι ἐστάθησαν· δέκα δὲ αἱ ἐνθένδε ἐστάθησαν μνέαι χρυσοῦ· ἀργύρου τρεῖς καὶ τριήκοντα μνέαι ἐνθάδ' ἐστάθησαν· ἀργυραὶ ἐκ τοῦ ναυτικοῦ ἐστάθησαν ἐπὶ τὸ αὐτὸ ἑβδομήκοντα μνέαι, καθάπερ? δέκα ἐκ τοῦ ἄλλο.

B.

(? Δεσποίνῃ Ἐφεσία.?) Πρὸς τῷ ἡμιμνηίῳ ἐκ τοῦ δόρατος ἀνύομεν ἀργύρου εἴκοσι μνέας ἡμιμνηίου δεομένας· τριήκοντα μνέαι ἐστάθησαν χρυσοῦ πρὸς στατήρει καὶ ἐκκτ(ῆ)? ἐκ τοῦ ἄλλο· αὐτῆμαρ ἀνευθεν στατήρος τοῦδε χρυσοῦ ἀνύομεν τέσσαρας καὶ δέκα μνέας· ἐγένοντο δὲ ἐκ τούτου μνέα? . . . ἔνη ἡμιμνηίον τῆς φιάλης καὶ πέντε ἡμίεκτα· ὧν δ' ἐργαζόμεθα τεσσαράκοντα μνέαι ἀργυραὶ καὶ ὄκτω στατήρες ἐστάθησαν· ἐκ τοῦ κήπου? τριήκοντα (καὶ πέντε) μνέαι ἀργύρου ἠνείχθησαν.

Uncertain as this restoration is in parts, it makes a fairly intelligible text, and, I venture to think, justifies the assumption that the plate is approximately complete. Let us see if any further light can be thrown on the general purport of the inscriptions, and the relative significance of particular items.

These statements of account, whatever their exact nature, are at once the earliest Greek accounts preserved to us, and, in their kind, unique. Hence there is no guide to their nature except the internal evidence of their own contents. In the first (A.) we have pretty certainly a *credit* account of the Temple hierarchy; but have we also a *debit* account? The answer depends on our understanding of the word ἐστάθησαν. Does this simply imply *verification* of incomings? Or does it, as does often the Latin *expendere*, imply a further purpose, the *spending* of the sums weighed? The Greek word is not known to be expressly used with this proleptic sense, but it is far from impossible that it should imply spending, when found in a statement of account such as these texts contain.

Two verbs only are found in text A., *ἐστάθησαν* and *ἠνείχθησαν*. The first, according to my arrangement of the clauses, is used of all the items enumerated except one, which I conjecture to have been of a kind that did not need weighing. In that case all the sums are accounted for by this process of weighing, and perhaps passed to *expenditure*. Two items are said to be *contributed*, out of a total of seven. These come from the City of Ephesus, and one from its war-booty (?). It is an obvious suggestion that all the other items, of which *ἐστάθησαν* alone is used, refer to internal assets of the Temple itself: (1) Gifts in precious metal (*δῶρα*); (2) Bullion stored in gold and silver (two entries); (3) Proceeds of ship-dues? (*ἐκ τοῦ ναυτικοῦ*?), collected probably in the Sacred Port; (4) Tithes of salines or salt-dues (*ἐκ τοῦ ἄλος*). It is one of the entries under No. 2 which tells most in favour of *ἐστάθησαν* having a sense beyond mere *verification*. Why should *δέκα αἰ ἐνθένδε μνῆαι*, already deposited in the Temple, be merely weighed for verification? One would suppose that already done at the moment of deposit. But if they were now weighed out for some particular purpose of expenditure, the entry gains point, and with it every entry in the text.

What could such purpose have been? The metal might have been weighed out for minting, had we any reason to suppose that coining was carried on in the Artemision; but it is more probable that it was weighed out for disbursement in the ordinary sense, on some extraordinary object in which the Temple and the City both were interested, and to which the former felt bound to devote a great part of its available assets. The sums so devoted by the Temple itself, on my interpretation, amounted to no less than 163 *minae*, and involved the realisation of capital locked up in both gifts and bullion. One cannot help suggesting that this purpose was the fabric of the Temple itself, at one or other of the epochs in which it underwent reconstruction. If so, the "Croesus" restoration begun about 550 B.C. suits best the date which the epigraphic character of the inscription seems to demand.

In text B. we get new verbs, *ἀνύειν* and *ἐργάζεσθαι*, and we find those who render the account speaking in their own name. Further, beside very large sums, 40 and 30 *minae*, quite trivial values are recorded, such as the twelfth of a stater. Sources of the revenue are mentioned less often, but in two out of three cases are the same as in text A., *ἐκ τοῦ δόρατος* and *ἐκ τοῦ ἄλος*, the third case being a doubtful one, *ἐκ τοῦ κήπου*, which, if correctly read, may be compared with the *ἐκ πόλεως* of text A. While these items, however, are derived from similar sources to those in text A., certain others appear to be derived, not from Temple treasures, but, we may guess, from sums made up (*ἀνύειν*) in various

ways, perhaps by Temple fees, or the proceeds of collections in the Temple (by the *φιάλη*?). Unless *ἐγένοντο κ.τ.λ.* be interpreted in a sense in which I do not believe, there is nothing in the document which seems to me to recall the well-known fact that the Artemision acted as a bank. Dr. Keil suggested to me that this fact was implied in the clause beginning *ὦν δ' ἐργαζόμεθα*; but it seems to me that the verb has a more general sense in this passage, and refers to all that has gone before—to the sums of which *ἀνύειν* is used, as well as to the small addition recorded in the clause *ἐγένοντο κ.τ.λ.* It should be observed that, before the *ὦν δ' ἐργαζόμεθα* clause, two and a half lines are left blank. This fact seems to indicate that this face of the plate was intended to record more items than were eventually engraved upon it: perhaps even the items which are actually recorded thereon were engraved, not all at once, but at short intervals, as they happened to accrue. The space left for further items was not needed, either because income did not accrue, as was expected, or further funds were not found necessary. But the final statement, which, if *ἐστάθησαν* is rightly read, and has here the proleptic significance suggested for it in text A., is a statement of *expenditure* in its first part, had been engraved already, as not likely to be affected by any further items anticipated.

Text B. then, like text A., is a record both of income and expenditure. Sums are gathered in from various sources more miscellaneous than in text A., and certain of these, from the mention of fractional values, and, perhaps, from the use of *ἀνύειν* and *φιάλη*, one would suppose the result rather of *collection* than of such revenue payments in round sums as are recorded in text A. Certain sums also are, perhaps, "weighed out" for some purpose of expenditure. The whole text seems a more desultory and piecemeal document than text A., made up of items entered at intervals, as occasion required: a record of income, a record of expenditure, a record of small sums collected, another record of expenditure resuming previous items of income, and finally another record of revenue. It is just such a document as might have been *supplementary* to that on face A., stating the results of additional efforts to raise funds, after the first gross appropriations, made by Temple and City, had proved insufficient. New sources of revenue were perhaps tapped—collections from worshippers, fees, the surrounding district. That text B. was, however, engraved in the same period as text A. seems assured by the close epigraphic similarity of the two inscriptions. Were we dealing with manuscripts, we should say both texts were by the same hand working at different times. It is a natural inference, therefore, that it probably has a similar reference, and that, if text A. records the raising of funds for, and their appropriation to, the building

of Temple *D*, text B. records supplementary efforts of the hierarchy to meet additional expenditure on that fabric.

I append in tabular form the values recorded in these texts, as I interpret them:—

| | Minae. | Lesser Values. | Metal. | Source. | Reception or Disposal. |
|----|---------------------|-----------------------------|---------------------------|---|--|
| A. | 40 | — | Gold | Temple Gifts | Weighed out. |
| | 25 | — | { Silver } { Bullion } | City <i>φόρα</i> | Contributed. |
| | 6 | — | Silver? | City: tithe of War Booty | Weighed out. |
| | 10 | — | Gold | Temple Deposits | Ditto. |
| | 33 | — | Silver | Ditto | Ditto. |
| | 70 | — | Ditto | Ship-dues? | Ditto. |
| | 10 | — | Ditto? | Tithe? of Salt-dues | Ditto? |
| B. | $\frac{1}{2}$ | — | Gold? | Tithe of War Booty | — |
| | 19 $\frac{1}{2}$ | — | Ditto | — | { Made up from various sources } { (or collected). } |
| | 30 | — | Ditto | Temple Deposits? | Weighed out. |
| | — | { 1 Stater } { 1 Sixth } | Ditto | Tithe? of Salt-dues | Ditto. |
| | 14 | — | Ditto | — | { Made up from various sources } { (or collected). } |
| | $\frac{1}{2}$? and | 5 Twelfths | ? | — | Made up from various sources. |
| | $\frac{1}{2}$ | — | ? | { Collection in the Temple } { (<i>φιάλη</i>)? } | — |
| | 40 and | 8 Staters | Silver | — | { A <i>résumé</i> of previous items, } { now weighed out? } |
| | 35 | — | Ditto | Garden? | Contributed. |

I need hardly say that, in dealing with texts of such unique character and difficulty, I claim no finality for my commentary. I have only made a contribution to the elucidation of this important inscription by argument and suggestion, and I cordially invite revision by other scholars. There is

certainly a most valuable indication of the resources and financial system of the Artemision at an early period conveyed by this piece of silver. I only wish that its interpretation may be placed beyond question.

Date.

Since the circumstances under which the plate was found leave the question of its period doubtful, and there is no sure indication of date in the contents, recourse must be had to its epigraphic character.

The alphabet in which the texts are couched is the fully developed Ionian, which has lost *digamma* but retains *koppa* in full use. The *eta* has become open, and other significant letters, e.g. *alpha*, *epsilon*, *nu* and *sigma*, though they are written in distinctly archaic fashion, have lost their most primitive forms. The compound consonants are present (ψ is absent for lack of occasion for its use); but *xi* retains its complementary *sigma*. There are both long and short *o*. The most noteworthy feature is the presence of the symbol τ , which occurs three times, but always in the same root-word, $\tau\epsilon\tau\alpha\rho$. This, its first absolutely certain occurrence in any Greek word which is not a proper name of dubious origin, lends additional probability to its disputed presence in an inscription of Teos,¹ in the word $\theta\lambda\acute{\alpha}\tau\eta\varsigma$ ($\theta\alpha\lambda\acute{\alpha}\sigma\sigma\eta\varsigma$). With that exception it has been observed only on (1) a well-known *stèle* of Halicarnassus² in the British Museum (early 5th cent. B.C.?) where it occurs in the names Οὐατᾶτιος and Παννάτιος , and perhaps also in Ἄλικαρναπέων and Σαρυντώλλου : (2) perhaps on two Naukratite (Milesian?) potsherds (6th cent.?),³ on one of which it is the only character, while on the other it occurs with two others, not capable of being interpreted as forming a word: (3) on coins of Mesembria in Thrace, ranging from the fifth to the third centuries B.C.: (4) in Carian? *graffiti* copied by A. H. Sayce in Egypt.⁴

The questions as to the origin and vogue of this symbol have been discussed very fully and recently by Mr. F. W. G. Foat, in the *Journal of Hellenic Studies*.⁵ Its latest occurrence throws a little confirmatory light on its phonetic value. It stands clearly for a sound which was variously expressed in Greek $\sigma\sigma$ and $\tau\tau$; and there can be little doubt not only about the possibility of its occurrence in $\theta\alpha\lambda\acute{\alpha}\sigma\sigma\eta\varsigma$, but about its value in the Halicarnassian names. This sound ought to be intermediate between the emphatic sibilant and the emphatic dental *t*, and if so can hardly be

¹ Roehl, *I.G.A.*, 497 B. 22, 23.

² *S.G.D.I.*, 5726.

³ *Naukratis*, i. pl. 32, nos. 27, 404.

⁴ *Proc. Soc. Bibl. Arch.* 1895, p. 40.

⁵ xxv. p. 338. Cf. Hoffmann, *Gr. Dial.*, iii. p. 574.

other than the sibilant-dental *ts* (*tsade*). At any rate, its occurrence in this Ephesian text along with reduplicated τ (see later) seems to show conclusively that it did not stand merely for an emphatic dental. That its sound was nearer an emphatic sibilant may perhaps be argued from the fact that in both the Halicarnassian and Teian texts, words in which it occurs reappear spelt also with double *sigma* (Ἀλικαρνα $\left\{ \begin{smallmatrix} \tau \\ \sigma\sigma \end{smallmatrix} \right\}$ έων, θαλά $\left\{ \begin{smallmatrix} \tau \\ \sigma\sigma \end{smallmatrix} \right\}$ ης).

The orthography presents one remarkable singularity, the reduplication of the *t* sound after a *k* sound, whether within the body of a word or where the sounds end and begin two distinct words (ὄκττω, ἔκττη, ἡμίεκκτα, ἡνείχθησαν : ἐκ τοῦ, ττων and ττούτου). This reduplication occurs here, so far as I can discover, for the first time, the nearest analogy being supplied by Attic texts where the *k* sound is doubled before a *t* or *p* (see Meisterhans, *Gram. d. Att. Inschr.*, p. 106). Both reduplications probably indicate local peculiarities of pronunciation, the sequence of these sounds causing the dental to be emphasised east of the Aegean, while it was the palatal consonant which was given the prominence in the western Ionic speech. For the rest, the orthography of our inscription is in the main such as might be expected in an early Ionian text, e.g. we have *o* for *ou* in terminations, and imperfect without augment (ἐργαζόμεθα);¹ but the orthography is not yet fixed. For example, we find *μνέαι* and *ἀργυραῖ*. As indications of not very early date, the use of elision in A. 5, B. 8 should be noted,² and the shortening of *δορϜ* - *δούρατος* to *δόρατος* (see Hoffmann, *Gr. Dial.*, iii. p. 408).

The alphabetic and orthographic features, as a whole, alike indicate a period considerably removed from the beginnings of Ionian writing. The alphabet is of a later type than that used in the Abu Simbel inscriptions, but not later than that seen on the earliest Naukratite *graffiti*.³ The retention of *koppa* puts our plate into a class distinctly earlier than the archaic Ionian inscriptions of the late sixth and early fifth centuries B.C. (e.g. the Sigeian, Teian, and Milesian texts). The use of τ supplies no indication of date, its epigraphic occurrences being at present far too few to serve as criteria. We can only say that it survived through the fifth century. On his data an epigraphist would naturally place our inscription a little after the middle of the sixth century B.C.; but it must be remarked that the criteria for dating early Ionian inscriptions are very few and very uncertain. The principal one, the Abu Simbel script, still suffers from the doubt as to which of the Psammetichi is there

¹ See Keil in *Ath. Mitth.*, 1895, p. 441.

² *Per contra*, δὲ ἐκ in B. 4, perhaps because there is an interpoint between the vowels.

³ *Cp.* C. C. Edgar in *B.S.A.* v. p. 50.

mentioned, whether the first king of the name, who falls as early as 660 B.C., or the second, more than a century later. Similar uncertainty exists as to the date of the early Naukratite *graffiti*. As in the case of Ionian and Lydian coins,¹ so in that of Ionian inscriptions, the superior limit has been arbitrarily fixed, and needs revision. It is possible that both began in a higher antiquity than has hitherto been supposed. Mere *graffiti*, like those at Abu Simbel and Naukratis, even were they certainly dated, would be doubtful evidence for the contemporary script in Ionia. Written by unofficial scribes at a distance from the fatherland, they may well represent alphabets earlier than their own date, and the script of Abu Simbel may even be the Ionian of the eighth century. These considerations cause hesitation in dating this Ephesian plate to as late a period as 550. The conditions under which it was found do not, as has been said, preclude this date; but it is to be observed that other silver objects found very near it, at the same level, and in the same kind of deposit (see pp. 45, 46) are of the same fabric and class as objects found in the filling of the original Basis, to which it is difficult to ascribe a date later than about 700 B.C. (see later, chap. XIV.). Dr. Keil, however, writes to me that he favours a date about the middle of the sixth century. If that be correct, it supports our conjecture, that the inscription refers to the building of the Croesus temple.

¹ See doubts expressed p. 240. It is worth notice that our "Alyattes" coins have also lost *digamma*, and show forms certainly not earlier than those on the silver plate. Of what period are these coins? The inscriptions on the Croesus column-bases also show forms which seem later than those on the plate. The unintelligible retrograde inscription, cut on a fragment of a *columna caelata*, found by Wood, and published by Newton in *Trans. Soc. Bibl. Arch.* 1876, p. 334 (see later, p. 300) as in an unknown script, seems to be in Ionian characters similar to those of our plate, but likewise a little later.

CHAPTER VIII.

BRONZE, LEAD AND IRON.

BY D. G. HOGARTH.

(PLATES XIV.—XX.)

It is noteworthy that the very numerous objects in bronze, catalogued below, were all found, with the exception of half-a-dozen earrings of the commonest type, one pin, a knife-blade and some fragments, outside the Basis. This fact has significance in two directions. (1) It supports the argument that the objects found in the filling of the Basis did not come there by accident; for had that filling been the result of builders scraping up the bottom soil of an earlier shrine, it might naturally have been expected to contain a larger proportion of objects in the common metal bronze than in precious metals. As it is, this filling seems to have contained selected objects only. (2) The bronze objects cannot, as a whole, be referred to the earliest period with as much certainty as those in precious metals. Many individual objects, as will be stated, were found in situations which left no doubt as to their being of a date prior to the Croesus temple; but certain others came from the disturbed ground in the centre of the W. part and in the E. part of the Primitive area, whence Croesus foundations had been removed by Wood and earlier searchers; and, being objects of no intrinsic value, these may well have been neglected by those searchers and dropped down to lower levels than those to which they really belonged. This applies in an especial degree to the bracelets, no one of which was found in an undisturbed Primitive stratum; and one or two of these, together with some pins, a bowl, etc., were unearthed outside the Primitive area altogether. Among the undoubtedly Primitive jewellery, bracelets in gold or electrum did not occur at all, and there were very few in silver and lead. At the same time, many bronze types, whose find-spots would not determine their period, are referred to the Primitive stratum by their identity with gold, electrum, and silver types.

FIGURINES.

- xiv. *Goddess*; H. 243. Erect, with arms pendent by the sides. The lower part is columnar, with no indication of feet. Underneath the figure is a shallow mortised socket, showing that it once stood on a pedestal or other object. The

U

goddess is fully draped in a long robe which is folded crosswise over the breasts, leaves the fore-arms free, and is confined by a tight waist-belt. Below the latter it falls in straight folds on the right side only, while on the left it is looped up over the thighs. No folds are shown below the thighs on this side, but probably an underskirt is intended to be revealed. On the head is a veil, bound with a fillet and falling behind. Stiff curls appear on the forehead under the fillet. A rosette is seen over the right ear, and apparently there was a large ring in the lobe. On the left these ornaments are wanting, but doubtless through decay, since a small hole for the passage of a ring appears in the lobe. The nose is very prominent, as in some other statuettes of the period (*e.g.*, Gold, iv. 1), and slightly aquiline. The eyeballs project (the left is now wanting). The head, as a whole, is disproportionately large (Cp. ivory statuette, pl. xxii.). Though not of the most Primitive art—there is a certain sense of form in the modelling of the folds over the breast—this figure belongs undoubtedly to a very early type, and might well be regarded as a work of the first Samian school of sculptors in bronze. (Found outside the N.W. corner of the Basis, in the lowest stratum, with the group of objects enumerated on p. 42.)

- xvi. 1. *Goddess*; H. .087. A more advanced type, on a smaller scale than No. 1. The lower part of the figure is not columnar, and the upper tunic falls evenly, without belt, to mid-thigh, while the underskirt continues in straight folds thence on both sides to the feet, which have roughly marked division of toes. The head is hopelessly corroded. (Found with the preceding.)
- xvi. 2. *Goddess*; H. .057. The forehead recedes sharply. Poor work, with little detail of drapery and much corroded. (Bought by the Ottoman Imperial Commissary after the close of our excavations, and almost certainly found during their course, but secreted by the finder.)
- xv. 14. *Hawk*, erect and gripping a crouching Hare with its claws. H. .067. The feathers are indicated by semicircular incisions on the breast, head and wings, and by zigzags, arranged in vertical bands, on the tail, at the root of which is a hatched band. The right side of the bird is much rubbed. (Found with the first two statuettes.)
- xv. 15. *Ditto*, erect on a square plate. H. .066. No detail of feathers indicated; the legs are bandy, and the eyes are hollow projecting sockets, once filled doubtless with glass paste. The figurine is in unusually good condition, and remarkable for a blend of naturalism and convention. (E. Area.)
- xv. 16. *Ditto*, erect, with claws gripping a round perch. H. .058. Feathers indicated on breast and head by horseshoe incisions. The wings have a broad

border, like No. 14. This bird is much rubbed on one side. (Found with No. 14.)

ORNAMENTS.

(a.) *Fibulae.*

Nearly 100 fibulae were found, all outside the Basis. The types are :

- xvii. 21-25. (1) Single Ball-type ; the ball occupying almost the whole bow : broad catch-plate, and rather long pin-coil flattened on one side. No enrichment except occasionally a moulded band round the spring of catch-plate or coil. 28 specs., none quite complete, and all of relatively small size. The principal variety lies in the diameter of the ball. A common archaic Greek bronze type : cp. *Aphaia*, pl. 116, Nos. 23, 4 : *Olympia*, iv., pl. 22, No. 368 : *Her.* ii. pl. 86, No. 870, etc. ; but not yet found in precious metals.
- xvii. 12, 13. (2) Plain semicircular bows, flattened at the sides or rounded. No enrichment. 2 specs., complete with pins, and 2 others with pins broken. Cp. Körte, *Gordion*, p. 102, Nos. 1-3, (Tumulus iv. ; early 7th cent. ?) *Her.* ii. pl. 87, No. 901. This type was probably enriched with beads strung on the bow, and so presented an appearance similar to the Ball type, which latter is perhaps developed from it.
- xvii. 15. (3) Plain, broad and thick bow, highly arched and of oval section. Broad square belts above moulded bands at spring of catch-plate and coil. 1 spec. Cp. *Troja Dörp.* i., p. 414, fig. 433 (7th or 8th city).
- xvii. 16-20. (4) Plain bows, swelling in the centre, sometimes to an obtuse angle (No. 19), and sometimes enriched with a stud (No. 18). Usually no other enrichment ; but sometimes broad square belts at spring of catch-plate (which is in some cases broad, in others a mere hook), and coil, as in No. 1 (No. 16). 7 specs. This type is closely related to the Ball-type, and recalls the common kind of earring in all metals.
- (5) Enriched bows of various kinds, developed obviously out of the Ball-type, and often retaining the large globe at the centre of the bow in addition to other ornament. The broad flat catch-plate of the Ball-type is reduced to a hook, generally divided from the bow by a transverse bar.
- xvii. 3, 14. (i.) Balls all round the bow, sometimes with larger ball in centre. Developed out of plain bows strung with beads of amber or glass, etc. (See A. Furtwängler on Olympian bronze type,

iv., pl. 22, No. 368.) 2 complete and several fragmentary specs. Cp. *Her.* ii. pl. 86, Nos. 877, 8. I found *fibulae* of this type in the cave-burials at Epano Zakro in E. Crete, which belong to the Geometric epoch (8th century?). See *B. S. A.* vii. p. 148.

- xvii. 5. (ii.) Similar; but with balls flattened to resemble beads of oval section, and divided by lines, so as to recall the cushion moulding of gold earrings. About 10 specs., all incomplete. Cp. *Olympia*, iv., pl. 22, no. 367: *Ath. Mitth.* x. Beil. to p. 59, fig. 8, Crete.
- xvii. 4. (iii.) Balls, in the form of beading on one face only of the bow, the other side being plain and flat. 1 spec. Cp. *Olympia* iv., pl. 22, nos. 373-377 (black ash-stratum S. of Heraeum).
- xvii. 1, 2, 6-11. (iv.) Balls or beads reduced to moulded belts, usually three in number, and placed at the centre of the bow and spring of the catch-plate and coil. The bow is sometimes ribbed or fluted longitudinally. 33 specs. of varying size, some being very heavy and thick, others as fine as *fibulae* in precious metal. This is the "Kleinasiatisch" type of Furtwängler (*Aphaia*, p. 403; *Olympia* iv., pl. 22, no. 371, 2, Pelopion deposit), characteristic of the earlier Gordian tumulus burials (Körte, p. 78, no. 68), and found on the "Hittite" site of Sinjerli in N. Syria (*Ausgrab. in Sendscherli, Mitth. Orient. Samml.* xi., pl. 2, p. 87). Cp. *Aphaia*, pl. 116; Böhlau, *Ion. Nekr.*, pl. 15, nos. 11, 12; *Her.* ii., pl. 86, 7; Pfuhl, *Ath. Mitth.* xxviii., p. 232; *J. H. S.*, 1887, p. 74 (Halicanassus); Martha, p. 76. Of this type are our gold and silver *fibulae* v. 3, 4: xii. 13, 16. It was conspicuous by absence on the Orthia site at Sparta (*B. S. A.* xii., p. 321).
- xvii. 26. (v.) Coiled wire ribbing on bows. 3 specs. Cp. *Gold*, v. 1, 2, 5.

(b.) *Ear-drops.*

- xviii. 34-36, 38-41, 43. Sixteen bronze examples of the ear-drops already described in precious metals (v. 7: vii. 43, 49, 50: xi. 17, 18, 24) were found. The majority are of plain wire with straight or slightly thickened ends, which occasionally show moulded bands (Compare *Gold*, vii. 49). Two specimens are heavier than the rest, and have the ends expanded and adorned with incised rosette patterns (cp. the handles, xix. 1, 2). The largest specimen (No. 34) measures

·039 in length. (Found in undoubted Primitive deposit in the W. part of the area.)

- xv. 11. (c.) *Torque*. One bronze torque of spirally twisted wire, with flattened overlapping ends, came to light in disturbed earth in the W. centre. D. ·168. Similarly twisted wire (gold) occurred in the Burnt City at Hissarlik (*Ilios Schliem.*, p. 459, no. 693), and (bronze) at Olympia (iv., pl. 5, nos. 22, 23), at Enkomi (*Enk.*, pl. viii.), and at the Argive Heraeum (*Her.* i. p. 62, "Geometric Age").

(d.) *Rings*.

Finger-rings. 11 plain rings varying in diameter from ·025 to ·023, and too small for any but the smallest masculine finger. Some of these rings have slightly bevelled edges; and one specimen is a broad band of metal, like a "keeper" ring. Also 8 broken hoops with ends either overlapping or not quite meeting. Ring moulding in some cases round the ends or the centre of the hoop by way of ornament. These may be, not finger rings, but rings for suspension in the ears, although in diameter they agree with the first class of plain rings. Cp. *Ilios Schliem.*, p. 272, nos. 148, 9, for this overlapping type in electrum.

Other rings, of "napkin-ring" type, having swelling mouths, contracted waists, and hollow sides. 29 complete specs. and some fragments. (Cp. the same form in Ivory, xxxv. 213, and Crystal, xlvi. 1.) One mouth is always of slightly less diameter than the other. The rings range downwards in weight from ·016, and in diameter from ·039. All are without ornament of any kind. It is possible that these are structural parts of other objects, but they show no sign of having been affixed in any way.

(e.) *Earrings*.

These occurred in great numbers. More than 175 specs. more or less perfect were recovered, and there were fragments of at least as many more. The types repeat the commoner electrum and gold types.

xviii. 9,
15-19,
27, 33.

Plain, with thickened centre of hoop. D. from ·015. About 100 specs. Cp. Gold, vi. 44, etc., and *Ilios Schliem.*, p. 505, No. 938. A few specimens occurred in the Basis.

xviii. 1,
2.

Plain wire rings. Cp. Gold, vi. 45. 2 specs. Possibly finger-rings.

xviii. 10,
28, 29.

Plain swelling hoops flattened on the under side. 10 specs. Cp. Gold, vi. 43.

- xviii. 12-14, 26.
xviii. 3, 7, 8.
xviii. 4, 5, 6.
xviii. 11.
- Enriched hoops.* (i.) With belts or beading at the ends of the hoop. 6 specs. Cp. Gold, vi. 53. (ii.) With moulded belts or lines crossing the hoop. 3 specs. Cp. Gold, vi. 68. (iii.) With transverse cushion moulding, the cushions divided by lines or ridges. 4 specs. Cp. Gold, vi. 67, etc. D. from .017. (iv.) With cushions or ribbing following the sweep of the hoop. 1 spec.

(f.) *Bracelets.*

32 fairly complete bracelets were found, besides fragments. As has been said, there are no gold or electrum types to compare; but the commoner bronze types were found in silver.

- xv. 5-8. *Single hoops.* (i.) Plain wire, ending in spheroidal knobs, which do not quite meet. Commonest type, found both under *D* foundations and where these had been removed. This type is at least as early as the Burnt City at Hissarlik. Cp. *Ilios Schliem.*, p. 459, nos. 690-1 (Gold). (ii.) Thick wire ending in opposing points, and sometimes enriched with moulded belts. Two specs. found under *D* foundation at W. end. (iii.) Thick wire, finely ribbed all round the hoop; rosettes incised on the opposing faces of the ends. 1 spec. from under *D* foundations at the W. end. (iv.) Belt-like hoop fluted longitudinally. 1 spec. D. .066 and .015 broad. From disturbed deposit: has been gilt. (v.) Plain or enriched hoops with overlapping ends. 4 specs.
- xv. 1, 2.
- xv. 12.
- xv. 4.
- xv. 9, 10.
- xv. 3. *Double serpentine hoop.* 1 specimen, from Primitive deposit outside N.W. angle of Basis (with statuette, pl. xiv.). Ends enriched, but now perished: traces of enrichment on the hoop, which is flattened on the inner side. D. .081, H. .027.

(g.) *Pins.*

- xviii. 20-25, 30-32.
- Some 50 specimens in fair preservation. (1 from Basis.) The types are very plain, the commonest having a globular or a conical spheroidal head with or without finial blossom or knob. The largest specimen, which is complete, measures .093, the smallest .022. Sometimes the pin is enriched with one or more incised rings of moulding under the head. The only variant type has a ball some distance below the top of the pin. Specimens of all the types were found under *D* foundations. A large number of pin-shafts, with heads broken off, were also found.

These pins offer no new opportunities for comparing pins found elsewhere; but the absence of certain types which are characteristic of the large collections

made in Archaic Greek deposits at Olympia, the Heraeum of Argos, and the temple of Artemis Orthia at Sparta, is worthy of remark. The most conspicuous absentee is the circular "spool" head with plain or embossed shaft. (Cp. *Olympia*, iv., pl. 25, 484, etc.; *Her.* ii., pl. lxxviii. ff.; *B. S. A.*, xii., p. 321; and also the Dictæan Cave, *B. S. A.*, vi., p. 112, fig. 45.)

MISCELLANEA.

- xvi. 4. *Gryphon head* with iron core. H. to ear-point .111. The frontal horn and left ear are broken; two knobs between the eyes. (Cp. *Olympia*, iv., pl. 45.) Found at a low level, about -4.00, between the outer C wall and the D cella wall foundations in the S.W. corner. Here the ground has been disturbed by the insertion of late concrete (see p. 41), and there is no certainty that objects, however low-lying, have not slipped down from higher strata. Other objects, however, found with this gryphon, e.g., ivory ram and pottery fragments, certainly belong to the Primitive deposit. This gryphon is of the usual archaic Greek and Ionian type. Cp. *Olympia*, iv., plates 38 and 45-48; and coin-type of Teos from earliest time. (B.M.C. *Ionia*, pl. 30.) It appears, like the hawk, or eagle, on the Winged Artemis plaque from Olympia (iv., pl. 38, no. 696). For its extension into inland Asia, see O. Puchstein, *Pseudo-Hethitische Kunst*, p. 9, and P. C., ii., fig. 351 (Persepolis).

Bead-cylinders.

- Eight specimens of objects of the same general form as Gold, ix. 24. It is doubtful whether they were intended for ornament or utility.
- xviii. 42. (i.) The commonest type (4 specimens) has a high medial rib and raised rims, and the largest specimen (no. 42, over .060 in length) is almost too heavy to have been a mere bead for suspension or any kind of ornament. (ii.) One specimen, a plain unadorned cylinder, swelling in the centre (L. .050), is rather of the bead class. (iii.) Three specimens of plain whorl shape with hexagonal horizontal section; the largest measures .021. All these types occurred at Olympia (iv., pl. 24, especially nos. 432, 444). Cp. also *Her.*, ii., pl. 92, and Hallstatt bronzes (Sacken, pl. 17, no. 12).
- xviii. 45.
- xviii. 44.

Handles.

- xix. 1-3. Seven enriched semicircular handles, flattened on one side, and showing signs of attachment to metal backing. Four of these show

incised rosette patterns on the terminal faces, which must therefore have been intended to be visible. In one case (no. 1) the terminal faces are half turned inwards towards each other, as if the handle had been fitted upon a curved rim. These four handles, at any rate, have evidently been attached to the upper rims of coffers or vases, and the metal adhering to the flat side of one specimen suggests that the backing was of iron. The decorations of these handles need not be described, as they are clearly seen on plate xix. The handles vary in D. from .652 downwards. All were found in Primitive deposit under *D* foundations, within a small area at the W. end.

- xix. 6. Horse-shoe shaped handle turning on a hinge. D. .033. A common archaic Greek type. Cp. *Olympia*, iv., pl. 50, no. 843.

Various handles.

- xix. 4. Solid metal; sinkings mortised in the ends, and 2 pin-holes in each sinking. D. .155.
- xix. 5. Curved vase-handle, with longitudinal ribbing.
- xix. 8. Handle in shape of a bird (duck?) with pierced staple for insertion in a lid. L. .035. Cp. *Olympia*, iv., pl. 23, nos. 412, 417; pl. 24, nos. 418, 421.
- xix. 7. Hook, with spoon-shaped disc at other end. L. .150.

Bowls.

- xv. 13. Plain, of thick metal; centre rising to a bulb within ("omphalos" type). D. .129; H. .042. Found in a trial pit outside the Primitive area to N. in disturbed earth, but on the bottom sand, below the level of *D* foundations. For this type cp. Körte, *Gordion*, p. 73, no. 54 (Tumulus III., early 7th cent.).
- Plain, of very thin metal and broken to fragments. D. .091. Same type as preceding. Found E. of the Basis in disturbed ground, but lower than *D* foundation level.
- xvi. 5. Plain, of thin metal. D. .042; H. .045. Might be rather a cap than a cup. Found in S.W. corner of the Primitive area, where the *D* foundation has been removed to admit Byzantine concrete.

Appliqué.

- xvi. 3. Fragments of thin plate beaten out into a pattern of rosettes and circles. Found in Primitive deposit at W. end.

Weapons.

- xvi. 6. Two arrow-heads. One knife point with curved blade. (Basis.) Cf. Geometric Age forms, *e.g.*, found in Dictaeon Cave (*B.S.A.* vi. p. 111, fig. 44). One lance-head in thin metal. L. ·107.

Astragals.

- xviii. 37. One complete spec., without ornament. H. ·016. See later, p. 190.

Various fragments.

Plain discs ; a small ingot or bronze dowel ; bits of plate ; bars, sockets, knobs, etc. ; and a tiny but complete dolphin, perhaps a pin-head. No bronze beads were found.

LEAD.

ALL objects in this metal were found outside the Basis.

- xx. 5. *Figurine*, female(?) and draped. The head (not found) was mortised into the trunk. A small socket under the feet shows that the figure stood on a base. The arms hang by the sides, but the hands are broken off. The back is hardly worked at all, and there is little detail now apparent anywhere on the corroded surface, *e.g.*, the breasts do not project. The feet are mere lumps. H. ·073. Found just outside the Basis on the N.W.

Bracelets.

- xx. 7, 12. Two specimens and fragments of another. One has knob finials with maeander pattern in relief.

Pinhead.

- xx. 4. One specimen of "pomegranate" type (cf. *Gold*, v. 30; *Ivory*, xxxiii., 1, 2, etc.); very rough work.

Ear-drops.

- xx. 3. Nine specimens and fragments ; no ornament.

Rings.

- xx. 10. Two specimens ; plain hoops.

Miscellanea.

- xx. 8, 9. Fragmentary cap and cover-pieces.

X

IRON.

All objects in this metal were found outside the Basis. They proved very rare, and so greatly corroded that their nature could not always be determined. Those sufficiently well preserved are the following:—

Weapons.

Sword-blade with flange down the axis of the blade. The hilt and point have perished. The blade could not be lifted from its position in the lowest stratum of deposit in S.W. corner of the Primitive area, being reduced to mere powder.

Spear-point; fragment of the core of the metal only.

Fragment of a *knife-blade*; too much corroded for the form to be determined.

Ornaments.

xx. 1, 2. Three *bracelets* with overlapping ends (cf. *Bronze*, xv. 9, 10), D. .050, .045 and .045 respectively. Two seem to have had ornamental bands or beads at intervals on the hoop, like those on the bronze fibulae and handles (pl. xix., 1-3) of the period.

xx. 6. Two heavy *rings*, ends not overlapping. D. about .055: probably structural.

Miscellanea.

Fragments of a thin rod; a socket; and some formless lumps.

CHAPTER IX.
THE IVORY STATUETTES.

BY CECIL SMITH.

(PLATES XXI.-XXXI.)

AMONG the large number of objects in varied materials found within the Primitive Area the ivories included under the above heading are artistically by far the most important. When we consider the little that has been done in the way of excavation on any early Ionic site, and the scarcity of material at our disposal for the study of the art of the Ionian Greeks in the period preceding 500 B.C., the Artemision may be considered to offer the best contribution yet made to our study of the subject. Ivories from a Greek site of this period have so far been extremely rare, and, considering the circumstances under which these were found, it is remarkable that any were preserved at all; most of them were recovered from the liquid mud, and in process of drying showed a tendency to split along the grain into innumerable splinters, which sometimes warped in the drying. It says much for the careful handling of them by the excavators, and for the skill with which they were afterwards put together in England by Mr. A. P. Ready, that this valuable material has been so far preserved in a condition for study.

Before proceeding to a discussion of the many points of interest raised by these ivories, it will be well to give a detailed description of them. With regard to the Plates, while in most instances the reproduction is in natural size, in some cases the scale has been increased in order to allow of studying the detail; these cases of variation only are noted in the descriptions. In Plates xxii. and xxiii. the reproduction is in a scale slightly under the actual size.

In his general account of the excavations of 1904-5 (Chapter III.) Mr. Hogarth has noted the circumstances of the discovery of most of these ivories. Reference will be made to these passages, wherever possible, in the detailed description which follows. It is only necessary here to remark that all the ivories described below, except one hawk on a pole, an engraved seal, and an axe-head pendant, were discovered outside the Basis, but within the area of the Primitive shrines; some (such as Nos. 2, 20, 22, 26, 30, 47) were

X 2

found in isolated pockets within the S.W. corner; No. 1 was found just outside a sort of cist built of small stones, which had probably once contained it; and most of them came from the lowest stratum, resting on the black bottom sand. They are therefore among the earliest objects belonging to the Primitive Treasure.

I have included here one or two objects which appear to be of wood, as they seem to belong to the same category as the ivories.

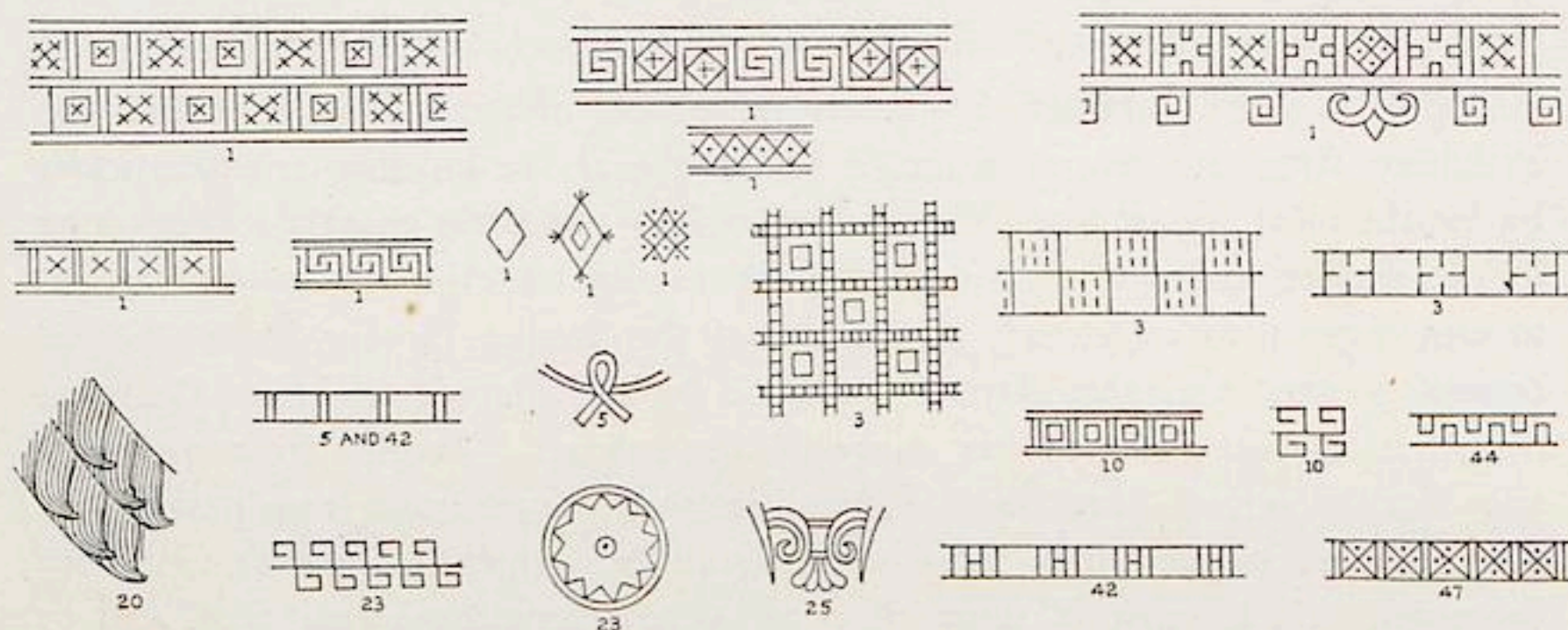


Fig. 30.—Patterns engraved on the Ivory Statuettes.

xxi. 6;
xxii.

1. *Statuette of a woman*, H. · 107 m. She stands in a stiff upright attitude, with feet close together and arms at sides, the style suggesting comparison with the columnar type (*κίων*, cf. Overbeck, *Schriftg.* 342) of early Ionic sculpture, and, as in that type, the drapery is removed in a semicircle to allow of the feet being shown.¹ From the r. hand hangs a trefoil oinochoe from the first and second fingers; in the left hand is held between thumb and four fingers a footless bowl of metallic form, with raised studs around the rim, and a swinging handle. The hair, indicated by a raised surface engraved with very fine parallel lines, is parted in the centre and drawn straight back from the forehead, falling in a broad flat mass down the back, and terminating in a straight edge at the level of the waist. A heavy coil is taken up above the ear, where it is fastened with an ornament (possibly the golden hair-fastener which has been identified with the *τέττιξ*),² and falls in a wavy tapering ringlet along each breast. She wears earrings in the form of a rosette, the eight petals indicated by engraved lines. Her dress is a plain Ionic chiton, undergirt, with

¹ Cf. for instance the statue in the Louvre dedicated to Hera at Samos by Cheramyes, E. A. Gardner, *Handbook*, p. 113, fig. 11.

² Helbig, *Homer. Epos*², p. 242: but see Studniczka, *Krobylos und Tettiges*, in *Jahrb. des Arch. Inst.* xi, p. 284.

fastening from shoulder to elbow, edged with a fine engraved pattern (fig. 30). Round the neck runs a similar band of pattern (fig. 30), with dependent single mæanders at intervals, and in the centre a pendent flower. Down the right-hand side of the central folds of the skirt runs a band of pattern (fig. 30), and the front part of the entire dress is decorated at intervals with single patterns of these forms. The oinochoe is of the regular Ionic form, which occurs, *e.g.*, in the so-called "Rhodian" pottery, with the disc-form ornaments where the handle terminates on the lip. Round the shoulder of it is engraved a band of pattern, plain crosses within squares (fig. 30).

The head is large in proportion, and broad and flat at the crown. The eyebrows and eyeballs are slightly in relief, and both appear to have been further defined by colour, which, however, cannot now be distinguished. Seen in profile, the figure has a slight bend backward, but this may be due, as in so many of the mediaeval ivory statuettes, to the conformation of the block or tusk out of which it was carved.

In the under side is bored a small hole, which probably held the pin for attachment. In the crown of the head is a vertical round sinking, .005 m. in diam., which corresponds with the diameter of a tapering column of ivory, .156 m. long (including the part thinned for the socket), surmounted by a hawk seated on a ball (*Cf.* pp. 161, 198, and Plates xxv, xxxiv, for similar poles). The details of the wings are carefully engraved, and the breast and head covered with dots. Below the ball is a fillet, and then two engraved bands of simple mæander and dotted lozenge (fig. 30). At .045 m. from the base (when dropped into the socket) is a band of key as before, and reaching to it, from a line slightly above the base, long zigzag lines. This pole had become detached from the figure as it lay in the *débris*, but was found almost touching its head.

[Found on the N. side of the W. area, just outside a sort of cist built of small stones, and sunk in the bottom stratum, see p. 44.]

- xxiv. 8. 2. *Statuette of a woman*, H. .082 m. Modelling somewhat rough; feet not indicated; part in columnar form, but from waist up more carefully treated. She holds in each hand, at her waist, a hawk. The dress is the usual girt Ionic chiton. The hair is arranged like that of No. 1, without the *τέτιξ*, and the surface on the head itself is carved in a series of ridges concentric with the crown.

[Found in an isolated pocket within the S.W. corner of the W. area, see p. 43.]

- xxiv. 1 a, b. 3. *Statuette of a woman*, H. .105 m. She stands in a stiff attitude, the

body from the waist downward being of the columnar type. Below the decorated edge of the drapery is a plain surface $\cdot 016$ m. high, projecting very slightly all round, and apparently meant to represent a plinth on which the figure is standing. The feet are not indicated. In the l. hand, held across the waist, is grasped a distaff on which is a ball of wool; the r. hand, with fingers extended, rests flat upon the thigh, and between it and the thigh passes the thread with the spindle hanging from it nearly to the feet. She wears a plain foldless dress to the feet, with sleeves reaching to the wrists, the whole decorated in front and back with a chequer pattern (fig. 30), which also covers the sleeves; round the waist is a broad girdle, decorated with a single band of pattern (fig. 30). She has earrings in form of a flower, a necklace of large beads, arranged like a bead and reel moulding, and triple bangles. The hair is almost wholly concealed by a high headdress of nearly cylindrical form, divided in two parts by vertical lines above the ears; the front portion has three horizontal rows of dots raised on a sunk ground; the back portion (which is damaged) appears to have had a pattern of engraved chequers (fig. 30). A single lock of hair escapes in front of each ear, where it is arranged in spiral form. The treatment of the eyes is cruder than in No. 1; they are indicated by an engraved outline with sunk hole for pupil, and are disproportionately large. In the crown of the head is a sinking about $\cdot 06$ m. square, and about $\cdot 08$ m. deep.

A similar type of woman holding distaff and spindle occurs among the ivories from Nimrûd in the B. M. See especially No. 11 of that series, which is quite in the Ionic style.

[Found below the broken foundation of C (?) period, extending southwards from the N.W. angle of the Basis, in the bottom stratum, see pp. 42, 65.]

- xxiv. 3. 4. *Statuette of a woman*, H. $\cdot 118$ m. The modelling of the face and especially of the eyes is more advanced than that of the others, but less attempt is made to model the figure; from shoulders to feet (which are not indicated) it is hardly more than column-form (see No. 1), and the hands, which hang straight down the sides, the slight indication of breasts, and the drapery, are carved in very low relief. In section, the ivory is as two joined segments of a circle forming acute angles at the points of junction. The drapery is an Ionic chiton, undergirt and with apoptygma: and a veil passes over the hair to the forehead and falls behind the ears down the back.

[Found just within the S.W. corner of C enclosure, in disturbed deposit, see p. 41.]

- xxiv. 10. 5. *Statuette of a woman*, upper half only. H. $\cdot 055$ m. The figure mostly resembles No. 4 in style and attitude. The edges of the sleeves are decorated

with a pattern (fig. 30), and a similar pattern runs down the centre of the skirt. Over the forehead is a broad band of electrum attached by a bronze nail at each end; the continuation of it to the back and the fastening are indicated by engraved lines (see fig. 30).

[Found in the N.W. angle of *C* enclosure in disturbed deposit, see p. 43.]

- xxiv. 4. 6. *Statuette of a woman.* H. .098 m. The figure is very roughly modelled, being little more than a rectangular slab or rod, with the edges bevelled off and the upper part carved into a crude semblance of the human head and neck. The eyes are indicated merely by two circular drill-holes, the forehead is hardly indicated, the nose and mouth are roughly blocked out; the style suggests archaism, but may be the result of carelessness. The arms, hanging at the sides, are suggested each by two grooves, and a horizontal broad groove represents the girdle. The feet are not indicated, and the slab of ivory has been irregularly sawn away at the lower edge. The lower part of the figure shows traces of greenish colour (from contact with copper sulphate?).

[Found on E. side of the area beyond the inner *D* foundation wall; see p. 45.]

- xxiv. 2 a, b. 7. *Relief; nude woman with hands on her breasts.* H. .057 m. The figure stands in a stiff attitude, facing outward, the head and feet (now mostly broken away) almost in the round, the body in about half-relief against a thin rectangular slab, from the lower part of which a plinth projected for supporting the feet. The hair is indicated by a series of parallel engraved lines rising vertically from the forehead, and falls behind the ears in a thick mass on either shoulder: the manner of headdress, as well as the type of face, with broad curved nose and thick lips, suggests Egyptian influence. The modelling is stiff, but very careful. Between the feet is a drill-hole from front to back; and at the back is a sinking of the same size between the shoulders. The back is plain, but roughly scored with irregular lines. The ivory has a fine light-green tint, which appears to have been intentionally applied.

[Found lying on the stem of the *T*-foundation west of the Basis, see p. 37.]

[Not long after the conclusion of the excavation two ivory statuettes were offered for purchase by peasants in Smyrna, and came into private hands; one was subsequently bought for the British Museum, the other for the Fitzwilliam Museum at Cambridge. The authorities of the Cambridge Museum have very kindly allowed me to publish their specimen, and I give it, with the British Museum figure, on Plate xxiv. for purposes of comparison.

xxiv.
5 a, b, $\frac{2}{1}$. 8. *Statuette of a woman* (in the British Museum). H. .03 m. The figure is only blocked out roughly, but is intended apparently to be represented as fully draped, with a veil hanging from the back of the head down to the feet (which are not indicated). The head is disproportionately large, the eyes shown as in high relief by cutting away the surface around; the breasts and waist are fairly true to nature, the arms, hanging at the sides, are only slightly indicated.

(This statuette was acquired in 1907, from a private individual in Smyrna; its attribution to the Artemision, though probable, is only a matter of inference.)

xxiv.
9 a, b, c. 9. *Statuette of a woman* (in the Fitzwilliam Museum). H. .063 m. The figure is of the columnar type, with a slight splay at the lower edge, which may be due to the accidental form of the ivory block from which it was carved, but is more probably intended to indicate the natural outward spread of the drapery, as seen, for instance, in the Samian statue dedicated by Cheramyas. The head and ears are very large in proportion. The hair is confined in a cap, which is decorated with a pattern of crosses within squares (*cf.* the pattern on No. 1) indicated by engraved lines. The figure wears a long sleeved chiton with apptygma, girt at the waist, and has the hands and arms hanging down the sides, as No. 4. The feet are not shown, and there is no base.]

xxi. 2;
xxiv. 7,
11. 10. *Statuette of a Eunuch priest* (?). H. .11 m. This figure has been anciently mended in two places in the lower part of the front of the skirt, fresh pieces being inserted and the pattern continued over them. It rests on a circular plinth .07 m. high, which projects very slightly beyond the hem of the drapery all round. The hem is very slightly raised to show the toes. The figure is in general form like the preceding, with similar dress. Around the neck is a long chain of beads which hangs below the waist, and is grasped at the waist-level by both hands. In the ears are rosette-shaped earrings. The hair is almost entirely covered by a hat of nearly cylindrical form, splaying slightly towards the top, and sloping down towards the nape; it allows a row of curls to be seen over the forehead, and in front of each ear hangs a triple coil of hair which seems to terminate in a "τέτριξ" (as in no. 1). The dress is engraved with patterns, mainly the spiral-armed cross, and (once) a cross-hatched lozenge within regular vertical lines. On the broad girdle a band of squares containing smaller squares (see fig. 30). The form is somewhat squat, and there seems to be a deliberate attempt to impart a certain air of benevolence to the features.

From the centre of the crown rises a flat tongue or mortise, which seems to have been inserted in metal (?), portions of which still adhere to

it; the lower part of this is roughly scored, as if to give a purchase to the attachment.

xxiv. 6. 11. *Stand, with feet of figure*, H. .012 m. The stand (of which the front and back are partly broken away) consisted of a circular plinth, 1 cm. in diameter, supported by a vertical shaft or peg, which has been slightly hollowed out on the lower surface. The upper side of the plinth has an engraved circle described close to the edge. The feet, broken off just above the ankles, are close together, the r. slightly advanced. [W. area.]

xxv. 1 a, b. 12. *Statuette of a hawk*, resting on the top of a pole, as in no. 1, H. .046 m. The material appears to be wood. The hawk is seated, grasping with both feet close together a cylindrical object, perhaps intended as part of the bough of a tree; its figure is tilted backwards, so that it leans as much on its tail as on its feet. The feathers are very carefully carved, and the modelling of the head and feet finely rendered. The column has a slight projecting moulding around the upper edge, and two slight parallel grooves just above the lower edge. It is hollow for a distance of .015 m. from below, evidently for fitting on to some object, and has broken away on the front side so far as the hollow extends. [Basis.]

xxv. 6. 13. *Hawk on pole*, H. .034 m. The material appears to be wood. The body of the hawk is not detached from the pole, and forms a continuation of it between the tail and feet; the feet are close together and grasp a short horizontal rod; the beak is broken away, and the lower edge of the pole is notched upward in V shape, probably for adjustment to some other object. Although very carefully modelled in general forms, it shows little detail; this may have been indicated in colour, of which traces remain in some vertical strokes on the back of the head and on the breast; around the pole is a series of wavy strokes in the same colour. [W. area.]

xxv. 8 a, b, $\frac{2}{1}$. 14. *Hawk*, probably as preceding, but broken off at the feet. H. .015 m. The surface is partly covered with copper sulphate, as if it had been lying next a bronze, but it seems also to show traces of a reddish pigment. The plumage has been indicated by a series of shallow incised lines. [W. area.]

xxv. 2 a, b. 15. *Hawk*, apparently from pole. H. .022 m. The feet are broken away, but probably rested on a cylindrical pole, as part of the boring still appears inside the tail. The modelling is very careful; the breast feathers are indicated by an incised chequer pattern. The wing has a deep brown stain. [W. area.]

xxv. 4. 16. *Hawk*. H. .016 m. Broken off above the feet, and surface somewhat injured. The head has been drilled through and amber knobs inserted to

Y

represent eyes; the feathers in the wings are represented by a series of roughly engraved dots. [W. area.]

xxv.
3 a, b.

17. *Hawk*. H. .04 m. Beak only wanting. The feet, as usual, are close together, grasping a rod; the space between legs and tail is filled in. Carefully modelled, with feathers indicated by engraved scale pattern on breast and cross-hatching on wings; the eyes are drawn like the archaic human eye. Below is a small plinth, following the shape of the under surface of the figure, and in the back portion of this is a small tubular drill-hole for its attachment. [W. area.]

xxv.
9 a, b.

18. *Hawk*. H. .05 m. Lower part with legs and tail broken away. The wing feathers are indicated by engraved lines, the rest of the plumage by rows of short hatching, also engraved. [W. area.]

xxv.
5 a, b.

19. *Hawk*. H. .026 m. Rests with feet wide apart on a narrow plinth, the front edge of which is gripped by its claws; the tail projects below it at the back. Below this plinth the surface is cut down so as to form a nearly square peg, probably for insertion. The eyes are each indicated by a single large engraved circle, with central dot; they are more like those of an owl, but the length of wings points to a bird of the hawk tribe. No other trace of detail marking. The wing has turned nearly black. [W. area.]

xxi. 1
and
xxiii. 3
(slightly
less
than
 $\frac{1}{2}$).

20. *Statuette of a lion*. Present H. .09 m. Length .115 m. The upper jaw, with nose and part of the r. eye, l. ear, tail except stump and end on back, l. forefoot, r. fore and hind leg from near knee, are wanting. The ivory has split longitudinally into many slivers, and some of these have warped slightly, so that an open space is left along the back, now filled with wax.

The lion strides forward, its jaws wide open, and tail arched over its back; the mane is indicated in the conventional manner of Oriental art by a regular pattern (fig. 30), which, however, is only carried as far as the centre of the neck above and below. Speaking generally, the execution of detail, which is minutely modelled on the l. side, is neglected on the r. side, which is brought to a flat plane, as if it had rested against something. From the appearance of the tooling in the parts adjoining this plane, it would seem to have been carved while thus attached.

[Found in an isolated pocket, within the S.W. corner: see p. 43. Cf. the similar lion on the ebony comb in the Louvre, published in Perrot and Chipiez, ii., p. 760, fig. 419.]

xxi. 3
and
xxv.
12 a, b, c.

21. *Statuette of a lion*. H. .035 m. L. .08 m. It is represented as leaping downwards, so that its chest and forelegs rest on the ground while its hind legs are still in the air; its head is turned to l., with jaws slightly open and

fangs bared in a snarl. The mane is indicated by a raised surface left plain, standing out like a hood; the details of the muscles, etc., on the legs, are treated in the conventional manner of Oriental ("stamped leather") art; the tail, which passes between the hind legs and lies along the l. side, has an ornamental ring immediately above the terminal tuft of hair. In the centre of the chest is a rectangular sinking for a support, $\cdot 009 \times \cdot 005$ m., and $\cdot 01$ m. deep, and the forepaws are flattened so as to rest on the same base as this support. If this was so, then a parallel line would touch the crown of the head (which is slightly flattened, and has had a bronze pin inserted in it) and the end of the back. The inference is that the lion was within an upper and lower border; his tail is in an unnatural position because of the upper border. The hind feet are curiously modelled, with a thin member running from the hocks to the toes.

[Found with no. 3.]

- xxi. 4
and
xxiii. 1. 22. *Statuette of a Sphinx.* H. $\cdot 045$ m. L. $\cdot 043$ m., seated on a rectangular plinth $\cdot 003$ m. thick, and $\cdot 04$ m. by $\cdot 015$ m. The wings are raised and recurved, the tail (which has the usual raised ring above the terminal tuft) is arched over the back. The hair is modelled in longitudinal raised ribs engraved with zigzags; it is confined with a band on the level of the ears and terminates on the shoulders in spirals. The wings are joined to a band of raised scale pattern which passes across the chest; the feather surface is rendered by alternating longitudinal bands of hatched lines separated by raised lines. The forelegs have the raised panel work which is characteristic of Assyrian sculpture. On the under side of the plinth, beneath the forefeet, has been a shallow irregular circular sinking, about $\cdot 01$ m. diam., now filled with some hard material; this may have been used in its attachment to some object.

[Found with nos. 3 and 21.]

- xxi. 5. 23. *Relief of an ibex couchant*, with head resting on its back. The shoulder and flank are each engraved with a pattern consisting of a zigzag within concentric circles (see fig. 30). The rev. side is quite flat and rough-tooled, and has evidently been attached to something; in the lower part is a square projection ($\cdot 015$ m. square) pierced vertically and horizontally with a hole $\cdot 05$ m. in diam. On the face of it is engraved a pattern (see fig. 30).

[Found with no. 3. A bronze relief of a goat or agrimi couchant to r. of this type, and with a precisely similar attachment at the back, was acquired by the Museum in 1882; it was said to come from the Troad; it has around its neck a cord with a bell(?) attached. (See below, p. 177, fig. 33.)]

- xxvi.
1 a, b. 24. *Bull seated.* H. $\cdot 028$ m. L. $\cdot 038$ m. Horns and right ear broken away, otherwise complete. The point of view is from the bull's right side,

Y 2

towards which its head is turned. It is placed on a thin plinth of this form, seen from below, the surface of which is lightly scored with irregular crossed oblique lines, probably intended to assist the adhesion of the medium by which it was attached. The bull's legs are folded beneath it, the l. hind foot appearing above the r., the tail coiled round. At each end of the plinth a small circular hole has been bored upwards to a depth of about $\frac{1}{2}$ cm., for its attachment to something; one of these holes is double, probably in consequence of a correction.

[Found embedded in foundations of *D* south *cella* wall.]

xxvi.
5 a, b.

25. *Seated ram*. H. .025 m. The figure reclines to l., on an oblong plinth, roughly .045 m. long by .025 m. wide, of which the upper and under surfaces are both convex. The details of head, tail and feet are indicated by finely engraved lines, and on the forehead is an engraved pattern of a palmette between two spirals inverted (fig. 30). Below the centre of the body a bronze pin has been run through from front to back, which has stained the ivory beneath it a light green colour. The l. horn is partly broken away.

[*Cf.* two very similar ivory figures found at Sparta, in the excavations of the British School at Athens in 1906 (*B. S. A.* xii., p. 320). Found near the S. end of the W. wall, at a level between -3.90 and -4.30: see p. 41.]

xxvi.
3 a, b.

26. *Relief, wild boar, couchant to l.* The modelling is treated in a purely conventional manner, the lines dividing the various main features, such as jaw, shoulder, flank being greatly exaggerated, so that the whole appears like a mosaic of disconnected pieces; the ear and eye are exaggerated in a form suggestive of a flower petal, and the mane is represented as a triangular raised surface extending from the jaw to the hindquarters. The nose is pointing downwards, and the position of the forelegs points to a seated rather than couchant position; it may be that the artist was desirous of suggesting the action of rising.

At the back, the relief is plain, but has a rectangular projection .02 long by .018 m., slightly rounded at the back, which is pierced with circular holes .005 m. in diam. vertically and horizontally (*cf.* No. 23, the ibex).

[Found in an isolated pocket, within the S.W. corner: see p. 43. A very similar figure of a boar in gold (?) from S. Russia is represented in Tolstoy, *Russian Antiq.* ii., p. 95, apparently either Ionic or imitated from Ionic work: *cf.* also below, p. 177, fig. 33].

xxvi.
9 a, b.

27. *Forepart of horse*. H. .055 m., width .035 m., projection .03 m. The figure is cut off vertically at the base of the neck, and was evidently intended for attachment as an emblema: for this purpose a circular hole $2\frac{1}{2}$ cm.

in diam. and about 1 cm. deep has been drilled out at the back. Around this section, but interrupted by the mane, is a raised band, engraved with two rows of dots separated by lines. Below the horse is a thin plinth, the upper surface of which is grooved from front to back with five deep lines, giving at the front edge a wavy section which may be intended to indicate the wavy surface of water: if so, the horse may be one of the horses of Helios rising out of the waves. The feet rested on this wavy surface, but of the legs only the stump at the shoulder and part of the l. foot are preserved: the face is also broken away. Around the neck is hung a necklace of beads (apparently cylindrical) with a heart-shaped pendant.

[The sinking at back shows clearly the use of a drill with a diam. of about 5 millim. and giving a central deeper hole of 2 millim.—possibly a kind of centre-bit. Six such drill-holes have been employed (one in the centre and five around it) for this sinking. S.W. part of W. area, see p. 43].

- xxvi. 10. 28. *Head of a horse*. L. .04 m. Broken away, so that it cannot now be shown whether it was designed as a separate head, like Nos. 29–32, or part of a complete statuette. The mane is indicated by a series of parallel curving lines drawn back and downward from the central parting.

The ivory is greyish black in colour, and may possibly have been originally stained.

[Found with No. 3.]

- xxvi. 8. 29. *Head of a ram*. H. .02 m. by .027 m. It has large horns, which curve round the back of the ears, so that the points are beside the eyes. The fleece is indicated by parallel zigzag lines. The head is cut sharp off vertically behind the ears, and in the centre of this surface is drilled a circular hole .09 m. in diam. and .015 m. deep, for attachment. [W. area.]

- xxv. 11 a, b. 30. *Head and neck of a duck*, with dowel for attachment. H. .055. A small piece of the l. side of the beak is missing, otherwise it is in perfect preservation. The modelling is exceedingly careful and minute, and very naturalistic, except in the case of the eyes, which have the same form as the eye in early black-figure vase paintings. The whole surface is punctured with minute dots, except the beak, and a narrow ring engraved around the neck.

The dowel (at present .018 m. long) is circular in section in the upper, square in the lower half. The lower half has been pierced with a circular hole from front to back, probably for a pin to secure the attachment.

[Found in an isolated pocket within the S.W. corner. See p. 43.]

- xxv. 7 a, b. 31. *Head of duck (?)*. H. .038 m. Front half of beak broken away, lower part cut away so as to form a circular peg for insertion. Carefully

modelled, in a decorative conventional way, with a ridge running along centre of head and neck. The eyes are prominent, with amber pins to indicate pupils, surrounded with two concentric circles very lightly engraved. [W. area.]

xxv.
10 a, b.

32. *Head of duck.* H. .027 m. Front half of beak broken away, lower part cut off square, and under surface drilled with hole. This is crossed by a smaller hole, which pierces the neck 4 mm. up transversely. The neck is curved, with three parallel bands in slight relief. The modelling is careful and fairly true to nature. [W. area.]

xxvi.
2 a, b, $\frac{2}{1}$.

33. *Head of a fawn.* H. .01 m. Although of very minute size, modelled with admirable skill; the eyes are hollow, and may have been filled with some material, such as glass paste. The ivory has a rich red tinge, which may be accidental, but aided by the natural markings of the material, gives an effect which seems intentional. [W. area.]

xxvi. 4.

34. *Plaque with relief.* H. .045 m. by .026 m. The thickness varies from 1 to 2 millim. The upper edge is bordered with a raised moulding about 3 millim. wide; the whole space below is occupied with the figure of a *Siren* standing to l. in low relief. Part of the face and of the advanced r. leg, and of the wing and body, are not given here, and were probably continued on adjoining panels. On the r. hand side, close to the upper and lower edge, have been drilled holes for attachment: the upper one has nearly all broken away, together with a portion of the field of the design. The hair of the Siren is indicated by a series of four parallel raised tresses with hatched surface curving round the face and terminating on the breast: around the forehead is a row of spiral curls. The wing feathers are modelled in relief, those on the body and legs are indicated by cross-hatched lines. The near wing is raised and was probably recurved, the other is closer to the body. In the centre of the forehead seems to be an ornament, probably that floral ornament which in Ionic art is frequently shown rising from the head of a Siren or Sphinx. The panel is slightly on the curve, but this may be due merely to warping. [W. area.]

xxvi. 6.

35. Rectangular *plaque* (H. .035 m. by .03 m.) with group in low relief, the *Goddess with the lions* (Πόρνια Θηρῶν). About one quarter of the plaque is wanting from the upper r. corner, but the subject is clear. Of the goddess, only the upper part of the r. wing, her r. arm from the elbow, and the lower part of her drapery and feet are preserved; the figure was evidently columnar, like No. 1, and the drapery is cut away, as in that statuette, to show the feet. The lions are grasped at the root of the tail and hang head downward, the forepaws touching the ground, the head turned upward with open jaws snarling. Of the r. hand lion the upper half is wanting.

The scene is bordered with a narrow raised edge which runs all round. Each side of the outer edge is carved with a raised moulding between two beads.

[Found under foundation of *B* enclosure wall on the S. See pp. 44, 63.]

- xxvi. 7. 36. *Part of relief.* H. .027 m. × .027 m. × .05 m. thick. Part of a narrow lower square moulding is preserved, and above it is, on l., a large curving object, perhaps part of a lotus flower (?), and on r., a portion of a double tendril. [W. area.]

[After the illustration was made a small further fragment was added at the l. lower edge.]

- xxvii. 1. 37. *Hawk with spread wings.* The outlines have been drawn on a slab 4 millim. thick, and then cut out *à jour*, some details being added with engraved lines on the upper surface; the under side is plain. H. .038 m. by .04 m. It has evidently been intended for attachment to some object, and for this purpose a circular hole has been drilled through the centre of the body. Part of the body and of the head are broken away, but portions of both eyes remain, indicated by incising. The wings are edged all round with a border consisting of a square filled with dots, alternate with an empty square.

[W. part of W. area.]

- xxvii. 5 a, b, $\frac{2}{1}$. 38. *Stud with relief, human mask.* H. 1 cm., W. .014. The head of the stud is a disc, on the front of which is carved in relief a human beardless face and neck to front, in archaic style. It has the appearance of having been reduced in size after it was carved, and this reduction has curtailed the hair. The under side is cut in a series of stepped circles tapering downwards, and was evidently intended to be fastened in some other object. [W. area.]

[Cf. the ivory stud in Perrot and Chipiez iii., p. 848, fig. 616 f.]

- xxvii. 3 a, b. 39. *Seal ring.* H. .033 m. Diam. of seal .029 m. A small portion of the rim is wanting, and has been restored in wax. The interior diam. of the ring is only .01 m.; it was therefore clearly intended only for suspension, and not for the finger. The handle terminates at each end in an ornament like the volute of an Ionic capital; the body of the seal is modelled in two broad members with narrow fillets on the inner edge, separated by a deep-recessed moulding, the whole suggesting the general form of the base of an Ionic column. On the flat side of the seal (the bezel) is a design in intaglio within a border of dots in relief. The circular field is divided in three by equal segments of circles, forming a triangular space in the centre. In each space is a gryphon couchant, looking back over its shoulder with wide-open jaws.

[Found outside the Primitive area, on the S.E., under the peristyle

level of *D*. This object was not given up by the workman who found it till some hours after its discovery, and the exact spot where it was found is, therefore, not certain.]

xxvii.
4 a, b, ²/₁ 40. *Head of panther* in relief, forming a *seal*. H. .01 m. The seal is of irregular oval form, measuring about 1 cm. × 1.2 cm. Between the head and the seal is pierced a small hole, probably for the metal ring on which the seal was mounted. The panther's head is roughly carved, the eyes each represented by two concentric engraved circles; an engraved band passes across the forehead below the ears; it is cut off short behind the skull, and stands out from a thin oval which forms the back of the intaglio. This represents a horseman to l. within a cable border, which again is in a slightly raised fillet. In the field on l. is a circle; style rough and archaic. [W. area.]

xxvii.
6a, b. 41. *Seal*, roughly lentoid in form, with slightly convex back. Diam. .014 m.; pierced transversely in thickness from top to bottom of the intaglio design, probably for mounting in a ring. Figure with high recurved wings, short hair, drapery to ankles, and girt at waist, walking to r.; the arms, perhaps from a misunderstanding of the engraver, are treated like spirals, with recurved ends; on r. is a twisting snake, head downward; on l. a bird, and above it a Λ-shaped object. Probably the subject is a misunderstood rendering of the Πότνια Θηρῶν type. In the centre of the back of the seal is a circular sinking (made apparently with a centre-bit of the same principle as that used for No. 27, but slightly smaller); this seems to have been filled with some other material, and the surface is scored to give a hold to the cement. It is surrounded with five equidistant groups of concentric circles. [Basis.]

xxvii. 2. 42. *Wheel of a chariot*. Diam. .05 m. A portion of the felloe and of two spokes is missing (restored in wax). As is usually the case with the wheels of Asia Minor, it has eight spokes; at the point where each spoke begins to taper is a carefully moulded collar, decorated with vertical pairs of engraved lines; on one side (presumably the *ext.*) each spoke has a central rib which extends into the felloe; the outer half of the felloe is slightly raised, and this raised part and the rim around the axle have an engraved pattern of squares separated by pairs of vertical lines (fig. 30); in the pattern on the *ext.* of the felloe, each alternate square is occupied by an H (fig. 30). The tyre is convex in section between two minute fillets, and the convex surface has an engraved pattern like that of the axles. The entire wheel seems to be carved out of one piece of ivory.

[Found with no. 22. Presumably this wheel formed part of a complete

model chariot; *cf.* Paus. i. 28, 2, where a bronze chariot (perhaps also a model) is dedicated in a temple as a tithe of war-spoils.]

xxvii. 9. 43. *Part of chariot wheel.* Greatest length .035 m. Apparently of wood. It gives only the axle with the thicker parts of the spokes, which terminate in a triple raised fillet as collar. The thinner part of the spoke is preserved partly in one instance, and wholly in another; allowing for the missing portion, the diameter may be calculated as about .05 m. The hub is not ornamented, the only decoration being an engraved line joining collar to collar on each side, slightly below the exterior surface. The number of spokes in this case is seven. [W. area.]

xxvii. 11. 44. *Fragment of a chariot wheel,* giving a segment (about $\frac{1}{4}$) of the tire of a wheel slightly smaller than No. 42, with the broken stumps of two spokes still adhering; the outer surface of the tire is like that of No. 42, with similar decoration; one side is plain, the other has an engraved pattern (see fig. 30). The number of spokes was apparently eight. [W. area.]

xxvii. 12. 45. *Fragment of a chariot pole,* giving the end of the pole terminating in a collar with two flanges, between which is set a short rectangular piece with a pin crossing it vertically and pierced by it. [W. area.]

xxvii. 7. 46. *Dish with two handles.* H. .015 m., diam. .068 m. Solid, clumsy form, as if imitating marble, with space hollowed out for *int.*, leaving a broad flat rim; the handles are very thick for the size, and cylindrical in section; in the centre of each, on the upper side, is drilled a circular hole to a depth of about 5 millim., probably for the attachment of a cover (?).

In the centre of the *int.* is a rosette of 16 petals on a sunk circular panel; eight similar designs, but with rosettes of eight petals, are arranged equidistant around the rim, with two parallel tangent lines connecting each to each. The *ext.* has in the centre a faintly indicated circular foot set in the midst of a number of radiating petals which reach the rim, indicated by grooved lines, forming a lotos flower.

[Found in the rammed earth between the E. extension wall of the Basis and the first parallel wall, see p. 45.]

xxvii. 10. 47. *Comb.* Length .09 m. by .06 m. It is of the double form, with broad teeth (10) at one end, and fine teeth (19) at the other. They are separated by a broad plain band, with a curved roll ornament on the borders outside; on the surface it has on each face an engraved linear pattern (see fig. 30); part of one of the roll ornaments only is missing.

[Found in an isolated pocket within the S.W. corner, see p. 43. See Perrot and Chipiez ii., pp. 759, 760 for similar combs in the Louvre.]

z

48. *Double axe (Labrys)*. Length .04 m., H. .018 m. The form is very carefully carved, the two sides being brought to an edge which is almost sharp. In the centre of the upper side is fixed a loop of thin bronze wire, which has much corroded; it is probably the oxide from this which has imparted a rich bluish-green tinge to this axe. The surface shows traces of working over with what appears to have been a file. [Basis.]

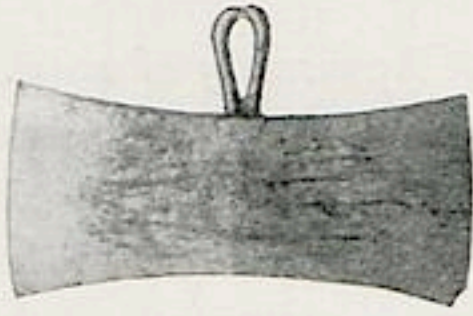


Fig. 31.—Ivory double axe (no. 48).



Fig. 32.—Ivory double axe (no. 49).

xxvii.
8 a, b, c.

49. *Double axe*, as preceding. Length .016 m., H. .01 m. Also worked to a fine edge, pierced transversely through the centre for a handle, of which no trace remains. Perhaps once held in the hand of a goddess statuette, see p. 337. [W. area.]
50. *Fragments of a circular beading* of three different sizes, decorated with a pattern formed by pairs of transverse incisions in the outer curved surface.

Ivory in all ages has ranked as a precious material, especially in European countries, where its supply has depended upon importation either from India or Africa. Its fragile and perishable nature moreover renders it easy of destruction; and these reasons are sufficient to account for the comparative scarcity of ancient ivories which have survived to our times. The chryselephantine sculpture of the fifth century B.C. must have had a pedigree going back probably many centuries, but of the preceding stages out of which this was evolved, we know almost nothing. The employment of ivory in thin slices, as a veneer to cover a large surface of some other material, presents difficulties which were probably not surmounted until a comparatively advanced stage of art, but it was presumably used in this way already at an early period (as some of the pieces in this series also show) for inlaying in small thin strips. For carving in the round, its utility is for obvious reasons limited to objects of small size; but this very fact, combined with its close texture, made it an attractive material for the carving of delicate miniature work, as we see for instance in the tiny statuette (No. 8), and in the plaque with the relief of the goddess holding the lions (No. 35).

The desire to enhance the effect of the fine surface of ivory, either by the addition of gold or by colouring, has probably always been felt by artists. In the Ephesus ivories the evidence of the employment of gold for this purpose is

limited to one example, the statuette No. 5, which has an electrum fillet around the head; this at least shows that the process was not unknown to the Ephesian artists, and in view of the evidence which Mr. Hogarth found of the application of gold foil to wooden statuettes, it is probable that (as at Nimrûd) this method was not uncommon at Ephesus. Homer, in the *Iliad* (iv., ll. 141-145), compares the flesh of a wounded hero to the ivory which is tinted beneath the fingers of a Lydian or Carian woman. Considering the close relations which existed between Ephesus and the Lydian kingdom, it is probable that the Ephesian artificers were well acquainted with the art of tinting ivory. A minute examination of the objects here described has failed to produce any conclusive evidence of tinting, although in some cases this seems probable; the uneven discolouration of some pieces suggests that parts of the surface were better protected than others; it is likely that the liquid mud which caused this discolouration in the ivory may have destroyed the traces of surface colour. The tendency to colour-effect, however, is shown for instance in the case of the nude statuette (No. 7), where the green tint appears to be too uniform in tone to have been caused by the mere accidental juxtaposition of bronze; it suggests the imitation of some other material, such as Egyptian "porcelain." The amber eyes of the hawk (No. 16) and of the duck (No. 31) may perhaps be regarded as due to the same tendency.¹

In comparing the statuettes with the rest of the ivory objects, it is curious to note how greatly superior in freedom and the rendering of nature is the skill shown in representing the animal forms. This does not appear to be traceable to any marked difference in point of date, but rather to the characteristic which Ionic art shared with that of the Asiatic Empires. It may possibly be due in some measure to the fact that in early art most of the human figures in the round are figures of divinities, and are therefore subject to certain hieratic or conventional limitations. But that this is not altogether the case is shown, for instance, by the seated figures from Branchidae, which are under no such limitations, and yet exhibit the same stiffness of pose as the statues of divinities which belong to the same period.

The human figure in the round seems to have been always the latest stage in the evolution of the plastic arts. Whereas the two lions, the seated bull, and the duck's head exhibit a remarkable freedom and truth to nature, the human figures, even the best of them, are absolutely stiff and immovable. They are without exception of the "columnar" type familiar in statues of the

¹ The same uncertainty prevails as to the tinting of the Nimrûd ivories. In one case at least the whites of the human eyes appear to be left in the natural colour of the ivory, in contrast with the darker tone of the face. Some again seem to have a bluish tinge.

early Ionic school, so much so that the length of the real "column" (from the waist downward) seems, in Nos. 2-4 at least, to be a matter of indifference to the artist, the feet not being indicated or even suggested. In order to cover defects of modelling, drapery, without indication of folds, is made to fall with an unbroken surface from the waist downward. Gradually some little advance is made in indicating the form of the breasts, and in two cases the drapery is slightly lifted to show the feet; but it is only in No. 1 that any real attempt is made to render the forms beneath the drapery, and even here the artist has endeavoured (as in the Assyrian sculptures) to conceal the poverty of modelling by an excessive richness of surface decoration. The most interesting evidence of development is shown in the treatment of the eyes. In the figure with a distaff (No. 3) the eyes and eyebrows are rendered by hard deep grooves and the eyeball by a drilled hole, the result being a harsh staring effect. This treatment is universal among the ivories of Nimrûd. In the priest (No. 10), a statuette which in other respects shows a considerable advance, this same treatment is found in a modified form. In No. 4 there is an attempt to render the natural form of the eyes, and in No. 1 there is a definite indication of the eyelids. Here the eyeballs are treated (as in some early statues) as if they were pushing outward through the slit skin, but this is the stage that immediately precedes the true rendering of nature.

It is a noticeable fact that of the ten complete human figures here described no less than nine are undoubtedly statuettes of women. Assuming (what is fairly evident) that they were votive offerings at the shrine of Artemis, we should naturally expect to find among them figures representing one or other of the types of the Goddess as we know her, for instance, from the terra-cottas (see p. 199). The question then arises, do these figures represent divine or human personalities? At first sight it would appear that No. 1, at any rate, with the remarkable hawk-topped pole surmounting her head, must be a divinity, and if so, the inference would apply to No. 3, which also has a hole sunk in the crown of the head, and, in a less degree, to No. 2, which holds a pair of hawks. No. 3, holding a distaff and spindle, might in that case represent a type of Artemis, as Ergane, a character which in Hellenic cults is found appropriate to other female divinities beside Athena. Judging, however, from the analogy of similar cases, as, for instance, the archaic female statues of the Acropolis at Athens (which offer the nearest analogy to our series), I am disposed to regard these ivories as statuettes of priestesses. Mr. Hogarth has already (p. 2) alluded to the primitive tradition of the Amazon occupants of Ortygia as indicating a cult in which the principal share was borne by *παρθέναι*, and it is,

of course, a commonplace of Hellenic sacred art that the ministrants may be represented in the dress and with the attributes of the deity they serve. The nude figure holding her breasts (No. 7) is probably an exception to this rule; but this statuette is, in other respects, exceptional; it is really a relief, and not in the round; the treatment of the hair is essentially un-Hellenic, and the figure recalls rather the Oriental Istar-type, to which the nudity is appropriate.

If, then, the female statuettes may be regarded as priestesses, we should naturally expect that one prominent figure of the Ephesian hierarchy would not be omitted. Newton, in his *Essays*, p. 230, has drawn attention to the quasi-regal supremacy of the Megabyzos, the Eunuch chief-priest of the Artemision; the statuette No. 10, which is fairly advanced in other respects of technique, has no such indication of the breasts as appears in the other statuettes of its style; it is, therefore, presumably male. On the other hand, the sleek, rounded forms of the face, the arrangement of the hair, and the long-sleeved chiton, would naturally suggest a woman. If we examine the well-known Archigallus relief in the Capitoline Museum,¹ or the statue of a priest of Cybele at Cherchell,² we find that these are precisely the characteristics which in both those cases mark the type. A further feature, which is even more characteristic, is the broad fleshy nose and the pulpy back of the neck: these are particularly well seen in the Cherchell statue. At Boghaz-Keui is a group of a tall figure of a goddess, armed as a man, who places her arm round the neck of a second figure whose general appearance compares with that of our ivory: this figure has been identified by Sir W. Ramsay³ as a eunuch priest.

If we may accept the identification proposed, the little ivory statuette acquires a peculiar importance as being the only representation which has survived in art of an interesting functionary who is otherwise only known from literary sources: the name Megabyzos seems to indicate an Oriental origin, and—especially by comparison with the ivories of Nimrūd—it is difficult not to see traces of an Oriental type in the features. We may thus learn interesting details of the ceremonial appearance of this functionary: the chain which hangs around his neck, and which he significantly grasps with both hands, is probably his chain of office⁴: the Cherchell figure wears a somewhat similar chain, but in that case it passes around the head, and has the ends hanging loose from the

¹ Helbig, *Führer*, i., p. 321, no. 422.

² Gauckler, *Musée de Cherchell*, Pl. xv., 3. "Le nez charnu aux narines arquées, les chairs grasses et flasques du cou, du menton, et des joues, sont rendus d'une façon heureuse."

³ Who kindly called my attention to it: see *The Historical Relations between Phrygia and Cappadocia*, in *Journ. Royal Asiatic Soc.*, 1883, p. 115.

⁴ Chantre, *Mission en Cappadoce*, p. 151, publishes a statuette of a figure similarly grasping two long plaits of hair, which recalls this type.

shoulders to below the knees: Waille describes it as a *catella e punicae mali intextis calycibus informata*: Gauckler calls it a "bandelette de laine": in our instance it seems to be composed of beads of some hard material. Probably the curious fez-like cap, the broad decorated belt, and the mode of dressing the hair, with a plait looped in front of each ear, may be regarded as part of the same ceremonial costume.¹ In that case, it is possible that a similar explanation may be found for the unusual headdress of the distaff figure No. 3, who also, it will be noticed, has a necklace of large beads, a dress with long full sleeves, and the same plaits looped in front of the ears.

This last figure, as has been said, has a hole in the crown, presumably for the support of a hawk-pole similar to that of No. 1: Nos. 12-19 are apparently portions of such attributes. At first sight these pole-supporting figures suggest a Caryatid function,² but in the case of No. 1 we see that the figure stood free. It is worth noting that the marble figure found in the Polledrara tomb (Micali, *Mon.* Plate VI.), which holds in one hand a hawk of bronze, and in other respects also offers close analogy with our ivory No. 1, has a similar hole sunk in the crown of the head; this may quite possibly have supported a hawk pole.

The occurrence of hawks on poles or columns in art is not unknown, though rare: and most of the known instances occur in Asia Minor. Körte found at Gordion an ivory head of a bird which seems to resemble our hawks; but it was much damaged, and incomplete below, so that it is uncertain whether it belonged to this type or not.³ Chantre bought in Cappadocia⁴ some bronzes which appear to be poles surmounted by hawks. But the nearest parallel is that offered by the stone columns supporting hawks which were found outside the tumulus at Kara Kush,⁵ where the religious significance of the monuments seems to be undoubted. The fact that these are of considerably later date is no real objection, when we remember the durability of religious tradition in remote regions. It is possible that the type may have been borrowed from Egypt: the hawk on a pole was a well-known Egyptian standard; and at Nebesheh, Petrie found a column surmounted by a hawk.⁶

The metal dish which the ivory figure holds in her l. hand is exactly

¹ The pierced rectangular addition above the fez was probably intended as a tenon to be fitted into some object which the figure supported.

² As in the Naxian dedication at Delphi.

³ *Gordion*, p. 117.

⁴ *Mission en Cappadochie*, pl. 24.

⁵ Hamdy et Osgan, *Tumulus de Nemroud Dagh*, pl. 8.

⁶ Petrie, *Tanis*, ii. (*Nebesheh*), p. 9.

analogous to one found in the Polledrara tomb (Micali, *Mon.* pl. viii, 2). This dish is much too large and otherwise unsuitable for libation, and more probably belongs to the temple service (perhaps a *περιρραντήριον*?). This constitutes another argument in favour of the type being that of a priestess rather than of a goddess. Mr. Hogarth suggests that this may possibly be the *φιάλη* or collecting dish of the temple (see above, p. 135), which seems to me very likely. The same may apply also to the ivory model of a *phiale*, No. 46.

To the same temple service probably may be assigned the seal ring (No. 39); the signet was of course from early times—especially in the East—a symbol of office and of power. It is difficult to suppose that a seal intended for actual use would be made in so fragile a material as ivory, nor could this one ever have been worn on the finger. The form of the hoop suggests a metal origin. It may be that this ivory ring is a ceremonial copy of the temple signet, intended only to be worn attached, it may be, to a chain around the neck or waist, as is shown, for instance, on terracotta statuettes of priestesses from Achna in Cyprus.¹

It is difficult to determine what purpose these statuettes can have served; while there is no evidence in most cases to show that they were parts of other objects (in the case of the Megabyzos alone this is possible), there is no evidence of their having been attached to plinths, and not one of them can be stood upright on its present base. The Megabyzos has in two places received an injury to the drapery, and has been repaired, apparently at a subsequent date, by the insertion of pieces of ivory let in. It would seem therefore that between the time of its carving and the time when it was buried this ivory must have been in some place where it was exposed to damage. If the identification of this figure is correct, it can hardly have been in common use. The inference is that this statuette, and probably the others also, were in the shrine for some time before they were deposited in the temenos where Mr. Hogarth found them. We know that, at any rate in Roman times, the Artemision had become a complete museum of art.

In one ivory alone (if we except No. 7, the nude woman with hands on breasts) is the goddess certainly represented, and that is in the tiny relief (No. 35) representing her winged and holding two lions by the tails, the *Πότνια Θηρῶν*. M. Radet has recently published² a terracotta slab or brick from Sardes which has a relief of the same subject; he proposes to differentiate between the winged and wingless type of this figure. It is certainly remarkable that in most of the known Greek renderings she has wings, while in the

¹ e.g. *B. M. Cat. of Terracottas*, A 67.

² *Comptes Rendus de l'Acad. des Inserr.*, 1906, p. 283.

Nimrûd ivory on Plate xxix. she has none. On the assumption that the Nimrûd example is of Oriental fabric, one would expect the reverse to be the case. If however (as I believe) both ivories are assignable to a Western origin, M. Radet's argument hardly holds good. At the period to which these objects belong, the artistic type of deities—especially of semi-Oriental deities, like the Artemis of Ephesus—were still indeterminate; indeed, the terracotta statuettes show us this: the similar figure on the electrum plaques (Pl. viii.) is wingless: and consequently, we must not lay too much stress on the presence or absence of wings.

Of the remaining objects, a large proportion consist of representations of animals; that is, perhaps, only what might have been expected in the cult of a divinity who in her primitive form was Mistress of the animal world. At the same time, one is reminded that, at a later date at any rate, Ephesians had special facilities for the study of natural history. We know that Xenophon dedicated in Lakonia a temple in imitation of the Ephesus Artemision, to which was attached a park full of sacred deer and other animals; and it would thus seem that the Ephesian Artemis had—probably from early times—a *paradeisos* on the Persian plan, well stocked with game. Among the objects mentioned as dedications in the Salutaris inscription are representations of animals; so that there is probably good reason why we should find at Ephesus statuettes of this kind.¹

Several of these were evidently made for attachment—whether to boxes, vases, furniture, or what not, we have, unfortunately, no means of judging. We know from the descriptions, for instance, of the Delphian dedications by the Lydian monarchs, that human and animal forms played a considerable part in the decoration of Ionic metal ware; and this is apparently reflected in the plastic decoration of both Lesbian and Italic *bucchero*; a comparison of the horse-protomi on the brazier of Polledrara (Micali, *Mon.* pl. viii. 1) with our ivory No. 27 may perhaps indicate the sort of use to which such objects may have been put. In some instances, the form of attachment at the back suggests that the relief was intended to mask the point of junction of rods which crossed each other, probably in some object of furniture, such as a tripod. The seated ibex (No. 23) and boar (No. 26) each have such an attachment, pierced transversely, which on this hypothesis would have held the ends of four rods; or, as the holes are both vertically and horizontally drilled through, one rod might pass

¹ In the sanctuary of Artemis Orthia at Sparta, which offers certain analogies to that of Ephesus, a prominent feature of the finds is the number of votive animals in ivory and other material; see *B.S.A.* xi., pp. 320, 331; the ivory seated rams and bulls, p. 320, fig. 2, are hardly distinguishable from our nos. 24, 25.

continuously through, and the ends of two others abut on it at right angles from opposite sides. I give here (fig. 33), for the sake of comparison, two bronze

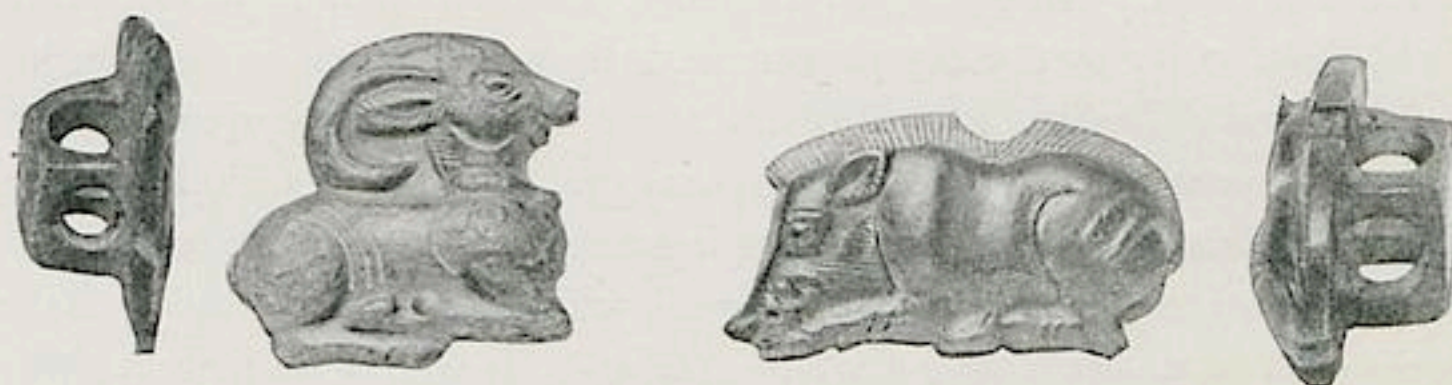


Fig. 33.—Bronze ibex and boar in the British Museum, each in two views $\frac{1}{4}$.

statuettes in the British Museum, which were evidently intended for the same purpose, and which closely resemble the two Ephesus ivories both in size and style. The ibex was acquired in the Troad; the provenance of the boar is not known; both are arranged for rods of about 8 mm. in diameter, or about double the diameter of those of the ivories.

When now we come to consider the general characteristics of these ivories, I think there can be little doubt that we must attribute them to local manufacture; apart from the proposed identification of the statuettes, which connects them with the local cult, there are other considerations which seem to confirm this. In spite of the present scanty knowledge of Ionic art, the statuettes generally (especially No. 1) conform absolutely with the style as we know it from the Island sculptures and from Ionic sculptures, for instance, at Delphi and Athens; the soft roundness of the forms, the highly decorated flowing drapery, which is slightly cut away to show the feet, and the love of minute detail, are all features of Ionic art which are found in these ivories. In the animals again, we find exhibited the Ionic faculty for seizing on certain details and rendering them in a way which, if not exactly conventional, produces the highest decorative effect; a notable instance of this is the seated boar (No. 26), which, while it is not untrue to nature, is an admirable piece of decorative composition. The seated ibex (No. 23) recalls of course the friezes which are characteristic of one phase of Ionic vase painting which is misleadingly called "Rhodian." Lastly, the details of the patterns engraved on the dresses of the ivory statuettes find their nearest analogy in the fragments of painted pottery described on p. 221 foll., which have so far been found only at the Artemision, and also in the decoration of the dresses on the fragments of sculptured marble from the temple (pp. 297-8), and which can scarcely have been executed except on the spot.

If then these ivories are a local Ionian product, it becomes necessary to

consider how far the question of other known classes of ivories is affected by this result. As far as the mainland of Greece is concerned we have as yet not much material which suggests comparison; Perrot (*Hist. de l'Art.* vi. p. 948) points out that, as far as the Mycenæan Age is concerned, it is only in the later tombs that ivory begins to appear, except in very small quantities. The excavations at present proceeding in Sparta have produced a number of ivories of a somewhat later date; among them however is a seated ram, which is the exact counterpart of our No. 25, and a seal, which on one of its four sides has a design which is analogous to that of No. 39. It would be rash at this stage to hazard a conjecture; but it may be pointed out that, as the material came from the East, and as we know that the Ionic schools were influencing the art of the mainland in the seventh and sixth centuries B.C. it is possible that, if not these ivories themselves, their makers may have come to Sparta, directly or indirectly, by way of Ionia.

The nearer we come to the East, the more frequently we find ivory objects; the ivories from Enkomi in Cyprus hardly offer a fair comparison however, as, in common with most early Cypriote art, they exhibit for the most part a mere local adaptation of Mesopotamian or Egyptian design. In an article in the *Römische Mittheilungen*, xxi. (1906), p. 328, Pollak attempts to prove that certain ivory reliefs, found chiefly in Etruria, are to be referred to a Cypriot-Ionic origin. He points to the fact that at the middle of the sixth century B.C. (to which date these reliefs belong), Cyprus was, politically speaking, Assyrian; and proceeds to the suggestion that such Assyrian influence as came into the art of Ionia and Greece came in the first place through Cyprus. It is certainly true that the Enkomi ivories show a marked Assyrian influence working on a sub-Mycenæan tradition; but whatever date we assign to the Enkomi tombs, these can hardly be as late as the period referred to; and so far we have no evidence whatever that ivories of Ionic style were being produced in Cyprus in the sixth century. The history of Cypriote art shows very little, if any, trace of influence exerted by it on the art of the mainland, even assuming that Cypriot-Ionic ivories were being produced at this date; and the very fact of Assyrian domination of the island would surely have precluded it from trade relations with the mainland of Greece.

The ivories of Knossos, on the other hand, belong to a period too remote for comparison with ours. In Rhodes, however, we are nearer to Ionia; and the great "well" at Cameiros has yielded a series of ivories which seem to offer a fair comparison with those under discussion. As these have never

been adequately published, I have reproduced all the more important on pls. xxx.–xxxi. (two others are given in slightly enlarged scale on pl. xxviii.).

- xxviii. 1. Mask of a woman. H. .033 m. W. .033 m. Perrot and Chipiez, iii., p. 850, Figs. 620, 621.
 4, $\frac{3}{2}$; Pierced vertically in centre with a hole .05 m. in diameter for receiving a pin on which it probably
 xxxi. 14. worked as a swivel. The eyebrows are slightly in relief, the eyeballs in relief with engraved dot for pupil. The ears face to front, with lobes of exaggerated length. The stephane (?) is decorated with two bands of zigzag alternately with plain bands; below it is a narrow band, perhaps intended to represent the hair. The hair at each side is conventionally rendered by a series of deep grooves combining to form a kind of wave pattern. At the back, which was slightly curved (in a horizontal sense), half the surface of the ivory has flaked away; the r. half remains, showing the hind half of a lion springing upwards to l. This is in intaglio, and enclosed within an edging of dog-tooth pattern; the whole object may therefore have been a seal.
- xxviii. 2. Similar mask. H. .03 m. W. .02 m. Pierced as preceding, eyebrows engraved; stephane,
 1, $\frac{3}{2}$; two rows of dog-tooth and two plain bands alternate. The hair falls on each side of the neck in two
 xxxi. 20. straight tresses, slightly rounded, and hatched.
 The back is flat, and is decorated with an engraved oblong, which has on one side a single and on the other a double dog-tooth pattern. Probably a seal.
- xxx. 14; 3. Mask (r. part wanting). H. .037 m. W. .025 m. This again is pierced vertically, though the
 xxxi. 17. ivory is not more than 4 cm. thick. Style exactly as last, stephane as no. 1. Back flat, with hind part of sphinx to l, in engraved outline; within a square border formed by an engraved line.
- xxx. 18; 4. Part of mask. H. .035 m. Present width .02 m. Nearly all the face, except the outline
 xxxi. 21. of the r. cheek and part of the chin, has split away; the mask was apparently as the preceding, but the vertical locks hanging on each side formed a decorated edge to the panel, on which the ear projects; on the neck on each side is a lock with spiral ends, indicated by shallow engraved lines. At the back (which is flat) is on each side a border worked like the vertical locks of hair.
 This mask seems to have formed the lid of a box (?); at the upper end it is pierced transversely for a rod which probably served as a hinge; and below the chin it is pierced for the attachment of a pin or handle for lifting it.
- X xxx. 16; 5. Statuette of a nude woman (Goddess?). H. .065 m. The back is only slightly modelled,
 xxxi. 19. being nearly flat. The arms are slightly indicated as hanging at the sides. Headdress like no. 2; above the forehead two rows of curls surmounted by a fillet. Pupils not engraved, but may have been indicated in colour. R. elbow, l. knee and feet wanting. A black stain (from burning?) all down r. side. Pierced transversely across fillet. In the centre of the crown has been a triangular tenon, now broken away.
- X xxx. 15. 6. Statuette of similar type. H. .052 m. Here the back is flat, and not modelled, and the legs terminate a little below the knees. Head-dress as no. 2. Eyebrows indicated by deep engraved lines; eyes circular holes which have been filled with metal (silver?), of which part still remains; here and there traces of reddish colour remain. R. arm and l. upper arm broken away. In the crown, two small sinkings for pins, and between the knees a larger hole.
- X xxx. 17. 7. Bone statuette of similar type. Perrot and Chipiez, iii., p. 849, Fig. 619. H. .065 m. Much cruder. The head is in higher relief than the rest of the figure, which is little more than sketched out, the effect heightened by a deep groove around the outline; broad high head-dress, left plain.
- X xxx. 9; 8. Janiform statuette. H. .058 m. Columnar, carved in form of two nude women in relief
 xxxi. 11. back to back, resting on a circular plinth decorated with a double row of beads. The women are of the same type as no. 5; their conjoined ears are represented by a dotted ring; their high head-dresses make a circular moulding, which is scored with horizontal lines; at the top of it is a drill-hole .014 m. deep.
- X xxx. 13; 9. Relief. Present height .027 m. Two women, of similar type, side by side, broken away
 xxxi. 16. below the waist. These figures are carved on a surface which is curved in section; the back is flat

and has a double band of wave pattern between two plain lines running along it. At the upper edge it is pierced transversely. Possibly a seal (?).

- xxx. 18. 10. Human right leg. H. $\cdot 042$ m. Split vertically from a figure in the round or in high relief, resting on a thin plinth; it is broken off at the waist.
- xxx. 10. 11. Bone plaque. H. $\cdot 042$ m. W. $\cdot 012$ m. Perrot and Chipiez, iii., p. 850, Fig. 622. Apparently complete, though the edges of the sides are slightly irregular. A lion in low relief standing to l. with forepaws raised, as if resting on an object not indicated; head averted to r. The design suggests a comparison with the favourite Minoan motive best known from the doorway of Mycenæ. Above and below, a raised border. The field is pierced above and below the line; and a third hole is drilled (now partly broken away) through the upper border. The back is plain, but shows traces of a design which seems to have been sketched out, but never completed; it consists of sets of concentric circles with a central dot, disposed alternately; they appear to have been made with some form of centre-bit similar to that which was employed for some of the Ephesus ivories. See especially the forepart of the horse, no. 27, p. 164.
[Perrot, *loc. cit.*, places this plaque on its side and describes it as an animal running.]
- xxx. 6. 12. Bone plaque. $\cdot 037 \times \cdot 02$ m. The surface has partly perished. The design is in engraved lines; a head of Hathor to front, in outline.
- xxx. 4. 13. Similar plaque. $\cdot 037 \times \cdot 017$ m.
- xxx. 1; xxxi. 1. 14. Plaque. H. on l. side $\cdot 02$ m., on r. side $\cdot 025$ m. W. $\cdot 035$ m. Within a narrow raised border, a scene in relief; a horse galloping to r., a bird with long neck (vulture?) seated on its back pecking at it; beneath the horse a fallen tree (?). The horse's tail has a bunch of hair at the end, and more resembles that of an ass. *Rev.* geometric patterns, partly engraved, partly in relief.
On each side a hole is drilled from the centre of the thickness obliquely to the back. From this and the form it would seem to have been intended as one of the side pendants in a chain or necklace, which widens towards the centre.
- xxx. 3. 15. Plaque on which is a sleeping quadruped. $\cdot 03 \times \cdot 038$ m. and $\cdot 01$ m. thick. The head is almost all flaked away; except from the character of the feet, which appear feline, it would seem to be a horse. Back plain. Pierced lengthwise through the thickness of the plaque; and a further hole is drilled at the upper r. corner. Under surface plain.
- xxx. 2; xxxi. 2. 16. Plaque on which is couchant bull. $\cdot 03 \times \cdot 015$ m. The muzzle of the bull rests on the ground, as if the animal were asleep. Pierced from front to back, through the body. The under surface is engraved with two longitudinal rows of a pattern consisting of triple zigzags, enclosing wedges and set opposite ways.
- xxx. 11; xxxi. 13. 17. Plaque on which is a couchant lion. $\cdot 02 \times \cdot 01$ m. The lion rests its head on the ground between its forepaws. Pierced as preceding. On the under surface is a design roughly carved in intaglio within a border formed by two lines joined at intervals: apparently a horseman, with r. arm raised, as if hurling a spear; behind him a tree.
[From the character of the design, this would seem to be intended as a seal.]
- xxx. 7; xxxi. 9. 18. Similar to preceding, but part has longitudinally flaked away. $\cdot 02 \times \cdot 012$ m. Similarly pierced. On the under surface, intaglio within a plain line, a bird amid branches (?).
- xxx. 5; xxxi. 3. 19. Plaque on which is a frog. $\cdot 025 \times \cdot 02$ m. The eyes are indicated by holes drilled vertically in the head. Pierced as preceding. On the under surface a pattern engraved, consisting of diagonal lines, with the quarters filled in with zigzags.
- xxx. 10. 20. Scarab. $\cdot 018 \times \cdot 01$ m. Pierced as preceding. Roughly carved; between head and body a raised band.
- xxx. 12. 21. Scaraboid (beetle?). L. $\cdot 019$ m. Apparently not a scarab, but a beetle of the cockchafer type; the wings are scored with engraved lines. Pierced longitudinally; under surface plain.
- xxx. 8. 22. Scaraboid. L. $\cdot 02$ m. Around the rim is a border formed of ten dotted circles within engraved lines, and in the centre of the back a group of four dotted circles. On the under surface, intaglio, a man leading a horse; above the horse's back a bird (?) flying downward towards its shoulder. Pierced longitudinally; slightly stained brown beside each hole, as if an iron ring had passed through.

- xxx. 5. 23. Stud of bone. Diam. .018 m. Through the centre a metal (iron?) pin has run, which has left iron oxide on both sides. The upper surface has a geometric design lightly engraved; within a hatched band, a flower (?) composed of segments of a circle.
- xxx. 15. 24. Bull. H. .01 m. Broken away slightly above the feet. Roughly carved.
- xxx. 8. 25. Ape, squatting with hands to mouth. H. .033 m. The eyes are represented by two drilled holes which communicate; the spaces between the body and the forearms, elbows, and calves are indicated by drilled holes; the forearms and legs form a continuous curve, parallel with the back.
- xxx. 12. 26. Grotesque mask. H. .025 m. Upper part broken away, showing where it has been pierced laterally; a flake also has gone from the surface of the forehead.
[Cf. the grotesque masks found in the sanctuary of Artemis Orthia at Sparta, *B.S.A.*, xii., pp. 338-343.]
- xxx. 7. 27. Bone mask of bull. H. .035 m. Eyes formed by silver (?) pins inserted; hair on forehead represented by pairs of zigzags lightly engraved. Pierced from front to back between the horns.
- xxx. 6. 28. Mask of bull. H. .035 m. Eyes not indicated. The horns form a semicircle. Pierced as preceding. Traces of vermilion colouring.
With these may also be included the following bone carving found in the excavation at Naukratis in 1888.
- xxx. 4. Head of beardless figure (in bone). H. .03. Modelled only as far as the base of the neck, where it terminated; hollowed in tubular form from base of neck to crown. Forms full and rounded; eye in Egyptian manner, with raised eyebrow and lids and raised prolongation at outer angle. Hair indicated by a raised surface, divided by deep horizontal and vertical grooves; the upper part of the crown has partly decayed, showing the cell structure of the bone; the back part of the neck is broken away.
[Cf. the very similar head in glazed porcelain published in *Naukratis II.*, pl. xix., 5.]

The point which at once strikes us in examining these Cameiros ivories is the absolute difference of type which they present as compared with those of Ephesus. With the exception of the female masks, which bear some analogy to the stamped gold and electrum plaques found occasionally in Ionic sites, there is hardly one which recalls Ionia; on the other hand, the nude female statuettes suggest an Istar type such as happens to be the only type from the Artemision (No. 7), which seemed to be an importation. In many of them again, such as the scarabs and amulets, the outline drawings in Pl. xxxi., 4 and 6, the Libyan head on Pl. xxxi., 4, show a strong Egyptian influence. We know from the general character of the antiquities found in the Cameiros well that they represent a civilisation very largely influenced by the Greek cities of Egypt, notably Naukratis, whereas the art of the Primitive treasure of Ephesus came very little under direct Egyptian influence, but more under that of Mesopotamia. Ephesus was not among the cities named by Herodotus as having contributed to the foundation of the Hellenion at Naukratis; and when we remember the close relations which united the Artemision, first with Lydia, and afterwards with Persia, this is only what we should expect.¹

¹ The five ivory statuettes found at Athens in 1891, in a grave containing Geometric vases, belong, as Perrot remarks (*Hist. de l'Art*, vii. p. 147) to the same category as those of Cameiros. The same grave contained also two lions of Egyptian faience with hieroglyphic inscriptions.

Loeschcke¹ in commenting on the Cameiros antiquities says that they belong "to one of those 'Mischculturen' to which we apply the generic term Phœnician." But he was writing at a period previous to the excavation of Naukratis, which did much towards altering our views as to the extent of "Phœnician" influence on Hellenic art. There cannot be many now² who still believe in this "*mirage Orientale*"; whatever romances Greek literature has to tell us of the early trade relations between Phœnicia and Greece, we are justified in questioning the artistic influence which such a nation of hucksters is likely to have exercised on an artistic people such as the Greeks. For it is not as if the Greeks had depended on the Phœnicians for their relations with the East. Knossos has shown us that the Minoan civilisation was already, at a remote period, in constant communication with Egypt; and apart from the inherent probabilities to be inferred from the study of trade routes, there is good reason to argue that direct communication had existed from an early date between Mesopotamia and the Greek cities of Asia; and, in short, that the Greek cities were as likely to influence the art of Assyria and Persia as that the reverse was the case. In order to illustrate this I have given on Pl. xxviii.-ix. a few of the Nimrûd ivories in the British Museum.

xxviii. 1. Relief, with figure of Goddess. H. .055 m., about .01 m. thick. The relief is in the form of a flat panel forming an inverted isosceles triangle, with a thin raised beading along each side. The whole length, excepting a recessed band above, which has been pierced with a row of holes for attachment, is occupied with the figure of a nude woman, who stands to front, with r. hand hanging closed at side, holding in l. on l. shoulder a lotus flower. She wears earrings in the form of a ring with three pendants, a necklace represented by a row of dots between raised edges, and bangles, and her hair is dressed in Egyptian fashion, suggesting a wig; over the forehead is a square ornament with seven pendent chains. The figure is carved in very high relief; on the panel above her head is a winged solar disc encircled with two Uræi, carved in low relief. The lower angle, with the feet of the figure, is broken away, and a piece across the panel with the knees.

xxviii. 5. 2. Panel with relief. H. .085 × .085 × .015 m. thick. The panel is nearly square, with two projecting square tenons on the upper edge (one mostly broken away) for attachment. In the centre is the relief, representing a woman's head in a wig and wearing a necklace, within a rectangular recess representing a window (?). The sill of the window rested on four small columns tapering upwards, with caps which seem to be adapted from the Egyptian lotus-form cap. This composition is enclosed on three sides by a border consisting of two stepped flat bands; and the whole has a projecting border consisting of broad bands at the sides joined above and below by a narrow band. The eyes of the woman have drilled holes for pupils.

[A similar ivory is published in Perrot and Chipiez, ii., p. 314, Fig. 129; and cf. *Enkomi*, p. 10, Figs. 17-18.]

xxix. 7. 3. Column in form of two women. H. .0135 m. The women stand in a stiff attitude, back to back, with hands at sides; they are nude and have long hair falling on the shoulders, with a twisted plait in front of each shoulder; it is surmounted by a high stephane divided by vertical lines into

¹ *Ath. Mitth.*, vi., p. 7 foll. ² *Hist. de l'Art*, iii., p. 850, foll.; but see vii., p. 147, for Perrot's more recent view.

panels. On the chest and shoulders is a series of three raised bands (a necklace or pectoral?). The type of face suggests a Libyan origin, with high cheek-bones and thick protruding lips. They support a capital formed of a bunch of leaves with overhanging points, suggesting the Egyptian lotus capital, between two thin disc-shaped members. Below the feet of the figures is a tenon partly broken away, which has been pierced horizontally; and in the centre of the upper disc is a large circular sinking.

[Cf. the Cameiros ivory above, p. 179, no. 8.]

- xxix. 1. 4. Floral relief, with gryphons. Original height .09 m. The lower part is detached, and a small piece between it and the main design is wanting, as well as a piece in the upper part of the centre. The main portion is carved *à jour*; only a portion on either side of the upper part retains a background. Between two horizontal bands of raised cable pattern, a floral ornament consisting of broad flat strips terminating at each end in spirals; on the upper part of this two gryphons are standing back to back, and appear to be tearing with their beaks at a flower (?) within the curve of the topmost spiral. They are of the Minoan type, with long sweeping wings and with two spirals issuing from the forehead and curving backward over the neck. (Cf. the gryphons on the Ephesus ivory seal, Pl. xxvii, 3a, b.) The centre of the upper band is pierced for attachment.

[Cf. a similar ivory in Perrot and Chipiez, ii., p. 535, Fig. 249.]

- xxix. 6. 5. Relief—Goddess and lions. H. .06 m. Part of a thick block which has a vertical sinking near the upper edge, immediately over the head of the figure. Design in high relief; above and below, a raised border carved with cable pattern. The eyes of the figure are engraved, but the pupils not indicated.

Goddess in long sleeved chiton, with girdle of three strands, hair falling on either side of face to shoulders, terminating in spiral facing, holds out in r. hand a lion by the hind leg (?); it turns its head upward and snarls at her. The l. hand, now broken away, probably held a similar lion. The purpose of this relief is difficult to suggest, as so much of it has flaked away. The style of the head suggests comparison with the Phrygian sculptures. Cf. the B. M. vase published by Ramsay in *J. H. S.* II., p. 304.

- xxix. 2. 6. Head of woman. H. .04 m. Carved in the round, with large rectangular sinking in under surface for attachment. The hair falls in thick twisted plaits down each side of the face and at the back, where it ends in spirals, and is encircled with a wreath composed of twelve-petalled rosettes in relief, alternating with circular sinkings intended for inlay.¹ The eyes and eyebrows are indicated by grooved lines with a slight sinking above the upper eyelid, and a sunk hole for the pupil. Round the neck a necklace of four rows of pearls with pendent discs.

[Several examples of this type with slight variations occur.]

- xxix. 4. 7. Head of woman. H. .03 m. As preceding; the hair is encircled with a chaplet of eight petalled rosettes, and the neck with a necklace consisting of a triple row of beads, with pendent discs.

- xxix. 8. 8. Head of woman. H. .04 m. As preceding. In the centre of the under surface, a large circular sinking. The hair falls on each shoulder in a twisted plait terminating in a spiral, and is encircled with a stephane decorated with sunk ovals alternate with uprights between two fillets raised and beaded. The lips are slightly parted, and the vertical groove above and below their centre is indicated.

- xxix. 3. 9. Head of woman. H. .04 m. Has been carved in the round, but the back is now broken away: in the under side has been a rectangular sinking. The hair falls in thick twisted plaits down each side of the face and at the back, from beneath a stephane decorated with egg-shaped hollows alternating with raised uprights, between two raised fillets. The eyes and eyebrows are indicated by engraved lines, but show an advance in modelling: the eyeballs are engraved circles with a hollowed circle for pupil. The corners of the mouth incline upward as in the early Ionic sculpture, and the face is longer in proportion to its width; altogether this head marks an advance towards naturalism. The stephane and probably the hair have been covered with gold foil, which for the most part still remains in position, as also in the pupils of the eyes.

¹ One example (no. 9) from Nimrūd has a similar head-dress with the sinkings lined with gold foil.

- xxix. 5. 10. Part of a bull in relief. H. .03 m. Only the head and shoulders remain; the bull is of the same type as occurs, *e.g.*, on the Vaphio cups, and is represented with head turned over its shoulder and open mouth, as if vainly attempting to ward off attack from behind: the tongue hangs out, as if it were spent or wounded. Its mane is indicated by a raised grooved surface, and the shoulder is also grooved vertically, probably to indicate the wrinkles of the skin caused by its turning movement. The eye is hollowed as if for inlay. The action and the detail of this figure are admirably studied.

No one, I think, who compares these ivories with the Artemision treasure can fail to see that the art which they represent has very little affinity on the one hand with any known Oriental style, while it presents the closest analogy to that of Ephesus. I am inclined to think that these ivories of Nimrūd are actually the products of Ionian artists either working for this branch of export or settled in Assyria. If a parallel is needed, it may be found in the fact recorded by Herodotus, that Theodoros of Samos—the Theodoros of one of the Primitive Artemisia—made for Darius a golden vine and plane tree. A characteristic feature of the ivory statuettes, both at Nimrūd and at Ephesus, is the variety of the decorated head-dresses; it is tempting in this connection to recall the Lydian head-dresses which Alcman (*Parthenion*, l. 67 ff.) describes as borrowed by the Sparta of the seventh century from the East. (See R. C. Bosanquet in *B. S. A.* xii., p. 339.)

The question is one which seems to be more or less connected with that of the origin of the engraved and carved *tridakna* shells, of which examples have been found in Mesopotamia and Egypt, as well as on so many Greek sites. The latest contribution to the question is that of Furtwängler,¹ who rightly, as I think, rejects the theory that these objects were either the work of Phœnician artists, or that they came into Greek hands through Phœnician intermediaries. He quotes with approval a suggestion of von Bissing, that these shells were engraved in Egypt in the seventh century B.C., at a time when Assyrian influence in Egypt was at its highest, and that country was an Assyrian province.²

This view seems to me practicable if we go one step further, and attribute the *tridakna* shells to Ionian artists working in Egypt. A comparison of the heads carved in the round at the top of the shells with the ivories from Nimrūd shows an absolutely identical technique which is certainly more Ionic than Egyptian. We know from Naukratis how closely (and yet with an unmistakable difference) the Greek settlers were capable of imitating the art of their adopted country; and I see no reason why the mixture of Mesopotamian and Egyptian influences in these shells should not be due to Greek settlers in

¹ *Aphaia*, p. 428.

² It is worth noting that the three combs of ebony in the Louvre which Perrot and Chipiez (ii., p. 758 foll.), following Longperier, publish as Assyrian, came from the collection of Clot Bey, which was formed in Egypt: the analogy they offer to the Ephesus comb (no. 47) is most striking.

Egypt; and in this connection it is significant that specimens have been found both at Naukratis and Daphnae.

The latest date usually assigned to the Sargonid art represented by the Nimrûd discoveries is the latter part of the eighth century B.C. I see no reason why this date should not suit the Artemision ivories. The Minoan influence exhibited in some of the Nimrûd objects (*e.g.* pl. xxix., 1 and 5) is perhaps more direct than anything of the kind among the Artemision treasure, though there also (*e.g.* in some of the gold plaques) this inheritance is clearly traceable. *Per contra*, we have the scarab of Psammetichos I. (666-612 B.C.), which is usually accepted as a basis for dating the contents of the Polledrara tomb. But even supposing that the earliest objects from Cameiros (which produced another of these scarabs) and Polledrara must be assigned to the second half of the seventh century, I see no reason why the Ephesus ivories should not be at least half a century earlier.

CHAPTER X.

OTHER IVORY AND BONE OBJECTS.

BY D. G. HOGARTH.

(PLATES XXXII.-XLII.)

ALTHOUGH the Ivories described in the preceding section were almost all found in the W. Area, a small number of objects in the same material and in Bone occurred in the filling of the Basis, and must be credited with the same lower limit of date as the objects in gold, etc., found under the same circumstances. These objects in Ivory and Bone from the Basis are almost all to be classified as personal ornaments. There remains to be added a larger number of minor objects in Ivory and Bone found outside the Basis, mainly in the West Area, under the same conditions as most of the Ivories of the preceding section. These are predominantly, though not exclusively, to be classified as objects of utility rather than ornament, and many are evidently broken parts of larger objects in the nature of furniture, caskets, etc. A great many of these objects are stained green, in some cases probably through the accidental proximity of oxidized bronze. This colouring is particularly noticeable in the fibula plates and many of the pins and cylindrical pieces. It is probable that some of the latter were ornaments of fibula-bows. But in certain cases the green colour is obviously due to intentional tinting. Compare, *e.g.*, inlay strips, pl. xl., 22, 26. Other pieces, again, are stained brown or black. On the staining of ivory, see Mr. Cecil Smith's remarks in the preceding chapter, p. 171.

ORNAMENTS.

I. Fibula-plates.

These are discs, single and double, with oxidized remains of bronze pins and catch-plates adhering to their backs, which are not ornamented.

a. Single:

- xxxii.
10, 11. Two circular discs of thin ivory, polished and ornamented with concentric rings and "bullseye" circlets with central points (degraded guilloche). Both have remains of bronze at the back, and one has the catch-hook fully preserved. [W. Area.]

xxxii.12. Thick ivory. Border of bullseye circlets, divided by rolls, which resemble the smaller double fibula-plates and produce the effect of a scalloped edge. This border surrounds a guilloche horseshoe, below which is a band of triple guilloche. Several small attachment holes round circumference and in centre. Remains of bronze at back.

[W. area, found with group of objects N.W. of Basis. See p. 42.]

b. Double:

Seventeen specs. and fragments [14 from Basis].

In addition to the evidence of attachment by means of bronze pins at the back, many of these double plates show a small hole or holes through the centre, which doubtless enabled them to be sewn on to a garment. In the centre, between the two discs, usually occur two small discs (or rolls) above and below. The different types of ornamentation are three:—

xxxii. 3-6. Stamped bullseye circlets. This scheme is seen on 12 specs. [9 from the Basis]. Similar circlet ornament appears on ivory objects of all periods, from the seventh city at Hissarlik (*Ilios Schliem.*, pp. 262, 427, 566; *Troja Dörp.*, i. p. 410, fig. 417) to Roman times.

xxxii. 1. Incised rings and circlets round a flower centre. Four circlets between the two discs. 1 spec. [Basis.] This has bronze catch-hook and pin-spiral preserved on the back.

xxxii. 2, 7-9. Guilloche border. 4 specs. [Basis.] Double fibula-plates of the same general type were found by me in the Dictæan Cave in Crete and referred to the early Iron Age. (*B.S.A.* vi., p. 113.) Compare also similar plates found in Bosnian tombs of the same period by C. Truhelka (*Wiss. Mitth. aus Bosnien*, i., p. 82).

II. Pins and Pin-heads.

160 fairly complete pins or loose heads; also many loose shafts which cannot be certainly connected, and numerous fragmentary heads.

The types of head are the following:—

a. Spheroids with blossom-finials and circular base-spools; 29 specimens [4 and several fragments from Basis].

xxxiii. 2, 4, 6, 7, 11, 13. Spheroids, plain polished, or horizontally ribbed; always orange-shaped.

xxxiii. 1, 3, 5, 8, 10, 14, 22. Spheroids with floral or geometric patterns either moulded in relief or incised, in addition to floral finials. All are of orange shape, except one (xxxiii. 1) of pear-shape with drooping finial. This type occurred both in the Basis and outside.

b. Spheroids without blossom finials.—Various types, which include the great bulk of the whole Pin class.

Conical.—About 30 specimens [7 from Basis].

- xxxiv. With knob-finial and plain or horizontally fluted sphere.
14, 20, 21,
23, 24, 26.
- xxxiii. Without knob-finial, plain or with circular moulding. Two large plain
9, 31, 32; heads of this type (H. .031 and .020), found in the W. area, are so heavy and
xxxiv. solid that they are perhaps to be regarded rather as small mace-heads or finials
13, 15, 16, of ivory furniture than as pin-heads. These have square, not circular, sockets
17, 18, 25, for the shaft.
27.

Globular.

- xxxiii. Plain; with unusually thick shaft (broken) made in one piece. This
30. specimen may also be a broken finial from some object of furniture.
- xxxiii. Incised leaf or "bat-wing" pattern filled with white. Very fine polished
18. brown ivory. This unique specimen was found in the S.W. drainage-ump
(p. 32), having probably been overlooked in the sieves and washed down from
the central area. Compare the pattern on gold plaques from Mycenae (*Myc.*,
p. 170).
- xxxiii. Plain; generally of small size; several specimens.
33.
- xxxiii. Ribbed or otherwise moulded; small and numerous.
28, 29.
- xxxiii. Whorl-shaped; two specimens, bored right through; perhaps true whorls,
15, 27. not pin-heads.
- xxxiii. With horizontal line-moulding and cup-shaped finial—a degraded form
21; of the blossom-finial.
xxxiv.

28. *Cylindrical.*

- xxxiv. A class consisting of 14 specimens [11 from Basis], all of rather rough
2-9. workmanship. The cylinders have horizontal flutings and terminate above in
a conical cap, with vertical ribbing. In some specimens incisions are cut at
right angles across the horizontal fluting. This type, in its most developed
forms, should be compared with a gold type (v. 29), and is perhaps equally
due to imitation of the *cista mystica*.

Two specimens (nos. 2, 3) have heads not properly cylindrical, but roughly squared.

- xxxiv. *c.* Upper part of needle-like shaft moulded in various ways, generally with
10-12, 19, plain incised bands; and sometimes surmounted by small knob. Mostly small
22, 29- and fine pins. 31 specs. [8 from Basis.]
32.

d. Discs or Spools.

Large ; separate from the shaft. 14 specs. [None from Basis.] Types :—

- xxxiii. Beading round circumference, and daisy petals in relief round pin-hole.
 23. Traces of gilding on the petals. A unique specimen in very fine polished brown-stained ivory.
- xxxiii. Daisy with 11 petals, modelled in relief to form the whole head.
 17. Shallow, convex or flat, incised with geometric or floral patterns. Several
 19, 25, 26. specimens.
- xxxiii. Ditto, without ornament.
 24. Small discs, flat or flattened, and made in one piece with the shaft.
 16, 20; Various sizes ; the larger, 11 specs. [4 from Basis] being true toilet pins ; the
 xxxiv. smaller, 3 specs., probably nails or pegs, detached from larger objects. Compare
Ilios Schliem., p. 261, no. 138.

III. Rings.

- xxxv. Six rings turned on a lathe and polished ; concave sides ("napkin-ring"
 2-4. type), and, in one case (xxxv. 4) mouth ornamented with a ring moulding. The two mouths are of about equal diameter (.026 to .018), and would admit the passage of a feminine finger. At the same time these, like some of the bronze rings and the crystal ring, xlvi. 1, were perhaps structural embellishments of
 xxxv. larger cylindrical objects. Also two obviously structural rings.
 1, 5.

IV. Pendants.

- xxxv. *Truncheon-shape*, turned on a lathe and of one general form, but some specs.
 6-14. more squat than others. All have rounded points and contract in the upper part to a neck, above which is a moulded knob-head pierced for suspension. Certain specimens show an injury at the top, as if a finial of some kind (cf. similar handles with lotus finials in Egypt) has been broken off. All have two or more belts of moulding round the staff. 31 specs. [2 Basis] of different lengths.

Probably relics of necklaces. The form, in some examples, distantly suggests a phallus ; but there is no phallic detail on any specimen. The long glazed staff-pendants of Egypt, which came in under the XVIIIth dynasty, are not wholly dissimilar, but hardly supply a parallel. Cp. Petrie, *Dec. Art.*, fig. 148.

- xxxvii. *Vase-shape*, with longitudinal bore drilled through the rounded or gable-
 13-15. shaped ridge which represents the vase mouth. 3 specs. The largest [Basis], H. .021, is finely worked and polished. The two smaller [W. area] show

sockets for inlaid studs (amber?). Compare very similar vase pendants in electrum found at Circolo di Bes [Falerii] (Karo, *Stud. e Mat.* iii., p. 154, figs. 18-20; ii., p. 130, fig. 118). A slightly variant gold form was found at Thera (Pfuhl, *Athen. Mitth.* xxviii., pl. v., nos. 4, 7): see later, *Amber*, xlvi. 15 ff.

Label or plummet-shape, 4 specs. [2 Basis.]

- xxxvii.
5. Plain on both sides.
xxxvii.
2. Six circlets on one side, one circlet on the other. [Basis.]
xxxvii.
3. Twelve ditto on each side; broken below.
xxxvii.
4. Sixteen ditto on one side only.

V. *Astragali*.

Artificial.

The class of objects to which the above name is given includes 99 fairly complete specs. [21 from Basis], and about 35 half-specs. The complete object is in the form of two connected "bobbins" or studs, almost always made in one piece, with intervening double palmette or roll in a few examples. The top and bottom of each "bobbin" are distinguished by their ornamentation, one being either quite plain or much plainer than the other, or of different concavity (except two examples, probably unfinished). The more ornate ends have usually inset studs of amber (in one specimen, of gold), in addition to incised patterns. In all cases the objects are drilled through the centre, between the two bobbins, with a fine hole. This has usually been drilled horizontally; but in a few cases it runs obliquely, emerging between the tops of the bobbins. The objects, therefore, were intended occasionally, at any rate, to be strung or suspended. Their form bears an obvious resemblance to that of the natural *astragalus*, of which many specimens were found in the same deposit. One of the latter (xxxvi. 42) has an inlaid gold stud, and several others are drilled like the artificial specimens (xxxvi. 41. 43). The suggestion, therefore, is reasonable that our ivory objects are *artificial astragali*. The presence of a large number of astragali, natural and artificial, in this deposit is to be attributed to their use in divination (see Schol. Pindar, *Pyth.* iv., 357); and I would particularly connect with these specimens the rare Ephesian bronze coin-type of Geta, described in B. M. C. *Ionia* (p. 87, nos. 283, 284) as "two naked children, seated face to face, playing with astragali before the cultus-statue of Ephesian Artemis, between Crescent and Star" (that the players are children rather than adults is not quite clear on inspection of the coins in question). P. Gardner has described a similar type

(astragal-players before the cult-statue of Hera Samia) in his *Coinage of Samos*, p. 77, arguing that it represents a cult-practice rather than some such statuary-group as is referred to by Pliny (*N. H.* xxxiv., 55). Compare also a coin of Hypaepa, of Trajan Decius, which shows similar astragal-players before the cult-statue of Artemis Anaitis (B. M. C. *Lydia*, pl. xii., 11). Astragali appear in connection with the worship of Athena on coins of Selge of the fourth century B.C. (B. M. C. *Pisidia*, p. cxv.), as do dice in vase-scenes (Welcker, *Denkm.*, iii., pl. i.-iii.): and it is not unlikely that other representations of astragal-players, e.g., the Berlin figure of a girl (*Clarac. Mus. de Sculp.*, iv., pl. 577, no. 1249), preserve scenes of cult rather than of mere pastime. I have no doubt that our astragali are specimens used for divination in the Artemision, and, in the majority of cases at any rate, dedicated thereafter to the Goddess.

The different types are (H. ranging from .013 to .004):—

- xxxvi. 1, 39. Plain both top and bottom, neither of which are cupped. One spec. only, of highly-polished brown ivory, perhaps unfinished. [W. area.]
- xxxvi. 2-5, 38. Amber studs, but no incised pattern, on cupped top; bottom plain, and not cupped. 31 specs. [7 Basis.]
- Incised pattern top and bottom, but no studs. Both top and bottom cupped. 5 specs. [2 Basis.]
- The different patterns are:—
- xxxvi. 6-8. Geometric crosses, top: concentric circles, bottom.
- xxxvi. 9. Rosettes rudely scratched, top and bottom. One spec. probably unfinished.
- xxxvi. 10, 11. Concentric circles, top and bottom.
- xxxvi. 15. Geometric patterns and studs, top: incised or plain bottom. Both cupped. 25 specs. with amber studs [3 Basis]. Patterns:—
- xxxvi. 16. Concentric circles, top: do. or plain cupped hollows, bottom.
- xxxvi. 12-14. Daisies, top: concentric circles bottom.
- xxxvi. 17-19, 23, 36. Geometric pattern, top: concentric circles or plain cupped hollows, bottom.
- xxxvi. 24. One specimen with gold studs and concentric circles, top: bottom broken off.
- Specimens like above types in ornament, but with mouldings between the bobbins.
- These mouldings are:—
- xxxvi. 20-22. Small double coils, like those of double fibula-plates. Four specs. [3 Basis.]

- xxxvi. Palmettes: 12 specs. [2 Basis.] These specimens are high in proportion
25-27. to their length.
- xxxvi. Dart-points; probably degraded palmettes; 6 specs. [1 Basis.]
28-30,
37. Plain rolls, 2 specs. [Basis.]
- xxxvi.
31, 32, 35. Besides these there were found 12 specimens broken top or bottom, and
35 broken half-specimens, which show no new types of ornament.

Natural.

Many specimens (see above), one with gold stud set in the middle of one side (no. 42); others pierced laterally through the middle or towards one end (nos. 41, 43). Several sections of astragali, sawn longitudinally, were found (no. 44). These show mortised pin-holes, and being often deeply tinged with bronze oxide, were perhaps fibula embellishments. [Many from Basis.] Similar astragali, complete or sawn, were found at Hissarlik (*Ilios Schliem.*, p. 426), and on the Spartan Orthia site (*B.S.A.* xii., p. 327).

VI. Studs or Buttons.

- xxxv.
5-20, 22. Eight stud-like objects were found outside the Basis. The tops are concave and ornamented with floral patterns (daisy, lotus, etc.), or with fret-border round a plain centre, which in one case (no. 19), is stained black. The bottoms swell out again, but to a less diameter, and are plain and concave. H. from .013. These objects have all been turned on a lathe and are bored vertically through the centre. They should perhaps be regarded as buttons.
- xxxv. 23. Two other buttons of different type were found. These are unbored, and have sockets on the top for an inlaid disc (amber?).
- xxxv. 21. Another stud or button shows a daisy carved in relief on the upper surface. This specimen is bored horizontally through the stem, and a bore from below communicates with the horizontal bore. It appears to be a broken part, perhaps a joint-ornament, of some larger object.
- xxxvi.
33, 34, 40. In connection with these should be noticed the natural fish-vertebræ which occurred in the Basis to the number of half-a-dozen (cp. *Ilios Schliem.*, p. 432, nos. 591-8). These may have served for draughtsmen, buttons or studs; but, being alike top and bottom, cannot have been "astragali."

IMPLEMENTS AND OTHER ARTICLES OF UTILITY.

I. Bodkins or Staples. Six specs. [2 Basis.]

- xxxiv.
40-42. These are pointed instruments of bone, each having an open, semicircular nick in the head, which is cut square. The shafts are shaped throughout and

polished. Natural bones were also found, from whose form these "bodkins" are doubtless derived. These bones have been sharpened at the point for use. One is figured (xxxiv. 43) for purposes of comparison with the more artificial specimens. The open nicks in the head seem to indicate that these objects were used for bracing a thread or cord, the points being fixed into some receptacle. In fact, they must have performed the function of miniature tent-pegs. I cannot discover whether such objects are required in any process of weaving, but suggest such a use as probable. Compare bone implements found at Hissarlik (*Ilios Schliem.*, p. 430, no. 574), which, however, are not precisely of the same type, but seem to have been awls.

II. Piercers or Stiles.

- xxxvii.
1, 6. Two flattened strips of bone, sharpened to a point and ornamented on both sides with incised circlets, in one case over the whole surface, in the other near the head only. [W. area.] Cp. Spartan "stiles" (*B.S.A.* xii., p. 327).

III. Vessels.

These may be classed here, though their small size, their material and their ornate character mark them rather as trinkets.

- xli.
18-20. Shallow, circular box in fine ivory with lid; divided within into four compartments by cross-partitions. Projections above and below, of which one is pierced for suspension, a feature which suggests that the vessel was a receptacle for charms or precious spices, and hung about the person. The other projection, which has a "dog-leg" bore, probably served to hold the hinge-fastening of the lid. The vessel is made up of several pieces neatly fitted and pinned with ivory rivets, some of which have fallen out. The outside of the vessel is ornamented with a rosette or daisy of 12 petals in relief within a ring of incised pattern; the lid with three concentric zones of incised pattern. The hole in the centre of the lid served doubtless as the socket for a knob-handle. D. .050. [W. area, near N.W. corner of Basis, see p. 42.]

- xli. 16. Shallow circular cup, with moulded rim. Part only remains, showing half of an ear-like handle, projecting from the rim. Fine turned and polished ivory of dark colour. Probably this cup originally had a lid, and was used for a purpose similar to that suggested for the preceding vessel. Some of the *roundels* about to be described may have been such lids. D. .049. [W. Area.]

IV. Roundels.

In most cases probably whorls, but in other cases perhaps lids of vessels, similar to that of xli. 18-20, or broken feet of vases. One side

in all cases is flat, the other convex; and the centre is pierced vertically with a large bore. 10 specimens, complete or fragmentary, all but one from W. area.

- xxxviii.
5. Plain; high convexity; bored only on the reverse side; D. .042. Perhaps a pin- or mace-head.
- xxxviii.
6, 2. Geometric zones on the convex side; flower of 16 petals on the reverse. D. .048. Perhaps a lid or vase-foot.
- xxxviii.
4. Convex side plain: concentric circles on the reverse. D. .045. A lid or vase-foot?
- xxxviii.
3, 7. Both sides geometric zone ornament. D. .040. A whorl? [Filling in "Ambulatory" N. of Basis.]
- xxxviii.
8. Daisy worked in relief on the convex side; concentric circles on the reverse, and a raised rim round the hole. D. .035.
- xxxviii.
9, 1. Both sides flat: on one an incised flower within concentric circles and hatched border; on the reverse a star of 8 points with double outline; the field hatched. D. .045.
- xxxix.
10. Both sides plain. D. .045. The hole is filled with exuded carbonate of lime.
- xxxviii.
10, 12. Fragment of a specimen finely ornamented with incised patterns; on the convex side, lotus flowers and buds; on the flat reverse, triple bow-coils, back to back, divided by palmettes.
- xxxviii.
11. Ditto with geometric pattern on the convex side and raised rim round hole. The flat reverse has flaked away.
- xxxviii.
13, 14. Ditto. Flat both sides. Concentric circles on both sides.

V. Musical Instruments, or parts thereof.

- xxxvii.
12. *Flutes.*—2 specs. [W. Area]; mouth-hole in centre of one side; on the other five key-holes. The ends are now open, but were doubtless closed with composition or some other corking. The more complete specimen is very well preserved.
- xxxvii.
16. *Mouthpiece* of bag-pipe (?) D. of mouth orifice .008; of the other orifice, .012. [W. Area.]
- Dividers* or *Bridges* (?) of stringed instruments (?), or possibly dividers of necklace-strings. Cp. Amber, xlvii. 28. [Basis.]
- xxxvii.
7. Pierced laterally with three fine holes: the two faces slightly convex; one ornamented with stamped circlets in panels.
- xxxvii.
8. Pierced similarly with five holes. Similar ornament.

VI. Handles and Shafts.

Vase-handle.

- xxxvii. Four fragments of a fluted and curved handle in very fine ivory stained
9-11. black and carefully worked. [W. Area.]

Knife-hafts.

- xxxix. Thirteen strips of bone of varying thickness (.007 to .003) with edges
1-5. slightly bevelled. The more complete specimens show a slit at one end to hold the blade, and traces of the iron nails which secured it in place. [W. Area.]

VII. Inlay Pieces.

- xl. 24, 21. Thin pieces of ivory of various shapes with squarely finished edges and no sign of pin-holes or other method of attachment.

Circular.

- xl. 11. Disc of fine ivory ornamented on one side with incised pattern of four bow-coils back to back round a ring centre. [W. Area.] Compare *Enkomi*, p. 14, fig. 23.
- xl. 7. Plain discs of various sizes, the smaller specimens possibly originally inlaid in artificial astragali. [W. Area.]
- xl. 17. Small disc with incised rosette. [W. Area.] Originally inset in the top of a crystal stud. (Cp p. 210.)

Rectangular.

- xl. 22. Lower part of light green plaque, showing bull with lotus bloom pendent from throat. Doubtless a Hathor representation, and probably of Naukratite work. Plain back. [W. area.]
- xl. 26. Three consecutive pieces, stained dark green, showing lotus blooms and buds growing in water, which is indicated by triple wave. [W. area.] In Egypt this particular motive, according to Petrie (*Dec. Art*, p. 64), does not appear before Dyn. XVIII. It is found on Assyrian monuments (P. C., ii., figs. 131, 136).
- xl. 25. Three fragments, stained brown, showing rosettes connected by crossed lines. [W. area.]
- xlii. 15, 19. Three fragments of fine thick (.009) white ivory, very finely incised with spiral palmette pattern. One fragment shows a finished end, splayed back at an acute angle, and two mortised holes in the upper edge. The fragments not figured measure .070 and .050 in length. [Immediately outside Basis on S. in "ambulatory" between it and nearest facing foundation, and at a rather high level, above -4.00.] Compare *Olympia*, iv., pl 42, no. 746.

- xl. 23. Plaque of thick (.008) ivory of light green surface, broken at bottom. Pediment above with incised palmette or section of a rosette. Incised rosette of 16 petals with a raised centre (chipped) on the body of the plaque. Lower edge grooved so as to fit on to a curved surface. [W. area.]
- xl. 3-6, 8; xlii. 12. *Pointed.*
- xl. 1, 2, 14. Triangular: 4 specs. [W. area.]
- xl. 9, 10, 13, 15, 16. Rounded heads: 5 specs. [W. area.]
- Scaraboid.*
- xl. 18. One spec. not pierced, and therefore probably originally set in a backing. [W. area.]

Miscellaneous.

- xl. 20. Strip with incised mouldings at each end.
- xl. 12. Fragment with chevron ornament.

VIII. Seals.

- xlii. 7. Button with knob handle; the lower face is convex and carved into a rosette with deeply sunken petals. H. .014; D. .016. This is probably a seal, but it is not impossible that the petals of the rosette were once filled in with paste, and that the object was a button. [W. area.]
(For other Seals see preceding chapter, pp. 167, 168.)

IX. Beads.

- xlii. 8, 9. *Diamond-shape*, with central bore. Three specs. [W. area.] The form of the largest (xlii. 9) recalls a pick-head, and this specimen is, perhaps, a form of *labrys*. Cf. *Ilios Schliem.*, p. 444, no. 653.

Cylindrical.

- xxxix. 11. Plain, of green colour; pierced longitudinally. D. .014. [W. area.]
- xlii. 13, 14. Carved; 2 specs., pierced longitudinally.
- xli. 5, 10, 15. Plain; 3 specs.; the longest .029; pierced longitudinally.
- xli. 12, 13. Ditto. 4 specs. pierced horizontally at one end.
- xlii. 17. Long cubical bead pierced longitudinally; green colour. [W. area.]
- xlii. 4. *Plain circular.* A few specimens of various sizes.

X. Ex Voto.

- xlii. 10, 11. *Foot* in white ivory, very finely worked. A double cross is incised on the upper end of the stump, which is pierced for suspension. [W. area.]

*XI. Miscellaneous Pieces (broken parts of other objects?)**Cylindrical Handles (?)*

- xli. 1, 4. Four *tubes*, turned on a lathe, fluted horizontally, and polished. All contract slightly in the middle, and have one end a little less in diameter than the other. The bores have been roughly drilled. In colour the objects vary from cream, through brown to black. The flutings of different specimens vary in spacing and depth. D. (two ends of each) .024 and .023; .023 and .021; .022 and .020; .021 and .020. These objects may be knife- or sword-handles, but they show no corroded metal in the bores and no sign of attachment. Perhaps they are structural parts of other objects. [Immediately outside Basis, in "ambulatory" between its external walls and the nearest facing foundations. 2 specs. on the N., 1 on the E. and 1 on the S.; all below -4.00.]
- xxxix. 6, 9. Two solid cylinders, one plain, the other with incised rings.
- xxxix. 15. Solid ivory; green, with shallow horizontal flutings. Two mortise-holes are sunk half-way into one side of the cylinder. Turned on lathe, and highly polished. D. .013. [W. area.]
- xxxix. 14. Solid ivory with brown surface, very highly polished. Contracted in the middle and flattened on one side. Two mortise-holes. D. .014. [W. area.]
- xxxix. 12. Cylinder made of ivory drums keyed together. Pins of ivory (broken) originally connected it on one side with some other object. The ends have circular sockets for (amber?) studs. Bored horizontally near one end. D. .011. [W. area.]
- xli. 7, 9, 14, 17. Seven small cylinders with sunk mortise-holes in the sides. These have terminal sockets, as if for studs (amber?) One has ornament of incised circlets.

Joint-pieces.

- xli. 2. Large cylinder, pierced longitudinally, and also on one side, the bores being connected. D. .028.
- xli. 3. Ditto. Smaller. D. .04.
- xli. 6, 8. Two Ditto. Small size.
- Cf.* for similar cylinders, probably joint-pieces, *Ilios Schliem.*, p. 425, figs. 522-5.

Rectangular.

- xlii. 20. Strip of black ivory with "keys" at each end, and semicircular mortises in one edge. Triple chevrons on one face. T. .008. [W. area.] Similar strip with incised chevrons on one face. [W. area.]

Two objects of similar general form, viz., that of an upright plaque on a curved and moulded base, with flat back. [W. area.]

xlii. 2, 3. Grooved longitudinally below, as though to be fitted on to a round surface. The plaque is ornamented with incised St. Andrew crosses within a border; the base has a moulded roll, and below that is incised fret within a border. On the back of the plaque is incised lotus pattern. White ivory. H. .023. T. (at base) .013. Fragment from the rim of some casket or article of furniture (?).

xlii. 1. Flat below. On the plaque a fret; below this a roll with incised chevrons, and on the base crossed lines. Plain back. H. .022. T. (at base) .010.

xxxix. 13. Fragment of brown ivory with key below, pierced with three pin-holes.

Miscellaneous.

xl. 19. Lily head carved in relief; flat back; probably an affix or inlay piece. [W. area.]

• xxxix. 8. Toothed fragment. [W. area.] Cp. *Ilios Schliem.*, p. 430, no. 558.

xlii. 5. Bent human arm with hand; flat back; an affix or inlay piece. No arrangement for suspension, and therefore probably not a charm.

Columnar.

xlii. 18, 16. A fluted column surmounted by round knob above collar and necking. A round socket in the knob to support something, and a square large socket in the base. Also a similar knob finial, broken off its support. [W. area.]

Poles. (Perches of hawks, etc., cp. pl. xxii., xxv.)

xxxiv. 1, 39. Besides those on which hawks are still perched, two complete poles and parts of nine others were found. Two of these have moulded points. The rest are plain, except for incised ring-mouldings. The most complete (L. .185) are cut at one end for insertion in sockets like that behind the ivory animal figure, pl. xxiii. 2. [All from W. area.]

XII. Miscellanea.

xxxix. 7. Human tooth with double fangs, sawn off horizontally, and bound with two strands of fine gold wire.

xlii. 6. Fragment of doll's leg (*νευρόσπαστον*).

CHAPTER XI.

TERRACOTTA, GLAZED WARE AND GLASS.

BY D. G. HOGARTH.

(PLATES XLIII.-XLV.)

TERRACOTTA.

OBJECTS in terracotta were rare, considering the usual abundance of this material in temple deposits.

Figurines.

Archaic Goddess, draped; hands lightly clasped in front below the waist-belt. She wears a large veil thrown back from the forehead; the hair or wig falls in three plaits or tails on either side of the face to the breasts (cp. *Olympia*, iv., pl. 7, no. 58, and Delian Artemis statue, Collignon, *Hist. Sculp. Gr.*, i., p. 120, fig. 59). The eyes protrude. The waist-belt, in the best-preserved specimens, shows traces of a fret pattern. The feet are not indicated, the figures ending in a columnar wedge. Traces of red and black pigment can be detected on the surfaces, and probably details of the dress were painted. The backs are roughly smoothed, but not shaped. Five specs. were found, whole or fragmentary, made in the same mould. H. .124. (Fig. 34.)



Fig. 34.



Fig. 35.

One spec. of similar type, broken at the foot, is of smaller size (H. not above .100), and differs slightly in expression. If it were not that details of drapery were doubtless rendered in pigment, it might have been supposed to be nude. (Fig. 35.)

Another spec., of which the upper half only is preserved, is about the same size (H. about $\cdot 100$), but from a different mould. Only one plait of hair falls on either side of the face. The



Fig. 36.

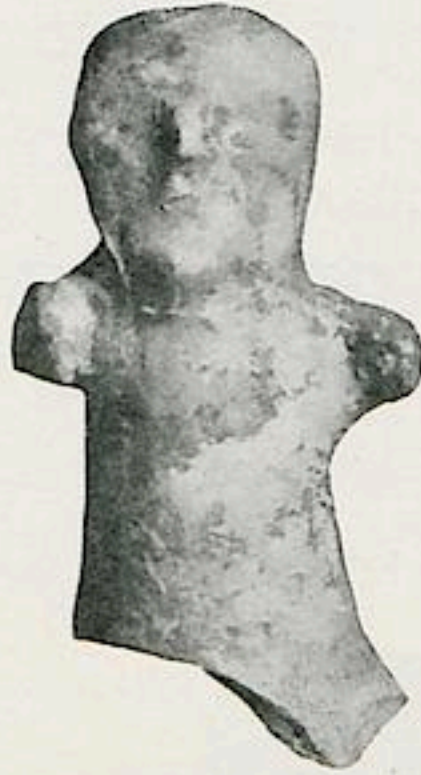


Fig. 37.

details of drapery are rendered in black-brown pigment on a red slip; the arms and hands are not modelled, but indicated in colour, and the back shows transverse bars of pigment. (Fig. 36.)

[All these figurines were found outside the basis on the N.W. in the prolific patch of deposit which partly underlay foundations ascribed by us to a period not later than the *C* temple (p. 42).]

Bell-shaped nude figurine, with mere flappers for arms. Black pig-

ment applied on red. H. $\cdot 065$. [This was found in disturbed rubbish, and may well have slipped down from the *D* stratum.] (Fig. 37.)

Mask.

Part of left half only; in fine clay, with hard pink slip, showing traces of



Fig. 38.



Fig. 39.

applied white. H. (chin to forehead), $\cdot 088$. [From the disturbed belt in the axis of the Primitive area, W. of the Basis.] (Fig. 38, accidentally reversed.)

Hawk-figures.

Fragments of three heads. (a) The best preserved and largest (L. .069, from crest to base of throat) shows a white slip, with applied black and red pigment laid on in spots, bands and cross-hatching. The eyes are rendered in black. (Fig. 39.) (b) Another specimen (L. .036, from crest to upper part of neck) (Fig. 40), has lost all its surface decoration. (c) The third specimen, very fragmentary, shows red ornament on a cream slip.



Fig. 40.

[All found in the W. of the Primitive area.]

Miscellanea.

Cockle-shell, exactly imitated from nature and painted with red stripes. [Basis.] (Fig. 41.)



Fig. 41.

Base of the front of a *draped statuette*, painted in red.

Numerous *weights* of circular or oval form. Usual D. about .058. Most have two holes for suspension. Rare specimens show stamped circlets, six or less, on one side. (Fig. 42, 1.)

Whorls, with various incised patterns, for which see illustrations.

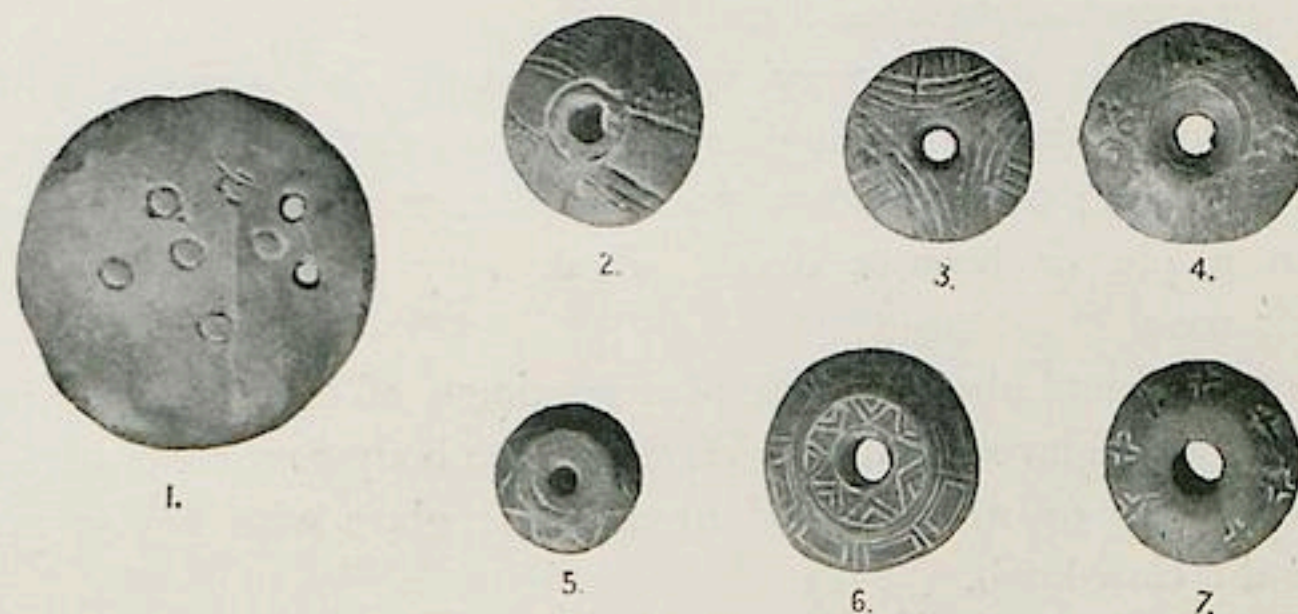


Fig. 42.

(Fig. 42, 2-7.) Compare with these many examples from Hissarlik (*Ilios Schliem.*, p. 229, esp. figs. 67, 70). [W. area.]

Plaque of oblong shape, with rounded corners, not unlike an Egyptian cartouche. On one side the illegible impression of a seal, and on the other a human head in relief. A sealing once appended to a document (?). (Fig. 43, 5.)

GLAZED WARE.

GLAZED objects were found in large numbers, and may be distinguished into *Glazed Terracottas* and *Glazed Pastes*.

I. GLAZED TERRACOTTAS.

A. Birds (Hawks) in brick-red terracotta coated with blue-black glaze, on which polychrome pigment was applied to render details in a conventional style. The birds themselves are of stylized type, the claws being represented by round knobs, while heads and beaks are of unnatural form. I know no nearer parallel to these singular objects than the bird figured by Salzmänn in *Nécropole de Camiros*, plate iv., no. 1; but that has a more definitely Egyptian glaze. Three specimens, found just outside the Basis in the lowest stratum, two with the terracotta "Goddess" figurines, on the N.W., and one to E.

- xliii. 1. The most perfect specimen: dull deep blue glaze relieved by yellow along the wing outlines, the beak, crest, neck, and breast, round the eyes and on the claw-knobs (slightly broken). L. crest to tail .09.
- xliii. 2. Glaze of lighter blue. Outline of wings in white with green hatching. The whole surface a good deal perished. L. crest to tail .061. Beak of exaggerated aquiline form.
- xliii. 4. Highly vitreous glaze; very well preserved, and painted with white chevrons: shown by the glaze extending below to be complete without feet or tail; but a shallow socket indicates that the whole has stood on a pin or been a finial. Beak very aquiline. Eye in white. H. .029.
- xliii. 3. There were found also the core of a specimen of the last described type, with little glaze remaining, H. .034: the body-cores of two specimens: fragments of wings in bright sky-blue glaze with yellow markings: and a claw-knob.

B. Amulets (?).

- xliii. 5. Five staff pendants, perforated near the head. Highly vitreous, blue-black glaze, relieved with yellow chevrons or serpentines and yellow belts above and below. The more perfect specimens show a socket below. The best-preserved is .044 long. [All were found with the glazed hawks, just outside the Basis on the N.W.]

These pendants are very near the Egyptian staff-pendants of Dyn. XVIII., and later, already referred to in relation to Ivory "truncheon" pendants (p. 189).

II. GLAZED PASTES.

A. Amulets (*pendants?*).

- xliv. 1. *Head of Bes*, complete but for feather-crown; glaze perished, and only soft, white core remaining. Back quite flat. H. .065. Evidently an affix or pendant. [S.W. corner of the Primitive area.]
- xliv. 2. *Male figure*, standing on a base with foot advanced and playing double pipe; nude except for wig. The figure is in white ware (perished blue?) with hard vitreous surface, which shows remains of brownish pigment. Hole for suspension in the back support. H. .051. This figure is of a common Naukratite type. (Cp. Petrie, *Naukratis*, i., pl. ii. 7.) [Found in S.W. corner of the Primitive area, close to foundations of *D* south cella wall, sunk here through the Primitive stratum.]
- xliv. 12. *Hippopotamus*; hinder part only, glaze perished. Small pendant of a type common at the S. (Egyptian) end of the site of Naukratis. [Basis]

B. *Whorls*; lotus pattern; yellow (originally green?) petals in relief on blue (now white) ground. [Both within and without Basis.] Three types:—

- xliv. 8. With flat base; 7 specs., all from outside Basis. H. from .022 to .009. Largest D. .031.
- xliv. 5, 9. Double; many specs., some more squat than others. H. from .027, and D. from .023 (cp. *Her.*, ii., p. 373, no. 58).
- xliv. 4. Elongated cylindrical; 2 specs. L. .028.

C. Beads.

Soft core and dull glaze, brown or blue-black; striped and pierced vertically.

- xliv. 7-9,
12-14, 16,
18. *Three-cornered* ("cocked-hat" shape), with boil-like protuberances at each corner: the brown or black stripes encircle the protuberances. The paste in the intervals, being soft, has perished and left the glazed stripes standing out in relief. Possibly the white was originally a yellow, which has survived on some examples. 50 specs. [35 Basis.] Largest D. .025.

This peculiar type of bead was found at Hissarlik (cp. *Ilios Schliem.*, p. 429, no. 551), and also in the Aeginetan temple deposit (*Aphaia*, pl. 118, nos. 1-3). A bronze fibula figured by Martha (p. 63, fig. 51) has a thickened bow whose protuberance shows "eyes" which strikingly recall these beads, and suggest that (like amber pieces described below, p. 214) the latter were ornaments of fibula-bows.

- xliv. 2, 10,
11, 15. *Circular*, like the preceding in every respect, except that the protuberances

2 D 2

survive only as painted circles. The best-preserved specimens show black stripes alternating with brown or yellow. Largest D. .021, H. .017. Smallest D. .015. (Cp. *Aphaia*, pl. 118).

- xlv. 3, 4. *Fluted or melon-shaped.* 13 specs. [3 Basis.]
Hard dark-blue glaze, like Egyptian of Dyn. XVIII. Serpentine or hatched ornament in yellow.
- xlv. 1, 5, 22, 24, 25. Circular. 12 specs. from Basis and outside. D. from .016.
 xlv. 19. Cylindrical. 1 spec. only from Basis. L. .016. D. .010.
Vitreous dark-blue glaze with white markings, similar to that of glazed terracotta hawk, no. 3, and of the staff amulets.
- xlv. 17, 21, 23. Five specimens of elongated cylindrical form. L. from .019 to .015.
 [Basis and outside.]

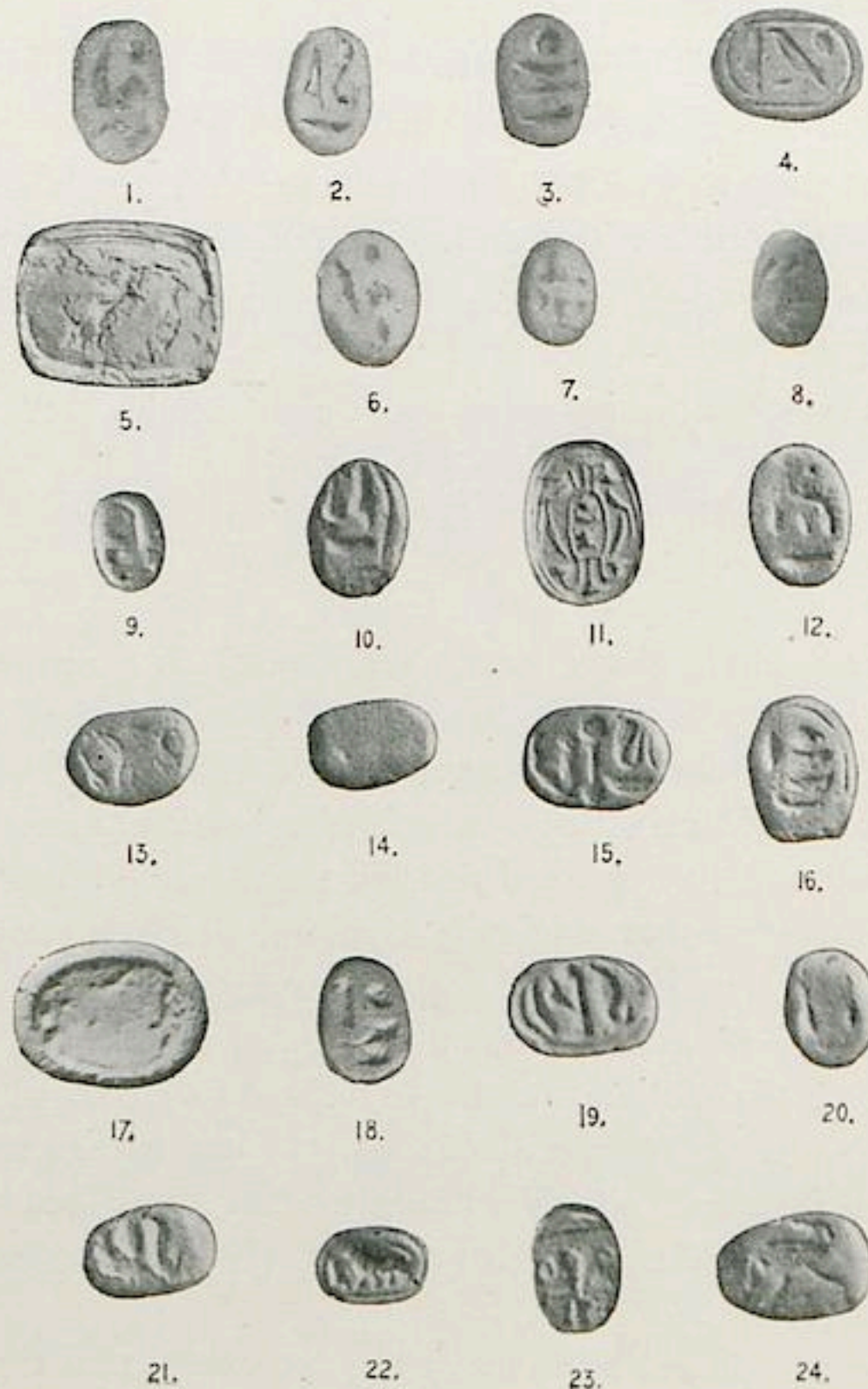









Fig. 43.

D. Scarabs.

The following eight scarabs were found in the filling of the Basis:—

1. Soft glazed, bluish-white paste, inscribed \circ  β = *Maat*—Horus hawk—*Ra*. (Fig. 43, 4.)
2. Ditto, inscribed  β = *Maat*—uraeus—*neb*. (Fig. 43, 2.)
3. Ditto, inscribed  \square : garbled hieroglyphs. (Fig. 43, 9.)
4. Ditto, inscribed : garbled hieroglyphs. (Fig. 43, 3.)
5. Ditto, inscribed  β : garbled hieroglyphs. (Fig. 43, 1.)
- 6, 7, 8. Ditto, illegible. (Fig. 43, 6, 7, 8.)

The following 17 specimens were found in slime taken from the western part of the Primitive area and passed through sieves:—

9. Glazed bluish-white paste. On the base is an oval ring, in imitation of a cartouche, enclosing the three characters \circ   β *Rā*-men-kheper, which form the prenomen of Thothmes III, King of Egypt, about B.C. 1550. At one end of the oval is a lotus plant, with buds, and at the other a papyrus plant, with buds. On each side of the oval is a figure which is intended to represent the hawk of Horus. This scarab was found with the wooden Hawk figures (Fig. 43, 11.)
10. Yellow paste inscribed with figures of a branch, a horse, and the emblem for "good luck." (Fig. 43, 13.)
11. Yellow paste, the base of which is inlaid with the figure of a winged uraeus; above is a circular hollow, which appears to have been intended to receive a disk for the uraeus. (Fig. 43, 24.)
12. Hard, gritty faïence inscribed on the base with figures of a lion and of an object which resembles a knife β enclosed within a line border. (Fig. 43, 22.)
13. Whitish-yellow paste set in a silver frame, ornamented with a serpentine pattern in relief. On the base are inlaid: (1) The solar disk and a lion, and the symbol of "life" (?); (2) A man hunting animals, which are fleeing before him; (3) Figures of animals (?).

This scarab was found under the foundations of the S. girdle wall of the *B* central platform. See p. 44. (Fig. 43, 17.)

14. Whitish paste inscribed on the base Rā-maāt-neb $\odot \beta \cup$. These signs form the prenomen of Amen-hetep III., King of Egypt, about B.C. 1450 (Fig. 43, 10.)
- 15, 16. Whitish paste, inscribed on their bases with Rā-maāt-neb $\odot \beta \cup$ and the figure of a uraeus. (Fig. 43, 21.)
17. Yellow paste, inscribed on the base $\odot \text{cat} \cup$. If the second character be a cat, this group of signs may be read Rā-maau-neb, and so form an interesting variant of the prenomen of Amen-hetep III., which is Rā-maāt-neb. (Fig. 43, 12.)
18. Glazed yellow paste, inscribed on the base "giver of life" $\text{☉} \text{☩}$, etc. (Fig. 43, 23.)
19. Green glazed paste, inscribed with a figure of Maāt ☩ , the goddess of right and truth, a uraeus, etc. (Fig. 43, 19.)
20. Paste, inscribed $\text{☩} \text{☉} \text{☩}$. This group of signs is probably intended to be read, "Nebe-maāt-Rā-nefer." (Fig. 43, 15.)
21. Yellow paste, with traces of four hieroglyphic characters which may be read $\text{☉} \beta \text{☩}$ Rā-neb-maāt, or Rā-maāt-neb. (Fig. 43, 18.)
- 22-24. Three yellowish, white paste, with traces of the hieroglyphics of the prenomen of Amen-hetep III. (Figs. 43, 14, 16, 20.)
25. Blue paste, inscribed on the base with a character which cannot be identified.

Dr. Wallis Budge, who has examined these scarabs and compiled the foregoing catalogue, notes that in many cases the hieroglyphs have been inlaid in the soft parts of the scarabs. A good example of such fabric is no. 11. Dr. Budge remarks further that the occurrence of the prenomen of Amen-hetep III. and Thothmes III. on these scarabs proves the efficacy attached to those names as words of power. The majority of the inscriptions, he thinks, were copied from genuine Egyptian scarabs, the hieroglyphs being cut

accurately; but the engraver of the prenomen of Thothmes III. (no. 9) evidently did not know the true form of the cartouche, and has cut a simple oval.

These scarabs were probably not made by Egyptian hands, but belong to a class of imitations, variously regarded as of Greek or Phœnician work (see Petrie, *Naukratis*, i., p. 23, 36 ff., and Edgar in *B.S.A.*, v., pp. 47 ff.), and usually believed to have been distributed to the Greek world from a fabric in Naukratis (see Lythgoe in *Her.* ii., p. 367). The period generally assigned to them is that of the XXVIth Egyptian Dynasty (about 660–525 B.C.). Dr. Budge indeed inclines to place them later; but I see no reason, so far as their style and fabric go, why they should not be earlier than the XXVIth Dynasty. It seems, in fact, that these scarabs do not afford, in themselves, any sure criterion of date. It should be noted, however, that eight of our specimens occurred in the Basis filling, the date of which can hardly be so late as 600 B.C., and is probably considerably earlier (see Chapter XIV.), while another was found under *B* foundations. These, if Naukratis was really their place of origin, would have some bearing on the disputed question whether there was or was not a settlement of Greeks on that site before the accession of Amasis (570 B.C.), were there better grounds for accepting Mr. Petrie's ascription of these imitation Egyptian pastes to Greek hands (*Naukratis*, i., p. 23). But, as C. C. Edgar has shown (*B.S.A.*, v., pp. 48 ff.), this fabric is at least as likely to have been Phœnician. In any case, Mr. Petrie, it should be observed, dated the fabric before the time of Amasis; and since it is now practically certain (see my article in *Journ. Hell. Studies*, xxv., p. 107) that the Egyptian town of Pi-em-ro was occupying the southern part of the site of later Naukratis long before Amasis settled Greeks on the northern part, there is no difficulty in putting the establishment of the local Phœnician fabric of imitation pastes back into the 8th century or even earlier. The possibly Naukratite origin of these scarabs and other objects in glazed paste, found in the Ephesian lowest primitive stratum, therefore neither invalidates nor confirms the pre-sixth century date which I attribute to that stratum (see Chapter XIV.).

E. Figurines.

Kneeling figure wearing high polos from which lappets hang down to the breasts; otherwise nude. A large jar or basket (?) (broken at top) between the knees (H. 075). Highly glazed ware of brownish white surface (once blue or green?) with spots of other colour, probably originally blue. The type recalls Egyptian kneeling slaves, but the style is not Egyptian. Compare almost

exact replicas found at Cameiros (Salzmann *Nécr. de Cam.*, pl. iv.). [W. area, from above *B* foundation level.]

- xliv. 3. *Fragments.* Two heads with high palm-leaf (?) crowns in (originally) pale blue glaze; feet of a draped figurine in ditto; part of a crown in ditto. The heads with crowns belonged perhaps to kneeling statuettes like the preceding. The type of head and crown, though suggestive of Egyptian style, is non-Egyptian, and the figurines, of which these are fragments, must have been of Naukratite, if not Ionian, work.

F. Vases.

- xliv. 6. Fragments of a large pilgrim bottle in pale blue Egyptian ware with yellow lotus flowers in relief. Common type of "New Year" vase.
- xliv. 7. Fragments representing about half an aryballus in (originally) pale blue (?) ware with zone of incised figure subjects—ape holding an ape, wrestlers, etc., with zone of lotus blooms below. This vase is not like anything of Egyptian work and is probably Naukratite.

Fragments belonging to at least 3 dishes in greenish-blue Egyptian ware, none nearly complete.

G. Birds.

- xliv. 10, 11. Head and breast of a hawk in greenish-blue ware, the beak, eyes, etc., distinguished by darker blue pigment. Length of the fragment .045. The three-toed claws of this bird, or another, resting on a plinth, were also found.

The pseudo-Egyptian objects were almost all found in the S.W. part of the Primitive area at a rather high level [immediately below foundations of *D* pavement].

GLASS.

OBJECTS in glass were mainly Whorls or Beads.

A. Whorls.

- xliv. 26, 28, 30, 33, 36. Eight specimens fairly complete besides fragments. All have horizontally fluted sides. The majority are in a bluish bottle-glass now much decayed: but specimens in glass of amber- or resin-colour occurred. The largest specimen has D. .034, H. .021; the smallest, D. .019, H. .012. [Outside the Basis.]

B. Beads.

Some 250 specs. were recovered unbroken, of which about 50 were from the Basis filling. Various forms, qualities and tints of glass are represented—*e.g.* (1) globular, mostly in clear glass, blue, yellow and white; (2) orange shape, in olive green or yellowish-brown glass; (3) small, flat, circular, in opaque white and pinkish glass; (4) globular and barley-corn shape, xlv. 29. in opaque black glass; (5) whorl shape, in milky glass; (6) xlv. 29, flat, and cylindrical, in milky glass; (7) globular, in opaque lapis-lazuli glass, etc. Of these varieties, nos. 1, 2, 3, 5 and 6 occurred in the Basis, and can, therefore, be certainly dated to the most primitive Temple. The rest (nos. 4 and 7) must not be so certainly referred to the early strata, since beads easily slip down; but they are probably also of the primitive period. The sizes range downwards from D. .020 (no. 1) and .017 (no. 2).

C. Astragali.

Two complete artificial astragali were found, of ordinary bluish glass, much perished superficially. The objects were made in one piece. The upper surfaces are concave, the bases flat.

- xliv. 31, 1. H. .008, D. .023. Sockets in the upper end for stud ornaments,
32. now lost.
2. H. .009, D. .027. Too much perished to show stud sockets, if any existed.
3. Fragments of a half-astragal or single large stud; D. .02.

All these from outside the Basis.

D. Miscellanea [from outside the Basis].

- xliv. 34, Two handle-knobs (probably from dagger-hilts) in green opaque glass.
35. L. (in their present state), .015 and .013 respectively.
- xliv. 27. Fragment of a shallow dish with broad flat rim, in green frosted bottle-glass. The glass is over .010 thick at the rim. Only about one quarter of the dish was found.

CHAPTER XII.

STONE, AMBER, HORN, WOOD, AND SHELL.

By D. G. HOGARTH.

(PLATES XLVI-XLVIII.)

S T O N E.

THE objects in Hard Stone consist in great majority of rock-crystal, which is found in the natural state in the neighbouring hills. Large prisms of the raw material were brought to me from time to time by shepherds, and some twenty unworked prisms, large and small, were found in the lower strata of deposit on the temple site. Clear rock-crystal was reckoned in the Aegean age among the most precious of stones, if we may judge by the quality of the intaglio work engraved upon it; and the taste for it evidently continued into the archaic Hellenic period.

The balance of the stone objects is made up by seal-stones and beads in cornelian, jasper, onyx, etc., etc. Only one intaglio occurred among the seal-stones.

I. CRYSTAL.

A. Studs.

xlvi. 3, 5,
6, 11, 14. Fifteen circular objects were found, resembling large studs or buttons. Each has a concave top of greater diameter than the base, which has a flat under-surface. Four specimens are not bored: one is bored from below, the hole not going through the stud: nine are bored half-way through from above. In the remaining single example the bore goes right through; but in its present state, this particular object has the under-surface deeply chipped, and probably, when intact, was not bored through. In the head of the boring of the one stud which is pierced from below (xlvi. 14), traces of gum or glue survive, bearing the impress of a rosette, whose head would have been visible through the crystal top; and probably an ivory button had been inserted in this bore. In the bore of one of the other studs, when it was originally found, was such an ivory button with incised rosette (see Pl. xl. 17), set flush with the surface of the crystal: but this dropped out in transit owing to the shrinkage of the

drying ivory. One specimen (xlvi. 11) bears traces of silver solder in its bore. The fact that, while some of these studs are not bored at all, the majority are bored in what was obviously their *upper* surface, which was deeply concave, precludes the supposition that the objects either were fitted together in pairs by pins inserted in their bores, or were pin-heads. Nor do they show other signs of having been attached to, or parts of, larger objects. Some of these studs bear a superficial resemblance to half-parts of the ivory *astragali*, but, being single, they cannot be regarded as intended for the same purpose. They may possibly have been *pièces de jeu*—draughtsmen of a sumptuousness suitable to the use of the goddess, and therefore dedicated in her shrine. They were not found in the Basis, but were scattered here and there in the lowest stratum both west and east of it. In case it should occur to anyone that they were intended for magnifying or burning glasses, it may be pointed out that they do not magnify, but reduce; and that the presence of bores containing ivory filling further precludes any such possibility. Like many other crystal objects, these studs must have been turned on a lathe.

The largest of the studs (xlvi. 3) has the following dimensions: H. .017, D. (top) .039, (base) .032. The smallest (xlvi. 11), H. .012, D. (top) .023, (base) .017.

xlvi. 7-
10, 13, 16.

Thirteen objects were found, closely resembling half-parts of the ivory *astragali*, being bored on one *side* only, that side being in most cases flattened, as if to fit against the side of another stud, to which it would be linked by a peg of ivory or metal. Two facts, however, render the identification of these objects as halves of crystal *astragali* doubtful: (1) No two specimens exactly correspond in every respect (*i.e.*, in height, shape, etc.). (2) Certain specimens lack the flattening on one side, and, since they have spreading tops, could not have been fitted closely. All specimens but two have flat bases and concave tops, like the studs in class A. Of the exceptions, one has its base slightly less concave than its top; the other has both surfaces flat.

Were it not for the distinction made in almost all cases between the two ends, one being flat, while the other is concave, these objects might have been regarded as pin-heads of hammer-head form, whose pin-shafts were inserted in their bores. But, as it is, I can only conclude, in spite of difficulties, that they are half-*astragals*, whose other halves have not been found.

The concave upper surfaces have bevelled rims and the sides are hollowed. The largest specimen has these dimensions: H. .013, D. .017; the smallest, H. .009, D. .011. [1 Basis: rest W. and E. areas.]

- xlvi. 18, 25. Three stud-like objects, two with convex heads, one with plain head; each has a grooved collar round the base, which is flat. One, the smallest specimen (D. $\cdot 020$), in "smoked" crystal (No. 18), has remains of bronze in the groove and has evidently been set in metal. The largest has D. $\cdot 027$ (top), and $\cdot 023$ (base). [W. area.]
- xlvi. 39. Another stud-like object, in "frosted" crystal, has an uncut head, but is similar to the rest in other respects. H. $\cdot 016$, D. (top) $\cdot 019$, base $\cdot 018$.

B. Pin-heads.

A large class, some specimens of which may have been rather bead-pendants or fibula-beads. But some were undoubtedly pin-heads, since their bores are not drilled right through.

Orange-shaped Globes, fluted, perforated vertically. [W. Area.]

- xlvi. 29. The bore contains silver solder. D. (vertical) $\cdot 026$, (horizontal) $\cdot 027$. Rather lop-sided.
- xlvi. 15. "Smoked" crystal; no metal in the bore. D. (vertical) $\cdot 025$, (horizontal) $\cdot 028$.
Solder in bore. D. (vertical) $\cdot 013$, (horizontal) $\cdot 015$.
Two small specs., with no solder in the bores. D. (vertical) $\cdot 010$, (horizontal) $\cdot 013$; D. (vertical) $\cdot 008$, (horizontal) $\cdot 009$.

Melon-shaped globes.

- xlvi. 19, 24, 36, 38. Four specs., one with oxidised bronze in the bore. The largest, D. (vertical) $\cdot 013$, (horizontal) $\cdot 016$.

Orange-shaped globes, unfluted.

- xlvi. 20. Two specs. in "smoked" crystal, both with traces of bronze in the bore. (1) D. (vertical) $\cdot 013$, (horizontal) $\cdot 015$; (2) D. (vertical) $\cdot 007$, (horizontal) $\cdot 012$.
- xlvi. 23. Six small beads in clear crystal were found, somewhat flatter in shape, and in some cases having profiles like double whorls.

Elongated and fluted (13 specimens).

- xlvi. 12, 17, 26, 33, 34. One pointed, pear-shaped drop with bronze in the bore, and one without trace of metal (L. $\cdot 016$); the rest cylindrical and flattened at both ends, which are of equal diameter, and all showing traces of metal in the bores. The longest is $\cdot 019$.

C. Miscellaneous.

- xlvi. 1. *Ring*, with grooved sides, like the ivory rings (xxxv. 2, etc.). D. (top) .031, (bottom) .025. Turned on a lathe.
- xliii. 11. Fragments of a small phial; upper part only; the mouth D. about .015.
- xlvi. 35. Scaraboid bead, bored horizontally, H. .011, L. .050, B. .040. Not engraved.

II. OTHER STONES.

A. Carnelian.

- xlvi. 2. Seal-stone, scaraboid, not engraved. H. .009, L. .014, B. .015.
- xlvi. 37. Ditto, circular. Engraved with figure of a horseman of archaic style.
- xlvi. 4. Beads.—4 small and flat specs. rudely cut to circular form and pierced vertically: 1 large circular spec.: 1 lentoid: and some fragments.
- xlvi. 30. *B. Onyx*.—Seal-stone, scaraboid, unengraved. H. .012, L. .019, B. .018.
- xlvi. 31. Seal-stone, unengraved. H. .008, D. .012.
- xlvi. 27. *C. Jasper*.—Seal-stone, scaraboid, unengraved, highly polished, in very fine yellowish-red jasper. H. .011, L. .017, B. .016.
- xlvi. 28. *D. Garnet (?)*.—Plain orange-shaped pin-head. D. .021.

E. Miscellaneous.—1 small bead in *lapis-lazuli*; 1 in white quartzite (xlvi. 21); 10 in a dark grey limestone; 1 tiny bead in the shape of a pick or axe head (?) in the same material. (Basis.)

Two fragments of pink *coral* (cp. *Her.*, ii., p. 354). Parts of 3 *alabaster aryballi* of the ordinary elongated Egyptian type. Parts of 2 or 3 small *whetstones*; and (xliii. 13) a perforated stone, grooved on one side like a pulley block. (Cp. *Ilios Schliem.*, p. 436, figs. 606, 607, for stones of identical form, there called "Spit-supports.")

A M B E R.

OBJECTS in Amber proved fairly abundant, the perishable nature of the material being considered. Besides those which we succeeded in extracting in a reasonable state of preservation, there were many broken into minute fragments, and much amber dust. The amber is of two kinds: (1) clear tawny of hard texture, which resists disintegrating influences; (2) more opaque and dusky red, of friable texture, glowing deep crimson when held up to the

light. This is readily acted upon by disintegrating influences, which leave a pock-marked surface. The last-named variety is usually believed to be of Sicilian origin. The clear tawny variety was probably brought from the Baltic coast. The latter was by far the less abundant among the Ephesian objects.

The objects in amber are almost without exception in the nature of amulets or embellishments of articles of personal wear, *e.g.*, fibulæ, which were often adorned with a large bead or beads of this material strung on the bow. Hardly any piece of amber found at Ephesus, therefore, is to be regarded as an independent object.

In the following list the amber of which objects are made is distinguished as *tawny* or *red*.

- xlvi. *Figurine*, red. H. .037. Nude female, wearing large wig, cut square at the back. The head is rudely modelled; the forehead recedes almost at right angles from the brows, the eyes are mere dots, and the mouth is a scratch. Below the buttocks the figure is foreshortened, the feet being carved without due allowance of room for legs. Perhaps its model was a squatting or seated figure which could not be properly reproduced by the carver, owing to the shape and dimensions of his lump of amber. This figure is probably a representation of the Goddess. [E. of Basis, in disturbed earth where no *D* pavement foundation survives. See p. 45.]

Embellishments of fibulae, or of other metal objects (not pins).

- xlvi. 13. Lump of irregular shape, red; roughly smoothed, and showing a number of scratches such as might be produced by a textile stuff continually rubbing the surface. Pierced longitudinally with a curving bore. L. (at greatest dimension) .060. [Basis.]
- xlvi. 11. Ditto, red; L. .025. [Basis.]
- xlvi. 10. Lentoid bead, red; L. .030, broken at ends: pierced with four longitudinal bores, in one of which a piece of flat bronze wire still remains. [Basis.] Ornament of a four-coil fibula (?).
- xlvi. 4. Ditto, red; L. .039. One longitudinal bore. [Basis.]
- xlvi. 19. Triangular bead, red, bored longitudinally; L. .024. [Basis.]
- xlvi. 20. Ditto, bored longitudinally; fragment. [Basis.]
- xlvi. 21. Bead, red. D. .005, bored both longitudinally and laterally. From a ring or bracelet (?). [W. Area.]

Perforated cylinders and large beads of amber, probably fibula or earring ornaments, occurred at Enkomi (Pl. ix.). In the case of fibulae of Etruscan

provenance, one or more amber beads, globular or whorl-shaped, have often been found strung on the bows.

Suspensory Ornaments.

- xlvi. 28. Flat piece, red; drilled vertically with five fine bores. L. .040; B. .015; T. .005.
A divider-bead from a five-stringed necklace (?) or the bridge of a five-stringed musical instrument (?). Compare Ivories, xxxvii. 7, 8. [W. of Basis.]
Ditto, red; drilled with one vertical bore and three horizontal bores. L. .026; B. .010; T. .004. [W. of Basis.]
- xlvi. 26. Ditto, red; broken; has had three vertical bores. [Basis.]
Ditto, red; two vertical bores. L. .029; B. .010; T. .007. [W. of Basis.]
- xlvi. 14. Cylindrical fragment, tawny; highly polished and bored. Key-piece below, to be fitted into some other object. L. .023. [W. of Basis.]
- xlvi. 2. Roundel, red; one face slightly convex, the other flat. D. .037; T. .007; drilled vertically with one hole in centre and four round the circumference. [W. of Basis.]
- xlvi. 9. Ditto, red; bored once through the diameter and thrice vertically. D. .025. [W. of Basis.]
- xlvi. 1. Large Whorl, red. H. .023; D. .043; pierced vertically. [Basis.]
- xlvi. 7. Ditto, red. H. .022; D. .026. [Basis.]
- xlvi. 8, 12. Other Whorls.
Some of the above were perhaps pin-heads, or fibula-ornaments.

Amulets (?)

- xlvi. 5. Object in form of a vase, red; bored along the gable-shaped mouth-ridge. H. .027; B. .022. [Basis.]
- xlvi. 15-18, 22-25, 27. A number of objects (about 60), whole or fragmentary, in shape of vases drilled for suspension along the mouth-ridge; red. H. varying from .028 to less than .010. The more squat specimens recall the Egyptian heart-vase, but lack its ear-handles. There are three varieties of form. (a) Squat, with a simple ring neck and no base, recalling a flattened aryballos or "pilgrim bottle." (b) Elongated, with a gable top and a pointed base, recalling a form of oenochoe. (c) Elongated, without base, but with round button-top, incised rosette pattern above. Almost all these vase-pendants were found in the Basis, and are probably relics of a broken necklace or necklaces.

Feminine Ornaments.

- xlvi. 8. Ring, red, of oval section; in fragments. D. .022 [W. of Basis.]

- Pin-head, tawny, half-astragal shape (cp. Crystals, xlvi. 7); not pierced.
H. .008 [W. of Basis.]
- xlvi. 17. Ditto, red, melon-shape. [Basis.]
- xlvi. 12, 15-19, 22-25. Ditto, about 20 specimens, some still attached to bone pins. Both tawny and red, but majority latter. (a) Horizontally fluted spheroids (Cp. Ivories, xxxiii. 4, 6), with or without finial tuft; (b) orange-shape, plain or with horizontal ribbing; (c) conical spheroids plain or horizontally ribbed. The largest head is .012 in length. [Basis.]
- xlvi. 26. *Beads*, all red. Many varieties.
- xlvi. 3. (a) Scaraboid; two specimens, L. .015 and .012, bored at longest diameter. [W. of Basis.]
- xlvi. 4, 14. (b) Whorl-shaped, pierced vertically. [Many specimens from all parts.]
- xlvi. 5-7, 10. (c) Tubular, with spiral ribbing. All sizes, the longest being .025, with diameter .006. [From all parts.]
- (d) Tubular unribbed, various sizes from L. .020.
- (e) Wedge-shaped, with hole for suspension in the broad end. [Two specimens from the Basis.]
- (f) Oval, from L. .020.
- (g) Tubular, of triangular section. One specimen. L. .016. [From outside Basis.]
- xlvi. 11, 13. (h) Globular plain; many specimens.
- (i) Globular ribbed [one specimen from outside Basis]. A pin-head (?)
- (k) Flat and round, with slightly bevelled edges pierced vertically: numerous.
- (l) Flat and square, pierced vertically.
- (m) Irregular; natural shape of lump; largest L. .025 (from fibula-bows(?)).
- xlvi. 1, 2. *Astragal centre-studs*. See Ivories, pl. xxxvi.

HORN.

THE only objects in Horn are:

- xlii. 21, 23. Two knife-hafts made of small goat- or sheep-horn, coloured green by oxidation of bronze. The slit socket and nail holes to secure the blade are visible. [W. Area.]
- xlii. 22. An earring or fibula ornament, with curved bore, still containing oxidised bronze. The natural longitudinal ribbing of this horn has perhaps been imitated in the gold earrings, pl. vi. 74. [W. Area.]

WOOD.

xliii. 6, THE only worked objects in Wood¹ which have survived the destructive effects of damp and salt are the cores of two Hawk-figures, once overlaid with gold foil, of which fragments were recovered from the ooze near one specimen. Both cores are calcined, and when found were in such tender condition that they had to be soaked in melted vaseline before being handled or packed for transport. The lower parts of both are lost. In their present state these cores measure .090 and .080 in length respectively. Both were found in the lowest stratum of deposit in the S.W. corner of the primitive area, under massive *D* pavement foundations.

A good deal of calcined wood was found in the filling of the Basis (see p. 35).

SHELL.

A GREAT quantity of Shells, pierced near the spiral end, was found in the filling of the Basis. Outside the Basis hardly any pierced specimens occurred, but there was a certain number of unpierced shells of edible molluscs, *e.g.*, cockles, snails, etc. The pierced shells from the Basis were almost all of the

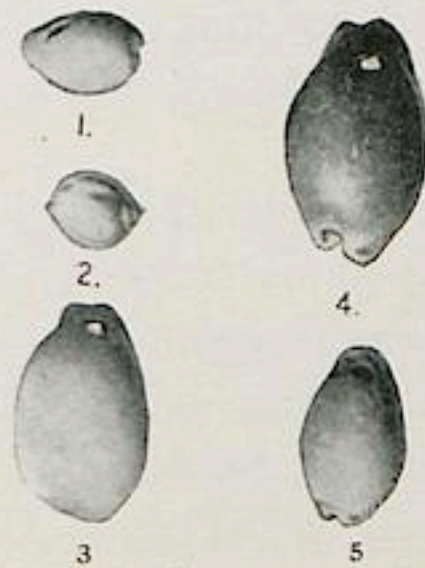


Fig. 44.

cowrie class, ranging from .054 in length to very small specimens. The hole for suspension is not circular, as if drilled, but of irregular shape, as if punched. (Fig. 44, 1-5.) These shells appear to have been suspended to fibula-bows. Compare similar specimens found at Cameiros.

¹ But see p. 159 for other possibly wooden objects.

CHAPTER XIII.

THE POTTERY.

BY CECIL SMITH.

THE painted pottery found on the site of the Artemision is for the most part of so scanty and fragmentary a nature that it would be rash to offer any conjectures based on the presence or absence or the relative quantity of any given fabric there represented. Otherwise it might be worthy of remark that only one fragment of the true Geometric ware was discovered (inside the Basis); while there is nothing whatever of Minoan or Mycenaean ware, nothing of the "Fikellura" style, and nothing (or, at any rate, nothing certain) of the fabric attributed to Naukratis. Protocorinthian ware is represented only by two examples, while the "Corinthian" aryballi are better represented than any other class save one.¹ Otherwise the pottery is very much what we should expect from any Ionic site, such as, for instance, Böhlau has studied in his *Aus Ionischen Nekropolen*. The typical Ionian fabrics, such as the "Apollo bowls," the ibex jugs and vases, the pinakes and the allied vases with similar decorations laid sometimes on a white slip and sometimes direct on the brownish clay, are all represented; and an interesting contribution is made to the study of the "Lesbian" *bucchero* ware, although no fragment of this shows any traces of colour.

The most interesting objects under this head are reproduced in colour on Pl. xlix. Figs. 1-5 (= Nos. 4-9) are fragments belonging to a fabric which, so far as I am aware, is otherwise unknown. While, on the one hand, it is evidently related to the "ibex" (the so-called "Rhodian") ware, it has marked points of difference. Its special characteristic is the employment of a kind of purple-umber pigment laid direct on the engobe, both in the design and for the borders; the same colour is also used, within a black outline² (see Pl. xlix, 2), and has a design in black painted upon it. This colour varies from deep umber to lightest yellow; the black used on this ware is of a very earthy brownish colour, approaching rather to bistre. The effect of these colours standing out against a brilliant white engobe is extremely decorative. The clay is deep red.

¹ While all important pieces were brought home, of the unimportant only a selection was made; the evidence therefore of relative quantities must not be pressed.

² The same technique is found on the Euphorbos pinax (B.M., A 749).

A further characteristic of the fabric is the selection of patterns; prominent among these is a border composed of two thin lines with a narrow space between them, united by a row of dots or short vertical lines; a sort of dog-tooth pattern is also found, and there is generally a tendency to the introduction of small decorated squares.¹

Another fabric, which is new to me, is represented here by two pieces, Nos. 10-11. The form of No. 10 appears to be that illustrated in Böhlau (*loc. cit.* pl. viii., Fig. 10). The ornament consists of the same class of decorative patterns, laid in a similar earthy black upon a clay, which varies from pale yellowish red to a deep, almost brick red. It is unlucky that a little more of the subject on the *int.* of No. 11 is not preserved; it would have been interesting to know whether the bodies of the animals, as well as the heads and feet, were drawn in outline.

The same characteristic patterns occur also on the "Lesbian" lid of a pyxis (No. 13); they have also been traced on the ivory statuettes (see p. 156), and it looks as if they represent a local characteristic. While there seems no inherent difficulty in assigning the other fabrics just mentioned to an Ephesian origin, we should not naturally expect to find "Lesbian" ware manufactured there; in the case, however, of the pyxis-lid it is quite possible that the engraved ornament may have been applied to it at any time; and, therefore, after it was imported into Ephesus.

As might be expected, there is considerable affinity between the character of the pottery finds at Ephesus and Miletus, so far as the scanty material from

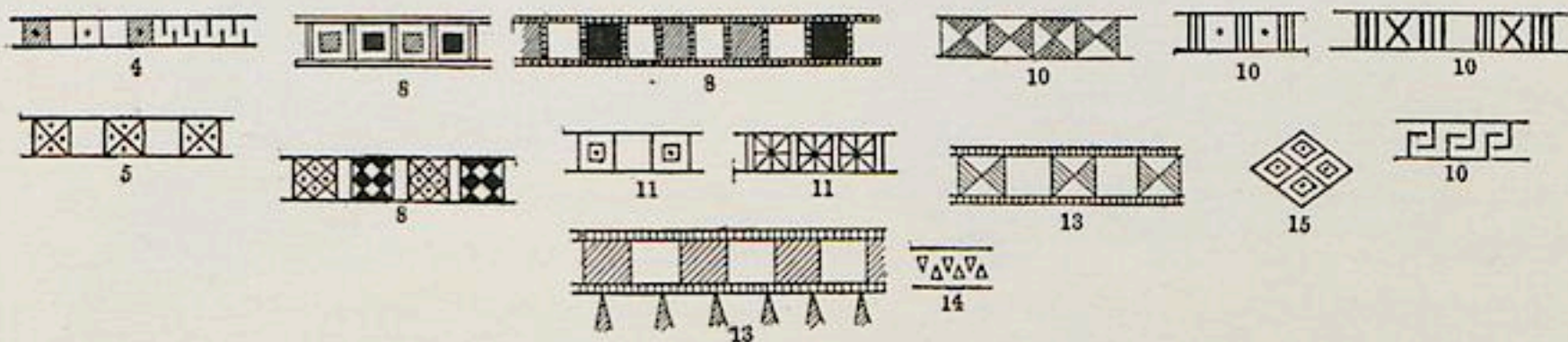


Fig. 45.—Detail of pattern on the Vases.

both sites enables us to make a comparison. By the kindness of Dr. Wiegand and Dr. Knackfuss, I was enabled, in the spring of 1905, to examine and make notes at Miletus of the specimens of pottery which had up to that date been discovered there.

¹ Similar patterns occur on the early white-faced ware found in Cyprus, Melos, Thera, etc.; see for instance the fragment published in *Phylakopi* (*J.H.S. Suppl. Paper, no. 4*), p. 158, fig. 148. Possibly this ware may also be Asiatic in origin.

1. *Geometric.*

Fig. 46. 1. A fragment shown in natural size in Fig. 46, which has formed part



Fig. 46. = No. 1.

of a large vase. The clay is yellowish brown; the *int.* is covered with a thin brownish-black varnish paint, resembling that of the Rhodian Geometric.

[Found within the Basis, 1904.]

2-3. *Milesian Geometric (?)*.

Fig. 47. 2. A fragment shown in natural size in Fig. 47, which has formed part of the off-set lip of a bowl. The clay is rather coarse, brownish grey, covered on *ext.* with a dull white slip; design in brilliant black. The patterns are characteristic of a series of fragments which have been found at Miletus, and



Fig. 47. = No. 2.

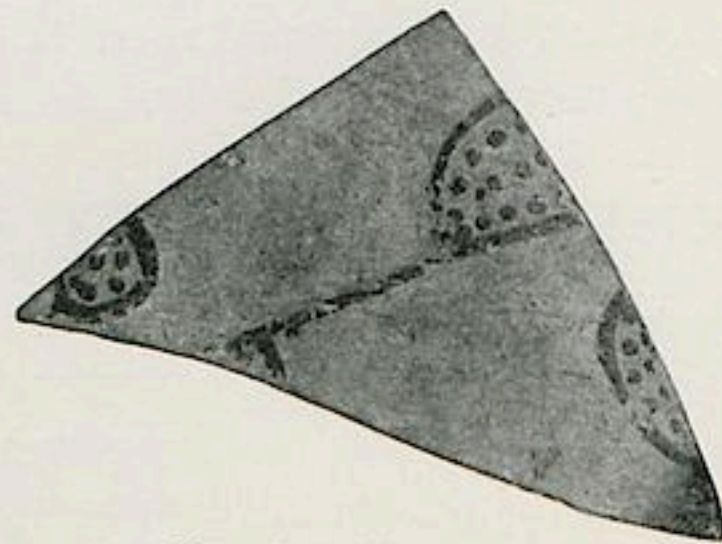


Fig. 48. = No. 3.

which seem to belong to a local Geometric style which may have had its home there.

[Found within the Basis, 1904.]

Fig. 48. 3. Fragment which may possibly be assigned to the same fabric. The pattern seems to be composed of a series of semicircles filled with dots and united by a zigzag line (?). This also seems to have an analogy to specimens from Miletus.

4-9. *Local "Ibex" fabric.*xlix.
1a, b.

4. Fragment of open dish (shape probably like the Rhodian open dish on high foot, *e.g.* Br. Mus. A 696 foll.). 12 cm. × 6 cm. (The full diam. was apparently about 26 cm.) Reddish umber clay, covered with smooth creamy-white wash, full of shiny micaceous particles; design in brownish black, with details in purple laid direct on the white. The heads of the animals are in outline, and free use is made of "reserved" lines for details.

Round the lip is a broad stripe of purple; on this is laid, on *int.* and *ext.* alike, a narrow band formed of two horizontal lines joined by short vertical lines, in black. Below this, a band of dog-tooth pattern, broken by sets of five squares, alternately purple with central dot, plain, and plain dotted in centre; then a narrow band as before, and then the frieze. *Int.* A frieze of ibex galloping to r.; conventional type, with only one fore and hind leg shown; in field, linear patterns (one with purple centre); above l. ibex, a tendril hangs from upper border, at end of which is a swallow seated. *Ext.* An ibex, as before, and a spotted fallow deer galloping in background slightly in advance, looking round at it. Seated almost at the end of the ibex's horn, in a position so that it is nearly inverted, is a swallow. On the extreme r. is part of some object now unintelligible, consisting of a narrow rod, nearly vertical, surmounted by a triangular top, and a rod branching obliquely to l. In the field, linear pattern. In both groups the body of one animal and the neck of the next is coloured purple. Below each design has been probably the same pattern as above. [W. part of W. area, see p. 43.]

xlix.
2a, b.

5. Fragment probably of an open dish, as No. 4. 5 cm. by 4.5 cm. The surface on both sides is coated with a brilliant shiny white coating, on which the design is laid in blackish brown, with details in umber (purple) painted direct on the white. The fragment gives part of the lip of the vase, which has had a broad band of purple, on which is laid in black, both *ext.* and *int.*, a pattern formed of two horizontal lines joined by a series of short vertical strokes. A similar band is repeated below. Between these two bands is on *int.* a band of dog-tooth, broken by a series of squares, of which only three (umber with central dot, plain, umber) remain. *Ext.* a pattern of squares, alternately plain and divided by diagonals, with a dot in each quarter. Of the design below, only a thin vertical line remains.

[Found in a trial pit made immediately W. of the westernmost Primitive wall of C period, on the lowest level.]

xlix.
3a, b.

6. Fragment of a large open dish, 6 cm. × 6.5 cm., white-faced, with design on *int.* and *ext.* Clay brick-red, with creamy smooth engobe which

(perhaps from the deep colour of the underlying clay) has a pinkish tone; on this the design is laid in brownish black, with details in deep purple and yellow (which may be a variation of the purple pigment). The dish must have been about 35 cm. in diam., and probably was similar in shape to No. 4.

Int. This gives a small portion of the outer decorative bands, which probably were similar to those in Nos. 4 and 5; part of the lower broad band and the thin line below it are preserved. Below these ran a broad concentric frieze of alternate lotus flower and bud; the bud is decorated with horizontal bands of alternate black and yellow hatched lines in opposite directions; each band is drawn between two narrow black lines. Nearly a whole bud and about one-third of a flower are preserved.

Ext. The only part preserved gives a portion of an elaborate device of a large lotus flower with many petals, the different surfaces rendered partly in black silhouette, partly by black dots, and partly by a wash of purple laid direct on the clay.

[S.W. corner of Primitive area, in disturbed deposit and among *D* foundations. See p. 41.]

7. Fragment of a large vase, apparently of similar fabric and shape. $\cdot 045 \times \cdot 06$ m. Part of the body: in the upper part is part of a dog-tooth pattern (as in No. 4), and below, a pattern consisting of groups of vertical zigzags, in black on a white engobe. Between them, a broad band of umber on which three black stripes are laid. [W. area.]

xlix.
5a, b.

8. Fragment of bowl with recurved lip. 4 cm. \times 5.5 cm. The diameter of the bowl must have been about 16 cm. Clay, fine and close, red-brick colour; covered with a brilliant polished cream white engobe, on which the design is laid in dark brown, with details in light umber-coloured purple.

On the upper surface of the lip is a band of squares of brown and umber alternating with white, framed in a border of double lines joined by short strokes, all on a white ground.

Ext. Round the edge a similar pattern, but the colour squares do not fill the spaces: the space above and below this within mouldings is coloured purple; below, on white ground, between two pairs of lines joined by short strokes, a band of squares, filled with alternate chequer (black) and dotted chequer pattern; in the latter case, the pattern is drawn in umber. Below all, a thin black line.

Int. Below the lip, a broad band of umber, on the lower part of which is the usual border, as before: below this, the white begins: on it, a band of dotted squares, the vertical lines umber: then lines joined, as before, and below, a single line. [S.W. part of W. area.]

9. Fragment of a large bowl, 10 cm. × 11 cm. × 1 cm. thick. The diam. of the bowl must have been at least 16 cm., and probably, from the character of the ornament, it rested on a foot with stem, like the preceding. The technique is exactly that of the preceding fragments, Nos. 4-8.

Ext. Part of a radiate pattern which probably surrounded the stem of the vase: the rays are alternately brownish black wash, and outline of the same colour filled in with a wash of umber, all laid in the white ground.

Int. All that remains is a fragment of the usual border forming a circle round the centre, and at the outer edge a trace of a similar border: between them a blank white space, 8.5 cm. wide. [With No. 6, see p. 41.]

10-11. *Local Ephesus fabric* (?).

Fig. 49. 10. Upper part of vase. 3.5 cm. by 6 cm. The form is uncertain: as a vertical strip, including about $\frac{1}{3}$ of the circumference, is left unpainted, it may have formed part of a group of three conjoined vases [Kernos?].

The clay is reddish brown and covered with a slip of the same colour. On this the design is laid in a thin powdery black-brown. On the lip: four groups



Fig. 49. = No. 10.

of pattern equidistant: a cross between two sets of 3 uprights each. On the neck, a black line; then a band of parallel lines joined by hatching: then simple key pattern: then dotted squares separated by sets of 3 uprights: then a broader band of squares with diagonal hatched triangles (see fig. 49), and (where the break comes) a band of dotted squares and sets of 3 uprights, as before. [W. area.]

Fig. 50. 11. Fragment of similar technique. H. 4·5 cm. by 4·5 cm. Probably part of an open dish on a stem, around which the design runs concentrically on both *ext.* and *int.* The clay is deeper red, with a fine deep-red slip.

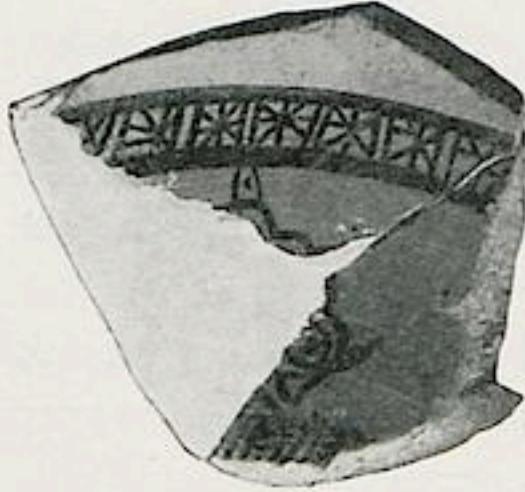


Fig. 50. = No. 11.

Int. Within two bands of pattern consisting of 8-rayed stars between pairs of uprights, a lion attacking a bull. Of the bull (to r.), only the head bent downward (with disproportionately large eyes) and one forefoot are preserved: of the lion, only the upper part of the head, with ear, and upper jaw biting the neck of the bull. The parts preserved are drawn in outline.

Ext. A band of stylised single lotus buds: above, pairs of uprights enclosing dotted squares: below, two parallel lines united by vertical hatching (see fig. 50). [W. area.]

12-17. "Lesbian." [All from the W. area, dredged up below -4·00.]

Fig. 51, 3. 12. Two fragments of a vase, rejoined, measuring together 5½ cm. × 3 cm. high. Thin finely made ware (3 mm. thick), black all through, with a fine shiny black glaze both *ext.* and *int.*

On *ext.* in upper part is a horizontal band of pattern between two deep

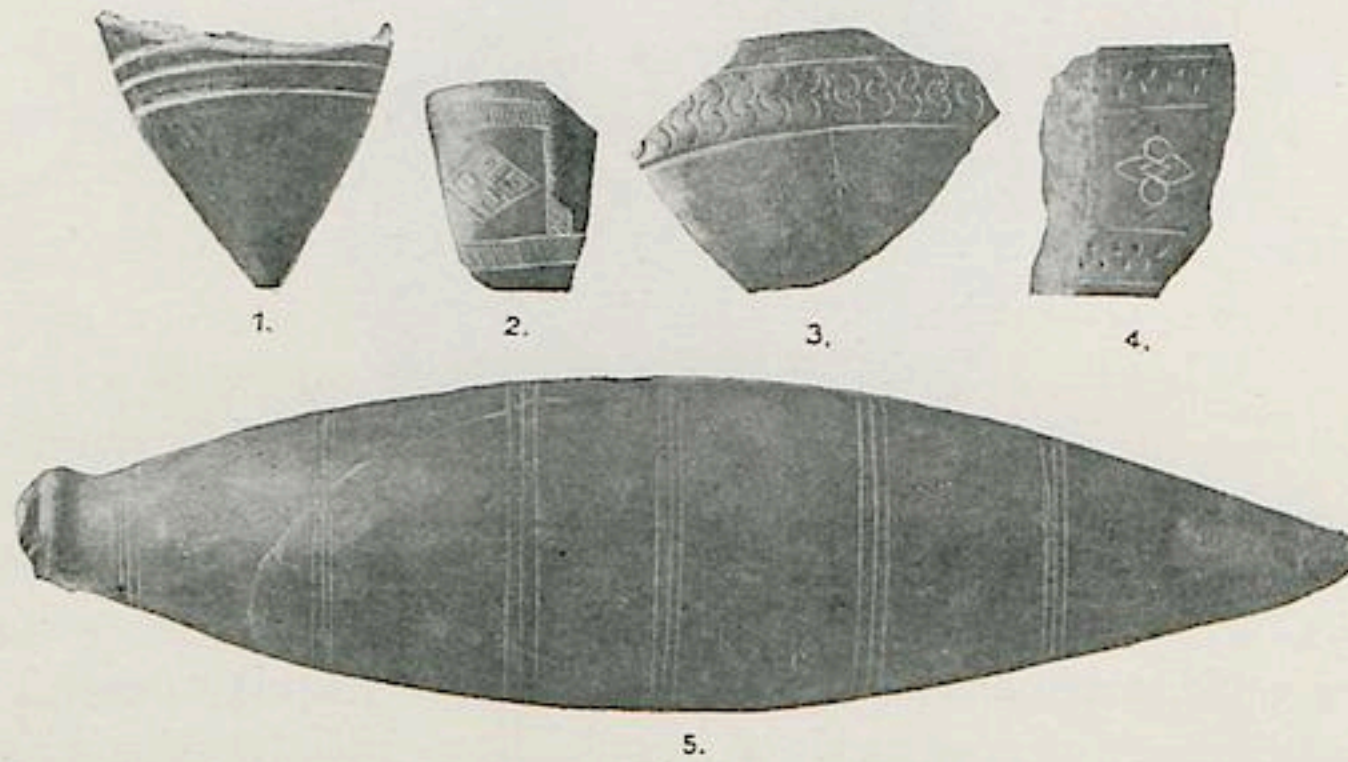


Fig. 51. = Nos. 17, 15, 12, 14, 16.

impressed lines: a series of } confronted by semicircles: all these were pressed from a semicircular punch while the clay was soft and before glazing.

Fig. 52. 13. Lid of a pyxis (?). H. ·007 m. Diam. ·063 m. Part of the main

portion, and the lower edge of the lip all round, are broken away. In the centre is a large rosette of sixteen petals, each of which is hatched and enclosed within a double outline. This is surrounded by a band formed by two circles, the space between which is hatched. Two similar bands run around the



Fig. 52. = No. 13 (in two views).

circumference, the space between them filled by a series of squares alternately empty and occupied by two hatched triangles set horizontally with joined apices. Around the vertical edge is a similar band of pattern, but the filled squares are merely hatched: below this, a band of vertical rays, hatched. [W. area.]

Fig. 51, 14. Part of a small stand (?). $\cdot 03$ by $\cdot 02$. The form is not very clear, but it appears to have been a ring of about 3 cm. diameter, of which the exterior was vertical, the interior contracting considerably towards the centre, or the fragment may more probably have been part of the annular handle of a vase; the two edges, so far as they are preserved, are not precisely parallel.

In the centre has been a row of flowers, each formed of two lozenges and two circles; the tip of a second, which is preserved, is not shown in the cut. On either side is a border composed of two rows of cuneiform incisions alternately opposed, between two engraved lines. [W. area.]

2 G

Fig. 51,
2. 15. Similar fragment. .026 m. by .02 m. Here again the two preserved edges are not parallel, so that the odds are in favour of the fragments being parts of handles. At each edge a border composed of hatching between two lines; the space between is divided into squares by a similar border; within the square, a single diamond pattern.

Fig. 51,
5. 16. Alabastron. H. .16 m. Around the neck has been a raised ring; part of this, and almost all the lip above it, are wanting.

On the body, at even distances, seven sets of three parallel lines.

Fig. 51,
1. 17. Foot of a similar vase. H. .035 m. Around the upper part of the fragment, three broad deeply grooved lines.

[Here it is convenient to record that in Wood's excavation in 1872 a single piece of the same ware was found in the form of a rudely modelled bird (head missing); this has a large hole beneath the tail, which may have been for the attachment of the bird's feet, but more probably served for the attachment of the bird to the lid of a vase, as is shown in a Lesbian vase from Cameiros in the British Museum. Unfortunately, Wood left no note of the circumstances of its discovery.]

18-21. *Fabric of the "Apollo bowls."* [W. area, and a few fragments from E. of the Basis—all from below - 4.00.]

This is the fabric of which the first considerable Hellenic find was made by Prof. Petrie at Naukratis in 1885; a series of the shapes are shown in *Naukratis* i, plate x. Of those found in the Artemision, No. 19 represents a cup of the coarser fabric (Petrie's shape 10); unfortunately, the unpainted band on the shoulder, which in the Naukratis examples frequently bears a dedication, is here uninscribed. The oinochoe (No. 18) is, so far as I know, the first example of its shape in this fabric which has come down to us.

18. Oinochoe, handle wanting. H. 11½ cm. Clay light red, somewhat coarse, covered on *ext.* with a wash of brownish black glaze paint, similar to that on the kylix No. 19, to which fabric it belongs. This wash was laid on horizontally, probably as the vase turned on the wheel, and by way of decoration a single narrow band has been left uncovered by it around the lower part of the body.

19. Kylix. H. 7½ cm. Diam. 11.8 cm. One handle and part of body wanting. Technique as preceding. The glaze paint, which is more metallic, covers the whole of the *int.*, but on the *ext.* leaves the lip and shoulder free, except for a series of thin horizontal lines.

Next come a series of fragments of cups belonging to the same fabric (Petrie's shape 11). They may be described under one number.

20. About ninety fragments, all of different cups, mostly portions of the rims. These cups have had the lower part of the body either left plain, with occasional bands of brownish black colour, or are coloured wholly black. Round the rim runs a band or (more rarely) two bands, which are divided into "metope" spaces by sets of vertical lines; some of these spaces are occupied with geometric designs, of which the most usual is a hatched rhomboid; a few have a "Geometric" bird, of which the body is decorated in the usual Geometric manner. The clay varies from reddish to ashen grey; only one colour is used, a black which thins to brownish red. In one instance the red clay has been covered with a white engobe before the painting.

This is followed by a class which is less numerous, though fairly well represented:—

21. Fragments of perhaps some twenty different cups of the same form, but much more advanced technique; the clay is finer and thinner, the glaze more smooth and brilliant, and the decoration, though following the same general lines, is heightened by the addition here and there of bands composed of a stripe of purple between two narrower stripes of white, laid on the black glaze; this stripe is especially characteristic of Naukratis ware. One nearly complete specimen of extraordinary delicacy is preserved, but unluckily it is broken to shivers. Included with these are some half-dozen fragments apparently of the same type, but from vases of different shape.

22-27. "*Milesian*" fabric. (Same provenance as the preceding.)

22. A series of fragments giving the greater part of the design from an oinochoe or amphora of the type published in *Journ. Hell. Studies*, vi., p. 186; cf. also Böhlau (*op. cit.*, p. 80, fig. 34), who describes this fabric as "late Milesian." The upper band has a large palmette springing from the ground, between two gryphons confronted; below, the usual stylised frieze of ibexes springing to r., looking back. Much use of purple and engraving in the upper band.

23. Fragment of similar vase. In upper band, lion moving to l. (hind part only preserved), and on r. forepart of lion springing to l., beneath his forelegs a hare. Found in the S.E. corner of the cella.

24. A series of fragments of similar ware, including part of the handle and foot of a typical oinochoe of the coarser style of this fabric; also a series of fragments of small pinakes similar to Böhlau, pl. xii., figs. 9, 11.

2 G 2

Fig. 53. 25. Two fragments of a large pinax, which must have been about 30 cm. in diameter. It gives one leg from the knee and the other foot of a human figure



Fig. 53. = No. 25.

striding to r. Behind, a tree (?) springing from the ground; in the field the usual ornaments. The whole within a border of simple key-pattern; no engraving.

Among the remaining specimens of this ware are two remarkable fragments given in natural size in Figs. 54 and 56.

Fig. 54. 26. On the *int.*, part of an elaborate spiral which, soon after making one revolution, is connected with a band decorated with a double row of dots. This band accompanies it round to where a portion of flower and tie join the outer edge.



Fig. 54. = No. 26.

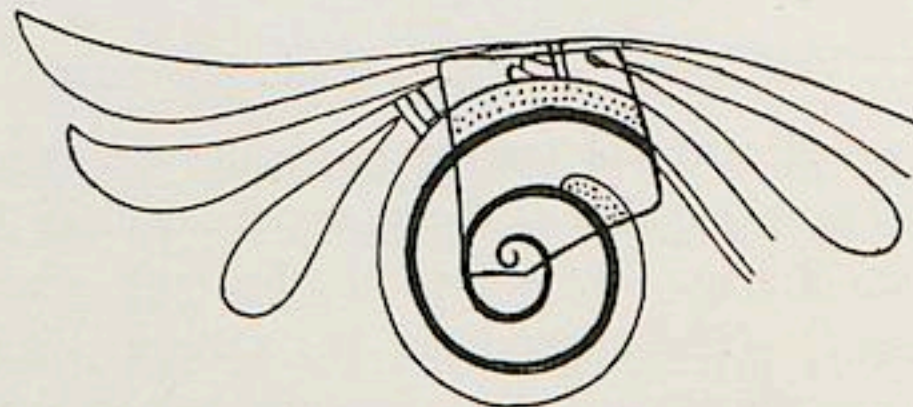


Fig. 55. = Detail of No. 26, restored.

The design appears to be part of a spiral and flower decoration similar to that which occurs, *e.g.*, on Naukratis ware (cf. *Naukratis*, i., pl. xiii., 2; pl. vii., 5). A suggested restoration is given herewith, Fig. 55.

(The double spiral has a certain analogy to the spiral capital of the Croesus temple. The band with the double row of dots is again a favourite feature in local (?) fabrics found at Miletus.)

Fig. 56. 27. Part of the hollow stem (?) of a vase. It tapers downward, and is

divided vertically by a broad band of squares within pairs of lines; these squares are alternately empty and occupied with a central black square. On the r. of this is a square of patterns in chequers, bordered by a similar band;



Fig. 56. = No. 27.

but the empty squares are here occupied with a hollow square. The chequers are occupied with three forms of pattern arranged on a system. Above has been a scene, of which only part of the foot of a lion (?) and of a bull (?), moving in opposite directions, both in outline, are preserved.

28. *Naukratis ware* (?).

28. Fragment of a vase apparently of Naukratis ware. 3 cm. × 2.3 cm. Pottery thin, covered on *ext.* with brilliant creamy-white engobe, in which the design is laid in dark brown, with bluish-purple details. The only part preserved shows part of stalk and bud of a running lotus pattern, and below, a band divided by pairs of vertical lines into squares, alternately plain and with purple or black centres.

The *rev.* has been coated with black, which has turned deep red.

With this may be classed a tiny splinter (Plate xlix., 41), which seems to be from a cup of the Naukratis fabric; it had on the *ext.* a design in brownish black on brilliant white, and on the *int.* a coat of brownish-black glaze colour.

29–30. *Protocorinthian*.

[Found in the E. part of the W. area near in the Basis. See p. 42.]

29. Fragments of a two-handled cup of thin yellowish fabric, decorated around the foot with rays, and on the body with a series of thin bands once black, now orange-red colour.

Fig. 57. 30. Lid of a pyxis (handle wanting). Diam. .09. Design partly in silhouette, with unskilful use of engraving, partly in outline.

Around the outside a frieze, in two groups: (1) Between two sphinxes seated confronted, a curious object which seems to represent a cuirass (?); the



Fig. 57. = No. 30.

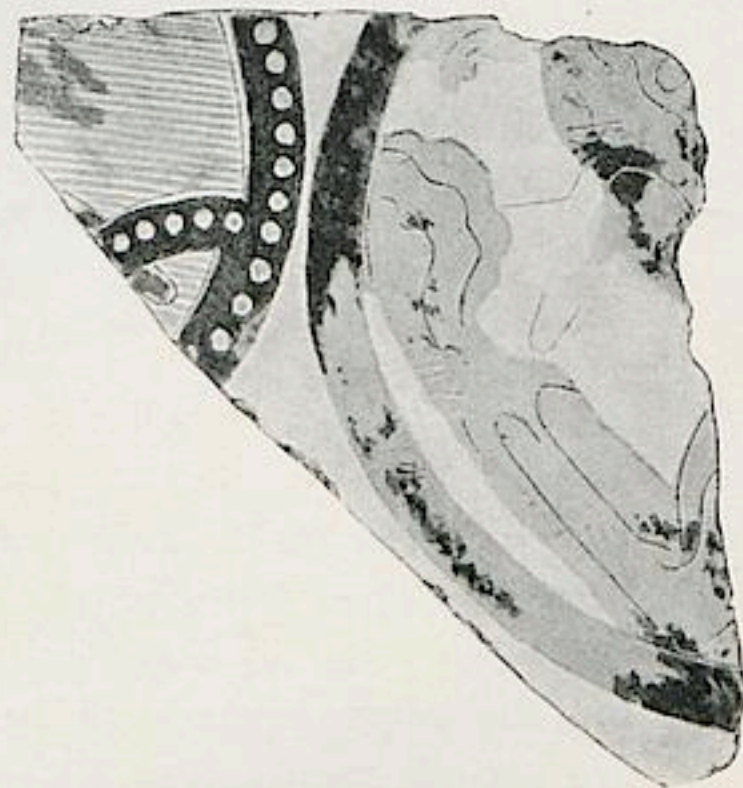


Fig. 58. = No. 31.

surface generally is dotted, with a hole for the neck and a string hanging from the top on either side. (2) Three lions, a bearded head, and a hound, all to l. The bearded head is drawn entirely in outline, even the hair being so rendered.

31. *Corinthian.*

31. Fragment of a large vase, given in natural size in Fig. 58. Usual Corinthian fabric, soft friable clay, from which the design has largely flaked away.

Part of a combat (?). The shields of the opposed warriors are partly preserved; the one on r. has for device the forepart of a lion springing to l.; of the shield of his opponent the interior is seen, with one finger of the hand which grasped the handle; the whole *int.* surface seems to have been coloured purple, but only a patch now remains; the border and the handle alike of this shield are black, with a row of dots in white.

32-33. *Corinthian Aryballi*. [From all parts of the W. area, but mostly with objects enumerated on p. 42.]

Fig. 59. 32. Upper part of an aryballos in form of an ape; the body of the vase was formed by that of the animal, and part of the l. arm remains attached to the side.



Fig. 59. = No. 32.

The lip and handle, together with the head of the animal, are preserved; its l. eye seems to have been covered by the l. hand.

Fig. 60. 33. The remainder of the aryballi are of the usual Corinthian type, and call for no special comment; the best is that figured on the l. of the four,



Fig. 60. = No. 33.

which is of the rarer form, found in the Protocorinthian fabric also; the design consists of two boars fighting, and under the handle an owl.

CHAPTER XIV.

THE PRIMITIVE OBJECTS AS A WHOLE.

By D. G. HOGARTH.

The foregoing catalogue enumerates the three thousand and more objects extracted from beneath, or beneath the level of, the Croesus pavement, and almost all from the area occupied by the three successive shrines of the Primitive period. The most certain deductions can be drawn from those objects found inside the earliest Basis. As has been indicated above in Chs. III.-IV., there can be no reasonable doubt about the following postulates. (1) The innermost Basis, built of green schist, which rests on the bottom sand, is as early a structure as any now extant on the Artemision site. (2) The slab-filling, which we found packed into the space between the unsquared inner faces of the schist walls, was necessary to their stability, and, therefore, coeval with them. (3) The objects found between the layers of this filling were placed there with the filling, and not at any later date. Concerning these objects two questions must be asked: how did they come to be in the filling? and when were they placed there? But before we attempt to answer, it will be well to collect in summary form, from the foregoing catalogue, both the different varieties of objects which were actually found in this filling (about 1,000 in all, large and small), and the variant types which were found outside, whether under decisive conditions of position or not.

A. *The Basis.*1. *Coins.*

4 classed by Dr. Head under Primitive Issues: 14 Lion types: 2 Horse-head types: 2 Gryphon types: 1 Seal type: 1 uncertain type. In all, 24 coins.

2. *Other objects in Gold and Electrum.*

The great majority of the collection, about 600 specimens in all, including small pendants and beads. These comprise:—

- (a) 4 very small female *figurines*, of both erect and seated types, such as may have been pendants or other attached ornaments.
- (b) 8 *hawks* (out of 21) and 2 *appliqué figurines* (frog and ass-head?).
- (c) All the *brooches*, except one (out of 11).
- (d) 10 *fibulae*

(out of 12), including specimens of all the precious metal types. (e) *Spiral ear-drops* of all types except Plate vii. 43, 49. (f) *Pins and Pin-heads*. The great majority, including all types except Plates vi. 48, 25, 35; v. 30. The bee, wheel and *labrys* pins were found in the Basis. (g) *Earrings*. The majority of the common type, and all types of enriched hoops except Plates vi. 57, 67, 52, 65, 73; x. 39. (h) *Rings*. The majority. (j) *Pendants*. About 100 common bead-pendants, and specimens of all other types except Plates vii. 9, 10, 13, 14, 17, 18, 21, 22, 23, 46; iii. 7, 9, 11. (k) *Amulets* (not pendants). All types. (l) *Chains*. All specimens of the four-strand type. (m) *Appliqués*: *Amulets*, all types: *Strips*, all types except Plate ix. 29, 32, 58: *Plaques*, all types except Plates viii. 1, 6, 8, 9, 10, 11, 21, 23, 26; x. 6, 10, 11, 16, 21, 24; ix. 33, 35, 36, 39, 43, 45. (n) *Beads*, over 100 of the common type, and all other types except Plate vii. 37. (o) *Miscellanea*: all types except Plates iv. 5, etc.; vii. 51, 16; ix. 6, 5, 25.

3. Silver.

The minority, about 40 specimens in all. These comprise:—

- (a) 3 *hawks*. (b) 2 *fibulae* of type Plate xi. 12. (c) 1 *stud*. (d) 5 *spiral ear-drops* of all types. (e) 1 *ring*. (f) 1 rush-work *pin-head*, and a few heads of common spheroidal type. (g) A few *earrings* of the commonest type. (h) *Beads*: 7 of type Plate xii. 1, 2. (j) *Miscellanea*: 4 lumps of metal.

4. Bronze.

None, except about 6 *earrings* of the commonest type; 1 *pin*, 1 *knife-blade*, and some fragments. The *fibulae*, which had bone or ivory plates, are reckoned under Ivory.

5. Lead: None.

6. Iron: None.

7. Ivory and Bone.

About 105 specimens in all, comprising:—

- (a) 12 *fibula-plates* of all types, except Plate xxxii. 10, 11, 12. (b) *Pins and pin-heads* of all types except Plates xxxiii. 16–20, 23–26; xxxiv. 33–38. About 40 specimens in all. (c) *Pendants* of all

types: 5 specimens. (d) *Astragali* of all types: 21 complete specimens and about 20 half-specimens. (e) *Studs*: None. (f) *Bodkins*: 2 specimens. (g) *Vessels, Roundels and Musical Instruments*: None. (h) *Necklace-string dividers*: 2 specimens (all that were found). (i) *Handles*: None. (j) *Inlay pieces*: 2 small pieces only. (k) *Beads*: None. (l) *Charms*: 1 labrys. (m) *Miscellaneous pieces, broken from larger objects*: None.

8. *Terracotta.*

Only three fragments of painted pottery; 2 small plain jars, and 1 imitation cockle-shell.

9. *Glazed Ware.*

About 50 objects in all, comprising:

- (a) *Pendant* in form of hippopotamus. (b) *Whorls*: about half a dozen. (c) *Beads*: 35 "cocked-hat" type and about 20 various. (d) *Scarabs*: 8 specimens (Fig. 43, nos. 1-7, 9).

10. *Glass.*

About 50 miscellaneous *Beads* of all types, except two: see p. 209.

11. *Stone*: None.

12. *Amber.*

About 100 objects in all, comprising:

- (a) 6 *fibulae-ornaments*. (b) 3 *pendants*. (c) Almost all the *amulet-beads*, about 50 in all. (d) *Pins and pin-heads*: specimens of all types, except the "half-astragal." (e) *Beads*: specimens of all types, except *a, g, j* (p. 216).

13. *Horn and Wood*: None. 14. *Shells*: all the pierced cowries.

B. *Outside the Basis.*

Concerning the rest of the objects (the numerical majority), catalogued as Primitive, it has already been stated that the conditions, under which almost all were found, create no such assurance of their having been buried at one epoch, or having belonged to any one particular temple, as do the contents of the Basis. But very many (the larger proportion) were found under conditions which, at any rate, preclude a later date than 550 B.C., the latest epoch at which, presumably, the Croesus foundation-blocks, which overlay them, were

put in place. On the other hand, a few objects were found outside the Basis in certain positions (*e.g.*, under Primitive foundations, or in the filling-in of these) which make their inferior limit of date as certain as that of the Basis objects; and a large number repeat so exactly Basis types, that they can safely be relegated to the period of the latter. Since these are enumerated under the same heads as their counterparts in the foregoing catalogue, they need not be further noticed here. The new types found outside may be classified as: (a) *types found under conditions determinating their ascription to a particular Primitive Temple*; (b) *types found under conditions determining no more than a general Primitive date*; (c) *types found under conditions which leave their date to be determined by other considerations than position*. In the case of objects outside the Basis, no stress should be laid on their mere occurrence in the lowest slime, unless they lay in some significant relation to architectural remains. Where the deposit is so fluid as on the Artemision site, the smaller contents of all the lower strata alike could easily sink down into the broth at the bottom, if not kept in place by impervious layers of foundation. As will be stated hereafter, however, it appears that there was, in fact, very little such confusion, and that practically all the objects found in the lowest Primitive stratum outside the Basis belong properly to that stratum, having been lost and trodden into the slime at one moment, that of the destruction of Temple *A*.

(a) In this class fall: (1) The 19 jar-coins (pp. 42, 73) found in the rammed filling between the Western Basis and the S. girdle-wall of the *B* platform, and, therefore, buried not later than the foundation of this wall, *i.e.*, at the close of period *A*. These include 1 Primitive issue; 5 goat types; 12 cock types, and 1 lion type. (2) The 4 coins found in the filling of the Western Basis, which we ascribe to *A* period. These include 1 stag type and 3 lion types. (3) The coin, a lion type, found in the belt of earth N. of the Western Basis, which, like the similar belt on the S., was rammed in not later than the end of period *A*. (4) The 5 coins found under *B* foundations. These are 1 horse's head type and 4 lion types. These make 29 electrum coins in all, whose burial is to be ascribed to some part of the *A* period. (5) Scarab (Fig. 43, No. 17) set in a silver mount, found under a *B* wall (p. 44), and, therefore, not later than *A* period. (6) A group of objects found outside the N.W. angle of the Basis, partly under foundations which may be of *A* or *B* period, but are certainly not later than *C* (see pp. 42, 65, and Fig. 22). These include, in *Gold and Electrum* the lion head pendant (Plate iii., No. 7), a hilt cap (Plate iv., No. 7), and 8 coins (not identified, see p. 75, n. 2); in *Bronze*,

2 goddess statuettes (Plates xiv. and xvi., No. 1), some fibulae and a bracelet (Plate xv., No. 3); in *Ivory*, a Sphinx (Plate xxi., No. 4), a wheel, a dish (Plate xli., Nos. 18-20), a handle (Plate xxxvii., Nos. 9-11), statuette with spindle (Plate xxiv., No. 1), lion (Plate xxv., No. 12), horse's head (Plate xxvi., No. 10), and goat (Plate xxi., No. 1); in *Terracotta*, 4 painted aryballi, and 4 goddess statuettes (Fig. 34); in *Glazed Ware*, hawk (Plate xliii., No. 1); in *Stone*, several crystal studs and an onyx pin-head (Plate xlvi., No. 30), besides several objects in gold, etc., of types already represented within the Basis. The latter objects date the whole group with great probability to *A* period. (7) Certain objects found among the earth and stones rammed into a narrow belt surrounding the Basis on the N.E. and S. which was intended to carry a girdle-wall of *B* period and the intervening "ambulatory" (see p. 63). This filling we can only ascribe to the end of *A* period. These objects are: in *Gold*, a pin (Plate v., No. 27), two broad strips of foil (Plate ix., No. 29) and some beads; in *Ivory*, the strips with palmette pattern (Plate xlii., Nos. 15, 19), two cylindrical handles (Plate xli., Nos. 1, 4), a dish (Plate xxvii., No. 7), and a roundel (Plate xxxviii., Nos. 3, 7); in *Terracotta*, 3 "candle" lamps. (8) A group of objects found under the S. girdle-wall, which we ascribe to *B* period (p. 44). These include 5 coins (see note 2 to p. 75), the gold horn (Plate vii., No. 51), several gold and electrum pins of type Plate v., Nos. 8, etc., and the ivory *πότνια θηρῶν* plaque. This group can belong to no later period than the close of *A*.

(*b*) This class comprises the great bulk of all the objects found outside the Basis, but it is unnecessary to re-enumerate them, since they can be arrived at by the method of exclusion if the foregoing and the following classes (*a* and *c*) be compared.

(*c*) This class includes—In *Gold*, the snake (Plate vii., No. 16); in *Bronze*, almost all the bracelets, earrings and fragments of pins: the gryphon-head: a bowl (Plate xv., No. 13), and a statuette (Plate xvi., No. 2). In *Ivory*, the plaque-affix (Plate xlii., No. 1), the nude statuette (Plate xxiv., No. 2): the statuette holding hawks (Plate xlii., No. 1), the statuette with electrum diadem (Plate xxiv., No. 10), the statuettes (Plate xxiv., Nos. 5, 9); the ram and calf (Plate xxvi., Nos. 1, 5). In *Terracotta*, certain fragments of painted pottery (Plate xlix. 2, 3b, 5a, 5b). In *Glazed ware*, the hawk (Plate xliii., No. 2). In *Amber*, the figurine (Plate xlvi., Nos. 20, 21); and a considerable proportion of the *Glass* beads.

On consideration of the foregoing lists some answer may be given to the questions propounded above.

I. *How did the objects come into the Basis?*

It will be noted (*a*) that the Basis objects are predominantly of precious metals, gold, electrum, and silver (nearly 700 out of 1,000), the gold and electrum objects being about ninety per cent. of the total number in those metals found anywhere on the site; (*b*) that these precious metal objects are, with the exception of the twenty-four electrum coins, in the nature of jewels, articles of personal wear, and *ex voto* offerings; (*c*) that the coarser metals, bronze, lead, and iron, are almost unrepresented; (*d*) that the ivory and bone objects found in the Basis are also in the nature of personal ornaments or *ex votos* (e.g., artificial astragali); articles of utility and broken parts, e.g., inlay pieces, vessels and fragments of furniture, etc., are absent; (*e*) that fragments of pottery and other terracotta objects hardly occurred at all; (*f*) that the balance of the Basis objects in glazed ware, glass, amber, and shell is also made up exclusively of personal ornaments such as parts of necklaces or embellishments of fibulae.

I have shown (pp. 37, 55) that all these objects must have come into the Basis while the structure was being filled in and made solid with slabs and mud-mortar. There are only two possible explanations of their presence under these circumstances.

(1) That they are *débris* of offerings dedicated in a pre-existing *Temenos*, which, after being trodden into the marshy surface, were scraped up with the mud or sand by builders of the earliest Basis in search of a binding material. But this explanation is improbable for these reasons. (*a*) So many objects in precious metals could hardly have escaped notice during the careful laying of thin coats of mortar between the slabs. (*b*) Even had they so escaped notice, it would be almost inexplicable that the great majority of the objects should have been recovered by us in admirable condition, unbroken and even uncrushed, if they had lain about a *Temenos*, been trodden in, and then puddled into mortar. The state of the brooches alone seems conclusive. (*c*) It would be very hard to account for the absence of objects in the commoner metal, bronze, similar to those which we found afterwards in quantities outside the Basis, as well as for the absence of all sorts of broken objects in ivory, bone, etc., such as also occurred freely in the outer *Temenos*.

(2) The second explanation must be that these objects were placed intentionally where we found them, by the builders of the earliest Basis, as offerings dedicated to the Goddess, whose image would stand above them, and that they were intended, in some sense, for her use. This would explain their

presence between the slabs, their select character as compared with the objects found outside, and their good condition.

I have no hesitation in accepting the second alternative, and maintaining that these objects were a deliberately deposited treasure of *ex votos*, probably collected from, or dedicated by, a number of pious worshippers, chiefly women, at the epoch of the first construction of a Statue-Basis on the Artemision site. They constitute, therefore, a sort of Foundation-Deposit, parallel to, though not conforming to the same rules as, the Egyptian foundation-deposits, of which Mr. Flinders Petrie has discovered a large number of all periods. The latter have occurred in almost all cases either under the corners, or at some point on the longitudinal axes of buildings. Our Basis, it should be remarked, not only lies on the longitudinal axis of the Artemision, in all its reconstructions, but is the central point at which the lateral axis crosses the longitudinal. On that ground, therefore, as well as on account of its peculiarly sacred character, as the pedestal of the chief cult-statue, it was a suitable place for such a deposit. Although the presence of a foundation-deposit of this kind has not previously been remarked at a correspondent point, or indeed at any point, under a Greek temple, I suspect that, as a matter of fact, indications of one were found in the temple of Athena Polias at Priene. According to native report, not only were the well-known coins of Orophernes discovered some years ago under stones on its platform, but also some articles of gold jewellery, the latter by natives engaged in removing blocks for building purposes. I have been informed that these jewels were found in the very centre of the platform. They appear to have been sold or melted down by the finders. In the light of our Ephesian discovery, the foundations of the bases of cult-statues at the central points of other Greek temples ought to be examined, *e.g.*, that rectangular patch of *poros* blocks which marks the situation of the Pheidian cult-statue in the Parthenon.

II.—How did the objects outside the Basis come into their position?

This is a question for the determination of which there are no sure data. When, however, it is noted that these objects are (1) of very miscellaneous character (2) in the main broken parts, it will appear probable that, with the exception of the jar-coins, and perhaps the few objects found in the filling of the western Basis, we have not to do with deposits intentionally made, but with things for the most part thrown away, trodden into the bottom slime, or hidden by ruin; in fact, with accidental relics of one or more of the Primitive Temples.

III.—At what date was the earliest Basis founded?

There are certain considerations independent of the contents of the Basis, which are pertinent to this question. It will be recalled that the Basis was twice enlarged subsequent to its first construction, the successive additions being obvious to the most cursory examination. Yet the latest of its restorations underlies the remains of the Great Temple, which, from the character of its sculptures and from other considerations, has been definitely determined to be that built during the reign of Croesus, and probably founded not later than 550 B.C. It follows that three periods of construction have to be allowed for before that date, the latest of which, *C*, saw a very considerable remodelling of the shrine, and that the first foundation of the Basis must fall, therefore, considerably earlier than 550 B.C. There were particular circumstances in both the nature and the history of the site, which may be held to account for a rather rapid series of restorations. Chief among these is the unstable marsh bed. Successive elevations of the pavement at all the epochs of reconstruction (see p. 69) point to a continual struggle with the ground water; and actual settlements of walls and pavement *e.g.*, at the east side of the Basis in *C* period (p. 64), and in many parts of the Croesus structure (see later, pp. 251 ff.), confirm this inference. As for human destructive agencies during the history of this site before the Croesus period, we hear only of one sack and conflagration which took place, probably, about the middle of the 7th century B.C.—that for which the tyrant Lygdamis and the Cimmerian horde were held jointly responsible (p. 6). We observed a stratum of calcined matter on certain parts of the Primitive area—*e.g.*, at the western end. Its occurrence was always hailed by my foreman and more intelligent workmen as a sure sign that treasure was about to be found. Such patches seem in fact to have indicated spots where deposit prior, at any rate, to *C* period, and probably, from its low level, prior also to *B*, had not been disturbed by later builders. Unfortunately, since its presence depended on there having been no disturbance by the putting in of deep foundations, it never occurred actually below a *B* wall; but, on account of its level and the objects it contained, I regard this stratum as commemorative of the destruction of *A*, and make this suggestion, that the first Primitive shrine *A* was burned by the Cimmerians about 660 B.C., and that Temple *B* dates from that epoch, and was perhaps that which Lygdamis was bidden to build in expiation of his treachery to the Goddess.¹ If that be the case, the founding of Temple *A* cannot well have

¹ See quotations from Hesychius and Callimachus, p. 6.

taken place much later than the year 700 B.C. Thereabouts I shall fix it provisionally.

It remains to be considered whether the objects themselves, found either in the original Basis or outside it, argue an earlier or later date. It is unfortunate for this enquiry that the contents of the Foundation Deposit consisted so largely of jewellery in precious metals—a class notoriously difficult to ascribe to definite periods, since articles of personal ornament usually continue long in use, and are handed down as heirlooms through many generations. It is also unfortunate that, though coins and scarabs occurred in this treasure, these happen to be of types whose dates are not independently known with precision. On the uncertainty as to the pseudo-Egyptian scarab class, see p. 207. As for the coins, reference to Dr. Head's article (p. 88) will show that he ascribes none of the 24 specimens found in the Basis to absolutely certain dates. The "time of Gyges," in which he tentatively places the Primitive Issues, represented by four of our Basis coins, is, he informs me, a heading good for purposes of classification only. It means simply that these issues are the earliest Lydian of which we possess any examples. The assumption implied by Dr. Head's classification, that coinage in Lydia began in the first part of the 7th century, is not universally accepted. Professor W. Ridgeway, for example, would push its origin farther back¹ in both Lydia and Greece. As he says, there is no reason why "Gyges" in this connection should not be "Candaules" or an earlier King, and he cites appositely the discovery of two bullets of electrum, bearing striated and punched die-marks, and weighing 72 and 72.5 grs. respectively, in the Enkomi tombs in Cyprus, which, at the very latest, are of the 9th century. These bullets certainly seem to be "Thirds" of the Phœnician stater, whether they be true currency or goldsmith's weights. Another similar bullet, which he does not mention, was found in the same treasure, and weighs 133 grs., or, approximately, a Euboic stater. These occurrences certainly strengthen the suspicion that the most primitive issues of coinage, in Western Asia at any rate, were considerably earlier than the time of Gyges.

The dating of the remaining 20 coins is not more certain. The five examples of possible city-types (Kyme and Phocæa) are simply the earliest known issues of civic mints;² while the ascription of the lion types to King Alyattes III. (610-560), rests mainly on J. P. Six's very doubtful interpretation of the legend which, in rare instances, accompanies such types (see p. 91).

¹ *Comp. to Greek Studies*, p. 445.

² Cf. Ridgeway, *ibid.*, p. 448—"The great cities of Ionia soon adopted the Lydian invention." This "soon" may be very early, if the Lydian invention has to be put back into the 9th or 8th centuries.

Three of these inscribed coins were found by us (Nos. 71-3), though not in the Basis, nor indeed in any defined stratum, but as the result of dredging operations in the flooded western area. These, however, it will be noted, lack the initial digamma of the name as read by M. Six.¹

Passing to the other objects found in the Basis and in undoubted pre-Croesus strata outside, we note first and foremost their analogies with the contents of the early graves of Cameiros in Rhodes, now deposited mainly in the British Museum, and partly published by Salzmänn (Nécropole de Camiros). The granulated gold-work, painted pottery, objects in crystal and glazed paste, and pierced cowrie-shells, are so similar in both cases as to leave no doubt that the Ephesian and Cameiros treasures belong to one artistic period. The objects in paste, among which are some absolute identities (e.g., the kneeling figures with jars, the "cocked-hat" beads, etc.) may be put on one side for the moment, as being probably of foreign origin in both cases, and of a Phoenico- or Graeco-Egyptian fabric, which seems to have continued, with little change in production, for some centuries under the Later Pharaonic Empire. The ivories found in the Cameiros "well" (see pl. xxx., xxxi.), show strong foreign influence (see p. 181); but the gold and ceramic objects, which are unquestionably of native work, offer sure ground for inference. It is unfortunate that Cameiros did not yield examples of most of the toilet objects in which Ephesus is so rich, e.g., fibulae, pins, earrings, etc.; but direct comparisons are offered by plaques showing the *πότνια θηρῶν* motive, and found at Ephesus both in the Basis and under a B wall outside, and also at Cameiros; by the spiral ear-drops; by the granulated animal-head pendants (lion, Plate iii., No. 7, at Ephesus, and bull-head at Cameiros); and by the granulated technique on other objects, e.g., the fly-pendant of Ephesus, which shows the grains arranged in dog-tooth pattern (compare also a pendant found at *Enkomi*, p. 18, fig. 35). In the case of the first class of these analogous objects, the *πότνια θηρῶν* plaques in gold and electrum, there can be no question that the Ephesian examples are the more primitive, whether we compare the respective Goddess-figures or lions²: and also both the spiral ear-drops and the granulated animal heads of Cameiros show distinctly more

¹ Dr. Head is justified in saying (p. 91) that Six's interpretation and ascription have not been publicly questioned. But obviously it is very doubtful whether *FAA FΞI* stands for the name which we know as Alyattes, and even if it does, for the latest known king of that name. Ridgeway, however, accepts the ascription of these lion-types as probable.

² Note not only the more primitive forms both of lions and goddess on the Ephesian electrum plaque, but also the frequent omission of the lions altogether at Cameiros (see p. 335), and the elaborate character of such Cameiros examples as the plaque in the British Museum, whereon the lions are shown in the round, projecting from the face of the plaque.

elaborate form and technique. There is nothing from the latter cemetery of such simple and broad style as the Ephesian lion-head pendant. The pottery, though less distinctive, suggests a similar inference. The Cameiros alabastra and aryballi are, as a whole, the more developed in form, drawing and colouring. I have, therefore, little hesitation in regarding the earliest objects found at Ephesus (*i.e.*, those within the Basis in any case) as somewhat earlier products of West Asian Hellenic art than those at Cameiros, which, as is well-known, are approximately dated by their association with a scarab of Psammetichus I. (666-612 B.C.). The inferior limit of the Ephesian Basis treasure, therefore, can hardly be fixed lower than 700 B.C.

Ought it, however, to be fixed considerably earlier? The answer to this question would have been made easier had the date of the burial of the Enkomi treasure been better assured; for, as will be seen by the notes to our foregoing catalogue, the Ephesian objects present many analogies with that treasure. At the same time, wherever direct comparisons are possible, as *e.g.*, between the coil-patterns on electrum and ivory plaques; between pig-tailed sphinxes on an electrum plaque from Ephesus and a vase from Enkomi; between forms of earrings; between stamped patterns on diadem strips, etc., as well as between the painted pottery (which at Enkomi is of the late "Mycenaean" or Ialysos type), and the glazed ware, the conclusion is always inevitable that the Enkomi treasure is distinctly earlier, and that by at least a century. Were we to adopt the latest date assigned to it, that indicated in the official publication, edited by the late Dr. A. S. Murray, *viz.*, some time in the 9th century B.C., we should not be inclined to fix the superior limit of the Ephesian treasure higher than about the close of the 8th century.¹

¹ To say this is, I am aware, to challenge the critics of the Enkomi publication, who declared, somewhat emphatically, for a much earlier date of burial than that suggested by Dr. Murray; and, although it is not possible to discuss the question here, I will state summarily the heads of my difference with such competent authorities as Dr. A. J. Evans and Mr. J. L. Myres on this subject. They result equally from the Knossian discoveries and from the Ephesian. (1) The Enkomi pottery seems distinctly later than any found in Crete before the Geometric age. (2) The Enkomi bronze work shows strong analogies on the one hand with Cretan Geometric (*cf. e.g.*, the volute ornament in each case), and on the other with the Nimrud ivories, but with nothing earlier. (3) The tightly-coiled and often broken spiral patterns on Enkomi gold objects are all much nearer "geometric" spirals than true "Minoan." (4) Mr. Evans himself cannot now maintain that the Ialysos tombs, in which scarabs bearing XVIIIth Dynasty names were found, were actually contemporaneous with any part of that Dynasty, since his own "Reoccupation" graves at Knossus, while containing earlier ceramic fabrics than the Ialysian, are admittedly later than the XVIIIth Dynasty. If so, why need XVIIIth Dynasty objects at Enkomi be other than survivals? Once contemporaneity is dropped, much later dates become admissible, and indeed probable, for the XVIIIth Dynasty objects found in "Mycenaean" graves. (5) The evidence of parallelism between the Enkomi gold-work and the Ionian and Italian seems to me too strong to be ignored, especially since the additions to our knowledge of Ionian work made by the Ephesian treasure. Indeed, its cumulative effect seems to me much weightier than that so much insisted upon by Dr. Murray's critics as tending to antedate Enkomi. In short, I believe that Mr. Evans' own elucidation of the chronology of "Mycenaean" fabrics (especially ceramic) during the past five years has itself largely weakened his criticisms of Dr. Murray, written before the excavation of Knossus; and that, on consideration, he would not now regard the 10th or even the 9th century as an impossible date for the Enkomi burials.

The Ephesian objects, however, also present analogies, which our catalogue has indicated, with discoveries made on other sites under circumstances which have led to more or less precise dating. It remains to enquire if the evidence of these is inconsistent with the date we have assigned provisionally to the Basis treasure. It will be enough to consider those which offer more than isolated examples for comparison:—

(1) *Nimrūd (Calah)*, whose so-called "Phoenician" ivories, found by Layard, present analogies with certain of the Ephesian ivories found in undoubted A deposit. These have been pointed out and discussed by Mr. Cecil Smith (p. 184).¹ It need only be re-stated here that these ivories, though they cannot be ascribed to a particular Assyrian reign, are not of later date than the 8th century, or of earlier than the 9th, and therefore offer no impediment to our chronology.

(2) *Greek Temple sites.*

The Olympian analogies are offered by bronze objects mostly found in the black ash stratum south of the Heraeum and in the lowest stratum near the shrine of Pelops.² The lowest limit assigned to any of these by the German excavators is the 8th century. The higher limit is quite uncertain, but it may have been considerably earlier, since the ash-stratum antedates the earliest Heraeum (see Waldstein in *The Argive Heraeum*, i., p. 48).

The Bronzes from the Argive Heraeum itself were not precisely dated by their editor, Mr. H. F. de Cou. But he placed all fibulae, etc., similar to ours in either his Geometric or his Archaic class (see *Her.* i., p. 62), the fibulae of the single and many beaded types and the coiled wire bows falling in the former, while the "kleinasiatisch" and high arched bows fall in the latter. Since he probably means by "Geometric" the period ending not later than the 8th century, there is no serious divergence from his views implied in the relegation of our latest bronzes to the beginning of the century following.

The earliest strata on the Aeginetan Aphaia site are dated by Furtwängler to the late "Mycenaean" epoch, and fibulae similar to ours are relegated "in das Ende des achten und in das siebente Jahrhundert" (*Aphaia* i. pp. 474, 475).

¹ Are these ivories, however, actual Greek work, and not rather work of a more Oriental school which has influenced Ionia? I suggest *Lydia* as a possible source. Cp. remarks by R. C. Bosanquet in *B.S.A.* xii. p. 331 on relations between Artemis Orthia and Gygaia.

² *Olympia* iv. Textband, pp. 2 ff. Even the "kleinasiatisch" fibulae are ascribed to the latter stratum.

(3) *Other archaic Italian, Aegean, and Phrygian cemeteries.*

So far as our objects present analogies with "Etruscan" objects of the Polledrara type, which are dated to a period contemporary with the Cameiros graves (*temp.* Psammetichus I.), the same observations apply as to Cameiros. In general it may be said that the Ephesian gold and electrum work, when it recalls similar work in Italy, recalls the earliest Italian, which is not later than the Polledrara treasure. The Theraean objects, dated by Pfuhl and Schiff, with the approval of Furtwängler (*Aphaia* i. p. 474), to the 7th century, seem later in style than the *polveriscolo* work from the Ephesian Basis. The Gordian tumuli, dated rather vaguely by Körte to the 7th century, contained objects similar to the latest of our bronzes (*e.g.*, the "kleinasiatisch" fibulae), to whose *origin* a considerably earlier date would reasonably be assigned.

(4) *Naukratis.* The question of the lower limit to be fixed for the pseudo-Egyptian pastes found mainly at the south (Egyptian) end of the Naukratis site, is discussed on p. 207. The higher limit cannot be assigned without more knowledge of the period covered by the town of Piem-ro, which preceded the Milesian settlement. Mr. Petrie thinks the latter originated early in the 7th century. If the pseudo-Egyptian pastes are Phoenician work (see p. 207), they may easily be pre-Saitic, as well as of the earlier Saitic time. In any case, no argument against our date for the Ephesus Basis can be based reasonably upon them. On our Naukratite pottery, see p. 226.

About *Hissarlik*, which yielded several objects of types similar to ours, nothing further need be said, in view of the uncertain distinction of its post-"Mycenaean" strata, and the confusion even between "Mycenaean" and other objects which Schliemann's researches bequeathed to the latest editors of his results. (Cp. *Troja Dörp.* i. *passim* and especially p. 296, and the "pooling" of objects in strata II-V and VII-VIII.) Other Ephesian analogies refer to isolated objects or objects not independently dated (like the Aidin "Lydian" treasure), and do not materially help us.

In consideration, therefore, alike of architectural probability and of the intrinsic evidence offered by the objects in the Foundation Deposit, I propose a date not later than 700 B.C. for the building of the earliest Basis and the secretion of the gold and other objects in its filling. The objects found outside in undoubted *A* stratum, and, indeed, the great majority of all the rest recovered from the Primitive strata, belong to the life of the shrine of which that earliest Basis was the central point; but not forming part of the Foundation Deposit, they are in many cases doubtless of rather later date, covering all the period,

long or short, which elapsed from the foundation of Temple *A* to its destruction. Among these slightly later objects may be, *e.g.*, some of the bronzes, the painted vases, and the pseudo-Egyptian pastes. But the latest of these probably fall not far on in the 7th century; and all are so nearly uniform in character with the Basis objects, that one is forced to conclude that Temple *A* had but a short life. If we suppose it to have been the shrine destroyed by the Cimmerians in the reign of Ardys (about 660 B.C.), this short duration would be accounted for, while on the same supposition, an explanation would be forthcoming for the remarkable fact that all (or almost all, for one must not exclude the possibility of a few objects having slipped down) the treasure found in the Primitive Area survives from Temple *A*, leaving nothing, or next to nothing, to represent Temples *B* and *C*. The Basis objects are a Foundation Deposit necessarily of *A* period, and, as their hiding-place continued to be the Holy of Holies of the later shrines, they were not disturbed. Possibly, indeed, the builders of *B* and *C*, *D* and *E*, had no better knowledge of their existence than the Cimmerian raiders can have had. The objects found outside are the relics of *ex votos*, etc., thrown down and lost in the sack and collapse of the shrine. The restorers, who built up Temple *B*, finding a ruin, levelled it down for the bedding of their new shrine, ignorant or careless of the *disjecta membra* of earlier offerings lying broken and trodden in the bottom slime. We know of no later sack, and may, therefore, reasonably suppose that when, in the interests of enhanced magnificence, or greater stability, or both, Temple *B* was razed in favour of the larger *C*, and *C* in its turn was razed in favour of the much more splendid *D*, there was no interval of confusion favourable to the loss of precious and holy objects, but that these were collected from *B* before restoration began and reinstalled in *C*, and likewise collected from *C* and reinstalled in *D*. Temples in antiquity, like mediaeval churches, remained museums of offerings made in all their periods, until some great cataclysm occurred, such as that which destroyed the Artemision in the fourth century. Temple *D*, therefore, probably preserved in full view till that date both those gifts of its own benefactor, Croesus, which Herodotus has recorded, and also treasures dedicated to the Goddess in two previous temples; but not those which had enriched Temple *A*. It is a curious reflection that, thanks, perhaps to the traitor Lygdamis and the Cimmerians, in 660 B.C., no later age was to look on the offerings made in the earliest Artemision of all, till the year of grace 1904.

If Temple *A*, then, was built shortly before 700 B.C., and destroyed about 660, the restored Temple *B* was probably completed, perhaps at the cost of Lygdamis, by the middle of the 7th century. Between that date and the

middle of the century succeeding, room has been found for Temple *C*; but after what interval this replaced its predecessor, there is no evidence to prove. The extremely poor character of the *B* foundations and walls, however, suggests that the second temple was not more than a hasty restoration, which would probably have been soon superseded. If *C* was built about the close of the 7th century, or early in the 6th, our inscribed silver plate may be a record of its origin; but as has been said, it is preferable, on epigraphic grounds, to regard that plate as a record of the building of the great Croesus Temple.

Before the founding of *A*, we must suppose, that in the centuries which stretch back to the date usually assigned to the Ionian migration, there was nothing on this site but, at best, the rudest of tree-shrines, and that the Goddess remained in her primeval home at Ortygia far into the Ionian period. For Ephesian remains not only of the Aegean Age, but also of the earliest Hellenic period, search must be made elsewhere than in the Cayster marsh, whose virgin sand we have probed almost to sea-level, on the most venerable site of the plain.

CHAPTER XV.
THE CROESUS STRUCTURE.

TEMPLE *D*.

By A. E. HENDERSON and D. G. HOGARTH.

IN the course of the sixth century B.C., the Ephesians replaced the small Artemision then existent by a new temple of much greater dimensions and splendour. The condition in which we found the latest Basis of the Primitive period, (p. 64) seems to prove that Temple *C* had fallen into a bad state by partial settlement of its foundations. However that may have been, it was now razed to the lowest visible course of its *cella* walls ($-3\cdot81$ on the E., falling to $-4\cdot08$ on the W.), and new foundations were put in, not only over its remains, but over a wide space round about them, to support a platform of nearly four times the dimensions of Temple *C*. Upon this a *cella* with outer colonnade was erected, itself of much greater area than the whole of the precedent structure.

The remains of *D* Temple, which are still in position, consist almost entirely of foundations. The steps have been wholly cut away, except parts of their foundation courses, by the builders of a later temple, *E*; but a considerable proportion of the platform has survived, being preserved here and there up to floor level, together with patches of its marble pavement, and the lowest part of the bases of three columns. Of the *cella* building, parts of the west and south walls with the south-west *anta* are visible above the foundation courses, together with foundations of the remaining parts and a foundation course of the central Basis, as remodelled after Period *C*. There are also other wall foundations, probably the support of an inner colonnade.

Platform.

The new platform was laid out with the Basis (slightly readjusted) as its central point, and with an axial direction of $107^{\circ} 30'$ magnetic. This corrected is equivalent to $101^{\circ} 35'$, true bearing, and was doubtless as near true east-west direction as the architect could attain. The area to be included measured about 117 metres W. to E. (including a projection or perron on the west façade), by about 55 metres N. to S.

Over all this space was spread a bedding of white clay from $\cdot10$ to $\cdot20$ in thickness. Outside the area of precedent structures, this rested on the virgin

sand; but where older foundations occurred, gravel was used to fill up holes and bring the clay bed to an even surface. On the clay large blocks of blue limestone, quarried hard by in Mts. Coressus and Prion, were laid.¹ (Fig. 61.) The blocks were bedded down in their rough state as they came from the quarry, the natural cleavage of the rock forming the bearing surfaces. The larger blocks were roughly trimmed at the sides, if of exceptionally irregular shape; but usually the natural fractures were left unmodified, and the resultant spaces between uneven edges were filled in with smaller stones and packed solid with the same white clay mortar which formed the bed. Here and there blocks of white marble which had been partially worked for pavement and then discarded were found by us in the foundations (see pp. 254, 262).



Fig. 61. Croesus Foundation Blocks.

These foundations throughout the peristyle area consist of three courses, the usual depth of each course being from $\cdot 25$ to $\cdot 35$. The deepest individual block observed by us measured $\cdot 54$; the whole mass averaged $\cdot 90$ in thickness. The upper surface, where exposed by removal of the marble pavement, was in many places singularly even and well-dressed, and might easily have been supposed to be itself a floor, had none of the upper marbles survived. (Fig. 62.)

Steps.—The steps leading to the peristyle were two in number, bedded on stepped foundation courses of the same limestone. No part of the actual marble steps has survived; but from their foundations we can infer that they were not more than $\cdot 23$ in depth, with a tread of about $\cdot 55$. In a fragment of *D* foundation in square C. 13, the westward edges of the fringing blocks of the

¹ See, for levels, p. 252 and table at end of this chapter.

platform foundation have been cut down by $\cdot 03$ to take the first step running inside the peristyle.

West Perron.—In squares C. 14 and F. 14 (western end) we found the foundations to continue westward at the same general level as the foundations of the peristyle for a distance of $8\cdot 55$, and to end in that direction with an upright tooled face. At this point a step-foundation of blue limestone was still in position, measuring $\cdot 23$ in depth with a tread of $\cdot 55$. Thence a second course of foundation, generally about $\cdot 18$ thick, continued westward for $3\cdot 50$, and had apparently been originally prolonged still further in that direction. It rested on a third and lowest course about $\cdot 30$ thick. We found in one place, upon the second course (E. 14), a fragment of the marble paving of the surrounding courtyard surviving to a length of $8\cdot 60$ from N. to S., but fractured and



Fig. 62. Croesus Foundation Blocks (in left foreground), showing dressed surface.

displaced by the pressure of huge Hellenistic foundations, which had been superimposed upon it. (See Section through west end of Perron, Atlas II.)

This projecting *D* foundation at the extreme west may have had straight faces N. and S., and appears to represent a structure not equal in width to the whole west front of the platform, but of the same width as the space enclosed by the *antae* of the *cella*. Beyond that space on the N. and the S. we failed to find by deep excavation any trace of either foundations or their beddings, and therefore we conclude that, on the west façade, Temple *D* had a projecting *perron* whose surface was flush with that of the peristyle floor, and two steps above the courtyard.

Peristyle Pavement.—Upon the peristyle foundations we found portions of a marble pavement, of which many patches remain (see Plan, Atlas I.), the

largest patch having as many as twenty slabs *in situ*, all closely fitted (Fig. 63). Fortunately, at one point or another, enough has been preserved to indicate the original limits of this pavement. The northern edge is more complete than the southern, which has been very thoroughly quarried or cut away by the builders of the Hellenistic Temple. The western edge is well defined in square C. 13, and the eastern edge in squares B. 2 to D. 2 and F. 2. The thickness of the slabs is not quite uniform, varying from .15 to .25, though the upper surfaces are, of course, evenly laid. The slabs are of various shapes, having been cut, not to a pattern, but to the form which, in each particular case, entailed the least waste of material. Hardly any are even approximately square, though many have but one corner cut away. The majority of those which survived were of keystone shape. The polygonal slabs were, in most



Fig. 63. Croesus Pavement and Foundations, seen in section in the S. Peristyle.

cases, the smaller, used for filling interstices. Even L-shaped slabs occurred, with the inner angle filled in with a smaller block. The largest slab in position occurred in G. 6, and measured, at its greatest dimensions, 3.20 by 1.40. Another large slab in F. 12 measured 2.20 by 1.90, and had two long sides nearly parallel, but nevertheless it showed not less than eight lateral faces. Nine slabs abutted against it, but some three more blocks, now missing, were needed to enclose it completely. The pavement of the peristyle showed a more haphazard arrangement than that of the *cella*; but, however varied their shapes, the slabs were always accurately fitted one to another.

Where columns were destined to stand, larger paving slabs than ordinary were laid down, as may be seen clearly in square G. 12, where half of a base-plinth is preserved *in situ*. Here are two underlying pavement-slabs, the

northernmost of which measures 2.40 by 1.50. To this use of larger and therefore better slabs under the base-plinths is due the fact that in all but four cases the pavement which supported columns has been removed wholly by later builders, while the intercolumnar slabs, which are, as a rule, smaller, averaging about .70 by .50, have been left in position. The positions of the *D* columns can be roughly distinguished by these gaps. No special foundations were put in under the columns, the usual three layers of paving-blocks being considered sufficient to support the weight. As will be seen later, however, these have not always fulfilled the expectation. The pavement ran under the walls of the *cella*, the slabs being usually laid lengthwise under the line of a wall; but even there the arrangement was not very symmetrical, no effort being made to secure uniformity of dimension or parallelism of sides. So, in square F. 8, occur slabs supporting a wall, which vary from 2.50 to 2.30 in length and from .70 to .50 in breadth. The upper surface of these slabs is level, but roughly worked, and a shallow sinking .40 by .25 by .02 was seen in the centre of many of them. It appears that all the pavement surface was left rough in the first place until the superstructures had been bedded upon it. Then the exposed portions were levelled and worked to a smooth face. In certain places the faint dividing line between the rough and smooth indicates the position of a vanished superstructure, as, *e.g.*, the N. wall of the *cella*, or the lost half of the column base-plinth in square G. 12.

The "through bonders" appeared within the *cella*; but with the exception of a few small and isolated slabs on the N. side, no other *cella* pavement remained in position. Probably the *cella*-flooring was made of unusually fine slabs which were too attractive to later builders to be left alone.

Three mortised incisions, as Wood observed, occur in the peristyle pavement nearly on a line with the third columns on the N. and S. flanks and between the N. *antae* (see p. 10 and Plan, Atlas I., squares D. 11 and E. 11). They are T-shaped and about .08 deep, the two on the N. having the head of the T lying to E., that on the S. having it to W. These were obviously sockets for metal uprights.

Slope and settlements.—It appears from the levels of surviving patches of pavement that the architect made the whole floor to slope slightly from the *cella* walls outwards to the edges of the platform and also to curve downwards at the extreme angles. Both facts are certain; but owing to the numerous settlements of the platform, caused first by the weight of the Croesus Temple, and afterwards by that of the superimposed platform and temple of Hellenistic

date, the original gradients can only be ascertained approximately. They may be estimated from the following *data*:—

| | |
|--|-----------------------------|
| Level of pavement in the centre of the W. doorway of <i>cella</i> (where it supported no weight) | — 3·10 |
| Level of pavement under the N. and S. <i>cella</i> walls (including slight settlement) | — 3·17 = (corrected) — 3·10 |
| Level of pavement in the middle of peristyle all round (mean of many measurements) | — 3·25 |
| Level of pavement at edge of platform N. centre (levels taken <i>near</i> the W. and E. central edges were — 3·38 and — 3·35 respectively) | — 3·30 |
| Level of pavement from centre edge to angles falls gradually to | — 3·53 |

From these data it results that the pavement had a fall originally of ·20 from the *cella* walls to the central edges of the peristyle and of ·43 to the angles.

In addition to this intended gradient, there is much settlement to be considered. The surviving fragment of the W. wall of the *cella* has settled, with the pavement under it, ·05 in 3 metres, reckoned from the axis of the doorway, where a slab, on which originally no weight rested, survives at the true level of — 3·10. In seven metres reckoned from the same point it has settled ·18. Since also nearly all the small slabs which underlay the north and south walls of the *cella* are tilted, some as much as ·02 in ·10, those walls must be supposed to have settled too. On examining the pavement round the surviving N.E. column base we found a settlement (afterwards rectified by the builders of the Hellenistic superstructure, whose bed slopes, while the upper surface was perfectly true). The tilt of the pavement here, over an area roughly 4·00 by 3·00, is from S.E. to N.W., the N.W. corner having settled most, viz., ·045 (·01 being allowed for the intended slope of the pavement). In the S. peristyle is another and more considerable settlement, under and round a mass of Hellenistic foundation which covers the position of one of the D. columns in the outer rank. Here, over an area roughly 3·50 square, there has been a tilt downwards from N.W. to S., the greatest settlement being ·09 in the S.W. corner. This settlement also took place before the Hellenistic restoration, for it has been corrected in the laying of the foundation courses of the latter. The Hellenistic foundations have caused settlement almost all round the edges of the Croesus pavement, *e.g.* in G. 12,

where a Hellenistic pier has pressed down the neighbouring slabs as much as $\cdot 14$.

Pavement Foundations within Cella.—Within the *cella*, although no marble pavement has survived, other than that projecting from below the plinth courses at the W. end and S. side, the foundation courses of much of it are *in situ*. Here, as in the peristyle, there were sometimes two, sometimes three thicknesses of limestone blocks, each usually from $\cdot 35$ to $\cdot 25$ in height). The largest block seen by us, was $\cdot 54$ high, but this was an exception to the general rule. As has been stated in Chapter III. (p. 37), these blocks failed along a ragged belt in the western part of the axis of the *cella*, having been removed probably by Wood; and also S.E. of the Basis, where quarrying of an unusually thorough sort had been carried out. They failed also, owing to more ancient disturbance, in certain other places. (1) In a belt about $5\cdot 00$ broad, measured inwards from both the N. and S. walls, their place was taken by a concrete mass composed of fragments of marble, including bits of both architectural ornament and sculpture of all periods, from the sixth century to the Roman era, Imperial inscriptions, Roman brick, etc., the whole bound together by cement of very great strength. This concrete must have been inserted in late Roman or in Byzantine times, after both Hellenistic and Croesus foundations had been removed, and have been intended to support the walls of the late building, called by Wood a church (see p. 11). (2) Within these belts, N. and S., the *D* foundation courses were again found *in situ*, but were presently interrupted again at a distance of $8\cdot 00$ from the *cella* walls, by certain wall foundations, alluded to above in Chapter IV. (p. 68), which ran parallel to the N. and S. *cella* walls, and were connected by a cross wall returning $1\cdot 50$ to E. of the Basis. These foundations consisted of facings of small coursed stones, bonded on the outer sides with the limestone foundation blocks of the *D* pavement, but with inner faces upright, and not bonded with the pavement foundations, which reappeared in the centre of the *cella* area (Fig. 64). These wall-foundations had only one set-off, on the outer face, and Primitive structures had been cut away to allow of them being carried down to the necessary depth, viz., about $-4\cdot 10$; but at the S.W. end a fragment of a Primitive structure had been left abutting (see p. 69), which served to prolong the *D* foundations. The western end of the northern wall-foundation had been wholly destroyed. The wall-foundations in question were, on an average, $\cdot 71$ broad on the N., $\cdot 83$ on the S., and $\cdot 74$ on the E. side. The S. wall, where best preserved, had nine courses and rose to $-3\cdot 26$; the N. wall seven courses, rising

to -3.55 ; the E. wall six courses, rising to -3.55 . The northern foundation was slightly nearer the Basis than the southern, but the difference was not above $.04$. These wall-foundations we conjecture to have been inserted by the *D* architect to carry an inner order of columns surrounding the central Basis. (3) The central Basis itself was free of such *D* limestone pavement-foundations as existed elsewhere, although upon its northern end survived three blocks of Hellenistic foundation (p. 34). Its solidity and the high level of its platform surface evidently rendered it unnecessary to superimpose

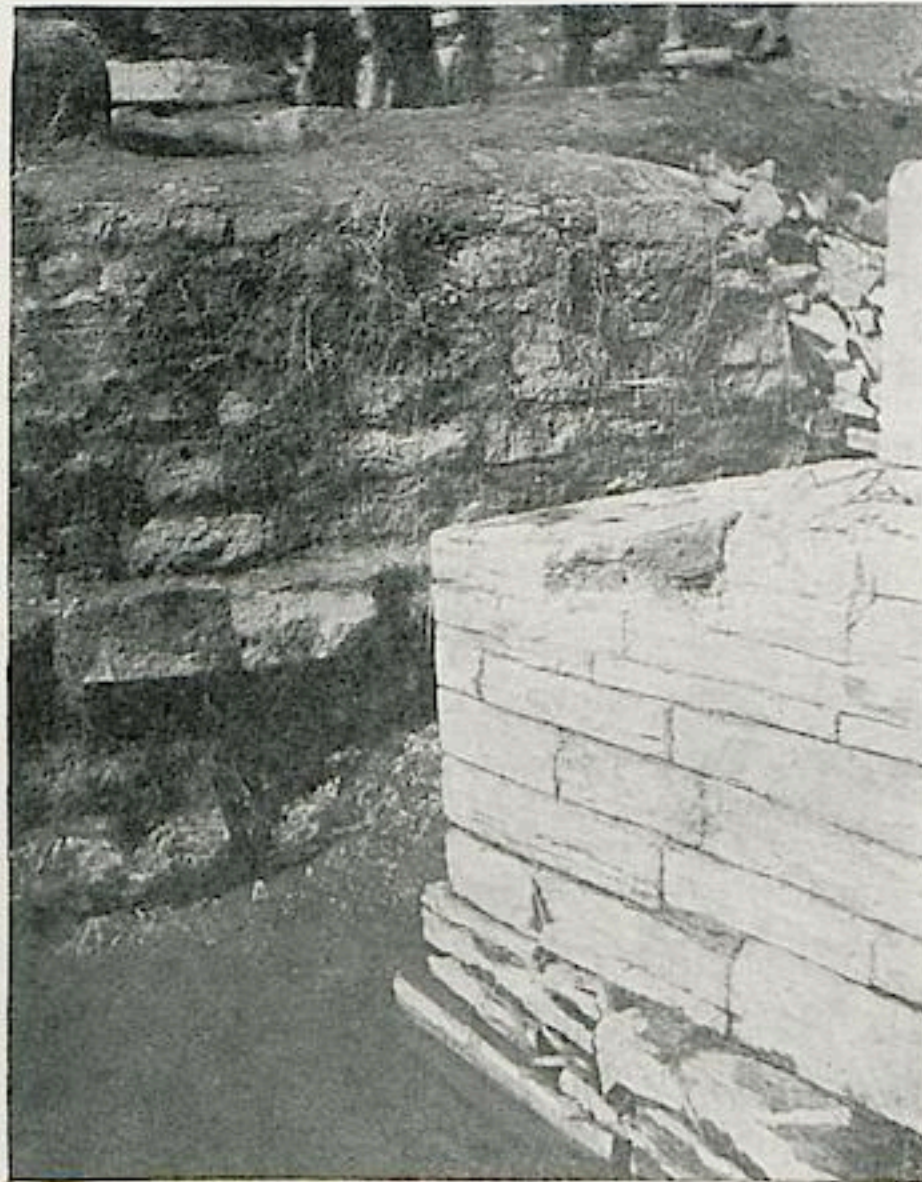


Fig. 64. Croesus Foundations within the *cella*. The south wall facing S.E. angle of *C* Basis.

massive *D* foundations. Such *D* foundations of another kind as survive on the Basis will be described presently. (4) In a small patch of *D* pavement-foundation, near the S.W. angle of the Basis, the lower layer was found to be formed not as usual of limestone, but of blocks of white marble properly fitted together. These on examination proved all to be faulty blocks, evidently discarded by the masons who were already preparing the wall material, while the platform foundations were being laid in place.

As is stated above on p. 41, we removed eventually almost all the *D* pavement-foundations within the *cella* area, in order to explore the Primitive structures underlying them.

At a level of -2.00 and resting on a mass of Hellenistic foundation near the south-western angle of the *cella*, was an irregular slab of Croesus paving which may have helped to mislead Wood as to his "last Temple but one" (see pp. 6, 11). It was neither bedded nor laid level, and was broken in two. The whole measured $1.85 \times .75$ at its largest superficial dimension and was $.22$ thick. The upper surface showed a semicircular sinking $.10$ deep extending inwards from one side and making a segment of a circle with radius 2.792 . This slab was evidently the final portion of the placement for one of the bronze quadrants inlaid in the pavement to support the opening doors of Temple *D*. Hard by were the large Hellenistic threshold block shown in Fig. 1 (see also Atlas II.,

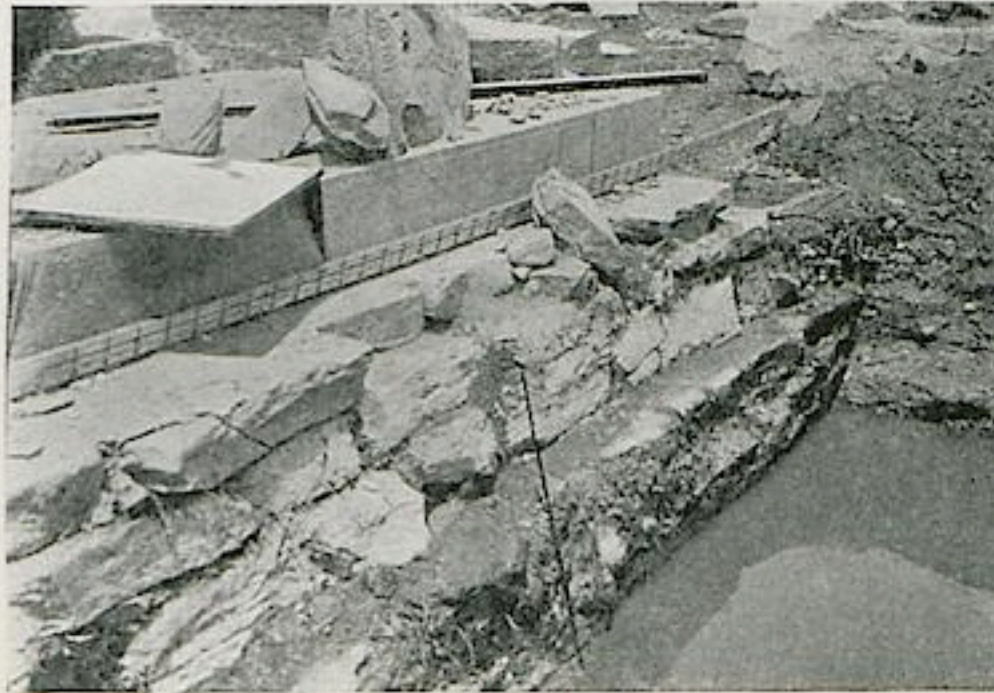


Fig. 65. Foundation Courses and one ashlar course of *D* west *cella* wall.

Plan and Section A-B), lying in a tilted position, and also another *E* slab with curved square-cut sinking, made for the same purpose as that in the *D* slab just described.

Cella Wall Foundations.—The foundations of the *cella* walls of Temple *D* were sunk through the floor of the earlier Precinct to a general depth of about -4.75 . A bed of firm white clay, from $.10$ to $.15$ thick, was laid down, and upon this were piled six foundation courses of blue limestone blocks, rising to levels varying from -3.42 to -3.28 (west end). These courses were stepped back on both faces so that, from a width varying from 5.20 to 3.80 at the clay level, they narrowed to from 2.06 to 1.99 at the summit. Upon the upper-

most course was laid one layer of white marble slabs projecting on each side and averaging .20 in thickness, with a surface level varying (probably owing to settlement) from -3.29 up to -3.10 . These were to form the fringe of the actual pavement, both within and without the new *cella*, whose level, therefore, would be from .80 to 1.00 higher than the floor of the *C cella*. Upon these slabs were bedded the plinths of the actual *cella* walls, varying in breadth from 2.065 on the W. wall to 1.995 on the S. wall (Fig. 65). Of the actual rectangle of the *D cella* foundations are existent. Those of both the eastern *antae* have been quarried away entirely. The removal of material in Byzantine times has been carried out much more completely at the end of the site near the hill of Ayassoluk, than at the other end (see p. 28). The foundations of the western *antae* survive throughout their whole length. Between these *antae* occurred a solid mass of the usual pavement-foundation, abutting on the main wall-foundation of the *cella*, and not interrupted by any other wall-foundations or by any later concrete except a small patch abutting on the N. side of the S.W. *anta*. The belts of concrete end at the W. wall of the *cella*.

Cella-walls. North wall.—The north wall of the *cella* has been entirely removed; but the inner line of its plinth can be traced for a considerable distance by a setting-out mark lightly incised on certain surviving slabs of pavement, which had been preserved from removal by the fact that Byzantine concrete overlay them. The line of the outward face could not be traced, since all pavement had been removed on that side.

East wall.—The east wall has also perished; but its position is defined by a mass of concrete at the S.E. angle, which was evidently built up against the *D cella* wall, while the plinth and some superior courses were still in position: for the S. and E. faces of the concrete mass were upright and at right angles to each other, and bear the impressed mould of the projecting plinth. This concrete mass rises to a height of 1.52 at the angle and continues 3.00 northwards. Beyond its termination no further trace of the E. wall of *C cella* survived.

East Antae.—The eastern *antae* have entirely disappeared, together with their foundations.

South wall.—The S. wall has left more traces, and a short length of it actually survives in position. Beginning at the S.E. angle (F. 14), we could trace it for a space of 4.00 by the impression made by the plinth in the later concrete built against it; and for a short distance further by the setting-out mark on three pavement slabs, slightly displaced. After a gap of 18.00, there

appeared "through bonders" of pavement, on which the wall had rested, surviving for a length of 17.50 (F. 7). At a point about 35.00 from the S.E. angle, we found in position the plinth courses of the wall, both inner and outer, with two superior courses of marble resting on the outer plinth, and one on the inner (F. 8). Byzantine concrete abutted on the inner face, cementing it in position, and Hellenistic foundation-blocks of blue limestone abutted against and completely masked the outward face. Thus the whole width of the plinth course survived, and a small part of the whole width of the first superior course (Fig. 66). The plinth measured 1.98 in width, and the wall, 1.93. The inner plinth facing of marble was .372 high and .40 thick. The core of the wall both in the plinth course and above consisted of rough limestone, coursed with the



Fig. 66. S. wall of *D cella*, seen end on from the E. Facing courses on either side, and space for core between. Byzantine concrete on left in foreground.

facing blocks and bonded with white clay mortar. The inner marble facing of this plinth course is hammer-finished in the centre of the blocks, and the quarry ancones remain. (See Atlas XI.) The margins are tooled with fine straight lines at right angles to the arris. The superior course (a single block only) is similarly faced, with ancones remaining; the arris along the top is slightly chamfered and the sides a little more so, the splay measuring .008. This chamfering was designed to prevent the arris from flaking under the pressure of superimposed courses. A slight sinking, .083 high, and slightly chamfered above and on the sides, appeared in the face of this wall-block, making a panel which ended .013 from the joint. The block is .496 high, 1.805 long, and .73 thick at its greatest dimension. The surviving block in the superior course on the outward side is similar, but could not be properly

2 L

examined owing to a great mass of Hellenistic foundation abutting against it. One block of the third course remained on the inner face. Its front surface could not be examined, owing to Byzantine concrete abutting against it. Its height was .485 (Fig. 67).

After a second gap of 3.00 a longer length of plinth course survived in position (F. 9), consisting of two blocks on the inner side and one on the outer, with core between. Here again the ancones have not been worked off. This is close to the S.W. angle; but the actual return of the W. *cella* wall is lost.

W. Antae.—The *anta* prolongation of the S. wall survives only at its W. extremity, 21.60 from the outward face of the W.



Fig. 67. Blocks in S. wall of *D cella*, showing ancone.

wall of the *cella* (F. 11). Here there is a plinth block, stretching across the whole width of the *anta* wall, and measuring 1.50 from W. to E. Hellenistic foundation blocks encase it on all sides, except the E., and its surface arris is much chipped. A small square has been cut out of its eastern face, and another marble block has been inserted. Fragments of other plinth blocks, likewise encased in Hellenistic foundations, can be seen to E. of the first. On the outer edge of the large plinth block rests one marble block of a superior course; but it is perhaps not in its original position. Four courses of Hellenistic casing were built up against this *anta* wall while the latter was still in position; but subsequent searchers for marble have extracted the *D* blocks, leaving the limestone casings intact. A little late concrete adheres to the Hellenistic

foundations on the N. side. We built up this Hellenistic square to a convenient height with rough stones, and roofed over the space so enclosed, to serve as a shelter and repository for architectural fragments left on the site.

N.W. Anta.—The westward *anta* prolongation of the N. *cella* wall has entirely disappeared.

W. wall.—A fragment of the W. wall of the *cella* survives at a point 3.20 north of the axis of the *D* Temple (D. 9). The eastward face of the plinth course runs 5.50 northward, and is then broken off. At its south end the facing block shows a return face similarly worked, which may be the inner

reveal of the great W. doorway. The height of this course is $\cdot 36$, and the blocks in it vary from $\cdot 68$ to $1\cdot 58$ in length. They are not worked at the back, and vary from $\cdot 45$ to $\cdot 80$ in thickness (Fig. 68). Here the ancones have been removed; but in other respects the dressing of the faces is similar to that of the blocks in the S. wall. One block of a superior course rests on the inner plinth face, being set inward $\cdot 04$. It is $1\cdot 52$ in length, $\cdot 41$ in height, and averages $\cdot 54$ in thickness. A mortise has been sunk in its W. end (the other half being in the next block) after the block was in position. For details of similar mortises, see Atlas III. (plan of Base 1*a*) and X. Lead had afterwards been run in to form a dowel and bond the block to its neighbour. The two mortises, put together, measure $\cdot 34$ from curve to curve and make a sort of double wedge, as seen from above (more exactly, they resemble the section of a concave lens). The ends measure $\cdot 08$ across, and the



Fig. 68. Northern fragment of west wall of *D cella*, showing reveal of doorway.

neck measures $\cdot 03$. In some cases a secondary sinking appears in the ends of these dowel-holes, descending $\cdot 06$ farther into the marble. The face of this block was worked similarly to that of the plinth course. The whole thickness of the W. wall, when perfect, was $2\cdot 01$, *i.e.*, $\cdot 08$ more than the S. wall. The thickness at the plinth is $2\cdot 09$, *i.e.*, $\cdot 11$ more than the S. plinth. This excess in the thickness of the W. wall carries on the tradition of the preceding temple *C*. Presumably the reason for strengthening the W. wall is to be found in the fact that it was interrupted by the great door, or that it supported the long beams and, therefore, the main weight of the roof. It is, however, curious that, nevertheless, its lowest foundations are not so broad as those of the S. wall. We have no means of knowing whether the eastern wall of the *D* Temple was as massive as the western. In temple *C* the W. wall only was so thickened (see pp. 66, 71).

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Colonnade.—Parts of the bases of three *D* columns remain in the peristyle.

(1) Fifth column from the E. in the inner N. rank (C. 4, 5); 12·61 from the temple axis, and 1·60 from the centre line of the east *cella* wall (Fig. 69). Here is a plinth with its lower base almost entirely covered and masked by Hellenistic foundations, composed of marble fragments from the Croesus Temple and including a portion of a volute and another of a corona (see Details, Atlas X.). This plinth and base are shown in Atlas III. (bases 1 and 2).



Fig. 69. N.E. column-base. *D* plinth seen built over with *E* foundations at left lower corner.

(2) Third column from the W. in the inner S. rank. (F. 11.) Here was a plinth standing ·35 above the pavement, and chipped all round by the Hellenistic builders who have set their foundations round it. It was constructed in three pieces; the N. half is one piece, about 2·05 by about 1·00; the S. half

is in two pieces. Two mortise-holes are sunk in the marble, 1·55 apart, for the reception of lead (Fig. 70).

(3) Second column from the W., in the outer S. rank. Here is the eastern



Fig. 70. *D* Column Plinth, chipped, and surrounded by *E* foundations.

half of a plinth, in position, 2·36 in length, 1·18 in width and ·40 in height. In the middle of its inward face is a small incision, marking the exact centre of the column. The outward face is much worn, but seems to have been originally worked smooth and not hammer-finished. (Atlas III., base 1 (plinth)).

The Central Basis.—The Central Basis (Atlas I., D. 7 and E. 7, Atlas II., Plan and Sections C.-D. and I.-J.) as has been said, was not overlaid with megalithic foundations by the *D* builders, like the rest of the *C* area. Its superficial level, even in the *B* period, lay as high as -3.52 , and after the *C* restoration, possibly higher; and its platform offered a compact foundation which needed no such massive additions. But in the *D* period it suffered some modification, whose nature must be inferred

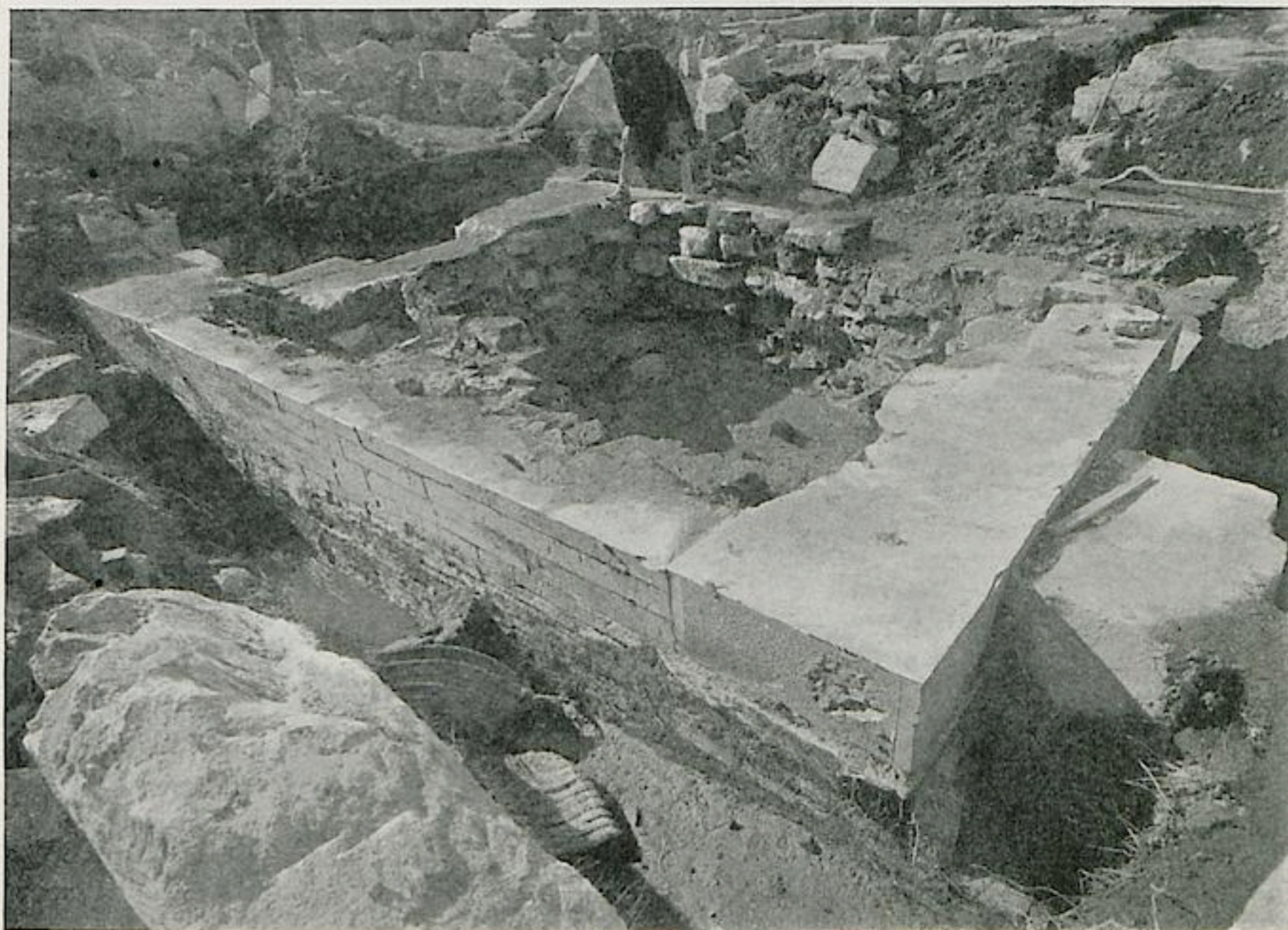


Fig. 71. The Basis from the N.E. Marble coign of *D* period in foreground, and *C* walling to left of it, ending in another marble coign on extreme left.

from those scanty remains of superstructure which were mentioned above in the Section on Temple *C* (p. 64). These remains, it will be remembered, consist of a short length of small ashlar, flush with the E. face of *C* foundation and terminated N. and S. by marble coigns, which do not extend to the N. and S. faces of the *C* foundations, but are set back unequally, that on the N. $\cdot 55$, and that on the S. $\cdot 94$ (Fig. 71). It is important to observe that this unequal setting back of the coigns had the effect of restoring the Basis to equidistance

from the N. and S. *cella* walls, whether of *B*, *C*, or *D* period; and it may, therefore, be ascribed to a deliberate corrective effort. Since, however, the *C* foundations project far to N., and even farther to S., of the faces of the superstructure, the latter in its present form cannot reasonably be ascribed to *C* period, and, *a fortiori*, not to *B*. It must accordingly be due to the *D* builders.

That being so, is it correct to regard it in its actual form as a superstructure at all? As will be recalled, it is not of homogeneous masonry, but composed of small limestone ashlar in the E. centre and large marble blocks N. and S. (Atlas II., sections C-D.) The marble coigns are dressed with hammer-faced centres precisely like the surviving blocks of the *D cella* wall. It is practically certain that the ashlar is a fragmentary survival from the *C* superstructure, while the coigns are of *D* period; and the whole, as it now stands, is a fragment of the *D* correction. Can it, however, have been intended by the *D* builders to be a visible superstructure within their *cella*? Two considerations seem to forbid. (1) Its composite, heterogeneous masonry. (2) Its low superficial level. The surface of the existing ashlar and coigns is about -3.20 , whereas the surface of the *cella* pavement of *D* in the W. doorway and under the datum column-base lies at -3.10 . It would appear, therefore, that the "superstructure" in question is really an uppermost foundation course intended to be flush with the general *cella* floor, and to bear a new superstructure of its own superficial dimensions, *i.e.*, 5.935 from N. to S. and, probably, 4.94 from E. to W. These new dimensions, it will be noted, imply a further correction, *viz.*, the reduction of the formerly oblong Basis to an approximately equilateral form. The only difficulty about this conclusion arises from the use below ground of marble blocks, dressed like visible blocks elsewhere in the *D* walls. It will be noted in the section C-D, Atlas II., however, that these "coigns" are not squared properly on their inner faces, and were evidently intended in any case to be merely the skin of a filling. Furthermore, one of them (at the N.E. angle) shows a deep injury on its E. face, which appears to have been occasioned at the time of dressing. It may therefore be regarded as a spoilt block, and with the other three, as having been relegated to foundation uses. In any case, it may be observed, the retention of the small *C* ashlar by the *D* builders necessitated the use of very solid and heavy coigns as binders, if any considerable weight was to be superimposed. The *D* builders probably undertook work on the Basis after, not before, setting out their *cella* walls and preparing material for these. When they came to deal with the Basis and found that the *C* superstructure had to be destroyed in part, in order that the central feature of the temple might be restored to true equidistance from the N. and S. walls of the *cella*, they would naturally have taken

rejected wall blocks as the most convenient material of sufficient strength to bind and complete the foundation of the new Basis structure which they contemplated. Unfortunately we have no evidence as to what the character of that structure was. Our data give us the dimensions of its ground plan, and nothing more. They show the pedestal of *D* period, at any rate, to have had a surface some .30 higher than the pedestal of *B* period, and probably higher than that of *C* also; but also to have been of smaller superficial area than its predecessors, while more exactly placed on the axial line of the temple.

Conduit.—Part of a conduit was found passing through the foundations of the *W. cella* wall almost on the longitudinal axis of the *D* temple, *i.e.*, under the threshold of the great *W.* doorway. The continuation eastwards within the *cella* was very fragmentary, having been ruined by the disturbance of the *D* foundations made at this point, probably by Wood. The westward continuation outside the *cella* we followed for a short distance by removing pavement foundations of the *pronaos*. In the walling of this conduit both yellow and blue limestone blocks were used; and the former, which alone remain in the section within the *cella* and reach in fragmentary alignment as far east as the *W.* boundary wall of *C* period, may indicate that the conduit dates back to the latest primitive temple (*C*). If so, it was repaired and made use of by the *D* builders. Where perfect, *e.g.*, under the *D* doorway, the channel measured .60 in width by .36 in height. At its highest point, east of the *D cella* wall, the level of the bed was -4.14 , and its fall westward was about 2 in 100. The existence of this large conduit issuing from within the *cella* of temple *D*, and perhaps also from within the enclosure of temple *C*, argues that the spaces which it drained were to some extent open to the sky.¹

Marble and Working.—The marble used in the Croesus Temple was quarried near Kos Bunar, about seven miles up the Cayster Valley, and is of a highly crystalline variety, white in general colour, but here and there slightly tinged with blue patches and veins. Where salts have affected inferior blocks their surface has disintegrated to the consistency of crystalline sand, and crumbles at a touch; but the larger blocks which are still extant are of a firm texture on which salt has had little or no effect. The surfaces of those blocks, which were not used for walling, were brought to a smoothly-rubbed finish, but not polished. The tooling marks are very faint, and appear as mere scratches. The bearing surfaces of column-drums were worked completely before being adjusted, and not ground against each other when in position. The only

¹ Mr. Henderson thinks this conduit was also used to drain the *C* area while *D* foundations were being laid.

masons' marks which we observed on *D* drums, were on the bearing surfaces of two fragments, and cut in each case on the inner edge of the smooth ring which surrounds the slightly roughened centre of the drum. These were:

(1) Characters from .40 to .35 in height, slightly engraved. IIIII M.

(2) Characters from .30 to .25 in height, slightly engraved. ΓII'Σ. No. 1, which is complete, seems to read from r. to l.; no. 2, which is incomplete on the r., from l. to r. The inscriptions are doubtless masons' numbers, and may be interpreted as marking (1) the sixth drum in the fiftieth column, (2) the (?) drum in the third column. In both cases the material, tooling and fluting of the fragments inscribed show that they belonged to drums of the *D* period.

The smooth bearing surfaces of some drums bear traces of a red mastic. As this colouring would not have been visible when they were in position, it must have been applied when the masons wished to test the smoothness of the surfaces. On other architectural fragments traces of colouring, intended to be decorative, can be detected. A white mastic seems to have been used in some cases as a ground, the marble being slightly absorbent. The colours applied thereon were a rich cobalt (observed on surfaces which were newly exposed and therefore damp), and more frequently, a rich red. Several fragments of dart- and leaf-mouldings show faded yellow and brown, which may be decayed remains of bright yellow and dark red.

REMAINS OF ARCHITECTURAL DETAILS.

(I.) *Bases.*

Within the N.E. pile of Hellenistic foundation it will be seen (Fig. 69) that a circular drum-shaped base is placed above a square plinth (Atlas III., Base 2). This base has three orders of double astragals separated by two filleted scotias. From many fragments of similar pattern it can be confidently inferred that this style of lower base was used throughout.

Many fragments of moulded torus or upper base were found. This was bedded upon the lower base. Numerous varieties were discovered, which will be better understood by the sections and elevations (Atlas III., IV., V.). They add materially to our knowledge of the style of architectural ornament which characterised the Croesus Temple. The most common type (Atlas III.) is the parabolic torus with slow curve at the top, quickening to perpendicular and finally recurving rapidly to its bed. It is enriched by shallow narrow

flutings separated by small V-shaped grooves (Fig. 72). Only two small fragments were found to be absolutely identical in every respect (Atlas V., Bases 4*j*, 4*k*). The others vary in curvature, in height, and in the number of flutings.

A very attractive torus-base (Atlas IV., Base 3) has the upper part of its surface treated in a different manner to the lower. The upper part is light and graceful, while the lower is massive and substantial and well suited to carry a massive column. This effect is produced by the upper portion having concave flutes and the lower convex reeds. Both are separated by small rolls. It will be noticed in Fig. 73, A that a portion of the lower part has not been worked; and, in passing, it may be stated that many other fragments of torus were found unfinished. For example, even the scotias to the lower base, which remains in position at the N.E. corner, were not completely worked. (Fig. 69.)



Fig. 72. Usual Torus and volute centre.



Fig. 73. Two types of moulded Torus.

A simpler variety of the same style of torus was found (Atlas V., Base 4*d*); but this does not show the small rolls separating the horizontal members. (Fig. 73, B.)

Another variety found (Atlas V., Base 4*c*) has large and small flutings alternately.

Three varieties of filleted leaf and dart torus constitute yet another addition to the known bases (Fig. 74, A and Atlas IV., Bases 5, 6, 7).¹



Fig. 74. Leaf and dart enrichment [central fragment Hellenistic].

Atlas IV., Base 6, shows a torus which is bell-shaped in side elevation. In this case the topmost astragal is worked on the same stone as the torus itself, a fact which suggests that this torus oversailed the lower base.

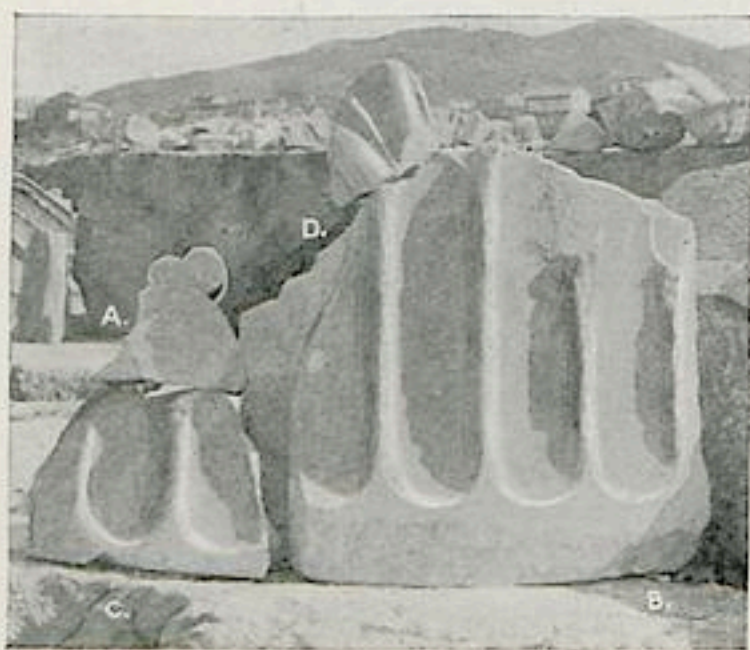


Fig. 75. Two lowest drums of shafts.

Atlas IV., Base 7, shows a very beautiful form of filleted leaf and dart torus, wherein the points of the leaves and darts, instead of receding inwards with the sweep of the curve, are drawn forward to the perpendicular. This torus was evidently designed to be seen from a point slightly above its own level, and was so modified that, nevertheless, none of the carving should be lost to view. Atlas V., Bases 4*n*, 4*o*, 4*p*, are three further varieties of base. The first has the appearance of a shaft-base, and the

others could easily be inverted to form capitals.

¹ I consider these to be certainly base fragments, as their circumferences are too great for echinus mouldings, although I suggest that the echinus above was also enriched with a leaf design.—A. E. H.

The joint line between the top of the torus and the lowest drum was sometimes below the astragal and sometimes above it (see Fig. 75 and Atlas III.).

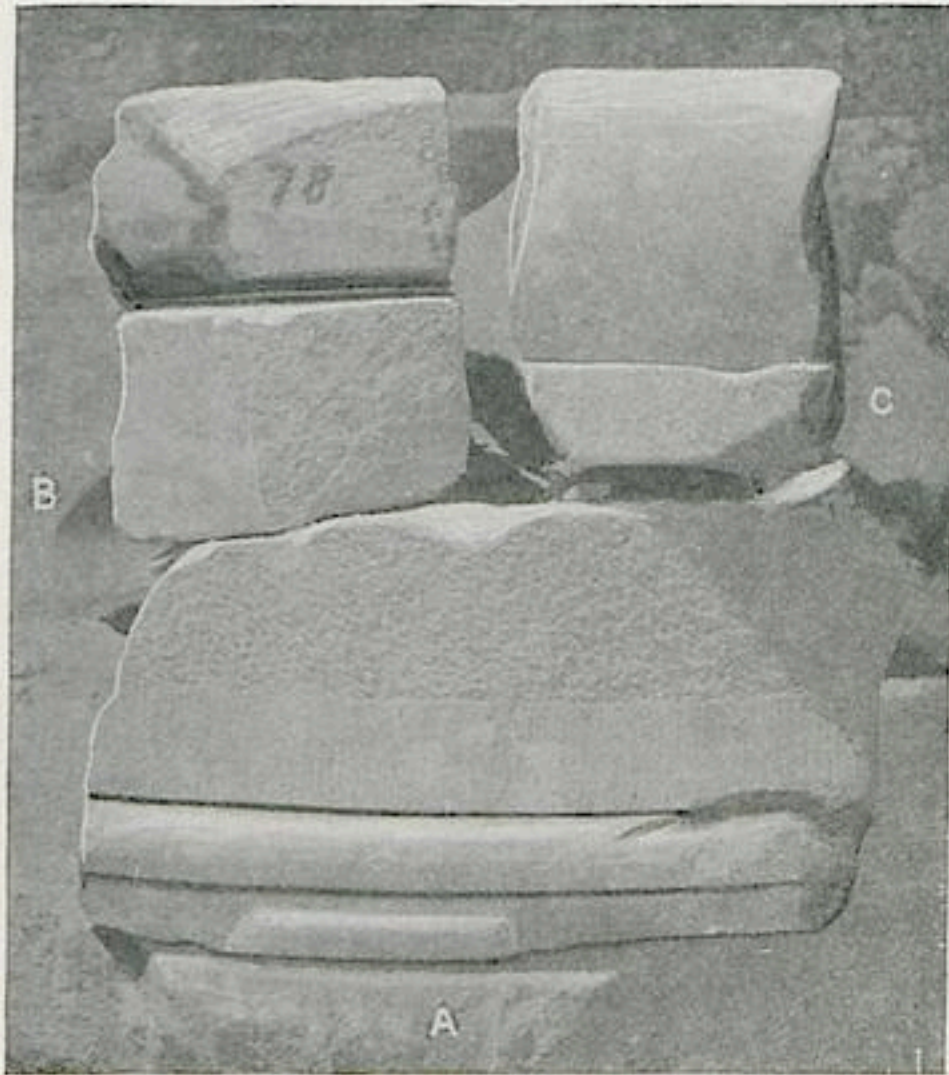


Fig. 76. Bases *n*, *o* and *p*. The lowest shows surface of drum unfinished.

(II.) Shafts.

Twenty fragments of flutings were studied (Atlas III.). Fourteen were found to give forty-four flutings to the circumference; three gave forty flutings, and three gave twenty-four narrow and twenty-four wide flutings.

Fig. 77, a Hellenistic drum, set beside a Croesus drum, shows the usual style of fluting.

It will be seen in the plan (Atlas III.) that the flutings are very shallow and of elliptical section. They show a sharp arris and are not separated by fillets.

Two fragmentary tops of uppermost drum were found (Fig. 78, D.). One has a large astragal and the other a small one, both enriched by pearl and double

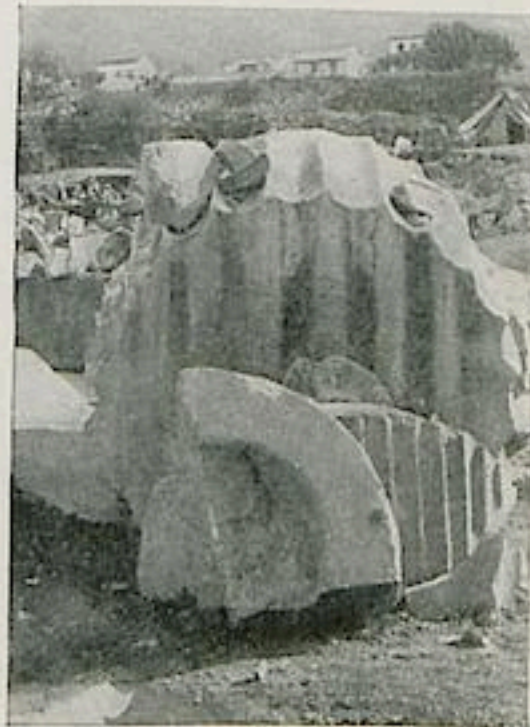


Fig. 77. Comparison of *D* and *E* flutings.

reel. The upper part of the smaller astragal, however, is not so enriched.

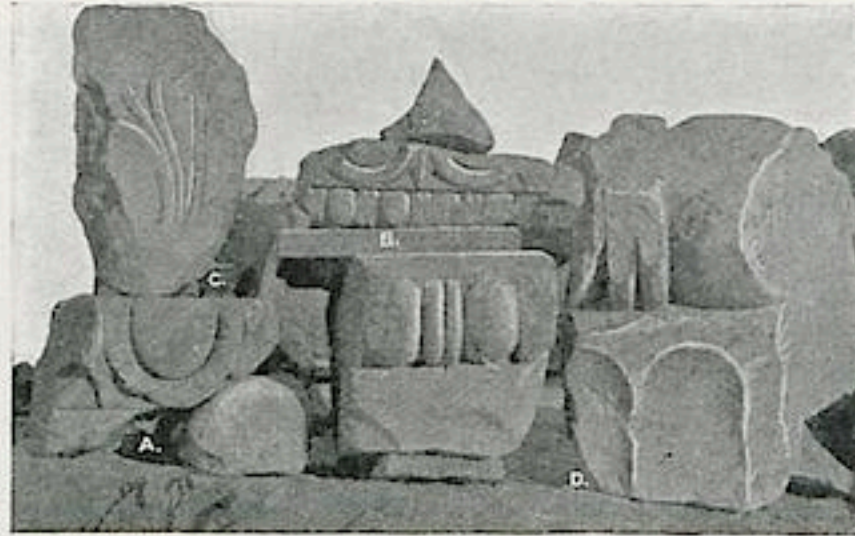


Fig. 78. Abacus fragments and two tops of drums.

(III.) *Capitals.*

The filleted leaf and dart, and egg and dart were both used for abacus enrichment. Several varieties were found, as shown on Atlas V.

Of the leaf abacus three varieties are there given. In the first and third examples the leaves and darts finish above the roll connecting the volutes; in the second the points run down to the centre of the roll. The leaves in the third example are of a simpler form than in the first and second. The leaves have an arris down their centres, and the half leaf on either hand is concave.



Fig. 79. Fragments: A. Tongue of lion gargoye; B. volute; C. horn of altar?; D. abacus; E. echinus under pulvinar.

Of egg and dart abacus also several varieties are shown. The egg portion is not of true egg shape, as will be seen by a glance at the examples (Figs. 79, 82). These eggs are bounded by rolls which abut one against another for about two-thirds of their depth. Thereafter the rolls swerve round and form a

loop supporting the egg. The dart springs downwards from the point of this divergence. Good examples are shown in Fig. 78, A, B, and Atlas V. Fig. 78, B shows the astragal below enriched by pearl and double reel.¹

A fine fragment of echinus (Fig. 80) was found embedded in one of the pockets between the Hellenistic piers on the south side. This gave the three left-hand eggs, the spring of the palmette, vestiges of the roll of the volute along the top of the echinus, and a portion of the cushion above. This fragment is incorporated in the restored capital (Atlas VI.). Other fragments used for that restoration were, one giving the central horn (Fig. 72, A; reversed in the drawing), another giving the lower portion of the volute, and a very welcome fragment, which gave the depth of the canal where it springs from the straight under the abacus.

The plan (Atlas VI.) shows that the double astragals of the pulvinars are a



Fig. 80. Palmette and Echinus.

continuation of the rolls round the eggs of the echinus, and as these eggs are convex, concave scotias unwind nicely from them.

The rolls of the pulvinars, however, do not always spring from the echinus (see capital of inner order of peristyle, Atlas XIV.). In several fragments plain intervals have been left, and the rolls are looped round one towards another. The one shown on Atlas IX. is doubly looped, and darts spring from the divergence of the double rolls (see Atlas XIV., plan looking up).

When the fragments of volutes came to be put together it was found that a true unwinding spiral was the result.

It will be seen by the plan (Atlas VI.) and section (Atlas VIII.) that the faces of the pulvinars had an appreciable batter outwards towards the top.

¹ This last fragment I assume to be abacus, since it is identical with a terra-cotta cap found at Gela in Sicily, and now in the British Museum. Another architectural fragment of peculiar shape, shown in fig. 79, may have been an angle-horn of an altar.—A. E. H.

This served an optical purpose, in some degree counteracting the foreshortening of the convolutions of the spirals as seen from the ground. It may be interesting to mention that generally in Hellenistic times the volutes were contracted horizontally and lengthened perpendicularly for the same optical purpose; and that, consequently, the volutes of that period are not true unwinding spirals. A small capital was found on the Castle Hill close by the "Gate of Persecution" and another beautiful small capital is built into one of the piers of the old Byzantine aqueduct near its eastern end (Fig. 81). These may have adorned the interior of the *naos* or (more probably) the cloister precinct.

The restoration of a capital shown on Atlas VII. is not so certain as that on Atlas VI.; but it is in keeping with the leaf torus-bases. A variety of leaf and dart echinus has here been used, restored from a

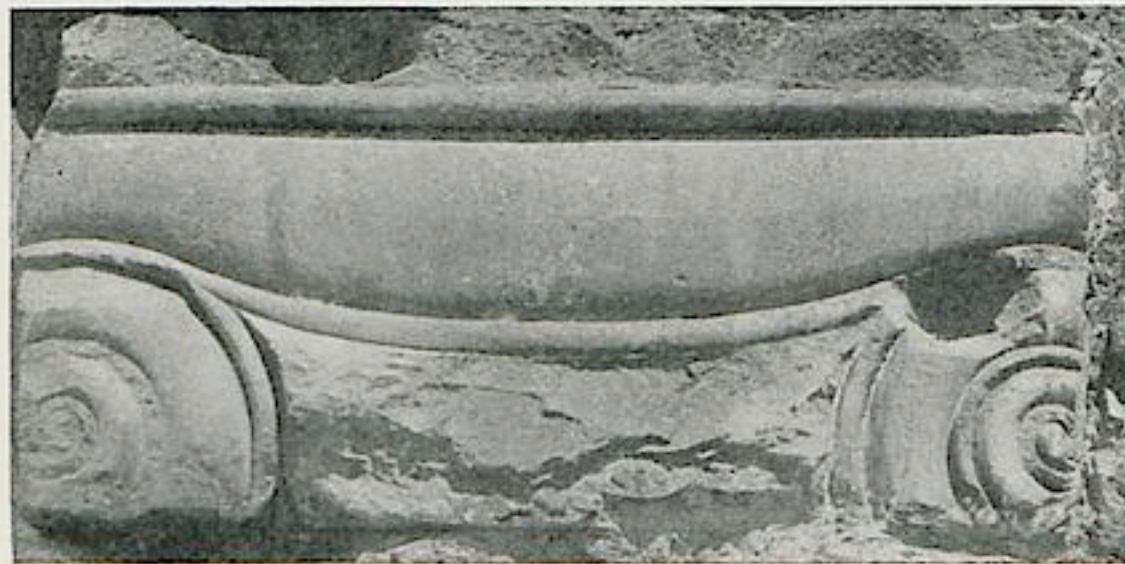


Fig. 81. Small capital in Aqueduct.

small fragment of the upper portion. The leaves of the rosette have been pointed, so as to be in keeping with other leaf and dart enrichments found on the site.

The small fragment of a rosette shown on Atlas VIII. might possibly have occupied the eye of the large rosette; but the one there shown is slightly too large to have belonged to our restored capital.

(IV.) *Entablature.*

Nothing that could have rested directly on the capitals, such as a fragment of architrave, was found; but three fragments of continuous egg and dart pattern are shown on Atlas IX. and X., which look very much like bed-moulds of a cornice. They are used as such in the restoration on Atlas XV. The largest (Atlas IX.) might possibly have run round the exterior of the *cella*

wall, and the long fragment (Fig. 82, Atlas X.), built into a Turkish tomb near the "Gate of Persecution," may have run round the entablature of the peristyle.

A large block of cornice corona (Atlas X.) was found built into the fourth course of masonry at the S.E. angle of the Hellenistic foundation of the N.E. column base, and another small fragment which supplements it was found on the site.

Portions of the sculptured cymatium-gutter came to light and several fragments of lion-headed gargoyles. A portion of tympanum gave the angle of the pediment.



Fig. 82. Bedmould built into mosque-tomb.

(V.) *Roof.*

On examining the terra-cotta fragments found on the site, Mr. Henderson was able to piece together two types of tiles. Those of the Croesus period were found in the filling between the Hellenistic piers to the N., while the Hellenistic ones, which were thicker and not so perfectly made, were found when the soil above the northern drain was excavated. No one completed length came to light, but there are several top and bottom corners and sides not only of the tiling, but also of the cover tiles, which will nearly fit together; but the size, as shown on Atlas XI., is not quite certain.

This pattern of tiling is evidently suited to a low-pitched roof, and it would bear comparison with many of the "one-thickness" tile designs of the present time. The marble parapet must have protected the lower part of the roof from the sudden storms which sweep down from the mountains in this locality.

COMMENTARY ON ILLUSTRATIONS OF ARCHITECTURAL
DETAILS OF THE CROESUS TEMPLE.

ATLAS III.

Plan of Bases (for Sectional Elevations see Atlas III., IV., and V.), Sections and Elevations of Bases 1 and 2.

Three plinths (one only shown on plan), five lower bases (one only shown on plan), seventeen torus bases, three fragments of circular mouldings, four bases of lowest drums of shafts, and twenty flutings of columns were studied.

FLUTINGS OF COLUMNS.

| No. of fluting. | Diameter of shaft. | Width of flute. | Depth of flute. | Number of flutes to circumference. | Smooth bearing surface of drum measured from arris of flute. |
|-----------------|--------------------|--------------------------------|-----------------|------------------------------------|--|
| 1 | 1.588 | .113 | .012 | 44 | — |
| 2 | 1.554 | .111 | .011 | 44 | — |
| 3 | 1.540 | .110 | .023 | 44 | — |
| 4 | 1.516 | .108 | .015 | 44 | .234 |
| 5 | 1.512 | .108 | .023 | 44 | .200 |
| 6 | 1.478 | .105 | .016 | 44 | — |
| 7 | 1.458 | .104 | .016 | 44 | — |
| 8 | 1.438 | .102 | .016 | 44 | .267 |
| 9 | 1.398 | .100 | .018 | 44 | — |
| 10 | 1.386 | .098 | .018 | 44 | — |
| 11 | 1.350 | .096 | .016 | 44 | — |
| 12 | 1.212 | .093 | .012 | 44 | — |
| 13 | 1.282 | .091 | .017 | 44 | — |
| 14 | 1.228 | .088 | .013 | 44 | — |
| 15 | 1.306 | .102 | .016 | 40 | — |
| 16 | 1.158 | .091 | .012 | 40 | — |
| 17 | 1.062 | .084 | .011 | 40 | — |
| 18 | 1.390 | { .120 (large) .064 (small) | { .013 .007 | 48 { 24 large } { 24 small } | .300 |
| 19 | 1.370 | { .117 (large) .063 (small) | { .011 .008 | | |
| 20 | 1.334 | { — (large) .065 (small) | { .011 .008 | | |

The heights of the drums vary. Four were found giving the following dimensions: .717, 1.297, 1.152, and 1.302. The second gave a curve or entasis of .002—0—002 in a length of 1.05. All fragments of any length showed an appreciable curve.

For description of sculptured columns, see pages 284, 293.

BASE 1 (plan on Atlas III.).

(a) *Base-plinth* belonging to the second column from the W. in the S. peristyle outer rank, and still *in situ*. Width, 2.36; height, .40. The clamp-sinking and dowel-hole are shown dotted.

(b) *Lower base in situ*, with Hellenistic (Temple E) foundations built round it (Fig. 69).

This is an inner base on the north side. It is made up of three orders of coupled astragals, with fillets separating them from two scotias. The astragals and fillets were brought to a fine finish, but the scotias were left unfinished. Height, .429; diameter, 2.004.

Thickness of *astragals*: the lowest and highest, .04; the central, .035.

Fillets vary from .01 to .015.

Scotias, .077 and .08.

The central coupled astragals are set in .01 from those above and below.

(c) *Torus base* (parabolic in section: Fig. 72, B).

Height, 0.362; greatest diameter, 1.974.

V-shaped grooves separate twelve shallow horizontal flutings which encircle this moulding.

Whole height of plinth and bases, .834.

(d) *Base drum of column* (Fig. 75, D).

Diameter of astragal, 1.54.

Diameter of drum above apophyge, 1.51.

The apophyge projects .014.

For flutings to column, see Fluting 5 (page 272).

The flutings terminate in scalloped semicircles .031 above the astragal.

Diameter at base of shaft, 1.542.

BASE 2 (plan on Atlas III.).

(a) *Lower base* similar in style to lower base Ia. The plinth is that of fifth column from East (Fig. 69).

Height, .419; diameter, 2.00.

(b) *Torus base* similar in style to torus base Ia.

V-grooves separate nine shallow horizontal flutings. The astragal of the shaft-base is worked on the same stone. Astragal: thickness, .060; diameter, 1.6.

(c) *Base drum of column* (Fig. 75, C).

Projection of apophyge, .002.

Diameter of drum, 1.51.

For flutings to column, see Fluting 5 (p. 272). The astragal is not worked on the drum, but on the torus base.

Diameter at base of shaft, 1.536.

ATLAS IV.

Sections and Elevations of Bases 3, 5, 6, and 7.

BASE 3 (plan on Atlas III.).

Lower base.

Diameter (approx.), 2.052; height (approx.), .428.

(a) *First fragment*: Small bead at the bed of two astragals; small bead and receding fillet to scotia.

2 N

(b) *Second fragment*: Scotia; narrow receding fillet, groove, small bead and two astragals. The two fragments do not belong to the same base. The central members are restored.

(c) *Torus base* (Fig. 73, A).

Diameter, 2·014; height (approx.), ·327.

Five quirked beads separate, on the lower half flattened astragals, and on the upper half shallow flutings. This is an optical device for giving an appearance of lightness to the upper half of the torus, and of strength to the lower.

Computed diameter of base of shaft, *circa* 1·634.

BASE 5 (plan on Atlas III.).

Filleted leaf and filleted dart torus moulding (Fig. 74, A).

Diameter, 2·108; height (approx.), ·31.

Number of leaves to the circumference, 24.

Centre to centre of darts, ·251.

The leaves in this and the two following illustrations are hollowed in two portions, with a pointed arris down the centre. The leaves are of shield shape.

BASE 6 (plan on Atlas III.).

Filleted leaf and filleted dart torus, with astragal below.

Diameter, 2·026; height (approx.), ·214.

Number of leaves to the circumference, 26.

Centre to centre of darts, ·245.

The points of the leaves and darts are perpendicular; the upper parts of the leaves and darts recede inwards. Below is an astragal moulding set in as much as ·033, and ·047 in thickness. Probably this is the top astragal of the lower base (see dotted profile).

BASE 7 (plan on Atlas III.).

Filleted leaf and filleted torus moulding.

Diameter, 2·12; height, ·292.

Number of leaves to the circumference, 40.

Centre to centre of darts, ·167.

The contour of the section is ogee at the bottom.

ATLAS V.

Bases 4a to 4g and various fragments of Abacus.

(4a) *Torus moulding.*

Diameter, 2·160; height, ·326.

Nine horizontal shallow flutings separated by V-grooves.

Computed diameter of shaft, *circa* 1·588.

(4b) *Torus moulding.*

Diameter, 2·012; height, ·377.

Unfinished. The nine flutings are worked, but not the V-grooves. The working lines are apparent.

The lower portion of the astragal above is preserved, giving diameter of drum of shaft, *circa* 1·554.

(4c) Torus moulding.

Fragment of lower portion only.

Diameter, 2·216 : height, ·288.

Seven large and six small shallow flutings (this corresponds in style with column flutings 18, 19, 20, plan Atlas III.).

Computed diameter of base of shaft, *circa* 1·790.

(4d) Torus moulding (Fig. 73, B).

Made up of two fragments; the lower has four flat astragals; the upper has four flutings, then one flat astragal and two flutings.

Diameter, 2·036; height, ·30.

Computed diameter at base of shaft, *circa* 1·670.

(4e) Portion of lower base.

Double astragals slightly pointed, projecting fillet and a portion of scotia.

Diameter, 2·002.

(4f) Torus moulding and astragal belonging to a column.

Diameter, 1·808; height of torus, ·37.

Eleven flattened astragals, fluting and bead. The astragal to the column is worked on the same block.

Diameter, 1·38; thickness, ·055.

Computed diameter of base of shaft, *circa* 1·300.

(4g) Torus moulding.

Diameter (approx.), 1·696; height (approx.), ·37.

Eighteen or nineteen shallow flutings without V-grooves between.

Computed diameter of base of shaft, 1·664.

(4h) Torus moulding.

Diameter uncertain; height, ·291.

Nine shallow flutings between V-grooves. Built into Hellenistic foundation of the N.E. column-base.

(4i) Torus moulding.

Fragment of upper portion fluted between V-grooves.

(4j) Torus moulding.

Fragment of upper portion fluted between V-grooves.

(4k) Torus moulding.

Fragment of lower portion fluted between V-grooves. Similar to *j*, but illustrated because these are the only two fragments of torus found which exactly correspond to one another.

(4l) Torus moulding.

Upper half fluted with V-grooves.

(4m) Base drum of column.

Diameter of unfinished astragal, which shows method of working, 1·574.

(4n) Base drum of column (Fig. 76, A).

Double astragal, having the appearance of an unfinished apophyge of a lowest drum.

Diameter, 1·49.

The drum is unfinished; it shows method of tooling (the only example found).

- (40) *Plinth and torus (or abacus and echinus), and vestige of astragal* (Fig. 76, B).
 Plinth (or abacus); circular; diameter, 1·005.
 Torus (or echinus); circular; height, ·12.
- (41) *Plinth and torus, or abacus and echinus* (Fig. 76, C).
 Plinth (or abacus), circular; diameter, 1·796.
 Height, ·05.
 Torus (or echinus), height (approx.), ·155.
- (42) *Astragal moulding*: unfinished.
 Diameter, 1·00; thickness, ·097.

Various fragments of Abacus.

- (a) *Filleted leaf and dart abacus.*
 Showing left-hand angle, and roll connecting volutes.
 The leaves are of shield shape.
 Height of leaves, ·184; centre to centre of darts, ·092.
 Thickness of roll, ·054.
- (b) *Filleted leaf and dart abacus*; two fragments.
 The leaves and darts are brought down to centre of roll connecting volutes.
 Height, ·122; centre to centre of darts, ·102.
- (c) *Filleted leaf of more simple design.*
 Height, ·100; centre to centre of darts, ·098.
- (d) *Ovolo and astragal mouldings* (taenia or abacus; two fragments; Figs. 78, B, and 79, D).
 Ovolo enriched by egg and dart. Height, ·100; centre to centre of darts, ·090.
 Astragal enriched by pearl and double reel. Depth, ·030; centre to centre, ·045.
- (e) *Egg and dart abacus, showing angle.*
 Height, ·103; centre to centre of darts, ·117.
- (f) *Egg and dart abacus* (Fig. 78, A).
 Height, ·097; centre to centre of darts, ·118.
 Depth of roll connecting volutes, ·046.
- (g) *Egg and dart abacus.*
 Height, ·118; centre to centre of darts, ·110.
 The egg next to the corner is reduced in size.

ATLAS VI.

Volute Capital (Restored).

(Half elevation and quarter plan. For section see Atlas VIII.)

The restoration is made up from several fragments and should be taken as a typical capital and not as an actual example.

The fragments are:—

1. Fluting of drum and enriched astragal of necking (Fig. 79, D, left hand).
2. Echinus and palmette (Fig. 80).

3. Centre horn of right-hand volute, turned to left hand to show detail (Fig. 72, A).
4. Lower outer portion of a volute. Large fragment of pulvinar, Atlas IX.
5. Cushion between roll below abacus and first convolution of spiral.
6. Egg and dart abacus (Atlas V. f.).
7. Egg and dart abacus, corner (Atlas V. e.).

The profile of the pulvinar is inferred from several sections, for one of which see Fig. 79, B.

(a) *Heights.*

Cincture or fillet above the heads of the shaft flutings, '036. It is not perpendicular, but projects forward slightly.

Astragal enriched with pearl and coupled reel, '094.

Echinus enriched with egg and dart, '284. The top segmental surface is roughly tooled inwards to the connecting lower roll of volutes.

Cushion and both rolls, '478.

Cushion only, '372.

Abacus, '103.

Complete capital (without necking), '865.

From lower edge of annulet above flutings to top of abacus, '995.

Perpendicular of volute, 1'047.

Perpendicular of volute and abacus, 1'150.

The centre of the volute ends not in an eye but a horn, and is horizontal with the greatest projection of the echinus.

(b) *Widths.*

Least diameter of column, 1'370.

Projection of apophyge, '022.

Diameter of egg and dart astragal to top of shaft, 1'480.

Centre to centre of pearls on astragal (number of pearls to the circumference, 60), '80.

Echinus, diameter of bed, 1'420.

Echinus, greatest diameter, 1'652.

Echinus, projection from bed, '115.

The number of eggs and darts to the circumference is twenty. A dart marks the centre, and two eggs on either hand stand clear; the next in order are covered by the palmettes: and four lie under each pulvinar.

(c) *Various dimensions.*

The face of the pulvinar sets in from face of column, '125.

Dimension from right-hand to left-hand volute, 1'250.

Horizontal diameter of volute, '915.

Whole length of capital, 3'080.

The pulvinar has a batter, leaning outwards at the top (Atlas VIII.), '060.

Width at bottom, '990.

Width at top, 1'110.

Length of abacus, 17 eggs, 2'700.

Width of abacus, 10 eggs, 1'220.

Greatest dimensions of capital {
 Height, 1'150.
 Length, 3'080.
 Breadth, 1'220.

The volutes unwind in three regular geometrical convolutions.

The space, or cushion, between the rolls of the archaic volutes is convex, and not concave, as in the Hellenistic capitals.

The pulvinar cylinders of the volutes are concave in form (see Plan), and divided by double astragals separated by four filleted scotias.

The amount of concavity measures—

| | | | |
|---|---|------|---|
| The central astragals— | } | ·055 | Top perpendicular with centre of volute. |
| | | ·065 | Side horizontal with centre of volute. |
| | | ·080 | Bottom perpendicular with centre of volute. |
| The outer of the coupled astragals between the out- side and central astragals. | } | ·040 | Top perpendicular with centre of volute. |
| | | ·050 | Side horizontal with centre of volute. |
| | | ·060 | Bottom perpendicular with centre of volute. |

By the above measurements it will be seen that the concavity of the pulvinar is greatest where this springs from the echinus (same radius as the echinus), and it gradually diminishes as the pulvinar sweeps round to the abacus.

The astragals at the centre, and the ones next in order in some instances meet the rolls round the eggs of the echinus, and circulate under the volute, and the scotias fit the eggs.

It will be seen that the eggs and rolls of the echinus rise to only half their height under the pulvinar. In several fragments the astragals do not run into the echinus, but curve round the shell-shaped terminations of the scotias. A dart springs from where the astragals separate, and points towards the echinus (see large fragment of pulvinar, Atlas IX).

A small fragment of gold overlay adhering to a piece of lead which was found driven into the groove between two astragals, forming the outer edge of a volute,* conclusively proves that portions of the volutes, if not the whole, were overlaid with gold.

ATLAS VII.

Rosette Capital (Restored).

Half elevation and quarter plan. (For section, see Atlas VIII).

The restoration is made up from several fragments, and should be taken as a typical capital, not an actual example. These fragments are:—

1. Fluting of drum and enriched astragal (Fig. 78, D, right hand).
2. Leaf and dart echinus.
3. Eye of rosette, radius of volute and moulding of pulvinar.
4. Abacus (Atlas V.).

(a) *Heights.*

- Cincture or fillet above the heads of the shaft flutings, ·015.
- Astragal enriched with pearl and coupled reel, ·163.
- Echinus enriched with leaf and dart, ·338.
- Cushion and both rolls, ·374.
- Cushion only, ·283.
- Abacus, ·122.
- Complete capital (without necking), ·834.
- From lower edge of annulet above flutings to top of abacus, 1·012.
- Diameter of reel, ·974.
- Perpendicular of reel and abacus, 1·096.

(b) *Widths.*

- Least diameter of column, 1·250.
- Projection of apophyge, ·042.

* Incorporated in the restored rosette capital in the British Museum.

Diameter of egg and dart astragal to top of shaft, 1·534.

Echinus; diameter of bed, 1·436.

Echinus; greatest diameter, 1·732.

Echinus; projection from bed, 1·48

The number of leaves and darts to the circumference is twenty-two. A leaf is in the centre; the leaves on either hand are clear; the next take the palmettes; the remainder are under the cushions.

The echinus is restored from a small fragment restored by Dr. A. S. Murray; the leaves are of a form differing from those of the torus bases and abaci in that their surfaces are convex with centre line receding, and have no bounding fillet.

(c) *Various dimensions.*

Distance of reels apart, 1·272.

Length of capital, 3·210.

The pulvinar shows a batter, leaning outwards at top (Atlas VIII.), ·056.

Width at bottom, 1·094.

Width at top, 1·206.

Length of abacus, 23 leaves, 2·360.

Width of abacus, 12 leaves, 1·316.

The leaves of the rosette in the reel have been pointed conjecturally to be in keeping with the rest of the design. The pulvinars of the volutes are similar in character to those described before.

Greatest dimensions of capital: length, 3·210; breadth, 1·316; height, 1·096.

(d) *Dimensions of the capital in Ephesus Room, British Museum.*

Diameter of shaft, 1·060.

Length of capital, 2·890.

Diameter of echinus, 1·450.

Diameter of bed of echinus, 1·250.

(e) *Bed of another echinus, 1·20.*

ATLAS VIII.

Fragment of Rosette and Sections (Restored) of Volute and Rosette Capitals (Atlas VI. and VII.).

Fragment of rosette.

A small fragment which may have been the eye of a pulvinar.

The leaves are slightly concave, and the boss does not rise higher than the outside of the petals.

Number of darts to the circumference, 12.

Diameter, ·16.

Diameter of boss, ·039.

Sections (restored) of volute and rosette capitals. For description, see Atlas VI and VII.

ATLAS IX.

Various fragments of Pulvinar and Bed-moulding of Cornice (large fragment).

Various fragments of pulvinar.

A. *Small fragment of pulvinar of volute.*

The underface of a right-hand volute, showing dart springing from the parting of the pulvinar roll, and the volute roll.

B. *Large fragment of pulvinar.*

The underface of a left-hand volute ; it shows the roll of the pulvinar making a double loop.

C. *Fragment of dart of a pulvinar.*

The dart, instead of having an arris and two plain surfaces, has a quirked bead down its centre.

D. *Fragment of a small volute and its pulvinar.*

The diameter of the column would be about $\cdot 300$ at the necking. For convenience of study the left-hand elevation is not placed correctly. It should be twisted downwards to the left.

E. *Fragment of palmette.*

This possibly is the eye of a pulvinar. The central portions of the leaves are painted red ; the edges are uncoloured.

Bed-moulding of cornice (large fragment).

This fragment is sufficiently perfect to give the section and the egg and dart enrichment. Height (approx.), $\cdot 400$; centre to centre of darts, $\cdot 384$.

ATLAS X.

*Bed-moulding of Cornice (small and long fragments) and Corona (large and small fragments). Section of Cymatium Gutter and fragment of the upper Apophyge of a drum.*A. *Bed-moulding of cornice (small fragment).*

Fragment of egg and dart.

Height (approx.), $\cdot 300$; centre to centre of darts, $\cdot 324$.

The rolls round the eggs die away, and are rounded off, instead of being cut off at the top, as in the other examples. The cramp-sinking and dowel-hole are shown.

B. *Bed-moulding of cornice (long fragment).*

A long fragment, with five eggs, built into a Turkish tomb near the "Gate of Persecution."

Height, $\cdot 279$; centre to centre of darts, $\cdot 308$.

C. *Large fragment of corona (built into Hellenistic foundation).*

Height, $\cdot 336$; batter forward, $\cdot 031$.

Drip fillet, $\cdot 053$; hollowing out of soffit (approx.), $\cdot 365$.

Greatest depth of soffit, $\cdot 044$.

The upper surface contains a mortice sinking but no dowel-hole.

Length of block, $\cdot 920$; depth (top surface), $1\cdot 330$.

D. *Small fragment of corona.*

A small fragment of similar pattern.

E. *Section of cymatium gutter.*

Height (approx.), $\cdot 885$.

Height of sculpture, $\cdot 800$.

Batter forward of sculpture and face of gutter, $\cdot 011$.

Thickness of bed of gutter, $\cdot 153$.

Thickness of face of gutter, not including sculpture, $\cdot 065$.

Height of lower fillet, $\cdot 046$.

Batter similar to that of corona.

Set inwards to back plane of sculpture, $\cdot 042$.

Height of upper fillet, $\cdot 040$.
 Set inwards to back plane of sculpture, $\cdot 064$.
 The section is inferred from several sculptured fragments.

F. *Fragment of upper apophyge of a drum.*

Diameter, $1 \cdot 350$ (approx.).
 Sixteen flutings in the circumference. Width of flutings, $\cdot 180$ (approx.).
 Sixteen fillets, each $\cdot 085$ in width.
 Mouldings and grooves are worked across the fillets, but not in the flutings, making annulets surrounding the drum.
 The apophyge has a projecting curve of $\cdot 080$.
 The flutings run out in shell shape, with arched heads; a dart divides the spandrels.

ATLAS XI.

Fragments of the Inner Face of the South Cella Wall and Roof Tiles.

Fragments of the inner face of the south cella wall. (Fig. 67.)

Height of plinth, $\cdot 372$.
 Height of first walling course, $\cdot 496$.
 Height of second walling course, $\cdot 485$.
 Set in of walling from plinth, $\cdot 025$.
 For description of walling, see page 257.

Roof tiles.

Reconstruction from fragments in fine red terra-cotta.
 Approximate calculation: twelve tiles (whose width is $\cdot 434$) to one intercolumniation.
 Length of tile (approx.), $\cdot 500$.
 Thickness of tile, $\cdot 024$ to $\cdot 026$.

Flanges are turned up on both sides, and one is turned down at the lower end of the underface. A half round roll passes over near the upper end into the side flanges. There are wedge-shaped projections on the underface near the lower end. These rest upon the tile below and press against the roll.

The cover tile is the same length. It forms an arch protecting the side flanges of the tiles.

The two top faces are concave, meeting in a point; the two lower are slightly convex. The face within is barrel-shaped.

ATLAS XII.-XV.

In making the restorations of the Croesus Fabric shown in these plates I have been governed by the remains still in position and by the architectural fragments found.¹

Remains in situ.

The principal remains in position are:—

(1) Numerous patches of paving in peristyle and pronaos which indicate the portions where there were no columns (see p. 250), and generally give the area of the temple and level of the floor.

¹ Mr. Henderson takes sole responsibility for this section.

(2) A portion of paving to the N. giving the boundary of the peristyle platform (Square A. 6, Atlas I.).

(3) A sinking in a portion of the foundation, evidently intended to receive the step at the W. end of the peristyle (Square C. 13, Atlas I.).

(4) Foundations of steps at the W. end of the perron (Square D. 14, Atlas I.).

(5) Markings in the pavement showing the position of the inner plinth course of the N. *cella* wall (Squares C. 6 and C. 8, Atlas I.).

(6) The inner foundation courses of the E. *cella* wall at its centre (Plan and Section A.-B., Atlas II.).

(7) The mould of the inner faces of the E. and S. *cella* walls, near their junction (Squares E. 4 and E. 5, Atlas I.), preserved by a mass of Byzantine concrete (see p. 256).

(8) Various fragments of the S. *cella* wall, which give the height and thickness of the plinth course and the thickness of the wall (Squares E. 8, E. 9, E. 11, Atlas I.).

(9) A portion of the W. *cella* wall, which preserves the inner (N.E.) reveal of the W. portal, the height and thickness of the plinth course and the thickness of the wall (Square D. 9, Atlas I.).

(10) Three facings to the foundations within the *cella* (Squares D. and E. 6, 7, 8, Atlas I., also shown on plans and sections, Atlas II.).

(11) The damaged plinth and lower base of the 5th column from the E., in the inner row of the N. peristyle (Squares C. 4, 5, Atlas I.).

(12) The large mass of Hellenistic column-foundation near the centre of the outer row in the S. peristyle probably enclosing the 10th column base from the E. (Square G. 7, Atlas I.).

(13) The mutilated plinth of the 3rd column from the W. in the inner row of the S. peristyle, directly S. of the S.W. anta (Square F. 11, Atlas I.).

(14) Half the plinth of the 2nd column from the W. in the outer row directly S.W. of the preceding (13) (Square G. 12, Atlas I.).

(15) Three T-shaped dowel holes in the *pronaos* paving between the W. antae (Squares D. 11 and E. 11, Atlas I.).

(16) The piers which supported the steps of the Hellenistic temple. These give the spacings of seventeen of the columns in the N. and seventeen in the S. peristyle (Squares A.-B. 4, 5, 6, 7, 8, 9, 10, and G.-H. 9, 10, 11, 12, Atlas I.).

Desiderata.

The principal elements of which no indications exist are:—

(a) The continuation of the N. and S. *cella* walls forming the posticum.

(b) The eastern portal.

(c) The facing columns of the Eastern and Western façades.

(d) The columns of the pronaos, posticum and *cella*.

No foundations of walls other than (5), (6), (7), (8), (9), (10) were found; and therefore no other walls are shown in the restoration.

Dimensions of Platform.

The length of the platform without the steps is 109 metres 20 centimetres, and the width 55 metres 10 centimetres. It was roughly twice as long as broad. (For further details see Table, page 288.)

I have given to the peristyle pavement a fall of $\cdot 20$ from walls to steps, and a further fall of $\cdot 23$ at the angles.

Walls not in axis of Peristyle columns.

The E. and W. *cella* walls are not in line with the centres of any columns in the N. and S. peristyle. (See plan, Atlas XII., and notes to side elevation, Atlas XIII.)

Distribution of Columns.

In distributing the columns I have relied on the statement of Pliny (*N. H.* xxxvi., 14) as usually interpreted, *i.e.*, to the effect that there were 127 columns in all, of which 36 were sculptured. These I have distributed as follows:—

| | |
|--|-----|
| In the peristyle, including the columns "in antis" | 100 |
| In the pronaos | 6 |
| In the posticum | 2 |
| In the <i>cella</i> | 19 |

Concerning the 106 columns of the peristyle and pronaos there can be little doubt, but the two in the posticum and the nineteen in the *cella* are not proved by any indication *in situ*.

The Columns within the Cella.

Internal columns.

A double row of nine columns is suggested, extending the whole length of the *cella*. The spacing has been made at architrave level, the columns thus dividing ten squares of ceiling in the N. and S. aisles respectively, and the same number of double squares in the nave. Of these columns thirteen are placed upon the faced foundations, described on page 253. The hall

formed to the East of this may have been shut off by a marble screen or bronze grille from the Western portion.

The column which I place in the centre supplies a reason for the cross foundation Eastward of the basis, and also would have formed a most satisfactory background for the statue of the goddess erected upon the central Basis.

All these columns are shown as of the same character as those in the inner row of the peristyle.

External Columns.

The intercolumnar measurement in both rows of the lateral peristyle (except for the two terminal intervals in each row at either end) I compute at about 5·21 (more exactly 5·2102) centre to centre. From the centre line of the *cella* wall to the centre of the inner columns is 6·13, and from the centre of the inner columns to the centre of the outer columns is 6·12 (Section, Atlas XIII.).

The two terminal intervals at each end of both rows in the lateral colonnade measure 5·90, and this intercolumniation holds good, of course, between the two rows in the west and east façades (S. Elevation, Atlas XIII.).

No remains were found to fix the position of the pronaos columns. Direct evidence therefore is lacking for the suggested spacing of the two central rows. The method I have adopted for determining this has been to place the centre of a column between the two T-shaped dowel holes (15) to the S. of the N.W. anta. These dowel holes may have held in position a bronze grille or screen intended to prevent the violation of the temple. By thus placing the column I get a measurement of 7 metres 25 centimetres from the centre of the N. *cella* wall to the centre of the Northern row of pronaos columns and an intercolumnar interval between the two pronaos rows of 8 metres 57 centimetres centre to centre. As the pronaos and posticum colonnades extend into the Eastern and Western façades, these last two dimensions apply to the three central intercolumniations in both rows of those façades also.

Sculptured Drums.

The 36 sculptured columns I have distributed in the following manner:—

| | | | | | | | |
|--------------------|---|---|---|---|---|---|----|
| At the Eastern end | . | . | . | . | . | . | 10 |
| At the Western end | . | . | . | . | . | . | 10 |
| In the pronaos | . | . | . | . | . | . | 10 |
| In the posticum | . | . | . | . | . | . | 6 |

In this manner the magnificence of the terminal façades stands in marked contrast to the plainness of the lateral façades, and there is a superb processional approach to the Naos and Hekatesion. The sculpture is shown as carved on the lowest drum and forming a portion of the shaft.

Since the column in front of each anta and the angle columns in the inner row of the peristyle are of minor importance, I have not shown them as sculptured.

Diameter and Proportion of Columns.

The diameter of the columns has been shown as of varying dimensions. Those with narrow intercolumniations are of least diameter, and the diameter increases with the greater span. (See Table on p. 291.)

The lateral columns have an inclusive height of about 8 diameters with a shaft of about $6\frac{2}{3}$ diameters.

The central columns of the Eastern and Western façades have an inclusive height of $6\frac{1}{2}$ diameters with a shaft of 6 diameters.

Size of Plinths.

The plinths to the outer row of columns of the peristyle are 2.36 m. square.

The plinths to the inner row of the peristyle and all others are 2 metres 5 centimetres square.

Bases.

For the lower base to all columns I have assigned the double astragal in three belts of varying height, separated by two filleted scotias.

Leaf torus bases are placed under the four central columns of the Eastern and Western façades and the pronaos and posticum columns. The remainder are moulded. (See Table on page 291.)

Shafts.

An entasis has been assumed in the shafts (see page 272).

Flutings.

Drums of 44 flutings have been given to the outer row of columns in the peristyle (Nos. 1 to 14, Atlas III.), except at the angles.

40 flutings have been given to the drums of the inner row in the peristyle and to all other columns (Nos. 15, 16, 17, Atlas III.) except at the external angles.

Capitals.

Rosette capitals have been placed upon the leaf bases of the Eastern and Western façades (Atlas XIII. and XV.), and volute capitals upon all the others.

The suggested Angle Column.

The suggested angle column is shown with alternate large and small flutings, 48 in all, (Nos. 18, 19, 20, Atlas III.) and has a torus base (Atlas III. and V., No. 4c), of similar character.

The capital is of the volute type. It will be seen by the plan (Atlas XIV.) that there are the usual twenty eggs to the echinus. The scotias of the pulvinars unwind from these eggs, as does also the scotia of the pulvinar of the angle volute. Thus five eggs are left free between the volutes instead of the usual six. At the inner angle one egg is free and partly covered by the palmettes.

The angle of the architrave stands directly above the face of the pearl and double reel enriched astragal of the top drum.

The angle abacus sweeps outwards from the centre lines directly above the horn of the volute, where it attains an angle of about 40°.

Abacus.

The bearing width of the abacus of the column is less than the diameter of the shaft even at its narrowest, but there is considerable compensation for this in the fact that its length is about twice as great as its width and it is supported by the pulvinars, *i.e.* bracket capitals.

Architrave.

The central portion of the abacus supports the transverse architrave, and the bracket portions support the longitudinal beams.

The width of the architrave is shown as 1.05 at the lowest of the three facias.

It is suggested that it had three facias capped by a pearl and reel enriched astragal moulding of a similar pattern to that used as capping to the shafts.

Bedmould.

The bedmoulding used is that figured in Atlas X., and it is suggested that the larger bedmoulding figured in Atlas IX. ran round the top of the *cella* walls.

Corona.

The corona is that figured in Atlas X.

Cymatium gutter.

The cymatium gutter is that figured in Atlas X.

This sculptured parapet is the feature of the entablature. It protected the roof from storms and gave protection to those who of necessity had to repair the tiling. The lion-headed gargoyles have been so distributed as to throw the rainwater just clear of the columns and allow sufficient distance between their outflows for access to the peristyle.

If this parapet were continued raking up the pediment, it would have been extremely unsightly from the rear, and, moreover, would have had no reason for its existence. I have, therefore, made it return at the angles for a short distance until the roof behind rises to its level. Thereafter it rises as the cymatium to the tympanum cornice.

Angle of Tympanum.

I have inferred this from a small fragment of marble which might be tympanum facing.

Roof.

I have covered the roof of the temple with the tiling shown on Atlas XI., and suggest that timber was used for all construction above the corona member. (The *cella* walls may have continued upward to support the roof timbers.)

Proportion of the Eastern and Western Façades.

It may be only a coincidence, but it is noteworthy that the plan of the Eastern and Western façades can be divided into four equal parts, namely, two parts measured from the longitudinal axis of the temple to the furthest removed face of the columns in front of the antae on either hand, and two parts from these faces to the outer faces of the outermost columns. (See eighth line of dimensions on Section, Atlas XIII.) The dimension of each of these parts is roughly 12·28. Not having any actual evidence for the height of the architrave from the pavement, I have drawn an inference from this dimension and made the height of the colonnades in proportion to their length as one to four. In support of this somewhat low colonnade I may remark that, if greater height were given, the sculptures on the cymatium gutter would not have been clearly seen. (Heights are calculated from the pavement level in the longitudinal axis of the platform.)

Entablature.

The height of the entablature is shown as one-fourth of the height of the colonnade, *viz.*, 3.07. This dimension is divided equally between the architrave and the superior members.

Whole height.

The whole height of the temple from the pavement to the summit of the sculpture crowning the pediment I give as 24.56, *i.e.*, half as much as the total width of the peristyle at the base of the shafts.

DIMENSIONS AND LEVELS.

For convenience of reference, certain general dimensions are here appended in tabular form.

Lengths (West to East).

| | |
|---|------------------|
| Tread of step | .36 |
| Platform | 109.20 |
| Perron at west end | 8.20 |
| Top edge of upper step to centre of outer row of columns of peristyle | 3.71 |
| Centre of outer row of columns to inner row of columns of peristyle | 5.90 |
| Centre of inner row of columns of peristyle to centre of columns "in antis" | 5.90 |
| Distance apart of lateral columns in front of the walls | 5.2102, say 5.21 |
| Pronaos (depth) | 20.65 |
| West <i>cella</i> wall (thickness) | 2.01 |
| <i>Cella</i> | 46.67 |
| East <i>cella</i> wall (thickness) | 2.01 |
| North and south walls | 71.34 |

Breadths (North to South).

| | |
|---|-------|
| Tread of step | .36 |
| Platform | 55.10 |
| Perron at west end (=the width of the plinths of the 4 central columns) | 25.40 |
| Top edge of upper step to centre of outer row of columns of peristyle | 3.71 |
| Northern face to southern face of base of shafts in outer row of peristyle } columns | 49.12 |
| Centre to centre of northern and southern columns of peristyle | 47.57 |
| Centre to centre of northern and southern walls | 23.07 |
| Centre to centre of northern and southern <i>cella</i> columns | 11.50 |
| Centre of walls to centre of <i>cella</i> columns | 5.78 |
| Width of portal | 6.70 |

General Dimensions of D Remains (Atlas I).

| | |
|--|--------|
| Distance from western edge of perron to West <i>cella</i> wall | 44.50 |
| Length of marble pavement <i>in situ</i> from East to West | 108.83 |
| Total length of Temple from East to West, including perron | 117.40 |

| | |
|---|---------|
| Width from North to South | 55'10 |
| Distance from centre of East <i>cella</i> wall to centre of West <i>cella</i> wall | 48'68 |
| Distance from centre of North <i>cella</i> wall to centre of South <i>cella</i> wall | 23'07 |
| Area covered, not including perron | 5996'53 |
| Area covered, including perron (approximately) | 6210'73 |
| Width of step surrounding peristyle (the foundations cover a slightly larger area) | '36 |
| Length of <i>cella</i> at plinth level | 46'59 |
| Length of <i>cella</i> at wall level | 46'67 |
| Thickness of West <i>cella</i> wall at plinth | 2'09 |
| Thickness of West <i>cella</i> wall above plinth | 2'01 |
| Width of <i>cella</i> at plinth level | 21'07 |
| Width of <i>cella</i> at wall level | 21'14 |
| Thickness of South <i>cella</i> wall at plinth | 1'98 |
| Thickness of South <i>cella</i> wall above plinth | 1'93 |
| Distance of West face of anta from West wall of <i>cella</i> | 20'65 |
| Distance (average) of inner N. and S. foundation walls (see p. 253) of <i>cella</i> , one from the other | 9'23 |
| Distance (average) of inner foundation walls from North and South <i>cella</i> walls | 5'97 |
| Distance (average) of inner foundation wall from East <i>cella</i> wall | 19'72 |
| Distance of centre of N.E. column-foundation North of centre of N. <i>cella</i> wall | 6'13 |
| Distance of centre of N.E. inner column-foundation West from centre line of E. <i>cella</i> wall | 1'60 |
| Distance of centre of S.W. inner column-foundation South from centre of South <i>pronaos</i> wall | 6'13 |
| Distance of centre of S.W. column-foundation East of wall-plinth of West face line of anta | '85 |
| Distance of centre of S.W. outer column-foundation South from centre line of S.W. inner column-foundation | 6'12 |
| Distance of centre of S.W. outer column-foundation West from centre-line of S.W. inner column-foundation | 5'90 |

Positions of certain patches of Marble Paving in situ (Atlas I. and XII.).

East end—

Fragments in square B 2.

| | |
|---|-------|
| East of centre line in East <i>cella</i> wall | 23'80 |
| North of axis | 26'70 |

Fragments in square G 2.

| | |
|---|-------|
| East of centre line of East <i>cella</i> wall | 23'30 |
|---|-------|

Fragments in square F 2.

| | |
|---|-------|
| East of centre line of East <i>cella</i> wall | 23'65 |
| South of axis | 22'00 |

North side—

Fragments in square B 6, representing original edge of platform.

| | |
|-------------------------|-------|
| North of axis | 27'55 |
|-------------------------|-------|

South side—

Fragments in square G 9, the most southerly in position, but '85 distant from the original edge of the platform.

| | |
|-------------------------|-------|
| South of axis | 26'70 |
|-------------------------|-------|

West end—

Fragment in square C 13.

| | |
|---|-------|
| West of centre line of West <i>cella</i> wall | 36'35 |
|---|-------|

2 P

LEVELS.

(1) *Pavement.*

| | |
|---|-------|
| In relation to the N.E. column-base (<i>Datum</i>). | -3'10 |
| In relation to sea-level (Schindler's measurements, 1897). | +2'50 |
| In relation to Cayster, 1,800 metres N.W. of the Temple (Humann, mid-summer, 1894). | +2'44 |
| In relation to Cayster, about 1,800 metres due N. (May, 1905). | - '10 |
| In relation to average level of surrounding fields | -6'00 |

(2) *Cella Wall Foundations.*

(Levels reckoned downwards from the *Datum* point, *i.e.*, the existing surface of the N.E. column-base. See p. 21. Note thickness of white clay, '10 to '15 extra under all foundations.)

| | |
|-------------------------------------|-------|
| West end— | |
| <i>Cella</i> pavement | -3'10 |
| Top of blue limestone foundations | -3'28 |
| Bed of three courses of foundations | -4'33 |
| North of West wall— | |
| <i>Cella</i> pavement | -3'28 |
| Top of blue limestone foundations | -3'42 |
| Bed of six courses of foundations | -4'64 |
| North wall— | |
| <i>Cella</i> pavement | -3'11 |
| Top of blue limestone foundations | -3'35 |
| South wall near West end— | |
| <i>Cella</i> pavement | -3'17 |
| Top of blue limestone foundations | -3'42 |
| Bed of six courses of foundations | -4'57 |

(3) *Cella Pavement Foundations.*

(Note, *cella* pavement varies from -3'10 to -3'28 below datum.)

| | |
|---|----------|
| Near West end of South wall— | |
| Top of first course of foundation | -3'35 |
| Top of second course of foundation | -3'68 |
| Top of third course of foundation | -4'02 |
| Bed of third course | -4'42 |
| West of central Basis— | |
| Top of first course of foundation | -3'30 |
| Top of second course of foundation | -3'56 |
| Bed of second course | -4'04 |
| Bed of third course (when it was used: foundations of Temples A and B answered the purpose in places) | -4'24 |
| Centre, North side— | |
| Top of first course of foundations | missing. |
| Top of second course | -3'51 |
| Top of third course | -3'99 |
| Bed of third course | -4'24 |
| Centre, North side, Eastwards— | |
| Top of first course | missing. |
| Top of second course | -3'89 |
| Top of third course | -4'06 |
| Bed of third course | -4'25 |

| | |
|--------------------------------------|----------|
| Centre, Eastwards— | |
| Top of first course | missing. |
| Top of second course | " |
| Top of third course | -3'86 |
| Bed of third course | -4'20 |
| Centre, near East wall— | |
| Top of first course | missing. |
| Top of second course | " |
| Top of third course | -3'98 |
| Bed of third course | -4'30 |
| Inner wall or lining to foundations— | |
| Highest part of East wall | -3'50 |
| Bed of six courses | -4'08 |
| Highest part of North wall | -3'50 |
| Bed of seven courses | -4'22 |
| Highest part of South wall | -3'26 |
| Bed of nine courses | -4'14 |

Size and Proportion of Columns (Atlas XIV. and XV.).

| Position. | Distance centre to centre of columns. | Number of Base. | Diameter at | | Number of diameters at base of shaft. | |
|--|---------------------------------------|--|-------------------------------|------------------------------|---------------------------------------|-------------|
| | | | Base of shaft above apophyge. | Top of shaft below apophyge. | From pavement to architrave. | Shaft only. |
| Inner lateral colonnade of peri- style | 5'21 | { 2 4J | 1'49 | 1'18 | circa 8'2 | circa 7'0 |
| | | | 1'52 | .. | " 8'1 | " 6'9 |
| Suggested outer columns in front of antae | .. | { 4F 4G | 1'50 | .. | " 8'2 | " 7'0 |
| | | | 1'56 | .. | " 7'9 | " 6'5 |
| Outer lateral colonnade of peri- style | 5'21 | { 1 (similar in Type to 2 and 4J). 4D | 1'55 | 1'38 (or less). | " 8'0 | " 6'7 |
| | | | 1'58 | 1'38 (or less). | " 7'8 | " 6'7 |
| West and east façades— | | | | | | |
| First (angle) column (shaft flutings Nos. 18, 19, 20, Plate III) | 6'12 | 4C | 1'58 | 1'35 | " 8'0 | " 6'8 |
| Second columns | 6'13 | 3 | 1'60 | 1'38 | " 7'8 | " 6'8 |
| Third columns | 7'25 | { 5 6 (shown with flutings). | 1'78 | 1'30 | " 6'8 | " 5'9 |
| | | | 1'74 | .. | " 7'0 | " 6'0 |
| Fourth columns | 8'57 | 7 | 1'88 | .. | " 6'5 | " 5'5 |

The height of the sculptured drums is 1'87, or about 1 to 1¼ times the diameter of the shaft.

Heights (suggested).

| | |
|--|-------|
| Two steps of platform | ·46 |
| Base, shaft and capital combined (together = one-fourth of length of façade) | 12·28 |
| Architrave (3 facias suggested) | 1'535 |
| Bedmould corona and cymatium gutter | 1'535 |
| Entablature (suggested to be one-fourth of the height from pavement to under- face of architrave) | 3'07 |
| Complete order | 15'35 |
| Pavement to apex of tympanum calculated from axis | 22'80 |
| Pavement to summit of sculpture above pediment (= half length of façade) | 24'56 |
| Portal | 11'30 |

ARCHITECTURAL FRAGMENTS IN THE BRITISH MUSEUM.

The architectural fragments, upon which this work is based, are either on the site at Ephesus, or in its immediate neighbourhood, or at the British Museum.

The following table shows the fragments in the British Museum. Those which are marked with a † are derived from the recent excavation. Those which are not so marked are derived from the excavations of Mr. Wood.

| | |
|---|---|
| Atlas III. Base 2 <i>a.</i> B.M. <i>Sculpt.</i> i. 29. 3. | Atlas VII. [For reference numbers, see p. 278.] |
| <i>b.</i> B.M. <i>Sculpt.</i> i. 29. 3. middle portion (74. 2-5. 133) with astragal added from another example. | 1. † B.M. (= fig. 78, D, right). |
| <i>c.</i> † B.M. (= fig. 75, c). | 2. B.M. |
| Flutings 16. B.M. | 3. B.M. <i>Sculpt.</i> iii. 2727. |
| 17. B.M. | 4. B.M. (= Atlas V., abacus <i>b.</i> , left, abbreviated by error). |
| 18. † B.M. | Atlas VIII. Rosette. B.M. |
| Atlas IV. Base 7. B.M. Moulding shown in Atlas XVI. as crowning sculptured drum. | Volute capital. Made up from many sources. |
| Base 5. † B.M. | Rosette capital. Ditto. Partly based on B.M. Capital, <i>Sculpt.</i> iii. 2727. |
| Base 3 <i>a.</i> B.M. | Atlas IX. [For reference letters, see p. 279.] |
| <i>b.</i> † B.M. | B. B.M. 74. 7-10. 341. |
| Base 6. B.M. | C. B.M. |
| Atlas V. Base 4 <i>b.</i> B.M. | D. B.M. |
| <i>c.</i> B.M. | E. B.M. 73. 3-5. 125. |
| <i>f.</i> B.M. <i>Sculpt.</i> i. 28. | Atlas X. [For reference letters, see p. 280.] |
| <i>g.</i> B.M. 74. 2-5. 135. | E. † B.M. |
| <i>i.</i> B.M. | F. † B.M. |
| <i>m.</i> B.M. | Atlas XI. Fragments of tiles employed. † B.M. |
| <i>q.</i> B.M. | Text, p. 265. Fig. 72, A. † B.M. (= Atlas VI. 3). |
| Abacus <i>a.</i> B.M. | p. 266. Fig. 75, A. † B.M. |
| <i>b.</i> (left) B.M. | Fig. 75, C. † B.M. (= Atlas III., base 2 <i>c.</i>). |
| <i>c.</i> B.M. | p. 267. Fig. 78, A. † B.M. (= Atlas V., abacus <i>f.</i>). |
| <i>d.</i> (left) † B.M. (= fig. 78, B). | Fig. 78, B. † B.M. (= Atlas V., abacus <i>d.</i> , left). |
| <i>d.</i> (right) † B.M. (= fig. 79, D). | Fig. 78, D. (left). † B.M. (= Atlas VI. 1). |
| <i>e.</i> B.M. | Fig. 78, D. (right). † B.M. (= Atlas VII. 1). |
| <i>f.</i> † B.M. (= fig. 78, A). | p. 268. Fig. 79, C. † B.M. |
| <i>g.</i> B.M. | Fig. 79, D. † B.M. (= Atlas V., abacus <i>d.</i> , right). |
| Atlas VI. [For reference numbers, see p. 276.] | |
| 1. † B.M. (= fig. 78, D, left). | |
| 3. † B.M. (= fig. 72, A). | |
| 4. B.M. (= Atlas IX. B). | |
| 6. † B.M. (= Atlas V., abacus <i>f.</i>). | |
| 7. B.M. (= Atlas V., abacus <i>e.</i>). | |

CHAPTER XVI.

THE SCULPTURES OF THE CROESUS TEMPLE.

By A. H. SMITH.

(ATLAS XVI.-XVIII. ; PLATES L-LI.)

THE sculptures of the Croesus temple, preserved in the British Museum, are mainly derived from the excavations of Mr. J. T. Wood. They were the subject of prolonged study by Mr. A. S. Murray, who published the results of his attempts at reconstruction in the *Journal of Hellenic Studies*, vol. x. pls. 3, 4, and p. 1. The fragments derived from Mr. Wood's excavations were for the most part described in vol. i. of the *Catalogue of Sculpture in the Department of Greek and Roman Antiquities* (1892), by A. H. Smith, and the description in that Catalogue has been made the basis of that which follows. The additional fragments found during the recent excavations have also been incorporated in the series, and the whole of the sculptures in the British Museum which can be assigned with any probability to the archaic series are shown in the plates.

The majority of the archaic sculptured fragments were found by Mr. Wood, embedded in the concrete piers, attributed by Mr. Hogarth to the late Roman or Byzantine period. The additional fragments, obtained during the recent excavations, were found for the most part under conditions to which no special significance could be attached. Two pieces, however, of the parapet sculptures were found in the firmly rammed foundation soil of the Hellenistic temple, thus furnishing a proof (if any proof is needed) that the archaic sculptures had been dispersed from their original position before the work on the later temple was begun.

In the following list, objects obtained from the recent excavations are distinguished with †.

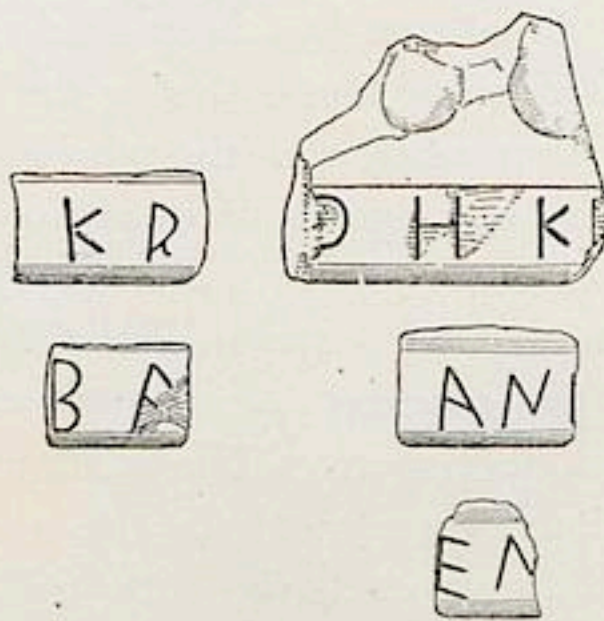
THE SCULPTURED COLUMNS.

The archaic fragments from Ephesus include a certain number of sculptures in high relief, standing out from a ground which forms an arc of a large circle. The relation of the figures to the background, and the way

in which the ground gradually swells towards its lower bed, are nearly analogous to the corresponding disposition of the sculptured drums of the Hellenistic temple. Hence, although strict proof is wanting, it has never been doubted, since the discovery of the fragments, that the earlier Artemision also had a certain number of sculptured drums. The most remarkable architectural feature of the later temple is thus shown to have been anticipated in its predecessor.

The number of the sculptured drums is a matter of conjecture. If we assume that there were thirty-six, as suggested by Mr. Henderson, the extant fragments amount in all to less than one per cent. of the original sculptured surface. It is therefore natural enough that the joins should be few in number, and that the subjects of the sculpture should be undetermined.

It is well known (p. 15) that the inscribed torus mouldings of the bases of the older temple have been restored, so as to give the name of King Croesus as a dedicator, on the strength of the statement of Herodotus (i. 92).



Βασιλεὺς] Κρ[οῖσος ἀνέ]θηκ[εν
 Βα[σιλεὺς Κροῖσος] ἀνέ[θηκεν
 ἀνέθηκ]εν

The fragments in question would seem to have belonged to three different columns, and to have been grouped as above. (*Greek Inscriptions in Brit. Mus.* no. 518.) The profiles of the mouldings indicate that four of the pieces cannot have been grouped in one inscription as now combined for the purpose of exhibition.

The dedications of Croesus would imply that some at least of the columns in question date from the middle of the sixth century B.C., while there is evidence that the building of the temple was spread over a long period. This

view is entirely consistent with the style of the sculptures. The oldest of them have the purely conventional renderings of drapery by successive ridges and furrows, which occur on the older figures from Branchidae. The masses of the hair are divided up by longitudinal and transverse grooves as on the Branchidae figure, no. 9; or as an alternative (no. 29, 6), they are in the form of long tresses with swellings at intervals, as on the Branchidae head, no. 19.

In the more advanced examples, such as 29, 5, the overlapping folds of lightly drawn drapery, and the softer folds of the loosely hanging margin are attempted. Finally, two of the fragments (Atlas XVI., 23, 24) are far in advance in freedom of modelling. They seem, however, to belong to the temple-columns of the early temple, and in that case they indicate a lapse of time, and advance in sculptural skill.

Atlas
xvi. 1.

29. Reconstructed base of a sculptured column. This base has been reconstituted from several of the better preserved fragments. There is no presumption that the pieces belonged to the same column, but their combination serves to give a general idea of its appearance. The torus mouldings of the base, with the dedication of Croesus, are no longer exhibited in conjunction with the sculptures, because the respective radii are incompatible.

For the base see *Catalogue of Sculpture*, i., pl. 1; Murray, *Greek Sculpture*, i²., p. 110 (= Collignon i., p. 180); *Journ. of Hellen. Studies*, x., pl. 3; *Journ. of R. I. B. Architects*, 3rd Ser., iii., pl. facing p. 52; Cf. Choisy, *Hist. de l'Arch.*, i., p. 350, fig. 13A.

1. The sculpture is surmounted by a large and bold torus, with a leaf pattern, prominent and sharply cut; above it is a roll. Considerable traces of red paint remain. That the member crowned the sculptures is an inference from its radius, which is exactly appropriate. H. 29. [Used for a base, Atlas IV., base 7.]

[2, 3. For the inscribed bases, see above.]

The following fragments are inserted in the restoration of the sculptured base:—

4. Upper part of male figure, in high relief, standing to the right, wearing a close-fitting tunic with sleeves to the elbows. He wears a panther-skin, with the mask shown on the shoulder. His long hair is conventionally treated, and falls on the shoulders. The lower part of the face has been attached, but the upper part is wanting. The right arm was bent at the elbow and crossed the body. H. 59. *Journ. of Hellen. Studies*, x., pl. 3.

5. Lower part from the buttocks of a male figure in high relief standing to the right, wearing what appears to be a himation, falling below the knees at the

back, but gathered up towards the hands. This fragment can hardly belong to the same figure as no. 4, although a connexion is suggested in *Journ. R. I. B. Arch.*, 3rd Ser., iii., pl. facing p. 39. H. 1.0. *Journ. of Hellen. Studies*, x., pl. 3; Murray, i², p. 114.

29. 6. Female head, to the right, in high relief. The hair is enclosed by a band, and falls down on the shoulders. It is arranged over the forehead in fine ripples, which have no relation to the conventional tresses elsewhere. There is a large circular earring, with a small stud on the lobe of the ear. Traces of red paint remain in the hair. H. .305. Murray, i², p. 113; Collignon, i., p. 179.

7. Middle part of a female figure, to the right, in high relief. The figure wears a tunic, tied with a narrow girdle at the waist, and an apodygma, falling in long folds at the sides. Considerable indications remain of a maeander pattern, which was painted on the central fold of the dress. H. .36.

8. A lower moulding of one of the sculptured columns has been set in position. H. .15. L. .28.

The following fragments, from the bases of the columns, are not inserted in the restoration.

Atlas
xvi. 22.

30. Fragment, in high relief, of the head and shoulders of a figure, from the drum of a column. The front surface is broken away, but the figure appears to have looked to the front, with long hair falling on the shoulders, which are draped. H. .40.

Atlas
xvi. 26.

31. Fragment, in high relief, of the right thigh of a draped figure, standing to the right. H. .35. Worked above with a bed for another drum.

Atlas
xvi. 14.

[32. Middle part of a draped figure to the left in high relief. The figure wears a tunic with sleeves and himation conventionally treated. The left hand is pressed close to the thigh.

This fragment is similar in style to the sculptures on the columns, but must have come from a rectangular base, perhaps corresponding to the rectangular bases in the later temple. The flat surface on its right side is a return and not a joint. H. .35. Murray, i², p. 115].

Atlas
xvi. 6.

33. Fragment of a head containing the middle of the face. A straight joint is worked along the left cheek. H. .215.

Atlas
xvi. 7.

34. Fragment of the left side of a female head, turned to left, wearing a band across the forehead, a rippling veil, and a large circular earring. Some red on the lips. H. .24.

Atlas
xvi. 17.

35. Fragment of the upper part of a head, wearing a close-fitting veil, with curls between the veil and the forehead. H. .10.

- Atlas
xvi. 5. **36.** Fragment of a head, three-quarters turned to right, containing the cheek, right ear, and a part of a veil, falling behind the ear. The left ear is also indicated. H. ·20.
- Atlas
xvi. 3. **37.** Fragment of a head to left, containing the top of the left ear, and wearing a veil arranged in closely fitting folds; hair falls down at the back of the head, in very large tresses. H. ·15.
- Atlas
xvi. 8. **38.** Fragment of a head, which seems to have been similarly treated. H. ·24.
- Atlas
xvi. 4. **39.** Fragment of the left side of a head, turned to the left, and wearing a veil. It contains a part of the ear and eye, which shows somewhat more detail than elsewhere. H. ·17.
- Atlas
xvi. 10. **40.** Fragment from the top of a head, with hair diverging from the central point. H. ·15.
- Atlas
xvi. 12. **41.** Fragment from the left side of a head, with part of the neck, and hair falling down. The hair is coloured red. H. ·09. W. ·16.
- Atlas
xvi. 16. **42.** Fragment, from the right side of a head, containing the top of the ear and hair falling over it. H. ·10.
1. A 4. **43.** Fragment of drapery, terminating in zigzag folds. H. 19·5.
1. A 6. **44.** Fragment of drapery, with the bottom of several folds. It has an incised maeander pattern, between two cross-hatched borders. (Fig. 83.) H. ·16.

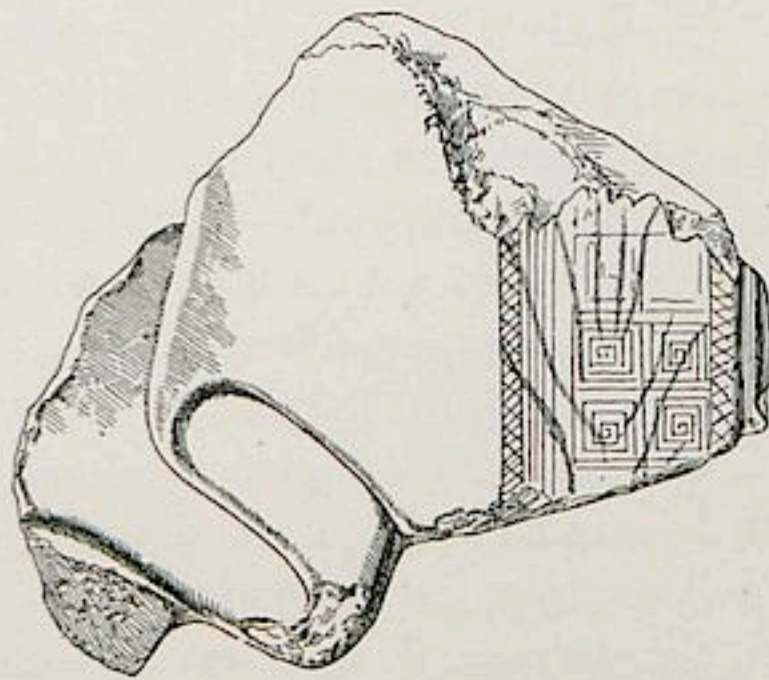


Fig. 83. no. 44, p. 297.

- Atlas
xvi. 13. **45.** 1. Fragment of the lower moulding (H. ·12) of a sculptured base, with a left great toe to the right, and the remains of a rectangular object, together with other uncertain indications, rising from the moulding. H. ·83. W. ·47.
- Atlas
xvi. 11. 2. † Fragment of a male figure to r., with the side of the neck, and traces of

2 Q

conventionally treated hair, falling down the back. Considerable remains of red. H. ·14.

1. A 3. 45. 3. † Right shoulder of a draped female figure, half turned to r., with hair falling over the shoulder. H. ·19. Found in the filling between Hellenistic piers on the N. flank. See pp. 27, 28.
- Atlas xvi. 25. 4. Right shoulder, with part of the back and breast, of a female figure to r., having the head considerably thrust forward. H. ·29.
- Atlas xvi. 21. 5. Right arm, bent at the elbow, of a male figure to r. The figure was draped in a close-fitting sleeveless tunic, from which the arm issues. H. ·42.
1. A 13. 6. Right elbow, and remains of the edge of a short sleeve. Red on surface. H. ·16.
1. A 2. 7. Right elbow, bent up, of a figure turned to right. H. 20. W. ·13.
1. A 16. 8. † Right (?) wrist, wearing a spirally twisted armlet, terminating in two knobs. Surface coloured red. H. ·13.
1. A 10. 9. Right hand, the fingers lightly closed. H. ·18.
1. A 18. 10. Part of a right hand, rendered with swollen joints. ·13 × ·11.
- Atlas xvi. 18. 11. Right hand, holding up a fold of the skirt of a female figure, standing to right. The treatment of the drapery is extremely conventional. H. ·26. Three pieces have been joined.

Atlas xvi. 19.

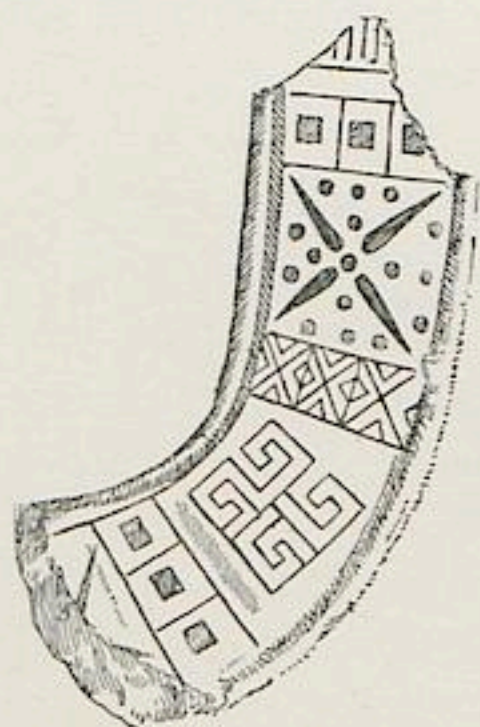


Fig. 84.

1. A 9.

Atlas xvi. 23.

12. † Portion of the middle of a draped figure. The central folds of the dress are drawn to one side. Probably the figure was turned to right, and the drapery was drawn back by the right hand. If so, it is inverted in the plate. Patterns incised and painted on the central band. (Fig. 84.) H. ·33. Obtained by breaking up a mass of Byzantine concrete, of which it had been an ingredient. See p. 24.

13. Upper part of the right hip of a figure turned to right. Two fragments united. H. ·30.

14. Thighs of a draped figure standing to r. This fragment seems to belong to the columns, but the drapery, though heavy, is carefully studied, and the eyes of the folds are expressed in a style far in advance

of that of the majority of the fragments. H. ·42.

Atlas xvi. 24.

15. The draped thigh of a male figure standing to r. For the treatment of the drapery compare 45, 14. H. ·44.

1. A 12.

16. † Uncertain fragment. Lower part of the leg of a draped figure (?). H. ·16.

1. A 1. 45. 17. Fragment of drapery. It is doubtful whether this can belong to the columns. ·21 × ·22.
- Atlas
xvi. 15. 18. Upper part of a Caryatid-like figure. The head is lost, but the head-pad, and a decoratively-treated basket, with heads of oxen at intervals, and astragalus patterns between, is supported in position by an uplifted right hand. The position of the hand suggests that it is that of the Caryatid figure turned away from the front, but such an arrangement seems improbable, so that it is more probable that the hand is that of a second figure. The left-hand part of the subject was catalogued as 47, 51, "unintelligible fragment;" the portion with the right hand has been recently adjusted. Parts of four ox-heads are ancient. The middle head of the three shown in the plate, and a large part of the head on the left, are restorations. On the top bed is a setting line, showing that the fragment belonged to one of the sculptured drums. H. ·195. W. ·425.
1. A 19. 19. † Uncertain fragment. Part of a limb. Traces of red. H. ·17.
1. A 20. 20. † Uncertain fragment. Part of leg, with the swell of the calf (?). H. ·15.
1. A 8. 21. † Uncertain fragment. An edge of drapery, with incised patterns. H. ·13. Found in the filling between Hellenistic piers on the N. flank. See pp. 27, 28.
1. A 15. 22. Uncertain fragment. ·12 × ·12.
1. A 11. 23. Uncertain fragment. ·11 × ·07.
1. A 17. 24. † Uncertain fragment. Traces of red. H. ·23.
1. A 5. 25. Uncertain fragment of a circular object. ·07 × ·19.
1. A 7. 26. † Uncertain fragment, with flutings (?). Below, a smooth bed with red colouring. H. ·14.
- Atlas
xvi. 9. 27. † Uncertain fragment. There appear to be indications of a flat bed at the back, and in that case the fragment could hardly belong to the columns. ·28 × ·29.
- Atlas
xvi. 20. 28. † The muzzle of a horse, wearing a headstall, with a central disk. Sufficient traces of the background remain to show that the head turned to r. Much red paint. H. ·23.
- Atlas
xvi. 2. 29. † Uncertain fragment. This appears to be a part of the neck of a horse, turned three-quarters to l. The mane is indicated by leaving the rough tooling of the marble. A part of the right side is also shown. A worked bed is covered with red. H. ·15.
1. A 14. 30. † Fragment of the lower moulding of a sculptured drum (?). A maeander is painted in red. H. ·08. W. ·09.

1. B 1. 45. 31. Fragment of the lower moulding of a sculptured drum. On its upper surface, the outline of a left foot to left. Inscribed (retrograde) with the letters $\text{I}\Sigma\text{I}\text{N}\text{N}$. H. $\cdot 12$. W. $\cdot 33$. See *ante*, p. 144.

THE SCULPTURED PARAPET.

The sculptured parapet must be supposed to have extended along the two sides of the temple, which would give a length of 210 metres. According to Mr. Henderson's restoration (Atlas XV.) it also extended along the two ends. For this latter extension evidence is wanting, but if it is accepted, the additional length, allowing for the rake of the pediments, would be about 120 metres. In that case we have a total length of 330 metres, and a superficial area of sculptured surface of nearly 290 square metres. The combined area of the extant fragments is less than 3 square metres. It therefore follows

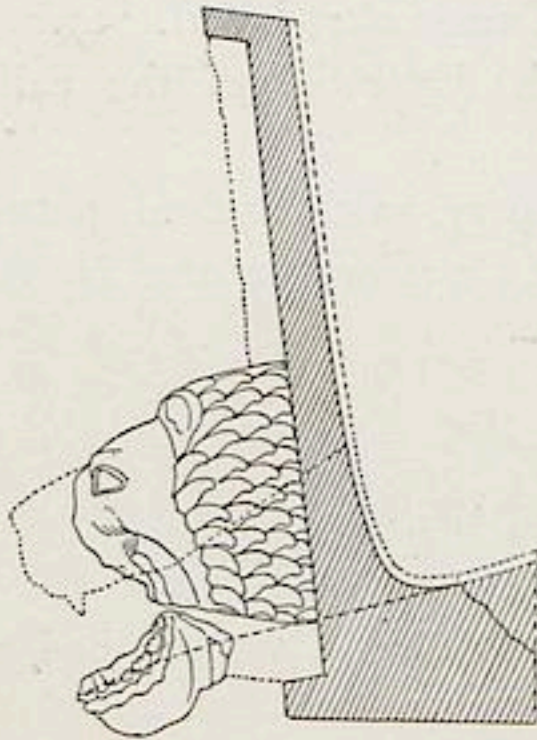


Fig. 85.—Section of the Parapet. Scale 1:15.

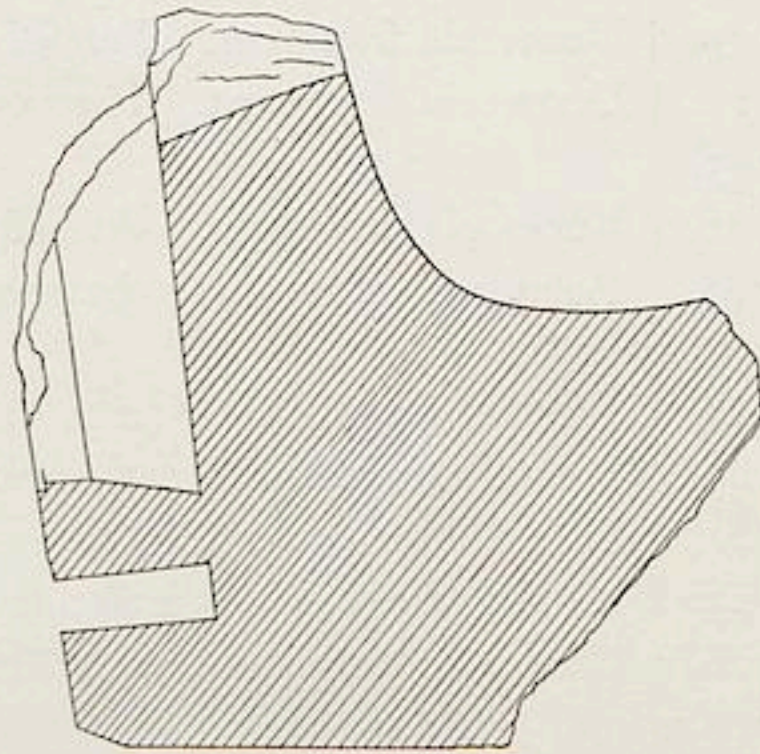


Fig. 86.—Section of fragment 47, no. 32. Scale, 1:4.

that only 1 per cent. of the original work remains, and it is not unnatural that no joins should present themselves among the fragments.

The form of the parapet as restored is based on the indications of comparatively small fragments, but the evidence is unmistakable as to the form of the whole structure. The sculptured parapet served to mask a spacious rain-water gutter, whose contents were delivered at frequent intervals through lion-head gargoyles. Raised divisions along the joints at the back distributed the flow of the water, and prevented any considerable body of it from collecting over the joints. The height of the cornice was $\cdot 88$. The intervals between the lions' heads were occupied with the reliefs. It is

impossible to determine the subjects, or to reconstruct the groups with any certainty, in view of their fragmentary condition. An attempted restoration of a combat between a Lapith and a Centaur is exhibited (fig. 87). The other subjects include chariots and horses; scenes of combat; seated figures; a figure of Athene wearing an aegis; and a winged figure.

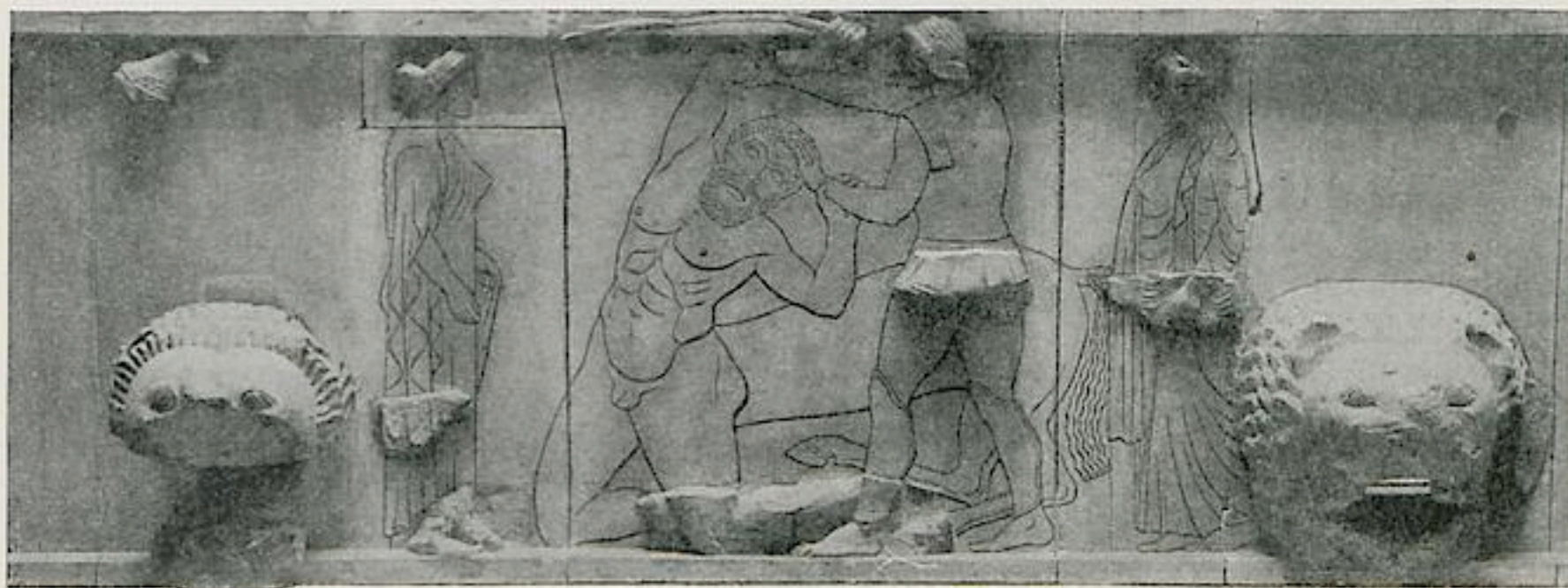


Fig. 87.—Restored group of the Sculptured Parapet.

The frieze, when complete, was an elaborate example of the Ionian school of Asia Minor. It is marked by precise definition of the relief, and by minute study of details. In many respects, as to composition and treatment of detail, its nearest parallel is the frieze of the Treasury of the Knidians at Delphi. It has the same kind of subjects, and similarities of treatment. There are, however, inequalities of style in the Ephesus frieze, and its earliest portions are those which are most closely parallel to the Knidian frieze. The horses wearing broad collars (Atlas XVIII. 58) may be compared with those of the Knidian Treasury (Hornolle, *Fouilles de Delphes*, iv., pls. 9-10), but the Ephesian horse's mane (Atlas XVIII. 48) is naturalistic in treatment, when compared with the convention of the Knidian, *ibid.* The drapery, which in some cases is treated with considerable freedom, is also in advance of the conventional series of folds of the Knidian frieze. On the whole, the parapet frieze is also in advance of the sculptures of the columns, but this fact is to be expected if the temple was long in construction, as the parapet would naturally be among the latest parts of the building. In part, also, the greater refinement and delicacy of the parapet sculptures may be due to their smaller scale, and the nature of the compositions, which are surprisingly elaborate, considering the position they occupied.

The following fragments (of which nos. 11 and 13-16 are outside the

portion shown in Fig. 87) are incorporated in the restored length of the parapet:—

Atlas
xvii. 33. 46. 1. Fragment with the forelegs, which are human, and part of the hindlegs of a kneeling Centaur. In front the greaved left leg of a Lapith. The lower margin is preserved. H. ·16. W. ·48. *Journ. of Hellen. Studies*, x., pl. 4, fig. 6.

Atlas
xvii. 4. 2. Right hand with branch, from top of parapet, presumed to be the hand of a Centaur. H. ·9. W. ·14.

Atlas
xvii. 3. 3. Part of branch, from top of parapet. H. ·7. W. ·21.

Atlas
xvii. 8. 4. Back of head of a youth, here restored as a Lapith, to left, with part of top moulding of parapet. Close waving hair. Indications of a cuirass. H. ·11. W. ·15.

Atlas
xvii. 20. 5. Lower part of cuirass of the presumed Lapith. H. ·7. W. ·21.
Two female figures are placed as spectators on each side of the combat. On the left the fragments are:—

Atlas
xvii. 7. 6. Part of a female head, turned to the right, and wearing a taenia. H. ·12. W. ·12.

Atlas
xvii. 25. 7. Part of drapery of standing female figure. H. ·9. W. ·15.

Atlas
xvii. 32. 8. Feet of standing female figure, wearing shoes, with slightly turned-up toes, and three bands across each shoe. Part of the lower margin, strongly coloured red, is preserved. H. ·15. W. ·19.

The fragments of the figure on the right of the group are:—

Atlas
xvii. 13. 9. Upper part of female head to the left, wearing a diadem. H. ·7. W. ·13.

Atlas
xvii. 23. 10. Part of middle of female figure, standing to the left, wearing chiton and himation. The left hand by the side. H. ·9. W. ·22.

The following fragments have also been inserted in the restored cornice.

Atlas
xvii. 5. 11. Head of youth, to the left, with short hair. H. ·7. W. ·18. *Journ. of Hellen. Studies*, x., pl. 4, fig. 1.

Atlas
xvii. 6. 12. Upper part of female head, to the left. The chief mass of the hair is confined by a peaked cap, the ends passing out through the top. A part of the hair terminates in short curls round the forehead, and part falls down in front of the ears. A laurel wreath surrounds the cap. Delicately and tenderly carved. H. ·10. W. ·16. *Journ. of Hellen. Studies*, x., pl. 4, fig. 2.

Atlas
xvii. 31. 13. Right foot and part of skirt of female figure, striding to the right. The lower margin is preserved, with joint on left, and water division. H. ·23. W. ·19.

Atlas
xvii. 28. 46. 14. Right foot of a figure standing, to the left. Lower margin, coloured red. H. ·8. W. 11.

Atlas
xvii. 15. 15. Part of the back of the head and the shoulders of a figure standing with his back turned to the front, and head turned to the left. He wears a chiton, and the hair falls in curls on his shoulders. H. ·13. W. ·13. *Journ. of Hellen. Studies*, x., pl. 4, fig. 3.

Atlas
xvii. 30. 16. Fragment containing the right leg of a figure standing with back turned to the front, perhaps a part of the figure described in the last number. The right leg is also seen of another figure, moving to left, and wearing a red greave. This fragment also contains the right thigh of a figure kneeling to the front. On the right is the joint, with water division. H. ·26. W. ·35.

The restored part of the cornice also contains:—

ii. B. 17. Lion's head. The front and lower parts of the face are wanting. A lower jaw (coloured red inside) has been placed in position. H. ·25. W. ·36.

ii. A. 18. Lion's head. The front of the upper jaw is wanting. Red paint in the ears and the mouth. On the right, indications of the parapet reliefs. H. ·46. W. ·48.

The following fragments from the cornice are not inserted in the restoration.

Atlas
xvii. 19. 47. 1. Parts of head and breast of figure to right, with helmet, tunic, and cuirass? Long hair falls over the shoulder. H. ·18. W. ·19. *Journ. of Hellen. Studies*, x., pl. 4, fig. 5.

Atlas
xviii. 4. 2. Part of helmet, and top end of cornice; also the fingers of the right hand of the figure, probably raised to throw a spear. (Cf. no. 47, 57.) H. ·07. W. ·15.

Atlas
xviii. 6. 3. Right shoulder, covered with shoulder plates. A few folds of drapery are seen beneath the plate. H. ·1. W. ·16.

Atlas
xviii. 9. 4. Left thigh, bent at knee; a corner of drapery falls on the thigh; wears greave, of which but little remains. H. ·15. W. ·17.

Atlas
xviii. 20. 5. Right knee of figure striding to right; behind, the leg, wearing a greave, of a fallen warrior? H. ·115. W. ·16.

Atlas
xviii. 61. 6. Knees of a prostrate warrior, wearing greaves, trodden down by a horse's hoof. H. ·10. W. ·17.

Atlas
xviii. 21. 7. Knee wearing greave, slightly bent. H. ·10. W. ·12.

Atlas
xviii. 50. 8. Left knee, partly covered with drapery. Incised lines to mark the border. H. ·07. W. ·10.

Atlas
xviii. 11. 9. Upper part of helmeted head to left, wearing a Corinthian helmet, thrown back on the head. H. ·10. W. ·14.

- Atlas
xvii. 2. 47. 10. Upper part of helmet, with projecting horn, and remains of a turned-up cheek piece. H. .06. W. .14.
- Atlas
xviii. 15. 11. Back of neck and lower part of helmet. H. .06. W. .12.
[12. Unidentified.]
- Atlas
xviii. 42. 13. Right forearm of a figure lying prostrate, with head to the left, and with the arm bent at the elbow. Indications of the lower moulding. H. .18. W. .19.
- Atlas
xviii. 7. 14. Right leg, wearing greave, of a figure striding to the left. On right, joint, and water ridge. H. .13. W. .25.
- Atlas
xviii. 10. 15. Right arm, extended, from middle of biceps to near wrist. A straight line of attachment crosses the arm. It cannot be the handle of a shield, for this is not the shield arm, and no shield is indicated, nor does it suggest the form of a spear or other weapon. H. .14. W. .18.
- Atlas
xviii. 3. 16. Shoulders and upper part of back of a figure wearing a sleeveless chiton. The head was turned to the left; the figure has the back to the front. H. .12. W. .19.
- Atlas
xviii. 13. 17. Shoulders and upper part of back of a figure wearing a chiton across the right shoulder only. The right arm was extended. H. .07. W. .21.
- Atlas
xviii. 73. 18. Lower moulding of cornice, with the right foot and lower edge of the drapery of a female figure striding to the right. Joint on left. H. .20. W. .40.
- Atlas
xviii. 54. 19. Lower moulding of cornice with the left foot of a figure moving to the right, together with a heel and some of the drapery of a second figure. The lower moulding is strongly coloured red. H. .12. W. .19.
- Atlas
xviii. 1. 20. Part of the right arm, extended. A short sleeve reaches to the elbow, coming from beneath a shoulder plate. A spear (?), which must have been held in the left hand, crosses the shoulder. H. .095. W. .18.
[21. Unidentified.]
- Atlas
xviii. 31. 22. Left hand, beside the thigh, holding up a fold of the skirt. On the fold a painted maeander pattern. H. .08. W. .25.
- Atlas
xviii. 29. 23. Fragment of a draped figure, containing the legs between the knees and the ankles. H. .10. W. .11.
- Atlas
xviii. 57. 24. Left knee and part of the left thigh of a figure stepping to the right into a chariot. The figure wore a short chiton, probably under a cuirass, and greaves. Part of the inside of the chariot is painted red. Joint on right and water ridge at back. H. .12. W. .24.
- Atlas
xvii. 24. 25. Fragment containing the hips of a male figure, stepping to the left into a chariot, of which the rail only is preserved. The figure wears a chiton beneath

a cuirass, and perhaps holds a spear. Joint on right, and water ridge at back.
H. ·11. W. ·20.

Atlas
xviii. 14. 47. 26. Right hand closed and holding a rein? The lie of the strata shows that the hand is not making a spear thrust above the shoulder.
H. ·06. W. ·14.

Atlas
xviii. 55. 27. Right arm of a youthful nude figure, holding the reins of a bridled horse standing to the left, whose head is half turned to the front. H. ·17.
W. ·32. *Journ. of Hellen. Studies*, x., pl. 4, fig. 4.

Atlas
xviii. 48. 28. Part of a horse's head to the left, with ear and mane, and forelock. On the left, part of the mane of a second horse. H. ·10. W. ·20.

Atlas
xvii. 21. 29. Back of a horse to the left, with a narrow thong worked in low relief tied about it. H. ·11. W. ·18.

Atlas
xviii. 72. 30. Part of the hind legs and hoofs of a horse to the left, and part of the ground line. H. ·19. W. ·16.

Atlas
xviii. 64. 31. Two hoofs, side by side, as of the horses in a biga, to l. H. ·10.
W. ·11.

Atlas
xviii. 71. 32. Part of lower moulding of cornice, and of wheel of chariot to left. On the left, remains of the contact of a horse's hind leg. The tail falls by the chariot wheel. The moulding and the wheel are painted red, and the ground of the relief bright blue. The gutter at the back is well preserved. See fig. 86.
H. ·26. W. ·445.

Atlas
xviii. 63. 33. Part of a chariot wheel, and of the body of a chariot, painted red.
H. ·16. W. ·20.

Atlas
xviii. 49. 33A. Part of the hind quarters of a horse standing; joint on right. H. ·09.
W. ·13. Inverted in the plate.

Atlas
xviii. 19. 34. Left hand grasping the leg of a horse, or a Centaur? The ground is blue and red. Joint and water ridge on left. H. ·10. W. ·18.

Atlas
xviii. 51. 35. Fragment of a horse's tail, and part of the body of a chariot (?).
H. ·08. W. ·12.

FIGURE OF ATHENE.

The following fragments appear to belong to a figure of Athene, to the left:—

Atlas
xvii. 10. 36. Neck and chin of Athene to the left. She has a large circular earring with a central stud, and an aegis. Parts of four erect snakes remain. Hair falls down the neck. H. ·08. W. ·22.

Atlas
xvii. 14. 37. Fragment with portions of three snakes. H. ·04. W. ·12.

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- Atlas
xvii. 16. 47. 38. Left hand of the figure of Athene, which seems to be holding a large fold of the skirt somewhat behind her. Two snakes of the aegis are seen; and, apparently, part of a pendent wing. H. .08. W. .24.

FRAGMENTS OF WINGED FIGURES.

- Atlas
xvii. 12;
xviii. 33. 39. Fragment with extremities of hair, and the beginning of a large wing, curving upwards. On the left, indications of drapery. H. .09. W. .12.
- Atlas
xviii. 47. 40. Fragment, apparently of the same wing as No. 39. H. .09. W. .15.
- Atlas
xvii. 11. 40A. † Right arm of winged figure with a looped and studded sleeve, and the feathers of a large wing, spreading from the shoulders. Indications of elaborate maeander pattern on the drapery. H. .13. W. .29.
- Atlas
xviii. 56. 41. Fragment of draped thighs of a figure half kneeling to the left, with the right leg foremost. This might well be part of a winged kneeling figure. H. .08. W. .17.
- Atlas
xviii. 59. 42. Fragment, perhaps from the same figure as the last. H. .06. W. .13.
- Atlas
xvii. 17;
xviii. 39. 43. Fragment of a winged, long-haired figure? The hair falls in a mass on the tip of a wing. H. .19.
- Atlas
xviii. 62. 44. Fragment of a "Harpy" (?) with a large bird's leg protruding from fine drapery; behind, a part of a wing. Compare the winged figures on the Harpy tomb. Joint on the left. H. .19. W. .25.

MISCELLANEA.

- Atlas
xviii. 70. 45. Fragment, with the legs of a horse from the hough to the pastern, turned to r. The bottom bed, and profile of gutter, are well preserved. H. .175. W. .37.
- Atlas
xviii. 68. 46. Fragment of the lower moulding, and two legs of an ox to the right. H. .19. W. .33.
- Atlas
xviii. 36. 47. Part of the leg of a chair. Joint on r. The line of the guttering at back shows that .01 m. is wanting to the bottom bed. Traces of blue paint. H. .15. W. .11.
- Atlas
xviii. 35. 48. Part of the same leg of a chair as No. 47. It nearly joins it, carrying on the curve of the guttering, and of the water ridge. Traces of blue paint. H. .14.
- Atlas
xviii. 26. 49. Part of the leg and seat of a chair. H. .13. W. .17. Inverted in the plate.
- Atlas
xviii. 34. 50. Part of the front leg of a chair, coloured red. H. .05.

47. [51. Cf. no. 45, 18.]

[52-55. See p. 309.]

- Atlas xvii. 9. 56. † Grotesque bearded head, between forehead and mouth. The head is thrust forwards, as if that of a Centaur in combat. H. .085. W. .17.
- Atlas xvii. 1. 57. † Fragment of which the upper bed is well preserved. A male figure in helmet with a large plume, is vigorously thrusting with a spear, held in his raised right hand. H. .10. W. .25.
- Atlas xviii. 5. 58. † Fragment, with part of a circular shield, and the ends of tresses of hair, falling on a male shoulder (?) Found in the disturbed area S.E. of the Basis. See p. 46. H. .065. W. .14.
- Atlas xvii. 22. 59. † Male figure, from neck to waist, wearing a sleeveless chiton girt at the waist, and a sheathed sword slung by a belt from the right shoulder. Both arms are raised. Found in the denuded belt in the axis of the Primitive area just to W. of Basis. (See p. 41.) H. .16. W. .19.
- Atlas xviii. 17. 60. † Parts of two figures. The curve of the gutter at the back shows that the bottom of this fragment is .05 from the lower bed. It seems to represent the rump of a prostrate figure, wearing a short chiton and the right arm of a figure bending over, in a scene of combat. On the right, the joint and water ridge. H. .17. W. .22.
- Atlas xviii. 30. 61. Male right (?) leg, from the knee to the ankle, of a figure standing to the right, and wearing a greave. H. .12. W. .09.
- Atlas xviii. 65. 62. Fragment of a draped shoulder (?) H. .085. W. .20.
- Atlas xvii. 27. 63. Left elbow, and part of the left breast of a figure, apparently recumbent. H. .06. W. .15.
- Atlas xviii. 25. 64. † Shoulders of a figure seated to r., wearing sleeved chiton and himation. H. .13.
- Atlas xviii. 18. 65. Uncertain fragment, much corroded. Probably part of the right shoulder of a figure to the front. H. .08. W. .10.
- Atlas xviii. 22. 66. † Shoulder of a draped figure to r., wearing a sleeveless tunic. The curve of the shoulders suggests that the figure was seated. H. .16. W. .12.
- Atlas xviii. 69. 67. † Fragment, with the lower moulding, and the right foot, from the great toe to near the heel of a figure to r. The foot is violently bent at the toe-joint. Behind it indications of an architectural object, such as a stele. Considerable traces of red paint. Joint on the left. H. .20. W. .30.
- Atlas xviii. 16. 68. The draped thighs of a female figure, standing to l., and richly draped in chiton and mantle. The folds of the chiton are drawn away to the back, as if held in the left hand. H. .10. W. .25.

- Atlas
xviii. 60. 47. 69. Fragment with buttocks of a figure to l., with drapery falling in front. Joint and water ridge on left. H. ·13. W. ·19.
- Atlas
xviii. 66. 70. Fragment with buttocks of a figure to l., with drapery falling in front. H. ·11. W. ·17.
- Atlas
xviii. 27. 71. Fragment of thigh (?) H. ·13.
- Atlas
xviii. 37. 72. † Doubtful fragment. ·08 × ·09.
- Atlas
xviii. 53. 73. Finely worked hanging folds of drapery, of a figure standing to l. H. ·09. W. ·15.
- Atlas
xviii. 41. 74. Hanging folds of drapery. Joint at right, and water ridge at back. H. ·05. W. ·16.
- Atlas
xviii. 45. 75. † Fragment of drapery. H. ·05. W. ·10.
- Atlas
xviii. 40. 76. Folds of hanging drapery. H. ·08. W. ·12.
- Atlas
xviii. 32. 77. Fine folds of drapery. H. ·06. W. ·09.
- Atlas
xviii. 52. 78. Folds of drapery. H. ·07. W. ·10.
- Atlas
xviii. 46. 79. Uncertain fragment, with hanging folds of drapery, and a part of the nude body, perhaps part of thigh (inverted in plate). H. ·07. W. ·17.
- Atlas
xviii. 38. 80. Tresses of hair? H. ·03. W. ·09.
- Atlas
xviii. 8. 81. A right hand, with fist clenched, in contact with some inanimate object—such as a couch—which cannot be determined. H. ·17. W. ·08.
- Atlas
xviii. 28. 82. Uncertain fragment. H. ·075. W. ·16. A part of the curve of the gutter, preserved at the back, shows that the fragment is inverted in the plate.
- Atlas
xviii. 43. 83. Unintelligible fragment. H. ·08. W. ·15.
- Atlas
xviii. 44. 84. Unintelligible fragment. H. ·09. W. ·13.
- Atlas
xviii. 58. 85. Forehands of two horses, advancing to r., and wearing broad collars. H. ·22.
- Atlas
xviii. 67. 86. † Hind quarters of horse to l., standing still. Joint and water ridges on right. Found deeply embedded between fragments of Croesus pavement near the N.E. column-base. H. ·22. W. ·21.
- Atlas
xviii. 12. 87. Fragment of an uncertain object, perhaps the front of a chariot. H. ·095. W. ·14.
- Atlas
xviii. 2. 88. Uncertain fragment. Perhaps a part of the device of a thunderbolt on a shield. H. ·07. W. ·14.
- Atlas
xviii. 23. 89. Fragment of the edge of a cuirass. H. ·05. W. ·09.
- Atlas
xviii. 24. 90. † Fragment with the mane of a lion, and the wrinkles round the mouth. H. ·09. W. ·18.

- Atlas
xvii. 18. 47. 91. Breast of a figure wearing a cuirass (?). A cord passes across
the breast. H. .10. W. .21.
- Atlas
xvii. 26. 92. Left upper arm, with biceps. .12 × .7.
- Atlas
xvii. 29. 93. Uncertain fragment—Hough joint? H. .08. W. .16.

LIONS' HEADS.

Two of the lions' heads are incorporated in the parapet. See above, nos. 46, 17 and 18. In addition, several fragments remain, which are shown on pl. li.

- li. 8. 47. 52. Fragment of mane, from the side of the head. Greatest length, .37.



Fig. 88.

53. Lion's head from the parapet (?). The mouth is closed. The lower part is wanting. The style appears to agree with that of the other lions, but the closed mouth makes the position of the lion uncertain. (Fig. 88.)
- li. 9. 54. Upper part of lion's head, with mane and forehead. Much red paint on the mane. W. .44.
- li. 3. 55. Right side of lion's head, with eye, ear, and part of mane, and upper jaw. The inside of the mouth is worked for the gargoyle aperture. L. .33.
- [56-93. See above, p. 307.]

- ii. 2. 94. † Muzzle of lion. W. ·175.
- ii. 4. 95. Muzzle of lion, showing front teeth and gargoyle aperture. W. ·19.
Three pieces have been joined together.
- ii. 5. 96. Part of side of lion's mane. H. ·27.
- ii. 6. **47.** 97. Muzzle of lion, showing the canine teeth, and the working of the mouth for the gargoyle aperture. W. ·20.
- ii. 7. 98. Lower jaw of lion, worked for gargoyle spout. Much red paint in the mouth. L. ·20.
- ii. 1. 99. Fragment of mane from the side of a lion's head. H. ·43.
- ii. 10. 100. Upper part of lion's head, with the mane, ear, and the middle of the forehead. W. ·39.
- ii. 11. 101. Part of left side of lion's head with left ear, and mane. H. ·28.
- ii. 12. 102. Upper part of lion's head, with part of ground of parapet. The gargoyle aperture remains at the back. W. ·44.

UNCERTAIN FRAGMENTS.

The following fragments, which were found in the excavations of Mr. Wood, appear to be of the same period as the Croesus temple. But the great scale and peculiar forms make it doubtful whether they can have formed any part of the architectural decoration of the building.

1. B 5. **48.** 1. Fragment of the head of an ox, projecting from a background, in high relief. The head is seen in three-quarter face to the left, shaggy locks of hair falling down the forehead. H. ·32.
1. B 3. 2. Fragment of the head of an ox, including the forehead and eyes. The point of shaggy hair of the forehead is conventionally indicated. H. ·17.
1. B 4. 3. Fragment with part of the flank of an ox(?) springing from a flat, rectangular base. Two intertwined objects in relief, which have been interpreted as horns, but do not seem appropriate to that purpose, may be the plaited end of a bull's tail. The animal would seem to have been part of an architectural member, such as the bull's-head capital from Salamis (*Brit. Mus. Catalogue of Sculpture*, no. 1510). The flat surface below is not worked as a bed, and must have been overhanging. H. ·37. W. ·45.
1. B 6. 4. Hoof and leg of an ox. This seems too large for the temple. H. ·26.
1. B 2. 5. Left elbow and forearm of a figure of large scale. Vertical folds of drapery behind the forearm. H. ·28.

KEY TO THE PLATES OF SCULPTURE FRAGMENTS.

| | | | | | |
|----------------------------|-------|----------------------------|-------|-----------------------------|-------|
| Plate I., A No. 1 .. 45.17 | Text. | Plate I., A No. 10 .. 45.9 | Text. | Plate I., A No. 19 .. 45.19 | Text. |
| " " 2 .. 45.7 | | " " 11 .. 45.23 | | " " 20 .. 45.20 | |
| " " 3 .. 45.3 | | " " 12 .. 45.16 | | Plate I., B No. 1 .. 45.31 | |
| " " 4 .. 43 | | " " 13 .. 45.6 | | " " 2 .. 48.5 | |
| " " 5 .. 45.25 | | " " 14 .. 45.30 | | " " 3 .. 48.2 | |
| " " 6 .. 44 | | " " 15 .. 45.22 | | " " 4 .. 48.3 | |
| " " 7 .. 45.26 | | " " 16 .. 45.8 | | " " 5 .. 48.1 | |
| " " 8 .. 45.21 | | " " 17 .. 45.24 | | " " 6 .. 48.4 | |
| " " 9 .. 45.13 | | " " 18 .. 45.10 | | | |
| Plate II., No. 1 .. 47.99 | Text. | Plate II., No. 6 .. 47.97 | Text. | Plate II., No. 11 .. 47.101 | Text. |
| " " 2 .. 47.94 | | " " 7 .. 47.98 | | " " 12 .. 47.102 | |
| " " 3 .. 47.55 | | " " 8 .. 47.52 | | " " A .. 46.18 | |
| " " 4 .. 47.95 | | " " 9 .. 47.54 | | " " B .. 46.17 | |
| " " 5 .. 47.96 | | " " 10 .. 47.100 | | | |
| Atlas XVI. 1 .. 29 | Text. | Atlas XVI. 10 .. 40 | Text. | Atlas XVI. 19 .. 45.12 | Text. |
| " 2 .. 45.29 | | " 11 .. 45.2 | | " 20 .. 45.28 | |
| " 3 .. 37 | | " 12 .. 41 | | " 21 .. 45.5 | |
| " 4 .. 39 | | " 13 .. 45.1 | | " 22 .. 30 | |
| " 5 .. 36 | | " 14 .. 32 | | " 23 .. 45.14 | |
| " 6 .. 33 | | " 15 .. 45.18 | | " 24 .. 45.15 | |
| " 7 .. 34 | | " 16 .. 42 | | " 25 .. 45.4 | |
| " 8 .. 38 | | " 17 .. 35 | | " 26 .. 31 | |
| " 9 .. 45.27 | | " 18 .. 45.11 | | | |
| Atlas XVII. 1 .. 47.57 | Text. | Atlas XVII. 12 .. 47.39 | Text. | Atlas XVII. 23 .. 46.10 | Text. |
| " 2 .. 47.10 | | " 13 .. 46.9 | | " 24 .. 47.25 | |
| " 3 .. 46.3 | | " 14 .. 47.37 | | " 25 .. 46.7 | |
| " 4 .. 46.2 | | " 15 .. 46.15 | | " 26 .. 47.92 | |
| " 5 .. 46.11 | | " 16 .. 47.38 | | " 27 .. 47.63 | |
| " 6 .. 46.12 | | " 17 .. 47.43 | | " 28 .. 46.14 | |
| " 7 .. 46.6 | | " 18 .. 47.91 | | " 29 .. 47.93 | |
| " 8 .. 46.4 | | " 19 .. 47.1 | | " 30 .. 46.16 | |
| " 9 .. 47.56 | | " 20 .. 46.5 | | " 31 .. 46.13 | |
| " 10 .. 47.36 | | " 21 .. 47.29 | | " 32 .. 46.8 | |
| " 11 .. 47.40A | | " 22 .. 47.59 | | " 33 .. 46.1 | |
| Atlas XVIII. 1 .. 47.20 | Text. | Atlas XVIII. 10 .. 47.15 | Text. | Atlas XVIII. 19 .. 47.34 | Text. |
| " 2 .. 47.88 | | " 11 .. 47.9 | | " 20 .. 47.5 | |
| " 3 .. 47.16 | | " 12 .. 47.87 | | " 21 .. 47.7 | |
| " 4 .. 47.2 | | " 13 .. 47.17 | | " 22 .. 47.66 | |
| " 5 .. 47.58 | | " 14 .. 47.26 | | " 23 .. 47.89 | |
| " 6 .. 47.3 | | " 15 .. 47.11 | | " 24 .. 47.90 | |
| " 7 .. 47.14 | | " 16 .. 47.68 | | " 25 .. 47.64 | |
| " 8 .. 47.81 | | " 17 .. 47.60 | | " 26 .. 47.49 | |
| " 9 .. 47.4 | | " 18 .. 47.65 | | " 27 .. 47.71 | |

KEY TO THE PLATES OF SCULPTURE FRAGMENTS—*continued.*

| | Text. | | Text. | | Text. |
|-----------------|----------|-----------------|-----------------------|-----------------|----------|
| Atlas XVIII. 28 | .. 47.82 | Atlas XVIII. 44 | .. 47.84 | Atlas XVIII. 59 | .. 47.42 |
| " 29 | .. 47.23 | " 45 | .. 47.75 | " 60 | .. 47.69 |
| " 30 | .. 47.61 | " 46 | .. 47.79 | " 61 | .. 47.6 |
| " 31 | .. 47.22 | " 47 | .. 47.40 | " 62 | .. 47.44 |
| " 32 | .. 47.77 | " 48 | .. 47.28 | " 63 | .. 47.33 |
| " 33 | .. 47.39 | " 49 | .. 47.33 ^A | " 64 | .. 47.31 |
| " 34 | .. 47.50 | " 50 | .. 47.8 | " 65 | .. 47.62 |
| " 35 | .. 47.48 | " 51 | .. 47.35 | " 66 | .. 47.70 |
| " 36 | .. 47.47 | " 52 | .. 47.78 | " 67 | .. 47.86 |
| " 37 | .. 47.72 | " 53 | .. 47.73 | " 68 | .. 47.46 |
| " 38 | .. 47.80 | " 54 | .. 47.19 | " 69 | .. 47.67 |
| " 39 | .. 47.43 | " 55 | .. 47.27 | " 70 | .. 47.45 |
| " 40 | .. 47.76 | " 56 | .. 47.41 | " 71 | .. 47.32 |
| " 41 | .. 47.74 | " 57 | .. 47.24 | " 72 | .. 47.30 |
| " 42 | .. 47.13 | " 58 | .. 47.85 | " 73 | .. 47.18 |
| " 43 | .. 47.83 | | | | |

CHAPTER XVII.

SMALL OBJECTS FROM THE CROESUS TEMPLE.

BY D. G. HOGARTH.

THE following objects were found in the rammed earth which filled the interstices between the Hellenistic piers, built inwards to support the steps and external columns of the latest temple (*E*). Since this earth cannot have been rammed in at a later date than the construction of the foundation of the Hellenistic Temple, the lowest chronological limit for the objects contained in it is 350 B.C., and there can be no doubt that they are débris of votive offerings, dedicated in the course of the two centuries during which the Croesus Temple existed.

A. TERRACOTTAS.

I. *Feminine Figurines*, all doubtless representations of the Goddess.

1. Draped and seated, without child. One specimen almost complete and the head of another (Fig. 89). Solid and modelled in the round. Hair curled over forehead, and gathered behind into a peaked hood. L. hand on the breast,



Fig. 89.

R. hand on knee. Feet broken. Back only roughly shaped. The throne is a plain, square stool without arms or back support. The whole surface is badly damaged by damp. H. .140. Early 5th century (?) (Fig. 90).

2. Draped and seated, with a nude child in the crook of the l. arm. R. hand holds the child's feet. Solid. Only the forepart is disengaged from the rudely-shaped lump which forms the back. The head missing. The throne is like that of No. 1, but with rounded forepart. Original H. about .13.

2 S

Condition rather better than No. 1, allowing folds of drapery and the nudity of the Goddess's forearms to be seen. 4th century (?) (Fig. 91).

3. Draped and seated, holding a child, as in No. 2. The figure is only partially disengaged from the oval lump whose edges form a rim, representing



Fig. 90.



Fig. 91.

perhaps the falling veil of the Goddess, and increasing the striking resemblance of these figurines to later representations of the Madonna and Child (Fig. 92).

Five specimens, of which none are complete below mid-thigh, the salience of the knees having caused the lower part, with the throne, to break away in all cases. Some specimens retain traces of a white *engobe*, on which

doubtless colour was applied. Probably early 4th century. The type belongs to a widespread class of *κουροτρόφοι*, ranging from the Isis figurines of Egypt through Phœnicia and Cyprus (cp. *Olympia* iv., pl. 52) to Greece. Sometimes the woman is nude (Heuzey, *Fig. ant. du Louvre*, 1883, pl. ii. 3), but more usually she is draped. These figures have not been



Fig. 92.

sufficiently clearly recognised as, in almost all cases, cult representations of the Nature-Goddess. For an early appearance in Asia Minor, see *Ilios Schliem.*, p. 615, no. 1448; and for Greek instances, see Claus, *De Dianae ant. Natura*, p. 74.

4. Mould of part of a larger draped and seated figure, with l. arm extended under the drapery. No child. Head, r. half of body, and legs

2 S 2

below knee wanting. When complete the figurine must have been about
 ·20 in height. Early 4th century.



Fig. 93.

5. Fragment (r. brow, eye, and cheek) of a large mask with hair curling
 on the temples. White *engobe*. Style of middle of 5th century (Fig. 93)



Fig. 94.



Fig. 95.

6. Head with veil falling from brow. Style of 5th century (Fig. 94).

7. Figurine with veil drawn over the face, and finger on lip. Poor work and much damaged. Upper part only (Fig. 95). Another head of same type was also found. The veiled type is common; cp. Heuzey, *Fig. ant. du Louvre*, 1883, pl. 27; *Ilios Schliem.*, p. 617, no. 1455.

II. Miscellaneous Figurines and Fragments.

1. Grotesque male torso, solid. Traces of black painted drapery. Hands on paunch. Pudenda probably indicated, as in another specimen more complete (see p. 321) (Fig. 96).

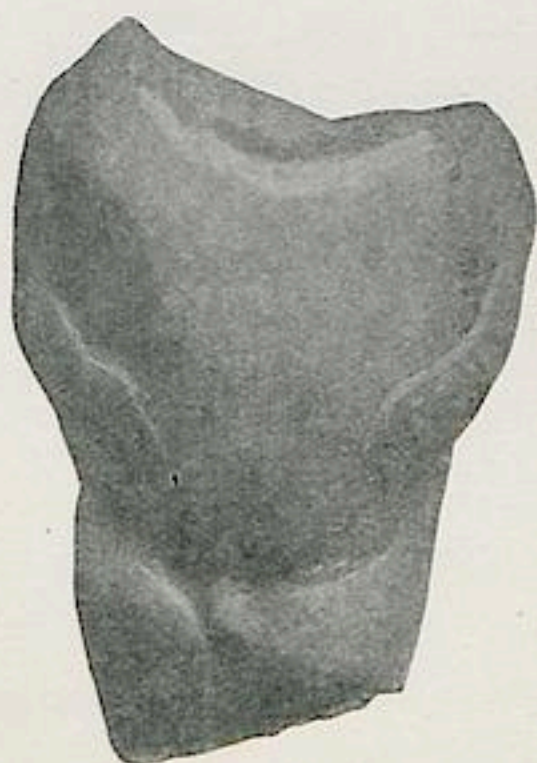


Fig. 96.



Fig. 98.

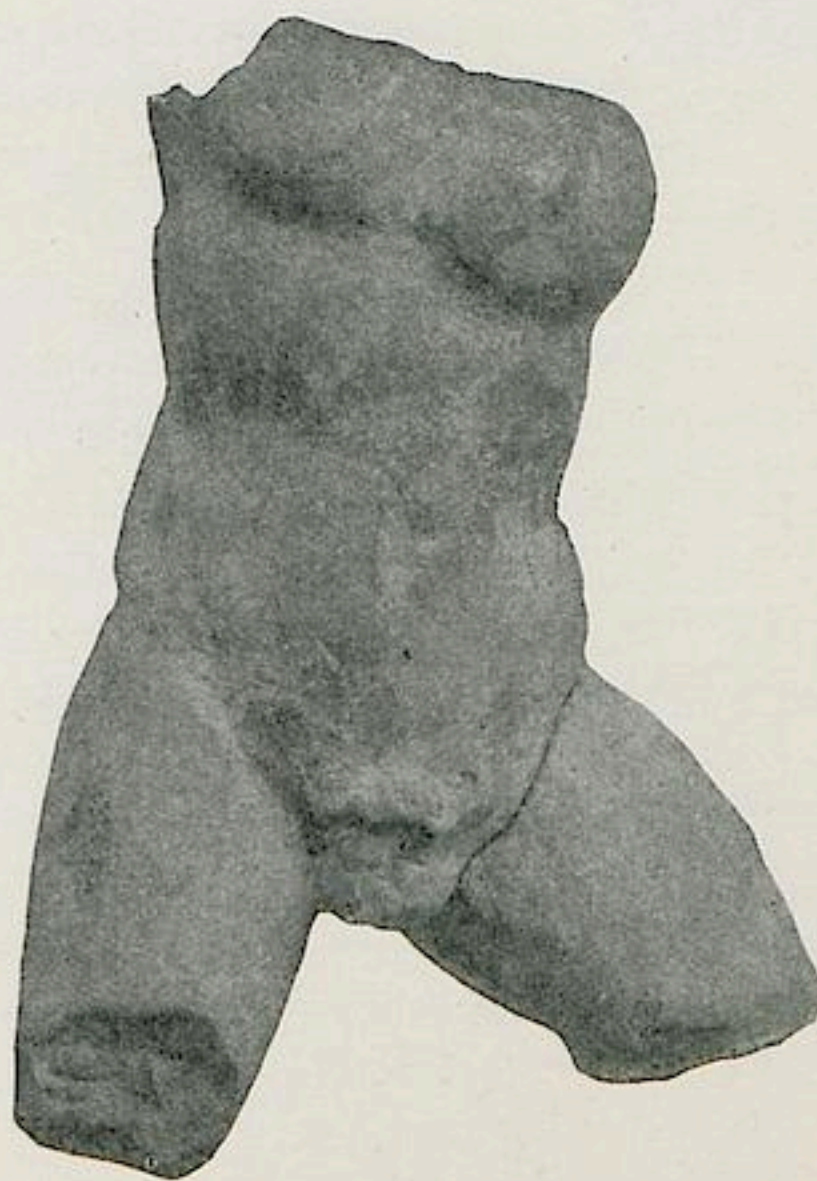


Fig. 97.

2. Torso of nude male in violent action; perhaps a Herakles. Solid (Fig. 97).

3. Head of child; perhaps Son of the Goddess (Fig. 98).

4. Hind part of Boar.

5. Hind leg of Bull.

6. Bird, apparently a dove, chipped at all extremities. Original length, back to tail, about .08. Also another fragment of a similar bird.

7. Two fragments of a larger bird; shoulders and one wing. The head was fitted separately into the socket seen in the part preserved. The bird, judged by the character of its wing, was a hawk.



Fig. 99.

8. Foot of a human figurine, painted in lustrous black.

9. Clenched hand of ditto, painted red over white engobe.

10. Ear, life-size and complete; evidently an *ex voto* (Fig. 99).

11. Grotesque male mask.

12. Bearded and painted miniature mask, probably from a vase-handle. Good early 5th century work.

13. Many fragments of statuettes, mostly draped, and probably Goddess types.

B. OTHER MATERIALS.

1. Three fragments of a large bowl in whitish-blue glass, with outcurving rim. Impressed lotus pattern covers the outside of the bowl. Fine fabric, worthy of the 5th century. The original diameter of the mouth was .167.

2. Earthenware:

(i) Many fragments of red-figured vases, and others in the same fabric, not figured. The only notable specimens are:—

(a) Two fragments of r. f. vase of large size, showing figure armed with helmet, sword, and shield, in act of striking.

(b) Two fragments of r. f. vase of inferior workmanship and later date, showing nude male recumbent.

(c) Fragments with engraved inscriptions, all bases of vases of r. f. technique.

(1) ΖΕΙΜΙΤΟΜΑΝ

..... ω εἶμι το(ῦ) Μα.....

(2) ΣΚΥΡΙ

(3) ΕΚΠΘΗ

(Probably numerals; a maker's or owner's mark.)

(4) ΕΚΟ

(5) Γ
ΕΛ

xlix. 6.

(d) ¹ Fragment (H. .033 m. × .049 m., 2 mm. thick) of a kylix (?) which has had a design painted on a smooth, brilliant white ground laid on the *int.*; the *ext.* is left in the natural reddish umber of the clay. The pottery is very fine and thin; the design is drawn in

¹ [The description of this fragment is by Mr. Cecil H. Smith.—D. G. H.]

brown (thinned black) lines of extreme delicacy, with a wash of purple for detail: the bird appears to have been indicated in a raised slip, or "barbotine," which has probably served as the medium for gilding.

The whole style so closely resembles that of the cups signed by Sotades (*Brit. Mus. Cat. of Vases*, D. 6 foll.) that we are probably justified in regarding this vase as by the same artist.

The subject is apparently a visit to the Delphic shrine. On the l. is the omphalos, indicated by a hemispherical space covered by the *agrenon*, on which the two eagles have been seated confronted; the eagle on the l. is entirely wanting; of the other, the hinder half, with the legs, is preserved. On the r. is the lower half of a figure wearing a long chiton and a purple himation, which stands facing the omphalos, with the r. foot slightly advanced. Along the lower edge of the chiton is a row of yellow dots in alternate folds, perhaps intended to suggest shadow. Possibly the composition was similar to that of the Sparta relief published by Wolters (*Ath. Mitth.* xii. pl. 12), and the omphalos was flanked on either side by figures of Apollo and Artemis.¹

This fragment of fine Attic ware is interesting to meet with here, because it resembles both in technique and style the work of Sotades; and we know already, from the discovery of a vase by this artist in the excavations of M. de Morgan at Susa², that the works of this artist were probably popular elsewhere in Asia. (Found at the E. end, probably in inter-pier filling, but exact spot not noticed at the time.)

(ii) Pawn or draughtsman, red and black. H. .028 D.; (at foot) .028.

(iii) "Loom-weights"; a large number, circular and oval, with hole or holes for suspension. Seven specimens are impressed on edges or sides with seal-stamps, all very indistinct (cp. *Ilios Schliem.*, p. 619. Nos. 1466-72); but the following types can be made out:—

Rhyton with horse or goat-head finial (or forepart of Pegasus?).

Draped Aphrodite seated to r., with Eros flying towards her.

Bearded Satyr seated to r., with head to l. (impression of a ring-bezel).

Cone on stem (or phallus?).

Symbol resembling Λ

Standing figure to l., dipping hands in a basin on pedestal.

Object, resembling curved sword-hilt or strigil.

One specimen, of pyramidal plummet-shape, has red slip, and is painted on the sides with white flowers or stars of seven dots, between lines.

¹ See Karo in Daremberg, *Dict.* s.v. *omphalos*.

² Pottier in *Comptes Rendus de l'Acad.*, 1903, p. 216.

It may be mentioned here that a circular "loom weight," found in a patch of rubbish, between blocks of *D* pavement immediately N.W. of the S.W. anta, not disturbed by Wood, but evidently (from the character of the vase fragments and terracottas it contained) of late Hellenistic or Roman date, bore a rude inscription. This, impressed while the clay was still soft, reads **MENOEOC**. If this legend is, as it appears to be, a rude inscription of the name of the Anatolian God, Men, it is not unreasonable to suggest that the disc on which it is inscribed was not a loom-weight at all, but a label or pendent seal attached to some offering or document. The same suggestion is prompted by the seal-stamps on the earlier specimens described above. It is hard to see why these discs and plummets, if really loom-weights, should have been so stamped; and hardly easier to see why they should occur in such large numbers on this and other temple sites. On the other hand, it must be admitted that the great majority of the specimens found here and elsewhere are not stamped, or indeed ornamented in any way. Nevertheless it may well be doubted whether this large class of objects, of almost universal occurrence on Greek sites of all periods, is satisfactorily explained as having only one purpose, that of weighting the threads on a loom.

(iv.) *Whorls in clay.*

Several specimens without marks or ornament.

A few other small objects found in the rubbish heaps upon the Croesus Temple pavement, or in disturbed earth filling holes in the same, are to be referred rather to the *D* than to the *E* stratum.

(i.) Fragment of draped erect *figurine* in hard limestone: head and feet missing. H. in actual state .12. Probably the Goddess. Found lying between blocks of *E*. foundation at the S.W. angle of the *cella*, and under a mass of late concrete (Fig. 101).

(ii.) *Lamps in stone.*

1. Three-wicked lamp in fine white marble, divided into three compartments. Central hole for support and three smaller holes round the circumference. D. (without projection) .181; H. .055. Flat base. No sign of being blackened by use. Found in a deep hole in S.E. part of the *cella*; filled with tumbled blocks of *D* walling and pavement (Fig. 100).

2. Fragment of ditto in steatite. Rather smaller than the foregoing,

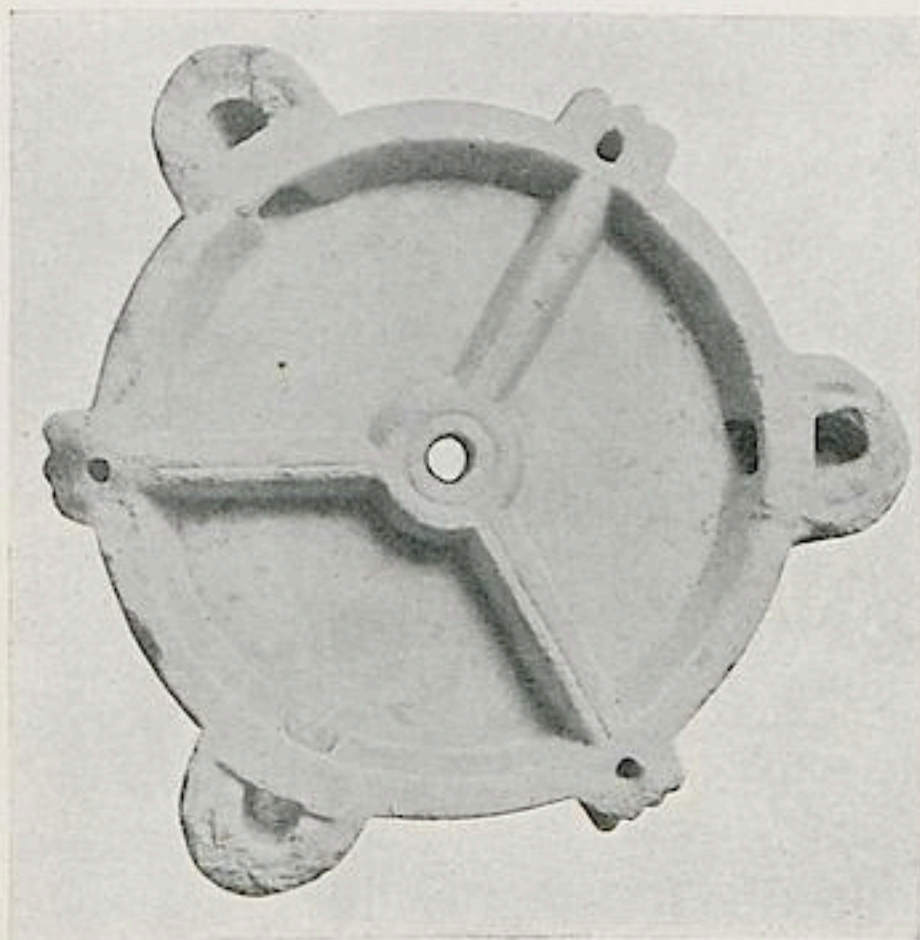


Fig. 100.



Fig. 101.

but of same type, and found near it in a similar hole. Chevron pattern round rim.

(iii.) *Lamps in earthenware.*

Several specimens of the "candle-stick" type mentioned on pp. 39, 41 were found within the Primitive area, but at a level incompatible with their reference to the Primitive strata (*e.g.*, in Wood's rubbish heaps). Others, however, indistinguishable in form and fabric, were found actually in the Primitive strata. (See p. 39.) The type, therefore, must be supposed to have had a long life, lasting from the 8th century to the end of the 6th or early part of the 5th century.

(iv.) *Terracottas.*

One specimen of the grotesque type described above (p. 317) was found between blocks of *D* paving in E. 8. It also is without head or legs, but shows

2 T

the *pudenda*. All sign of painted drapery has vanished, and the trunk appears as though nude.

The other terracottas found on the *D* pavement are manifestly relics of Temple *E*.

(v.) *Pottery*.

A very few fragments of painted ware, referable to the 6th, 5th or early 4th centuries, were recovered from rubbish heaps : but none of any importance.

(vi.) *Bronze*.

Helmet crest. Found in a gap between *D* pavement slabs.

CHAPTER XVIII.
THE GODDESS.

BY D. G. HOGARTH.

(PLATE LII.)

ONE important result of our re-examination of the Artemision has been to bring to light on the site itself a considerable number of representations of the Goddess in various materials and of several periods. Almost all these are of earlier date than the Ephesian representations hitherto known. Authority for the local personification has hitherto been, in the main, Ephesian and other coins upon which a certain type of cultus-figure begins to appear in the 2nd century B.C. The earliest representations are countermarks upon certain cistophori of Ephesus and Tralles, ascribed to a date not long before 133 B.C. (B.M.C. *Ionia*, p. 63, no. 144). Until the Empire this numismatic type remained rare; but thenceforward it occurred very frequently on the coinage of Ephesus and other Asian cities, and is usually regarded as representing the "multimammia" personification referred to by early Christian writers,¹ and preserved to us by plastic art of the Roman period, *e.g.* by a well-known alabaster figure at Naples.² In these representations the Goddess stands stiff, with high *modius* on her head, and feet placed close together. She is swathed from waist to ankles in mummy-like wrappings, which are sometimes decorated with figure-scenes, and sometimes present a scaly appearance. The whole front of the figure from throat to waist is covered with pendent dugs, and the arms are extended from the elbow. Behind the head is a sort of nimbus. In coin representations two lines usually fall from the hands, sometimes converging towards the feet of the figure (Pl. lii., nos. 1, 2, 3), or, in some representations, *e.g.* at Colophon (B.M.C. *Ionia*, p. 43, no. 53), ending below in finials of very enigmatic nature. Sometimes also, but rarely, stags appear in heraldic opposition on either side, not grasped or touched by the figure's hands. The lower part of this figure is commonly

¹ *e.g.*, Jerome, *Comm. in epist. Pauli ad Ephes.* xxvi, 441; M. Minucius Felix, *Octav.* 225.

² Compare also a Cyrenaean statuette-torso in the British Museum (*Cat. Sculp.* ii, no. 1430), which, however, more probably represents the local goddess, Cyrene, than Artemis Ephesia.

regarded as reminiscent of an aniconic representation, and as witnessing to the great antiquity of the type.¹

Besides these late sources, our knowledge of the local Ephesian personification has had to rest on such evidence as could be obtained from the site itself; for no Greek author earlier than the Christian era has left any description, nor do undoubted representations of it occur among the monuments of earlier Greek art hitherto known to us. Unfortunately, Wood's exploration of Ephesus resulted in the discovery of but few small objects. A terracotta, however, showing a seated mother and child, was found by him on the Artemision site and sent to the British Museum, but being single and of uncertain period, it attracted little attention, and indeed is not described as a divine figure in the *Catalogue of Terracottas*.² Figurines of this and slightly variant types (seated mother with child, or seated matron without child) have been found in considerable numbers on the sites of cities and shrines in Western Asia Minor, Cyprus, Syria, Mesopotamia, Egypt, etc. (the Constantinople Museum preserves a fine series), and have been referred, though doubtfully (and not in all cases) to a Mother-Goddess; but there has been no reason hitherto to associate such types particularly with the Ephesian Artemision. In this respect, however, our re-examination of the site has somewhat altered the case. In the very small area of untouched deposit which can certainly be referred to the period of the Croesus Temple, the rammed earth between certain marginal piers (see pp. 28, 313 ff.), we found six representations of a seated mother and child of two types (one being identical with the terracotta sent to London by Wood) and also other terracottas representing the seated matron without child. These were the only figurines found in the "Croesus" (*D*) stratum which can reasonably be supposed to be representations of the Goddess, and the proportion which their frequency bears to the small area of untouched deposit and to the whole number of terracotta fragments occurring therein argues strongly that the types in question were those in local cult-use during at least the latter part of the fifth century B.C. and the earlier part of the fourth, and that they represent the popular conception of the Ephesian Artemis at that time. In fact, the identity of several of our mother and child figurines is so exact that they must have been turned out of one, or out of replicas of one, mould. In all likelihood they were of local fabric.

The site itself, therefore, has still failed to produce evidence for the

¹ Compare, in reference to this type and its variants, Fredrich in *Athen. Mitth.* 1897, p. 361; Farnell, *Cults of the Greek States*, ii, p. 481; Studniczka, *Kyrene, eine altgriech. Göttin*, p. 153; E. Meyer in Roscher's *Lexicon*, s. v. *Artemis*; E. Curtius, *Studien z. Gesch. d. Artemis (Sitz. K. Pr. Akad.* 1887, pp. 1167 ff.).

² P. 233, C 463.

“multimammia” type in at least the latter part of the life of the Croesus Temple; but, on the other hand, it has offered strong presumption that the Goddess was personified during that period, according to the popular sentiment of the locality, as a natural maternal figure without any “barbaric” and monstrous features. For the earlier part of the life of the Croesus Temple we have no such monumental evidence, thanks to the Byzantine, and perhaps also to later, spoilers of the site; but for precedent time, from the middle of the sixth century back to the earliest period at which the site was an Ionian place of worship at all, we have now several monuments not previously known or suspected, which must be taken into serious account whenever the character of the Ionian Artemis-cult is discussed.

As has been set forth in the preceding Catalogue of the Primitive Treasure, we have recovered from the pre-Croesus stratum a number of presumed representations of the Goddess in various materials, both statuettes in the round and also miniature reliefs. In a proportion of these cases there must remain a certain doubt whether they are really representations of the Goddess, or of her priestesses or votaries; but about a considerable number no question need be raised.¹ These show local personifications of Artemis herself during the first centuries of the Ionian cult of her at Ephesus. The representations in question are of six types.

I. STATUETTES.

A. Solitary figure, erect, draped, with or without backward falling veil, and holding no object or objects in the hands (i.e., represented without attributes).

Gold and Electrum—4 examples. (Pl. iv., nos. 3, 4, 13, 14.)

Silver—1 example. (Pl. xi., no. 12.)

Bronze—3 examples. (Pls. xiv. & xv., nos. 1, 2.)

Lead—1 example. (Pl. xx., no. 5.)

Ivory—5 examples. (Pl. xxiv., nos. 3, 4, 5, 9, 10.)

Terracotta—7 examples. (Figs. 34–36.)

B. Solitary figure, seated, and without attributes.

Gold—1 example. (Pl. iv., no. 15.)

Amber—1 example. (Pl. xlviii., no. 20.)

¹ See p. 172 for Mr. Cecil Smith's view about the Statuettes in ivory. Even, however, if a certain number of these represent priestesses in the dress and bearing the attributes of the goddess, they are only less good evidence for the representation of the goddess than statuettes of herself would be. I cannot but feel, however, that if the erect terracotta figurines are allowed to be divine (see p. 172), the very similar erect ivories must be so also.

C. *Solitary figure, erect, holding various objects in the hands.*

Gold—1 example (Pl. iii., no. 11), with lyre.

Ivory—3 examples. (Pl. xxiv., nos. 1 & 8; and pl. xxii.) These hold respectively a spindle, two birds and two vessels, and the last supports a hawk on a pole.

D. *Solitary figure, erect, nude, and without attributes.*

Ivory—1 example. (Pl. xxiv., no. 2.)

II. RELIEFS.

A. *Erect, draped figure with wings, grasping, or accompanied on either hand by, lions in heraldic opposition.*

Ivory—1 example. (Pl. xxvi., no. 6.)

B. *Erect, nude (?), without wings, but with same attendant lions.*

Gold—1 example. (Pl. iii., no. 10.)

III. FRAGMENTARY OR PARTIAL FIGURINES AND RELIEFS.

Gold—6 examples. (Pl. iv., nos. 1, 2, 6; pl. iii., nos. 6, 8, 9.)

We have here (including the contents of the Croesus stratum) nearly fifty figures, of which four-fifths are, almost without doubt, the Goddess herself. Many of the types so shown have been discussed above by Mr. Cecil Smith in the section on the more important Ivories, and others have been commented upon by me in the sections *Gold and Electrum*, *Bronze*, *Terracotta*, *Amber*, and *Small Objects from the Croesus Temple*; but a summary commentary may usefully be repeated here:—

A. *Erect, draped, and without attributes.*

This type is that of the earliest Hellenic Artemis representation in the round, namely the Delian statue dedicated by Nikandra of Naxos (Collignon, *Hist. Sculp. Gr.*, i, p. 120, fig. 59; Brunn, *Denkm.*, no. 57), and usually supposed to be a marble reproduction of a *xoanon*. While this statue, however, has the feet fully represented, all our specimens of similar type, which are well preserved and complete (except Bronze, pl. xvi. 1), are without feet and terminate below the waist in a columnar form, usually supposed to be reminiscent of an aniconic original. Notable instances of this aniconic termination are supplied by Ivories, pl. xxiv., nos. 1, 3, 4, the large Bronze, pl. xiv., and the Terracottas, figs. 34, 35. While some of these show signs

of a relatively more advanced development than the others (see p. 172), all may be regarded as of an earlier type than the Delian representation.

B. Seated type, without attributes.

We have only two examples of this type in the Primitive Treasure, which differ in that one is draped and the other nude; and one of these, the amber figurine, can only be classed doubtfully as a seated figure. The type reappears in the period of the Croesus Temple, from which we have recovered two examples and the head of a third. It will be sufficient to observe that seated female figures, both draped and nude, have a wide range in Primitive art from Phoenicia, Cyprus and Rhodes (*e.g.*, Heuzey, *Fig. ant. du Louvre*, 1883, pl. 11, nos. 1, 2) to Sardinia (P.C., iii, fig. 322); and are especially common in Asia Minor, where the type of the seated Niobe of Sipylus (P.C., iv, fig. 365) appears often on Cappadocian monuments (P.C., iv, fig. 337, Eyuk; *Recueil de Travaux* (ed. Maspero) xiv., pl. vi., Fraktin, etc.), and in terracotta cult-figurines to be seen in all great museums. It appears that the early Ionian sculptor, Endoeus, thus represented a goddess at Ephesus (Athenag., *Leg. pro Christ.* xiv, p. 6); and that the closely-related goddess, Hekate, was also portrayed seated. The hands in this type of figurine rest indifferently on the knees or on the breasts, a variation in attitude probably of no particular significance (*cp.* S. Reinach in *Anthropologie*, 1895, p. 293, who maintains that it is a *geste indifférent*: the figure being simply in a difficulty *que faire de ses bras*).

C. Erect, with various objects in the hands.

1. *Lyre.* Compare Artemis χελῦτις, holding a primitive type of tortoise-shell at Sparta (Clem. Alex. 33; *cp.* Homer, *Hymn. Aph.* 18); and Artemis represented at Megara with plectrum (Farnell, *Cults etc.*, ii, p. 536). Also Artemis Hymnia in Arcadia.

2. *Spindle.* Compare the Primitive Erythraean statue of Athena by Endoeus with ἡλακάτη in each hand (Paus. vii, 5, 9). Our statuette is possibly a type of Artemis Ergane; but also possibly not a goddess, or even a female statuette at all (see p. 174).

3. *Birds.* Seated and standing figures holding birds are common, but the latter are usually supposed in all cases to be *doves*. A Cypriote figure of Astarte? (more probably the local *Φάνασσα*, Aphrodite), published in P.C. iii, fig. 142, seems, however, to be holding an aquiline or accipitrine bird. The bird which accompanies the seated goddess in some

"Hittite" reliefs (*e.g.* *stèle* of Marash, P.C. iv, fig. 281) seems also to be an eagle or hawk. The two birds held by our ivory figure are hawks, almost as certainly as the bird supported on a pole by another of our ivory statuettes is an eagle or hawk. On the whole question of hawks or eagles as attributes of the Ephesian goddess, see later, p. 336.

4. *Vases or vessels.* Our figurine (Plate xxii) would be a very doubtful goddess-representation, were it not for the pole with hawk perched atop, which she supports. This curious conjunction seems to stamp the figure as divine. (But see Mr. Cecil Smith, p. 172. For a bird on the head of a goddess *cp.* Luc., *Syr. Dea*, 33.)

D. Erect, nude, and without attributes. Such figures, grasping their breasts, are very common from Assyria westwards. A winged figure so posed was unearthed at Jerabis (P.C., iv, fig. 390). For the Assyrian type see P.C. i, fig. 16; ii, fig. 108. For the Cypriote type see P.C. iii, figs. 321, 379, 380, and for the "Phoenician" type in the west see *ibid.* fig. 291. Primitive Aegean and Greek examples are numerous (see, *e.g.*, Heuzey, *Fig. Ant. du Louvre*, 1883, pl. ii, no. 7). The wide range and artistic obviousness of the type make it impossible to refer all examples of it to Ishtar-Astarte, as is sometimes done; but our figurine has certainly a Phoenician appearance (see Mr. Cecil Smith's view on p. 173).

E. Erect, with outstretched hands, grasping lions. The *πότνια θηρῶν* type (Homer, *Il.* xxi, 470). The closest parallels to our ivory plaque occur in the Cameiros jewellery in the British Museum and at Oxford,¹ and on the great Olympian plaque (*Olympia*, iv, pl. 38); and probably an almost identical representation was chased on the Chest of Kypselos (Paus. v, 19, 5). The Aegean antecedents of this type have been set forth by A. J. Evans in his *Myc. Tree and Pillar Cult*, pp. 65 ff. In Aegean art the figure between the lions (or other animal "supporters") is not winged, and so approaches nearer to our gold than our ivory plaque (see p. 175). The resemblance of the lions, with their huge heads, to the famous representation in the Phrygian tomb-relief at Ayazinn, has been remarked on p. 110; but in the Phrygian case there is no anthropoid figure between the beasts.

F. Seated, with child on the knees or in the crook of the arm. Similar *κουροτρόφοι* are widely distributed and seem to represent several local forms of the "Asiatic Goddess." For example, they appear in Cyprus (P.C. iii, figs. 144, 377), in Phoenicia (Heuzey, *Fig. ant. du Louvre*, 1883, pl. vi. 6), in Crete

¹ See also *Jahrbuch* xix. *Anz.* p. 41 ff., for other Rhodian examples.

(*B.S.A.* xi, p. 245), and all over N.W. Asia Minor. A similar figure appears on a Phoenician (?) bowl found at Olympia (iv, pl. 52), and the familiar Egyptian Isis-Horus group will occur to everyone. (See Farnell, *Cults*, etc., ii. p. 129.)

The lack, in all our representations, of features which in any way recall the type of the coins or the "multimammia" figures is worth further consideration. This type is commonly supposed to preserve the general form of the original *δίπετες ἄγαλμα*, and it has usually been described as semi-aniconic in the lower part, a feature which would go far to prove a very ancient origin, despite its late appearance in art. It may be pointed out, however, that there is no necessarily semi-aniconic feature about the type in question, whether represented on coins or in the round; nor, indeed, is there any feature necessarily archaic. In fact, the lower part is not columnar, like our statuettes, pl. xxiv, nos. 1, 3, 4, but swathed in wrappings like grave-clothes, which confine the limbs and make a stiffness of pose inevitable. On the "multimammia" statuettes these wrappings are indicated in full detail (*e.g.* besides the Neapolitan alabaster, the Albani and Giustiniani figurines shown in Clarac, *Mus. Sculp.* pl. 562 B, 563, and 564 C); and their nature and ornament, in the kindred case of the cult-figures of the Goddess of the Carian Aphrodisias, has been made the subject of a study by C. Fredrich (*Athen. Mitth.*, 1897, p. 361). A close examination of all the coins, which show varieties of the later Ephesian cult-image type, has convinced me that the lower part of the figure is intended to be so swathed in every case, the feet appearing below. The swathing varies in arrangement, being generally represented as spiral, but also in certain cases, *e.g.*, coins of Tranquillina at Cyme and of Plautilla at Acrasus (*B.M.C. Troas*, pl. xxiv, 2: *Lydia*, pl. ii, 4), divided into chequers (pl. lii, nos. 1, 3, 11); just as, at the present day, I have seen a swathed Kurdish corpse packed for transport to a distant cemetery in a covering made of perpendicular withes lashed with belts of the same material. The chequered arrangement of many Egyptian corpse-wrappings will be recalled. A mummy of the New Empire often presents in its lower part an exact likeness to the Ephesian Artemis of the coins (*cf.* pl. lii, no. 11). On the coins these wrappings are sometimes rendered conventionally by scaly or studded surfaces (pl. lii, nos. 2, 5, etc.), *e.g.*, at Tralles (*B.M.C. Lydia*, pl. xxxvii, no. 11), and at Ephesus itself (*B.M.C. Ionia*, pl. xiv, 2); but they are always present. Nor are they, of course, peculiar to the Goddess, being found also in certain coin-types of Carian cities which

show Zeus Labrandeus (pl. lii, nos. 10, 14), *e.g.*, at Mylasa (B.M.C. *Caria*, pl. xxii, 5).

As for the treatment of the upper part of the body in the late Ephesian cult-type, the Roman and Neapolitan statues¹ and the statements of the Christian authors (quoted on p. 323, note 1), leave no doubt that, after a certain period, it was ordinarily polymastoid. But examination of the coins leaves it very doubtful whether the type, which they represented from the 2nd century B.C. and continued to represent till the 3rd century A.D., was intended to preserve that characteristic. No single coin, that I can discover, shows these many breasts treated in a naturalistic manner; while some certainly show the figure without them, for example, the well-preserved type of Sept. Severus and Julia Domna at Stratonicea (B.M.C. *Caria*, pl. xxiv, no. 7), in which the cult-figure either wears a double necklace or is draped, and the curious Anemurian type (B.M.C. *Lycaonia*, pl. vii, 7) where the figure is undoubtedly swathed from neck to ankles (pl. lii, no. 13). Compare also a Pergamene coin (B.M.C. *Mysia*, no. 359), and the draped Samian Hera (pl. lii, no. 8). In other examples the figure is treated alike both above and below the waist, *e.g.*, on an Ephesian coin of Antoninus Pius and Sept. Severus (B.M.C. *Ionia*, pl. xiv, 2), which shows a uniformly scaly surface (pl. lii, no. 5), and on coins of Acrasus (B.M.C. *Lydia*, pl. ii, 4) and Cyme (B.M.C. *Troas*, pl. xxiv, 2), which show the entire body uniformly covered with chequers and studs. These latter examples, and the fact that the figure of a *male* god, Zeus Labrandeus, appears on coins of Euromus (pl. lii, no. 10) covered with similar studs (B.M.C. *Caria*, pl. xvii, 8), suggest doubts whether even on those few coins, where the upper part only of the goddess is studded, she was intended to be polymastoid. So far as the evidence goes there is no proof that this feature of the cult-type was represented before the Christian era; and it is quite possible that never at any time was it so represented in the Artemision at Ephesus itself. It may have been introduced on figurines made elsewhere, through some misapprehension of drapery, swathing-bands, or ornament seen on the breast of the West Asiatic cult-type; and so have come to be regarded as typically Ephesian by Christian writers, anxious to collect instances of monstrosity in pagan imagery. Its appearance on a late Roman statuette from Cyrene could equally be explained in this way.

The remarkably wide distribution of this numismatic type of cultus-image renders it difficult to believe that it represented an original Ephesian statue. Practically the same type, showing such curious identities as the presence of the "fillets" pendent from the hands, is found equally in Caesarea-Mazaca,

¹ I saw a small bronze of the same type in Smyrna in 1905.

Anemurium, Ephesus, Pergamum and Prusa (B.M.C. *Pontus*, p. 199, no. 31), and in more than a score of intermediate towns. It stands with trivial differences of detail for Artemis Ephesia, Claria, Leucophryene or Pergaea, for Hera Samia, for Aphrodite of Aphrodisias, for Ma at Caesarea, and, probably, for Anaitis at Hypaepa. Is it more reasonable to suppose that all these different cities and divinities borrowed from a single Ephesian statue, than that Ephesus herself came to borrow a cultus-type common to most of Asia Minor? The latter alternative commends itself the more, the more minutely the numismatic types are considered; for they will be seen to show certain features which argue that the artists had no actual standard for reproduction, but were uncertain as to more than one detail of the type; indeed, that certain details seem not to have been really understood by them, but to have been represented by conventions, which have all the appearance of evolutionary degradations.

(1) In most of the numismatic examples of the type two lines, represented by a series of dots, connect the outspread hands with the ground near the feet of the figure. These are usually regarded as representing *fillets*; and in support of the interpretation Hesychius is quoted, *s. vv.* κληῖδες (τῆς Ἐφεσῖας θεοῦ τὰ στέμματα) and θυσανός (Ἄρτεμι πολυθύσανε κούρα). Another view, now less generally held, regarded them as supports for the hands, rendered necessary by the practice of loading the latter with offerings.¹ Dr. B. V. Head combined these two explanations in his comment on a coin of Cilbiani Inferiores of the time of Antonius Pius—"fillets . . . which in the original statue were made solid to serve as supports." (B.M.C. *Lydia*, pl. vii, 8).

Neither explanation can be regarded as wholly satisfactory, for more than one reason. (a) There are several representations of this type of cultus-image, in which the lines in question do not appear at all—*e.g.*, the Artemis "Anaitis" type (pl. lii, no. 7) on coins of Hypaepa (B.M.C. *Lydia*, pl. xii, 12, 13, 14); and the Anemurian type (B.M.C. *Ionia*, pl. vii, 7, our pl. lii, no. 13). (b) In many instances the lines converge sharply towards the feet of the figure—*e.g.*, at Acrasus (B.M.C. *Lydia*, pl. ii, 4); Stratonicea (B.M.C. *Caria*, pl. xxiv, 7); Attuda (B.M.C. *Caria*, pl. x, 13); Pergamum (B.M.C. *Mysia*, pl. xxxiii, 4); Cyme (B.M.C. *Troas*, pl. xxiv, 2); etc. etc. This variation of direction may, of course, be due to the engraver's instinct for decorative schematisation;

¹ Some question has also been raised in this connection, whether the hands were intended to be extended to the sides, or to the front. Coins, which have figures of this type in profile, show the hands to the front (pl. lii, no. 15), *e.g.* at Aphrodisias, *temp.* Hadrian (Gardner, *Types*, pl. xv, 10), and at Samos (B.M.C. *Ionia*, pl. xxxvii). If that were their real position, the engravers of the dies, which show them extended to the sides, have changed the attitude to avoid confusion and foreshortening. But it is at least as likely that the engravers of the rare representations with hands to front have themselves adopted that device. The "multimammia" statuettes all favour the attitude with hands extended sideways.

but, occurring in so many different places, it rather suggests that the lines were not copied from any actual perpendicular objects, such as props or fillets. (c) The lines in certain cases end below in, or rest on, tripod-shaped objects (pl. lii, nos. 4, 17)—*e.g.*, at Ephesus (Gardner, *Types*, pl. xv, 4); or in indeterminate swellings—*e.g.*, Colophon (B.M.C. *Ionia*, pl. viii, 12)—which have been explained as “urns,” by R. S. Poole. Similar swellings also are shown at the lower end of the “fillets” on coins of Magnesia (B.M.C. *Ionia*, pl. xix, 7), and Caesarea-Mazaca (B.M.C. *Galatia*, pl. viii, 3); but their nature cannot be made out with any clearness on the specimens in the British Museum. These finials may be conventionalised tassels (*θησαυροί*); but the best preserved representations do not favour this interpretation. (d) The lines in question, in certain representations, are continued *above* the hands, in such a way that it is clear they were understood by the engravers of particular dies to be objects of a wand-like nature held by the figure. On a coin of Pergamum (Commodus) their projection above the hands is clear (B.M.C. *Mysia*, pl. xxxiii, 4); but there is nothing discernible on the upper ends of the wands (pl. lii, no. 16). On an alliance coin of Mytilene, however (B.M.C. *Troas*, pl. xliii, 4), the cultus-figure, presumably “Artemis” of the allied Perga, holds dotted wands ending above in finials, which seem rightly interpreted as the heads respectively of a sceptre and a torch (pl. lii, no. 12).

It seems impossible, therefore, to maintain that in all these instances the cultus-statues are represented with either fillets pendent from, or props supporting, the hands. Neither explanation will suit the representations in our fourth category of coins, and neither satisfactorily interprets those in our third. The representations in our first category are not in question, “fillets” being lacking to them altogether; and for the remaining category, the second, neither explanation is without difficulty. There remain many coin-types in which the lines in question fall perpendicularly from the hands to the ground, and do not rise above the hands, *i.e.*, are represented in a manner consistent with their being interpreted either as fillets or props, or a combination of the two. In a few of these cases there is no doubt *fillets* are really intended, *e.g.*, a coin of Magnesia Mae. (pl. lii, no. 9), which shows *double* lines pendent from the wrists of the figure and clearly representing tassel-like fillets; and a coin of Pergamum, which shows the lines as composed of alternate beads and bands, and exactly representing wool-fillets bound at intervals.¹ In only one type, known to me, does it appear strongly probable that *props* are intended. This is the Colophonian representation of Artemis Claria (B.M.C. *Ionia*, pl. viii, 12), already quoted, where the lines, resting

¹ *Cp.* also similar representation on a coin of Cyme (B.M.C. *Troas*, pl. xxiii, 11).

below on objects supposed by Poole to be "urns," do not quite reach the hands, but terminate in distinct spreading tops (pl. lii, no. 17). The hands in this instance, as in many others, have the fingers spread out, and cannot be supposed to be grasping anything.

The intention of the coin-engravers seems, then, not to have been always the same. Sometimes they evidently understood the lines in question to be fillets; sometimes, perhaps, to be props; sometimes to be objects held in the hands, *e.g.*, sceptre and torch, as on the Mytilene-Perga alliance coins cited above, but indeterminate wands in the Pergamene type, also cited. Sometimes they treated them schematically in a way which suggests nothing in particular, making them converge towards the feet; sometimes they made them rest on bulging objects serving no obvious purpose; sometimes, lastly, they omitted them altogether. There are, moreover, two or three types, not yet specified, in which these lines do not appear as independent features, but as surviving in other concomitant accessories of the cultus-statue. Such are the Aspendus type (B.M.C. *Lycia*, etc., pl. xxii, 7, 11), where they seem to be confounded with, and merged into, the columns of the distyle shrine containing the two figures: and the curious Anemurian type (B.M.C. *Lycaonia*, etc., pl. vii, 7), where they survive perhaps in the lower outlines of a kind of frame surrounding the figure, and suggestive of a veil. The representation in this case recalls the appearance of the seated terracotta images of Mother and Child most frequently found at Ephesus in the Croesus stratum (p. 315, fig. 92). The Anemurian series, it may be observed further, shows other evidence of type-variation and probably degradation. The hands of the statue now hold boughs, now are empty, now even are non-existent (see No. 11 in the British Museum Anemurian series).

It is possible, of course, that the variety, discrepancy, and obscurity observed in the treatment of these lines may be explained, at any rate partially, by varieties in the actual cult-statues erected in different localities. Artemis Ephesia may have been, and probably was, portrayed differently from Artemis Claria, or Leucophryene, or Anaitis, or Pergaea. But a glance at the coin-series of individual cities, *e.g.*, Ephesus itself, Pergamum, Perga, etc., will suffice to rob this argument of much of its plausibility, since in respect of the particular features in question the representation varies in one and the same locality. On the whole, therefore, the most reasonable inference appears to be that these lines represented no visible or existent feature of any statue, but were a traditional survival, preserving some feature of cult-representation no longer understood, and therefore susceptible of diverse interpretation.

There is also another feature of the later numismatic and plastic representations of Artemis Ephesia which is hardly intelligible as it stands. This is the so-called "nimbus" behind the head and high modius. In several representations this is not a circular orb, but heart-shaped, the lobes appearing on each side of the head, *e.g.*, in the Villa Albani statuette¹; while on almost all the coins it is rather oval or pear-shaped than round, and often of dual outline (*cf.* pl. lii, nos. 3 and 16). In the Anemurian type cited above (B.M.C. *Lycaonia*, etc., Anemurium, no. 11) the "nimbus," like the pendent "fillets," seems to be merged in a veil-like frame.

The original features from which the "fillets" and the "nimbus" were derived ought (if indeed the latter be degradations) to be such as are known to us, if at all, from archaic representations, but not found clearly portrayed at any period contemporary with the coins themselves. The "fillets," therefore, for example, cannot well be supposed to represent originally any such objects as Artemis, or Artemis-Hekate, holds in her hands in later art, *e.g.*, spear, torch or sceptre. But it is not impossible that they may be a last degradation of the animals grasped in the outstretched hands of the Primitive *πότνια θηρῶν*. It is true that on many of the coins, which represent a cultus-statue of the Ephesian type, two animals are actually introduced, heraldically opposed on either side of the feet of the figure. (See, beside many already noticed, alliance coins of Ephesus-Alexandria and Ephesus-Sardes, B.M.C. *Ionia*, pl. xxxviii, 3, 4). But these animals are never grasped by the goddess, as in the archaic representations of the *πότνια θηρῶν*; and the fact that they are, in all cases known to me, stags or goats, suggests that they pertain rather to the later conception of the Huntress Artemis than to the earlier one of the Mother with her leonine companions, supporters or ministrants. In short, these animals, I suggest, represent an early feature of the cult-representations reintroduced in a new form by artists ignorant of the fact that, in the unintelligible lines depending from the hands of the statue in their traditional representation, they were still engraving a survival of the same feature as it used to be.

Such is my suggestion. Its main weakness lies in the absence of intermediate representations of the *πότνια θηρῶν* type, which might show successive stages in the process of degradation. There is a gap of three centuries between the latest known representation of the winged goddess with lions in her grasp and the earliest of the cultus-statue with lines pendent from the hands. This affords ample opportunity for the degradation postulated; but continuous evidence of the steps in the process is not forthcoming. There exist, however,

¹ Clarac, *Mus. de Sculp.* pl. 562 B, no. 1198 C.

possible examples of one such intermediate step in certain gold plaques from Cameiros (pp. 241 ff.). On many of these the winged goddess is seen grasping lions, as on our ivory plaque; but on others the same figure stands in the same attitude with hands clenched and extended, but grasping nothing. The lions have disappeared; and the action of the goddess is only to be explained by comparison of the fuller representation. This seems an obvious instance of such a degradation or variation in the cultus-type as I have supposed.¹

As for the "nimbus," I am inclined to refer its origin to the same *πότνια θηρῶν* type of representation, and see in it a degradation of the outline of the incurving wings of the goddess, as she appears on our ivory plaque, and on the plaques from Olympia and Cameiros. This outline could readily have passed by a natural process of degradation into the shape of a heart, and thence to the oval or pear-form, and finally the perfect circle, becoming thus the lineal ancestor of the hagiographic "glory" of Christian art.

The *πότνια θηρῶν* type, it will not be disputed, is of very rare appearance in Greek art after the Aegean period, if the numismatic representations be ruled out of the consideration; and such undoubted instances of it as have been preserved, e.g., at Olympia and Cameiros, are seldom free from the suspicion of having been made under Eastern influence. In spite of the present disposition among critics to deny its formerly accepted name of the "Persian Artemis," and to assert its Hellenic character, I suspect that its home lay in non-Greek lands, in Phrygia or Cappadocia at the nearest, and perhaps farther East.² Be that, however, as it may, I suggest that a tradition of it explains certain features in the numismatic cultus-image type of Western Asia, while other features may be due to another, probably Egyptian or Egypto-Phoenician, tradition. In short, that *the numismatic cultus-image is a composite type*, introduced late into Greek art and dependent on no actual cultus-image to be seen in any Greek shrine, whether at Ephesus or elsewhere, but on tradition alone. If this be so, the more primitive of our Ivories, Bronzes and Terracottas are probably the nearest representatives of the real original Ephesian *ἄγαλμα*, a stiff erect figure with hands to sides, columnar termination below, and no sculptured attributes. This may or may not have been the type followed by

¹ Since the above was in type, I have seen in the Fine Arts Museum at Boston, Mass., other archaic plaques "from Asia Minor," which show a similar figure grasping greatly degraded lions, almost like legs of mutton. Here is one missing link, at any rate.

² Cf. Curtius, *Studien zur Gesch. d. Artemis*, p. 1181, "Das Phrygische Hochland ist der Knotenpunkt" (of the Artemis cult). See also our plate xxix, 6 for a Nimrud example, perhaps of Lydian origin (see p. 243 n.). Cf. p. 175 for an example from Sardes, published by Radet. For what it is worth, it may be noticed that Artemis is not among the winged Greek divinities enumerated by Aristophanes (*Aves*, 572-5).

Endoeus in the wooden statue which Mucianus, "ter consul," saw and reported unchanged, despite the seven restorations of the shrine which had been carried out since it was put in place.¹ In any case there is no reason to suppose the original type of the Ephesian cultus-image to have been other than such a natural human figure as was consonant with early Hellenic idealism. To this type extraneous attributes and additional features attached themselves as time went on, the most of these coming from inland Asia and Egypt, and among the earliest of these we may perhaps include the Child, who makes his first local appearance in our fifth and fourth century terracottas.

Many objects were found which may be regarded as representing attributes of the Goddess, or having a sacral connection with her cult.

1. *Birds.*

Objects in the form of birds occurred in great numbers in the Primitive stratum, and especially in the filling of the Basis. These are either figurines, or ornaments such as brooches, pendants, etc. In several cases the bird is perched on a pole, which itself is supported on the head of a statuette (see pls. xxii and xxv); in one case a pair of birds appears in the hands of a figure; in another, perched on a clenched fist (pl. xi. 1). The birds are in most cases, without any question, of the *Hawk* family; and in no case are they necessarily of any other, although certain examples, when due allowance is made for imperfection of representation, might be *Eagles* (e.g. pl. vi, no. 62), *Owls* (e.g. pl. iv, no. 20), or *Doves* (e.g. pl. iv, no. 16). It is, however, most likely that all are of one kind, i.e., *Hawks*.

As a concomitant attribute of the Nature-Goddess in art, the dove is familiar; but birds of prey have not hitherto been regarded as associated with her. A Cypriote figurine, however, doubtless of the island goddess, found at Athienu (Golgoi), holds in her hand a bird which is certainly of the eagle or of the hawk family (P.C. iii. fig. 142); and the bird which sometimes appears in "Hittite" art, in connection with representations of a goddess, when clearly represented (e.g. on a Marash *stele*, P.C. iv. fig. 281), is a bird of prey.² On the Olympian plaque, which

¹ Pliny, N.H. xvi, 214. The reference of Athenagoras (*Leg. pro Christ.* xiv, p. 61) raises some presumption that that statue was seated (see p. 327 above).

² Figures of birds of prey, perched on the ends of poles, were found in Cappadocia by M. Chantre (*Mission en Cappadoce*, Plate 24); and Mr. Cecil Smith reminds me of the eagle perched on a pillar in Commagene (Humann and Puchstein, *Reisen in Nord-Syrien*, pl. xvii).

bears a representation of the winged *πότνια θηρῶν*, three such birds appear in the uppermost zone of relief. The appropriateness of a hunting bird to Artemis, especially in her Asian character as a tamer and patroness of wild nature, is sufficiently obvious; and it is more than possible that many birds, rudely represented in connection with a goddess, have been too hastily taken for doves. For example, those which accompany the goddess and her shrine on the well-known gold plaques found at Mycenae (Schliemann, *Myc.* figs. 267, 268, 423) may equally well be hawks: as indeed may many birds in terracotta found on other Aegean sites.

The only exception from the Artemision is the bird which accompanies the winged goddess on the small ivory seal (pl. xxvii, no. 6). This is evidently of the *crane* kind. Cranes, grasped by a goddess of the *πότνια θηρῶν* type, are also seen on Aegean gems.

2. *Bees*: Frequently used in decorative designs (Plaques and stars, pl. viii, no. 22; iv, nos. 26, 31), and represented in the round in one of the finest of the gold jewels, a pin head (pl. iii, no. 5). The connection of the bee with Artemis Ephesia is too well known to call for comment.
3. *Cicada*: Once found as a brooch (pl. iii, no. 3); the *τέττιξ* of the Ionian *ἀντόχθους* of Attica. It is a fairly common coin-type.
4. *Fly*: Once found as a pendant (pl. iii, no. 1). Flies of much less ornate character were found as necklace-pendants at Enkomi (pl. xi, nos. 397, 398) and at Cameiros, and were common pendants in Egypt (see, *e.g.*, Fontenay, *Bijoux*, p. 141).
5. *Snake*: A model snake was found (pl. vii, no. 16), and another is seen accompanying the winged goddess on the small ivory seal (pl. xxvii, no. 6). The latter has a triangular head, and is evidently intended to represent a poisonous variety.
6. *Various Animals*: Lions, goats, calves, rams, which are known attributes of the goddess, appear in ivory. The gold votive horn (pl. vii, no. 51) is, however, the only certain indication of the bull connected with her as Artemis Tauropolos.
7. *Labrys or Double Axe*: Two miniature axes in ivory and one in gold were found. Axes of the same form are used as decoration on various gold jewels, *e.g.*, earrings (pl. x, nos. 38, 46), pin-heads (pl. vi, no. 29, pl. x, no. 47), and pendants (pl. vii, no. 37). A goddess armed with the labrys is shown on a lentoid steatite found at Knossus (*B.S.A.* viii,

fig. 59); and Evans (*ibid.*, p. 101) has enumerated other Cretan representations of the goddess and axe in conjunction. An Artemis appears on coins of the Syrian Laodicea with battle-axe (cp. also Artemis Brauronia). In the art of Asia Minor the axe is seen in the hands of Sandan, of a "Hittite" god at Boghaz-Keui, and of the Carian Zeus, the latter of whom is said by Plutarch (*Quaest. Gr.*, 45) to have received it, together with its name "*labrys*," from Lydia, where it was a sacred emblem in the regalia. It is a type on many Lydian as well as Carian coins; and ornate examples appeared among the Lydian (?) jewels found near Aidin (*B.C.H.* iii, p. 129). If, as now seems likely, the *labrys* was an attribute also of the West Asian goddess, it was probably of much earlier origin in Lydia than the cult of Sandan-Heracles and the Heraclid Dynasty (see Frazer, *Adonis*, etc., p. 94), *i.e.*, it was an attribute of the goddess before it became one of the god.

8. *Crescent Moon*, found as pendants (pl. vii, nos. 1, 2, 3, 6), and as *appliqués* (pl. ix, nos. 53, 54). The crescent occurs in conjunction with the cultus-image on Ephesian coins (*e.g.*, B.M.C. *Ionia*, p. 87, nos. 283, 284), and is an undoubted attribute of Artemis-Selene. Farnell says (*Cults*, etc., ii, p. 531) that "it only comes into use at a later epoch"; but our examples put its appearance back to an early time.
9. *Cista Mystica*: The inclusion of this among early cult-objects in the Ephesian Artemis-worship must depend on the acceptance of our interpretation of certain forms of pin-head (pl. v, nos. 39, etc.). The *cista* does not appear on local coins before the Hellenistic period.
10. *Astragali*: See p. 190 for the different forms found in the Primitive deposit, and the cult-use to which they were probably put.

The only other respect in which our Primitive objects elucidate the Ephesian Artemis-cult is by showing us the High Priest (*Megabyzus*), whose spadonic appearance and dress are reproduced for the first time by an ivory statuette (see p. 173). Taken as a whole, however, the Treasure goes far to illustrate the Aristophanic epithet *πάγχρυσος*, applied to the house of Artemis, and the impression of wealth is deepened by the entries on the inscribed silver plate. For the light, unfortunately in some respects uncertain, which this, the only archaic inscription found by us on the site, throws on the revenues, resources and financial arrangements of the Temple, the reader must be referred back to Chapter VII, which deals with its decipherment.

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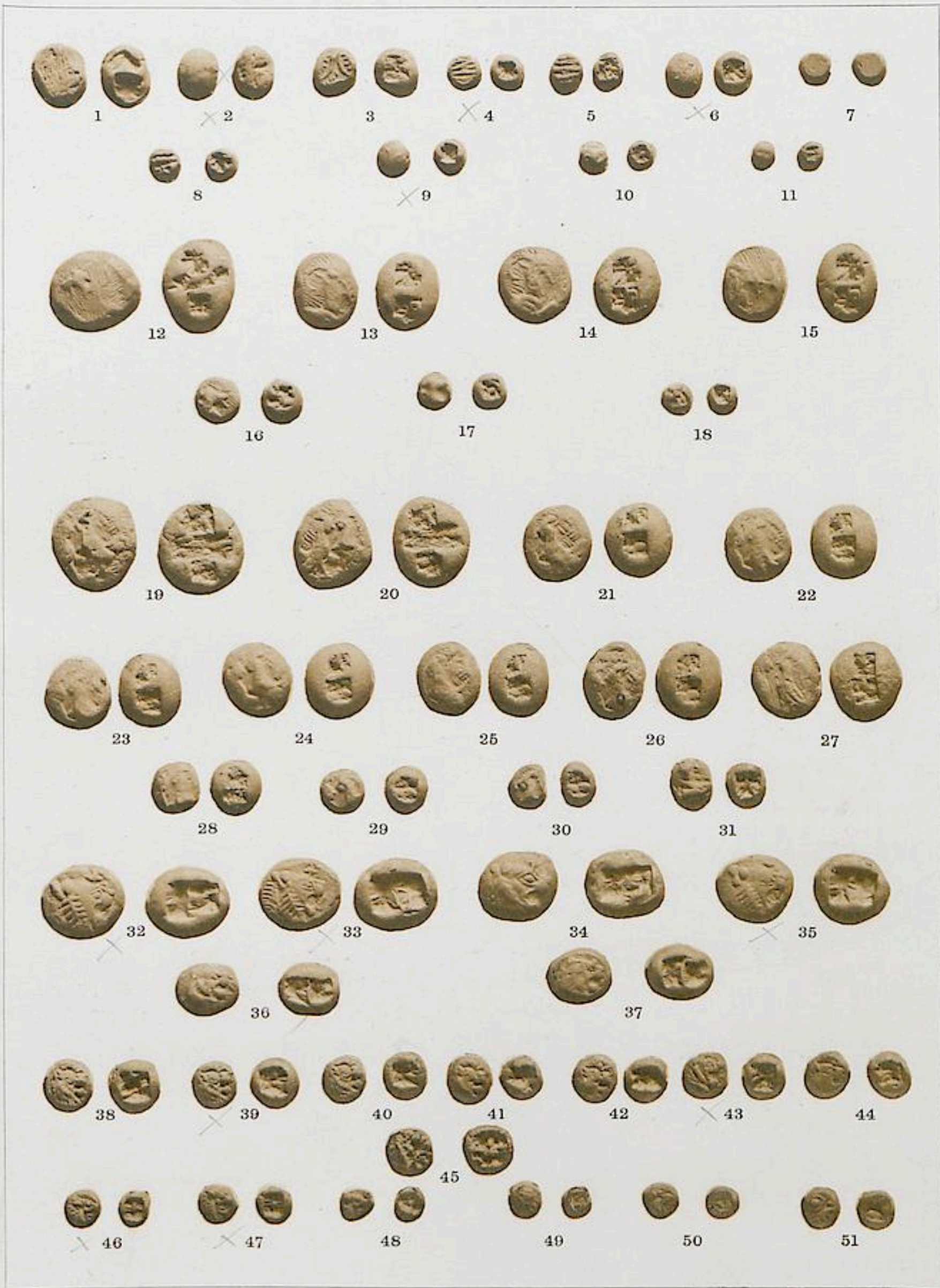
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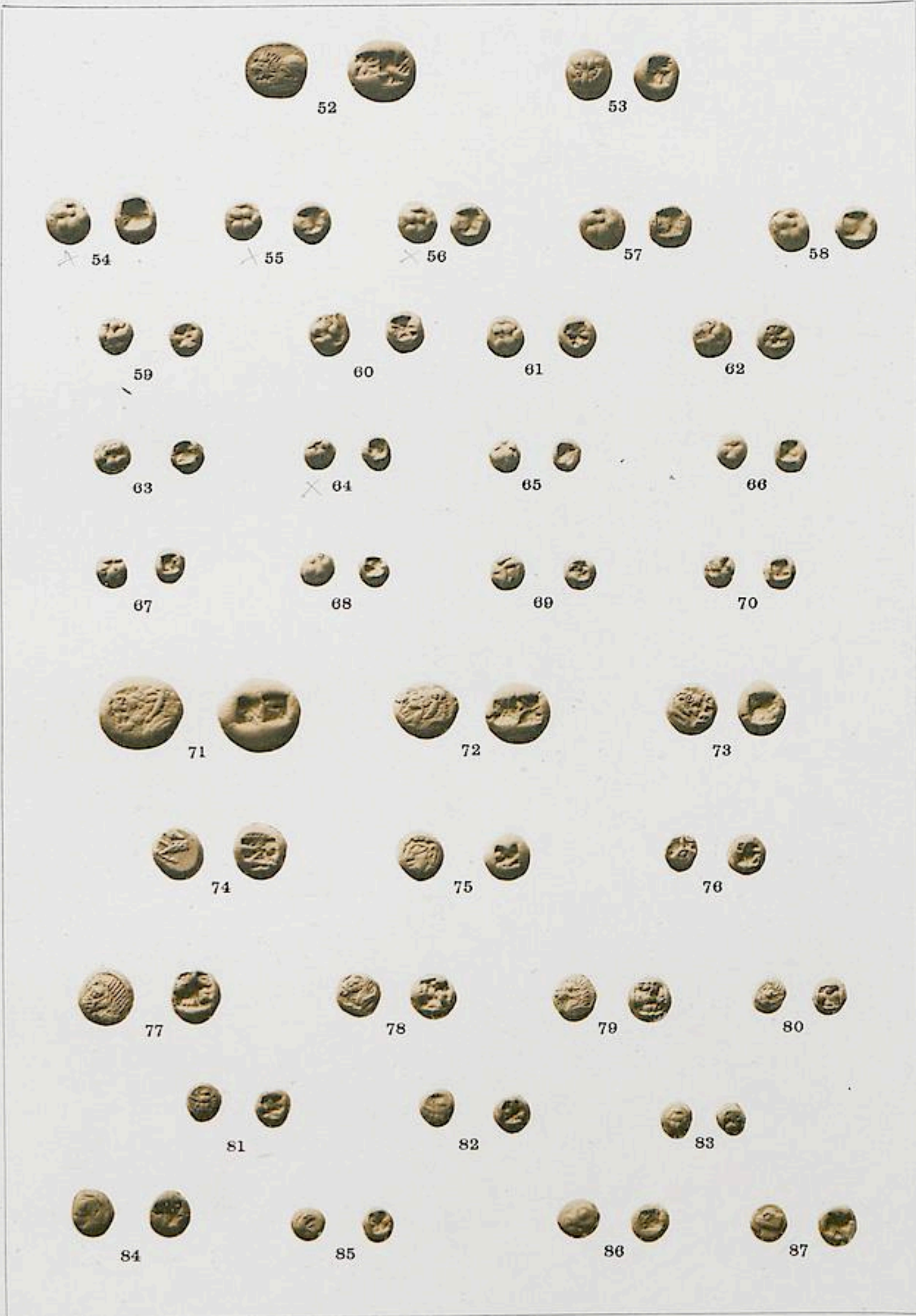
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EARLY ELECTRUM COINS
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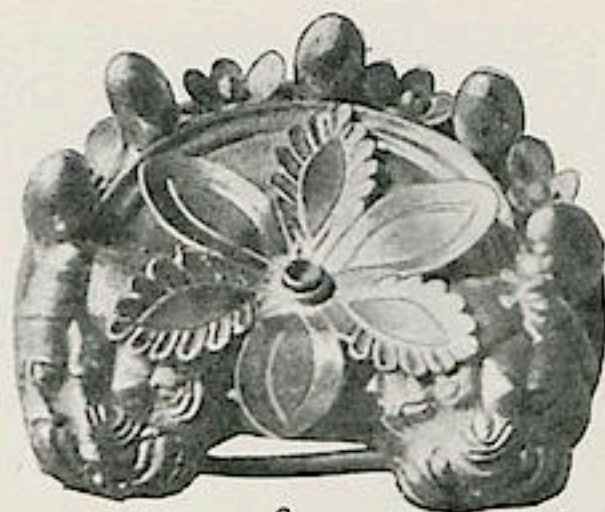


EARLY ELECTRUM COINS

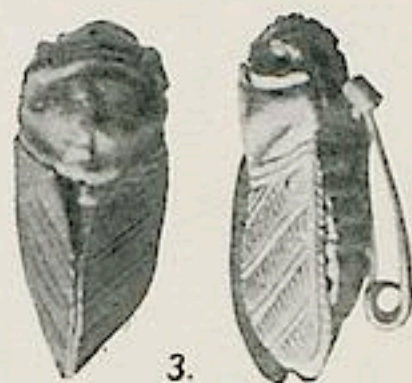
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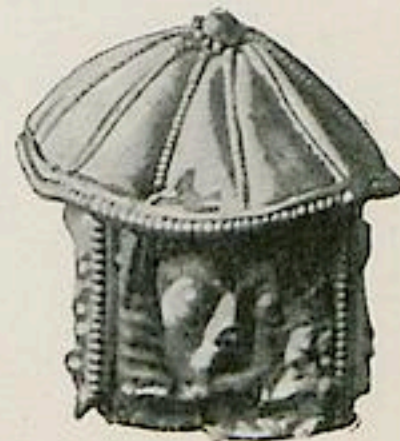
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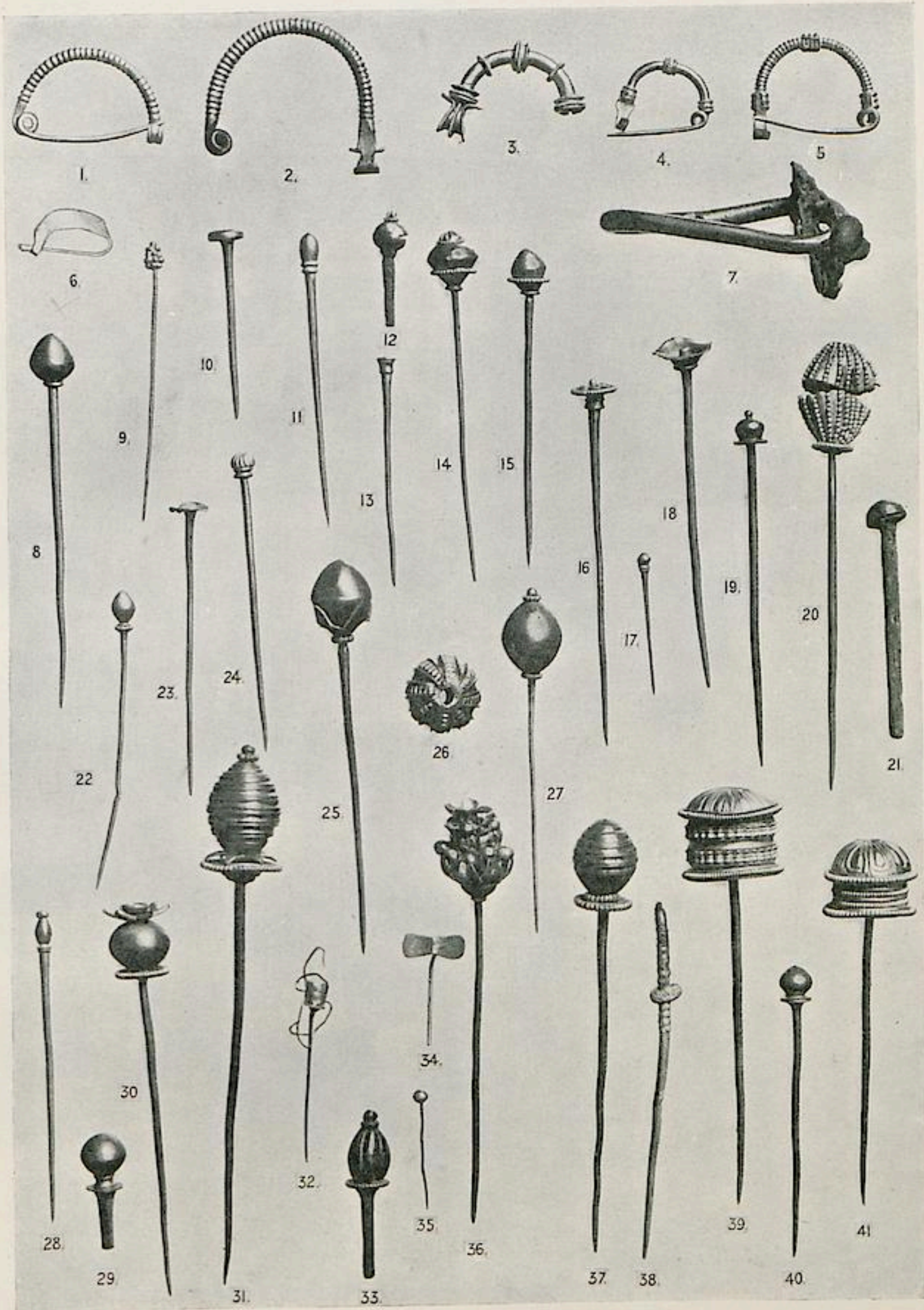
GOLD AND ELECTRUM.

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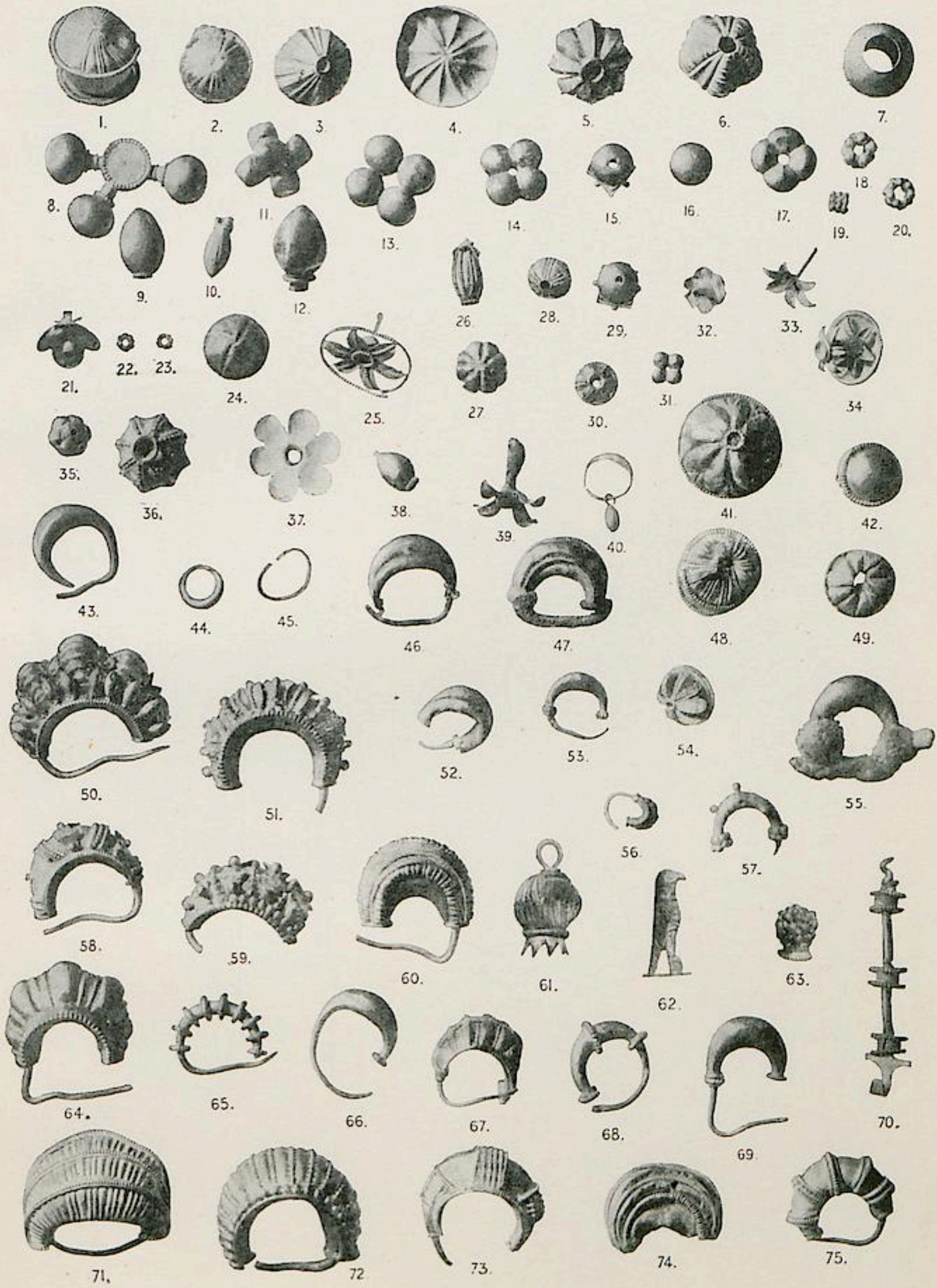


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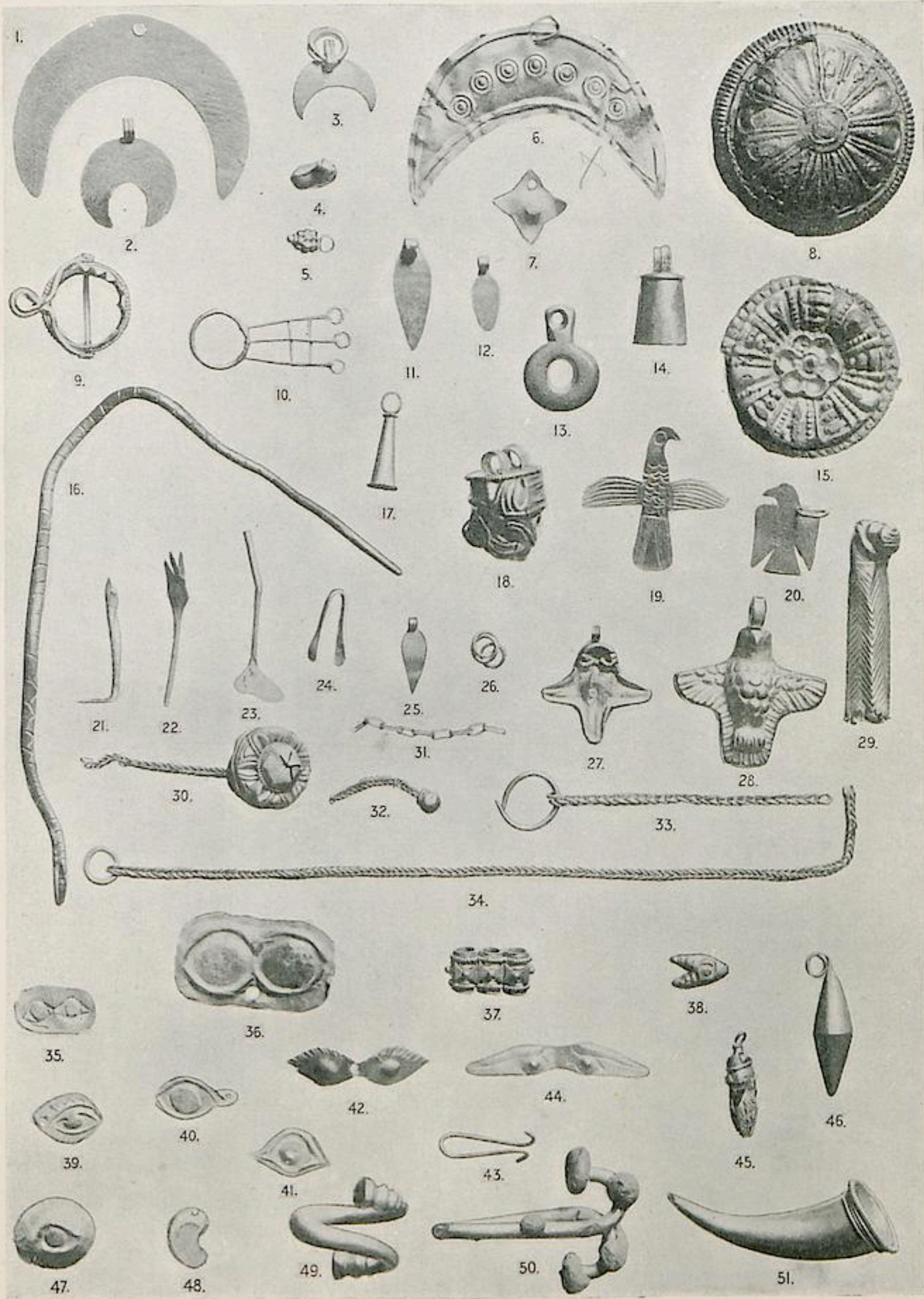
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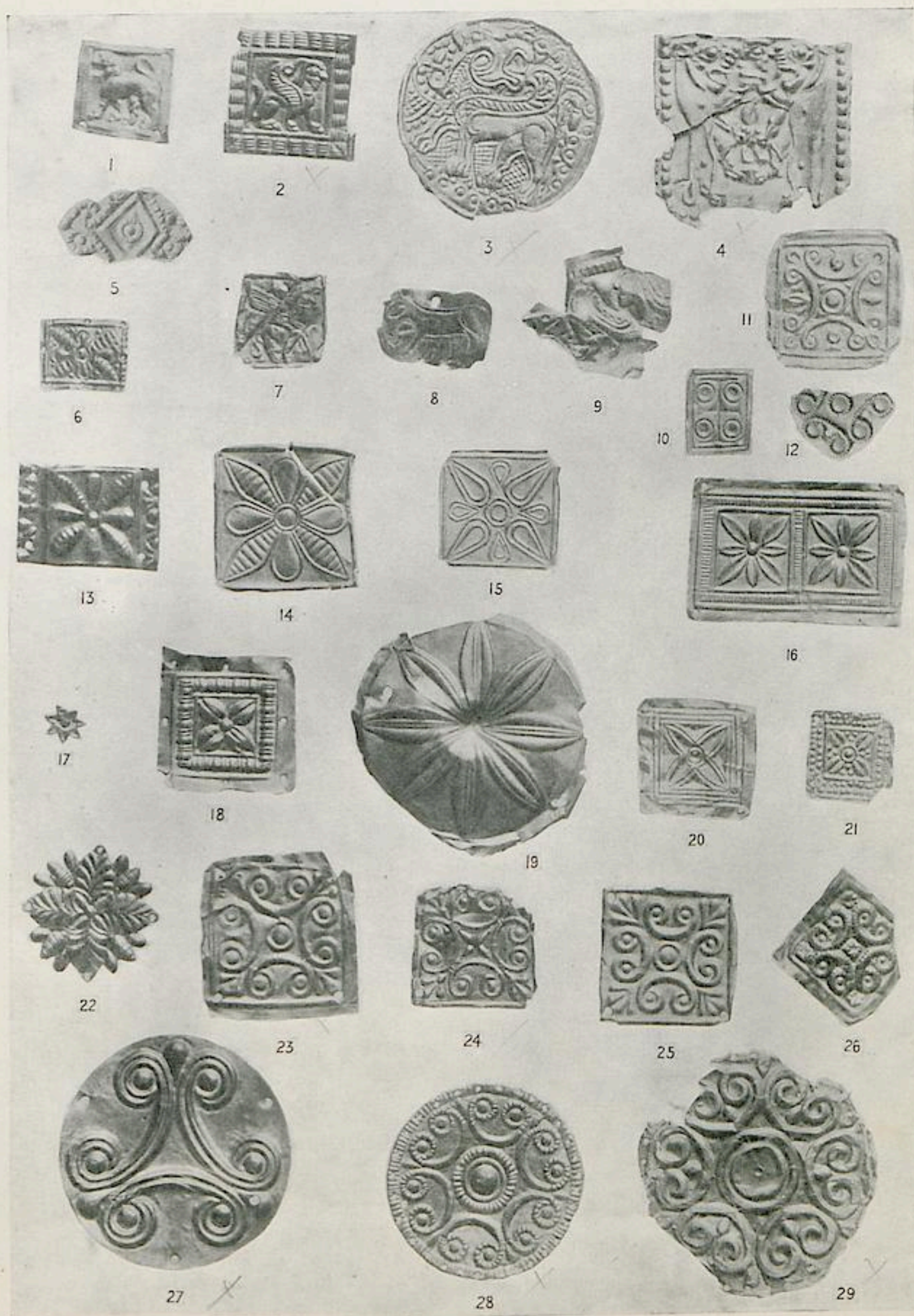


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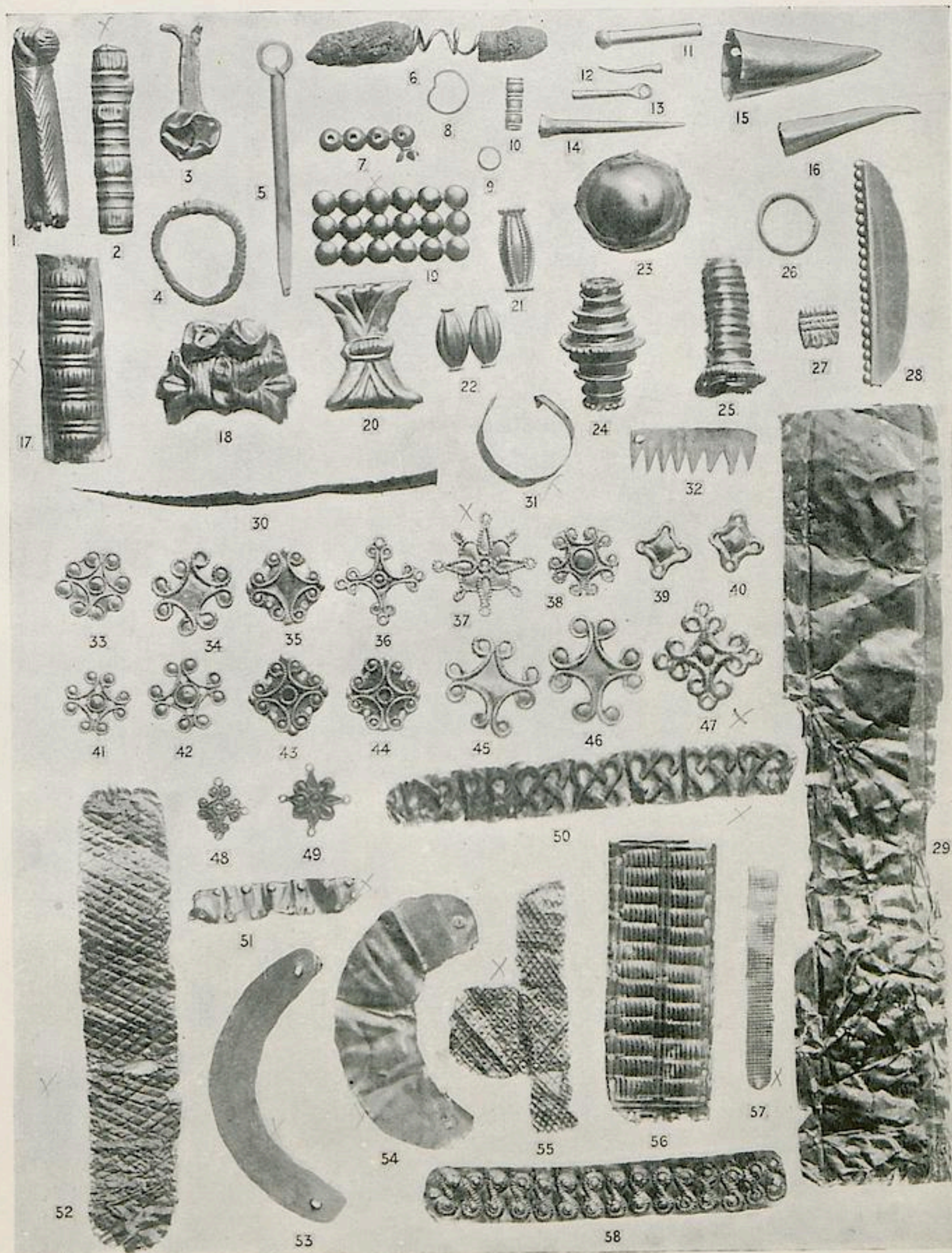


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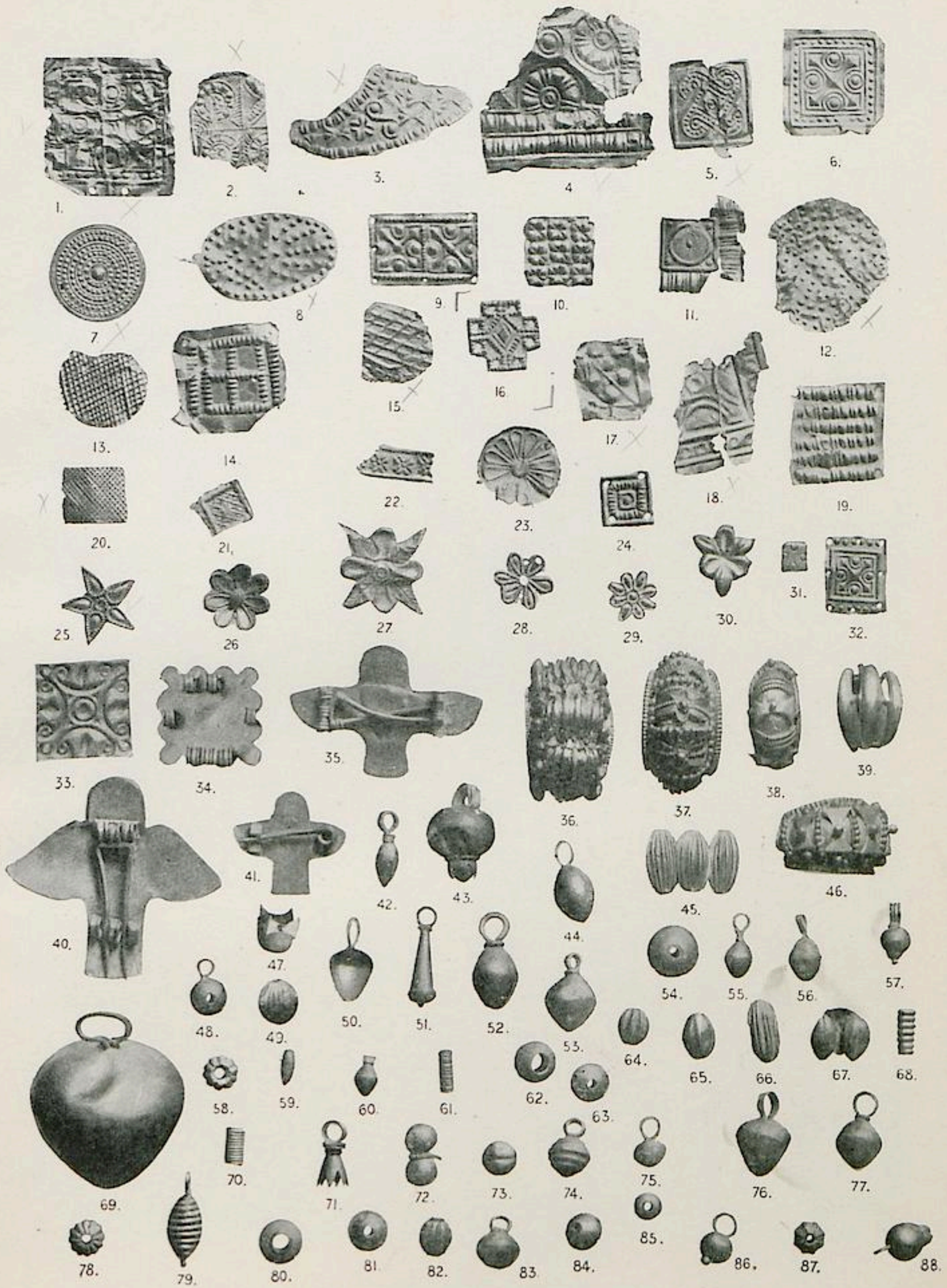
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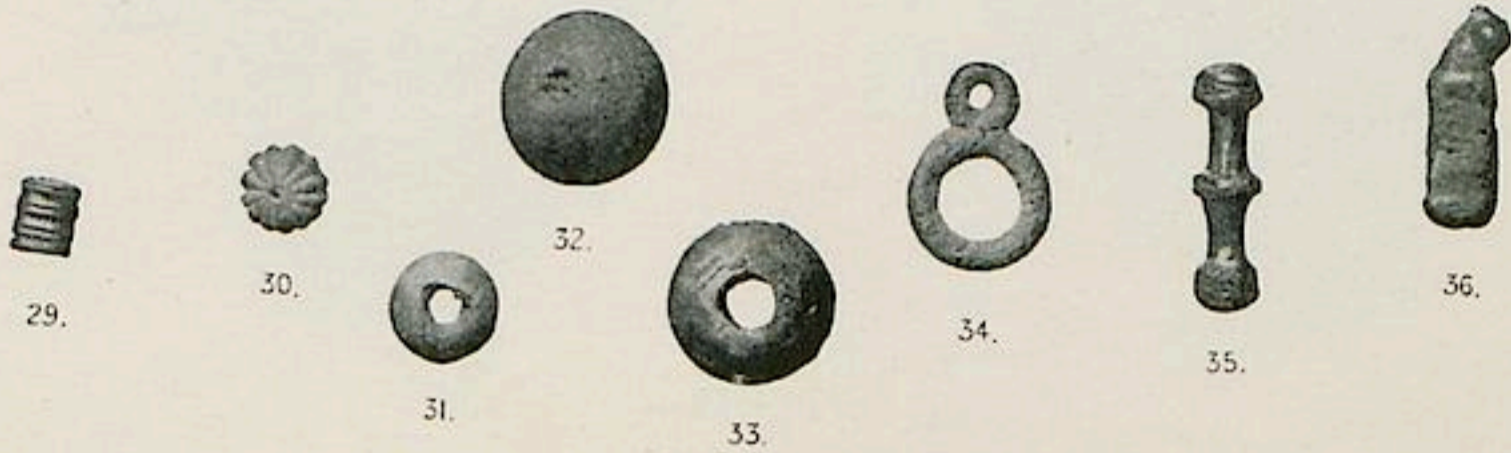
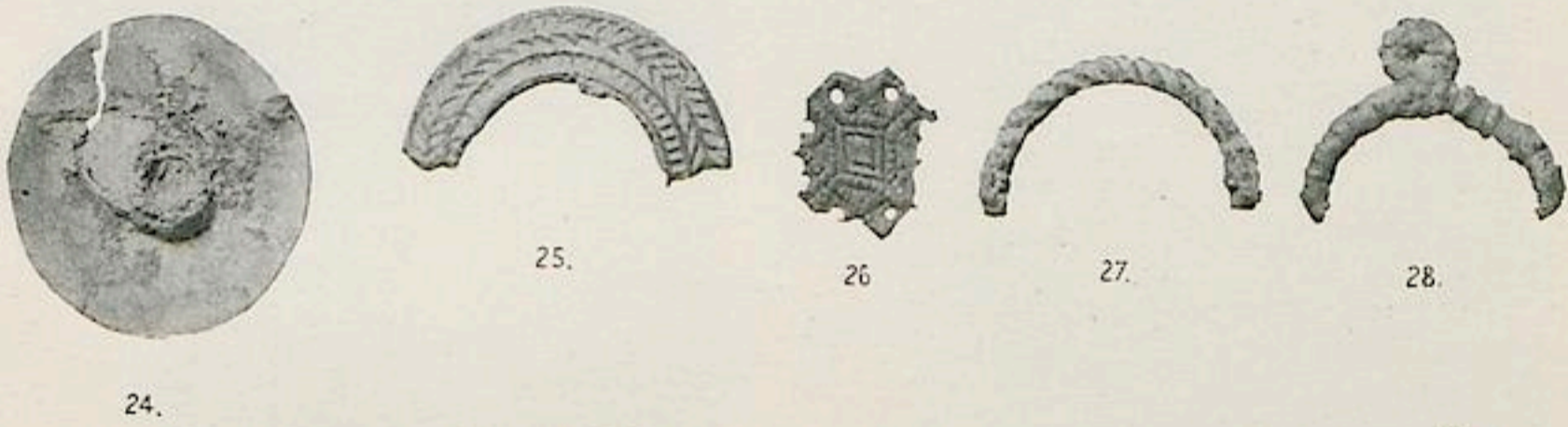
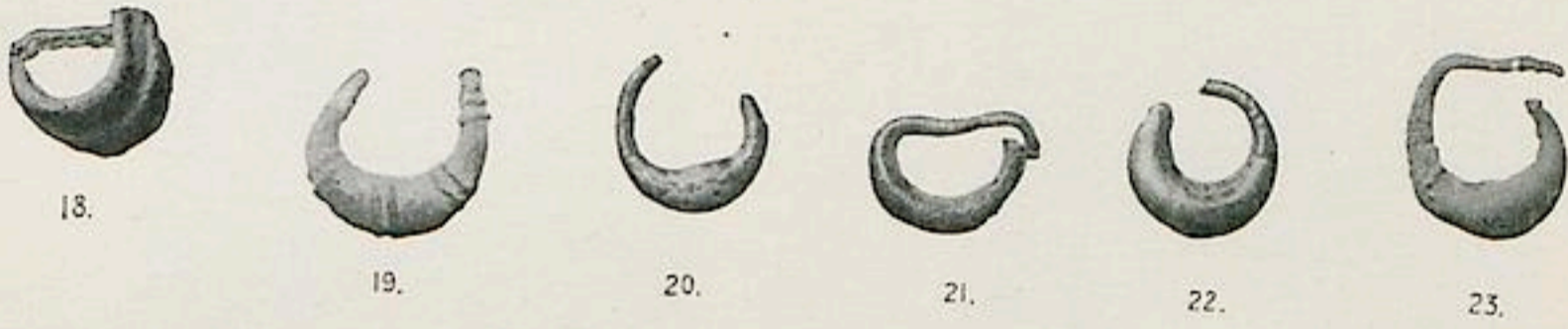
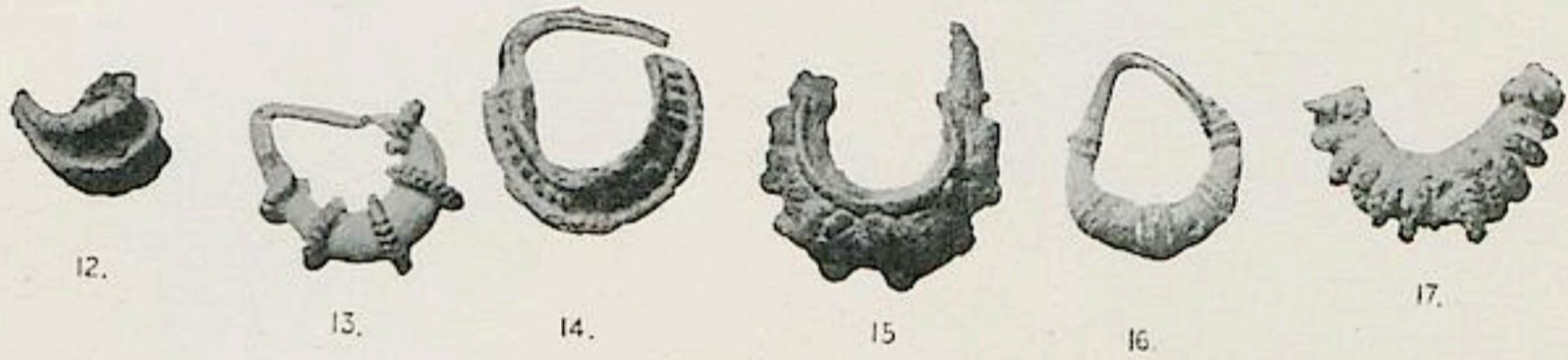
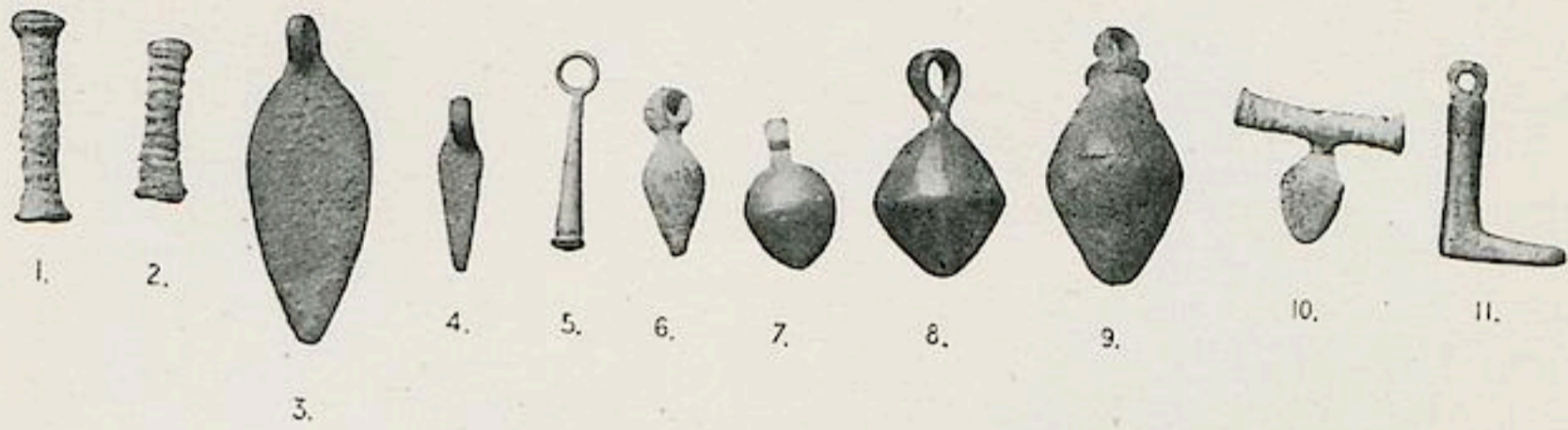
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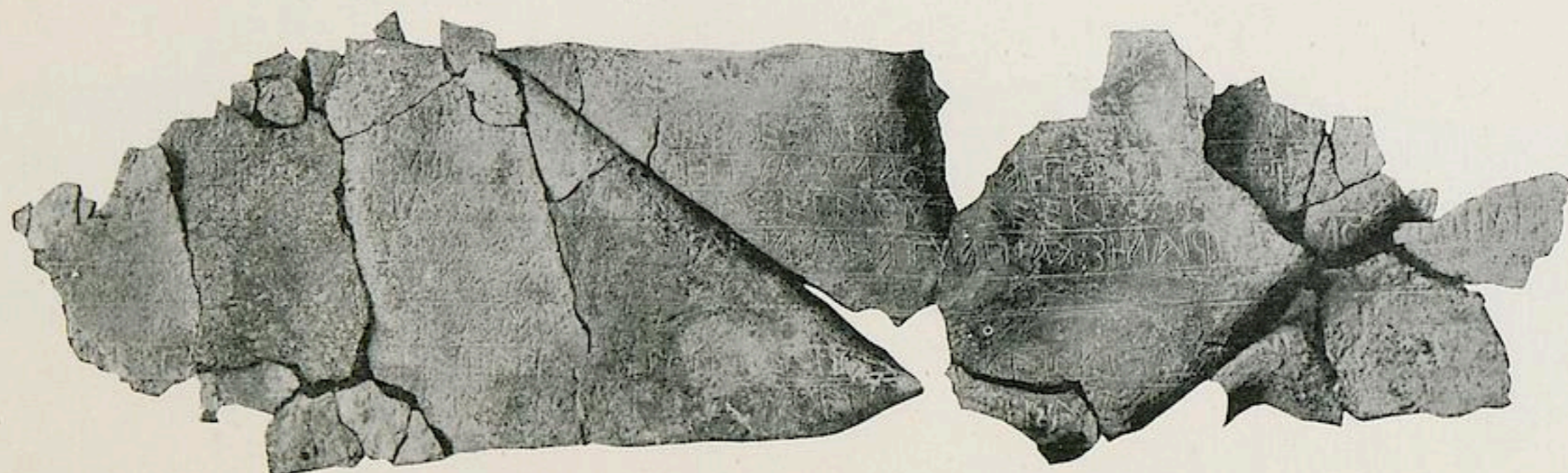
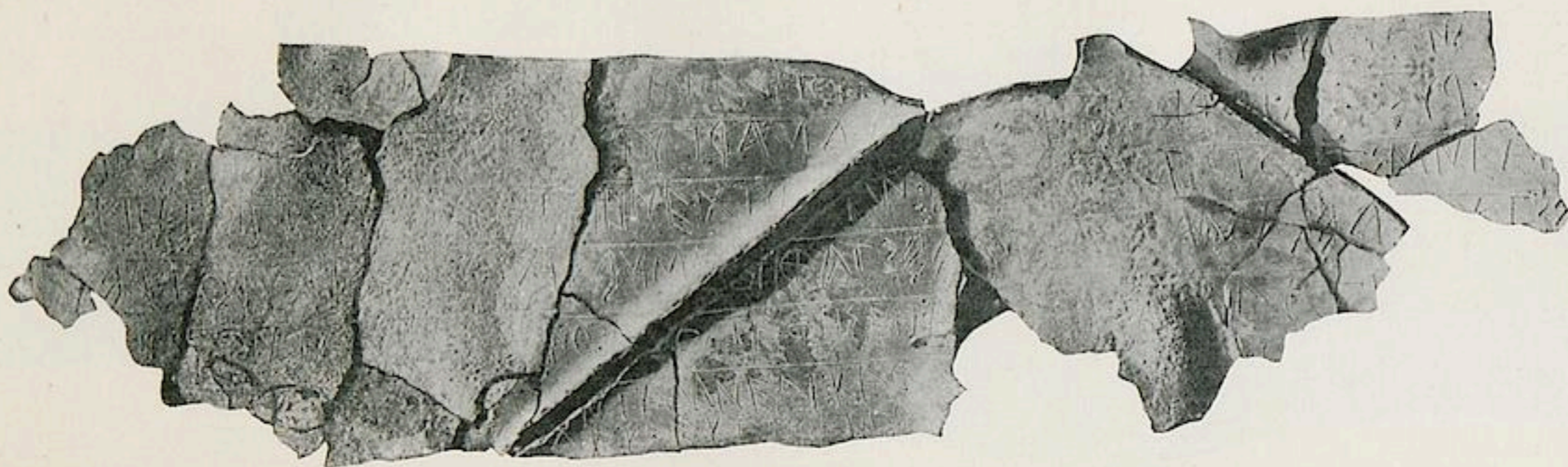
GOLD AND ELECTRUM.
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SILVER.
1 : 1



SILVER.
1 : 1



INSCRIBED SILVER PLATE.

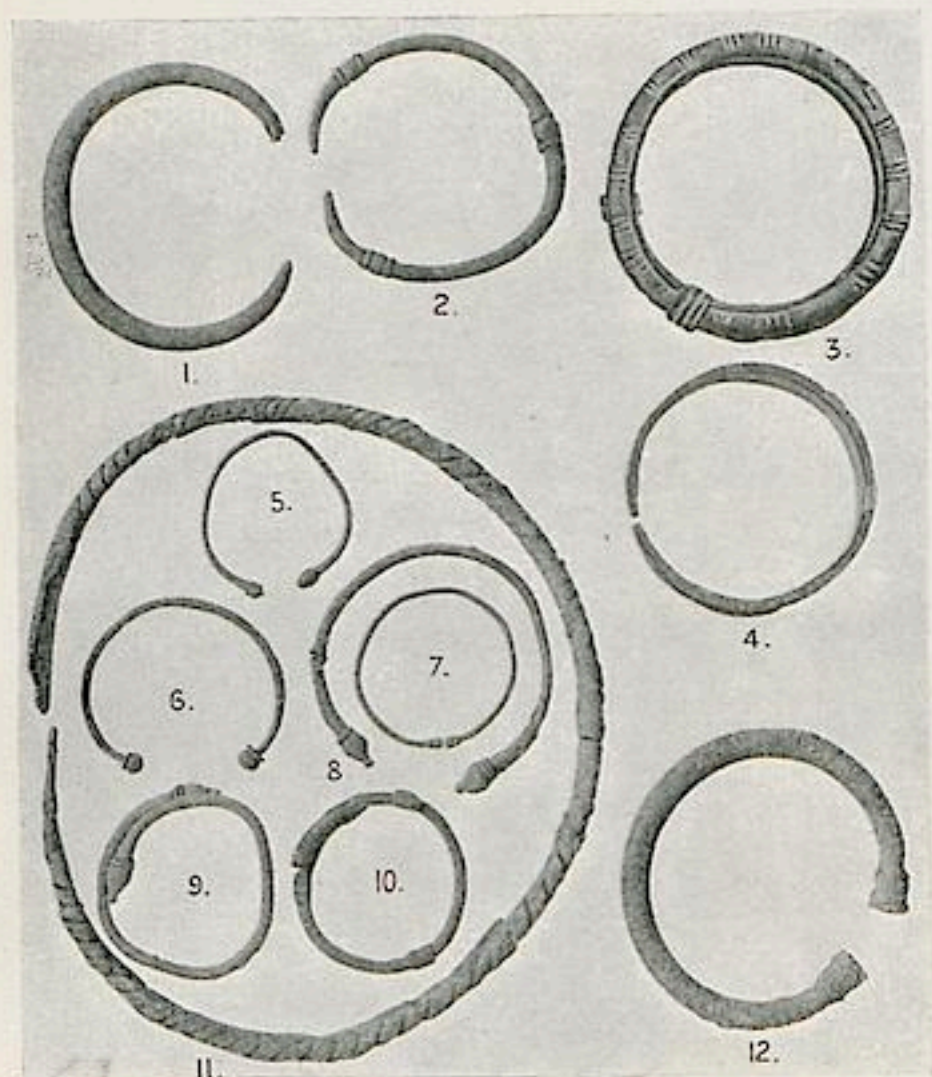
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PLATE XIII.

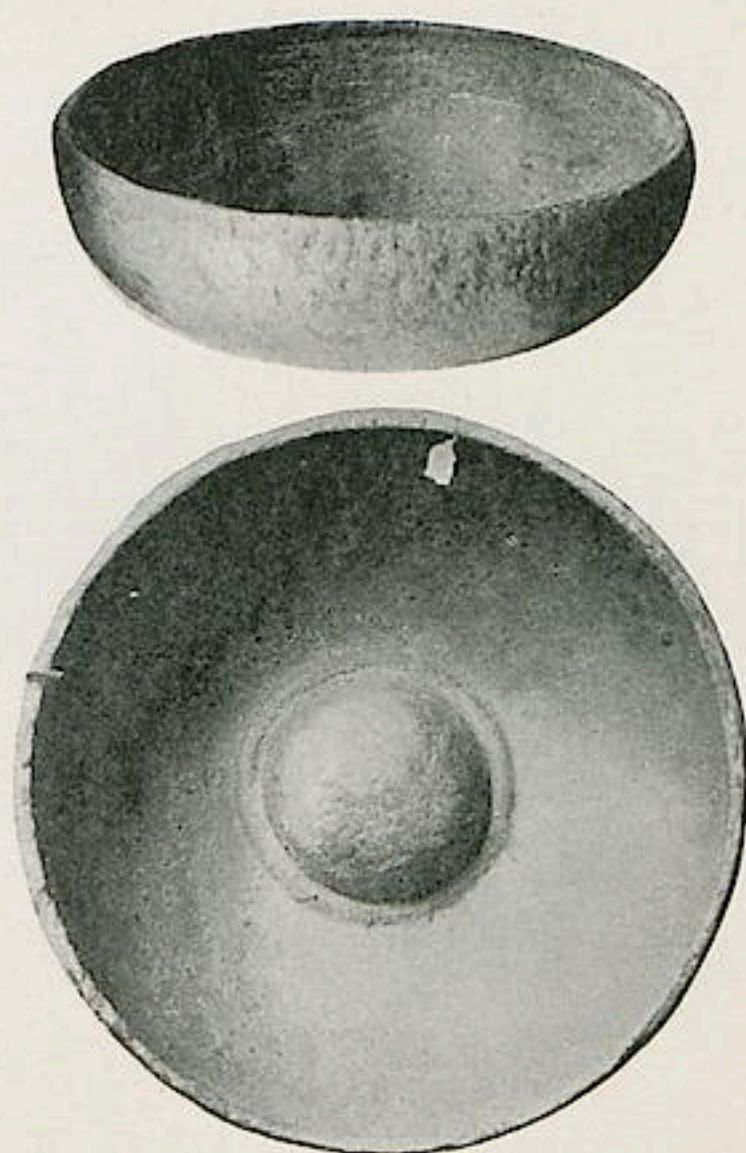


BRONZE.
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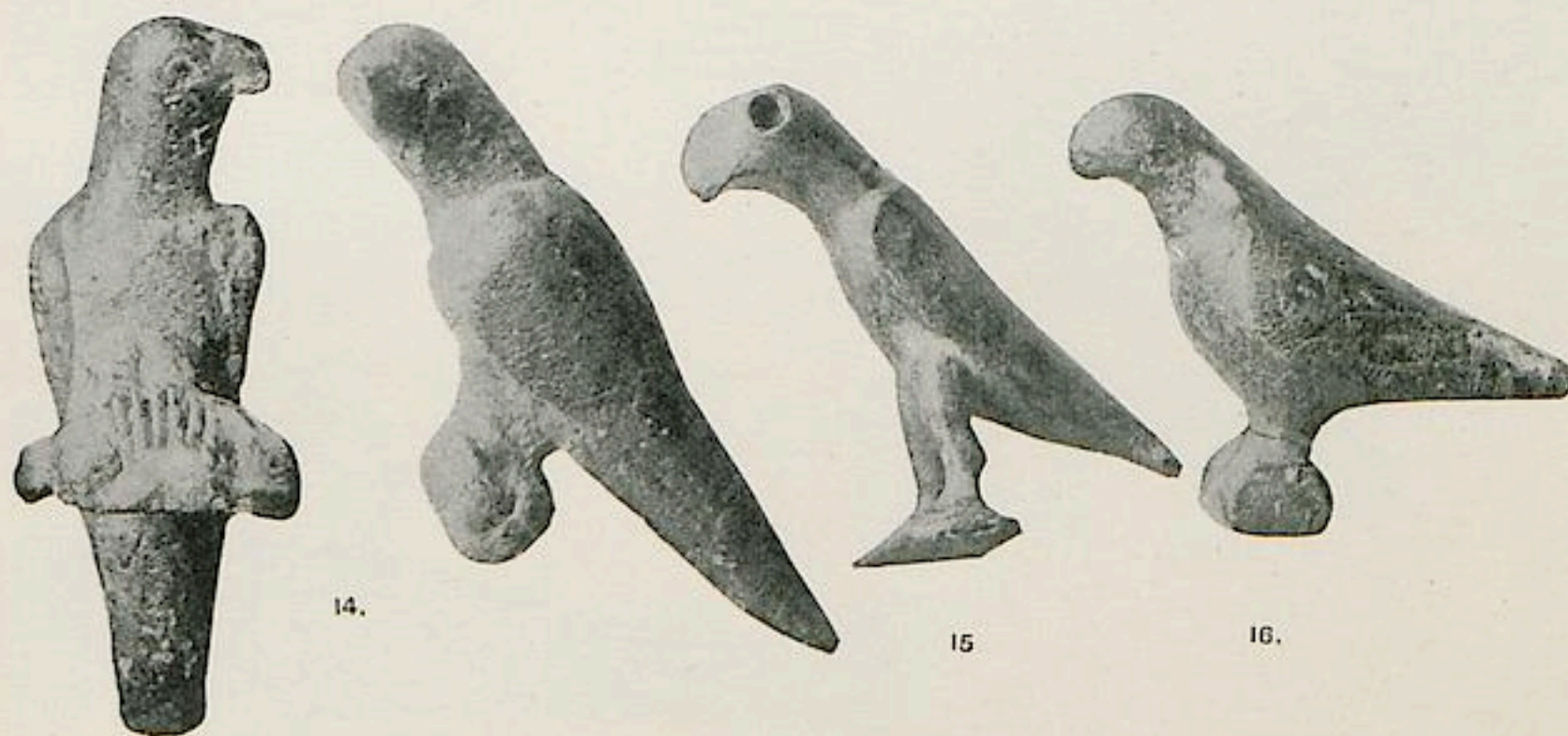
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1 : 3



13. 1 : 2



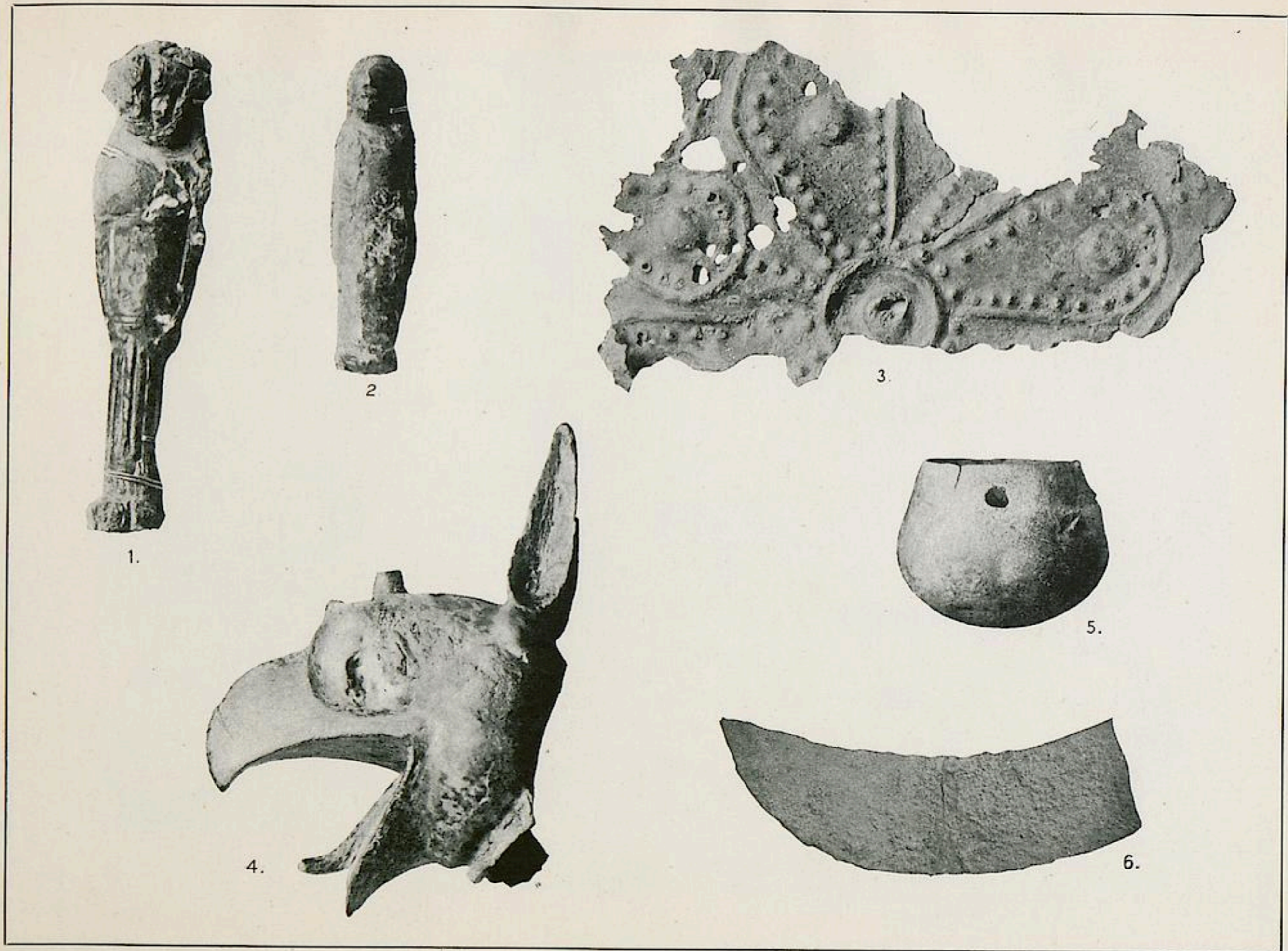
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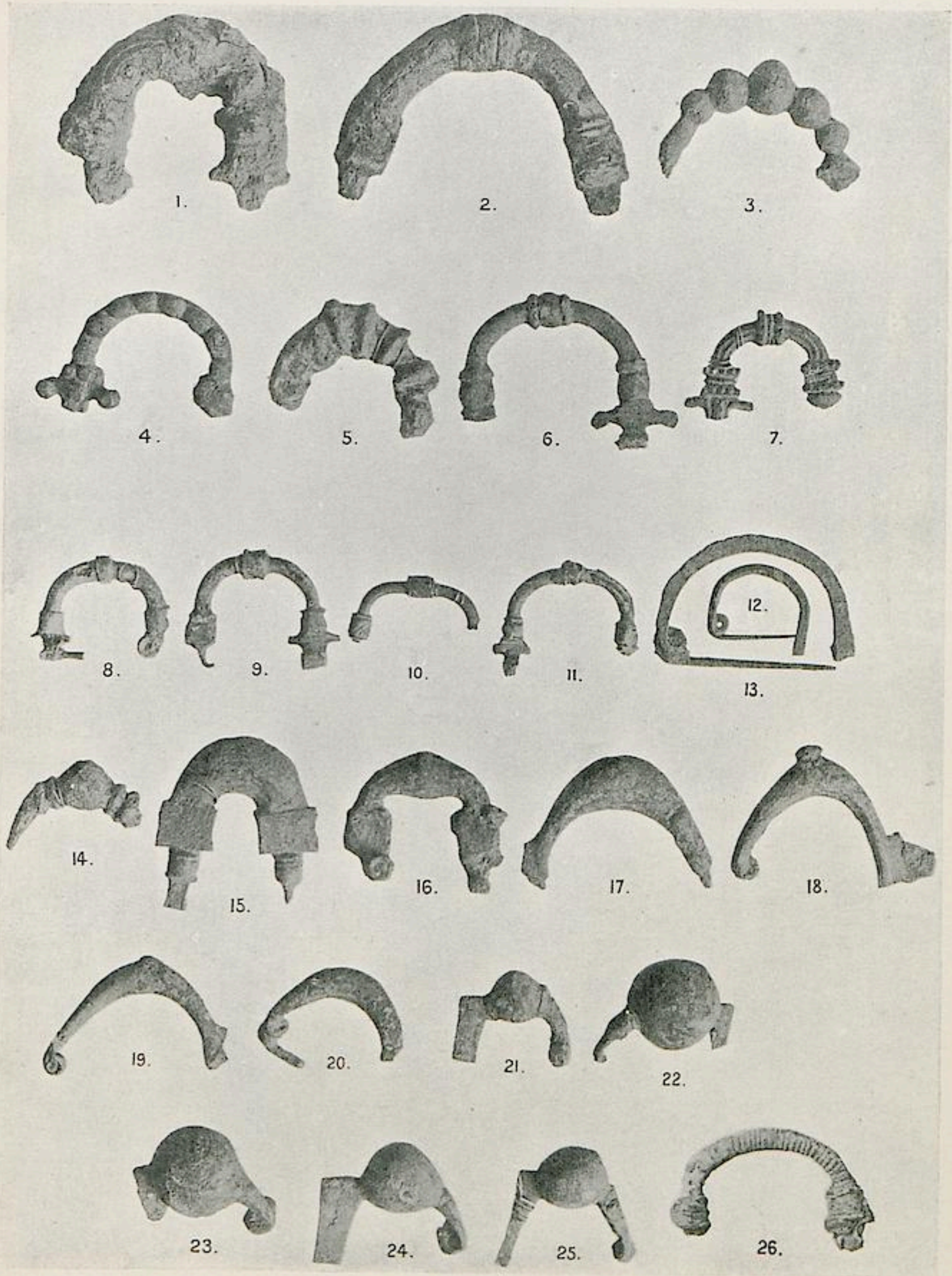
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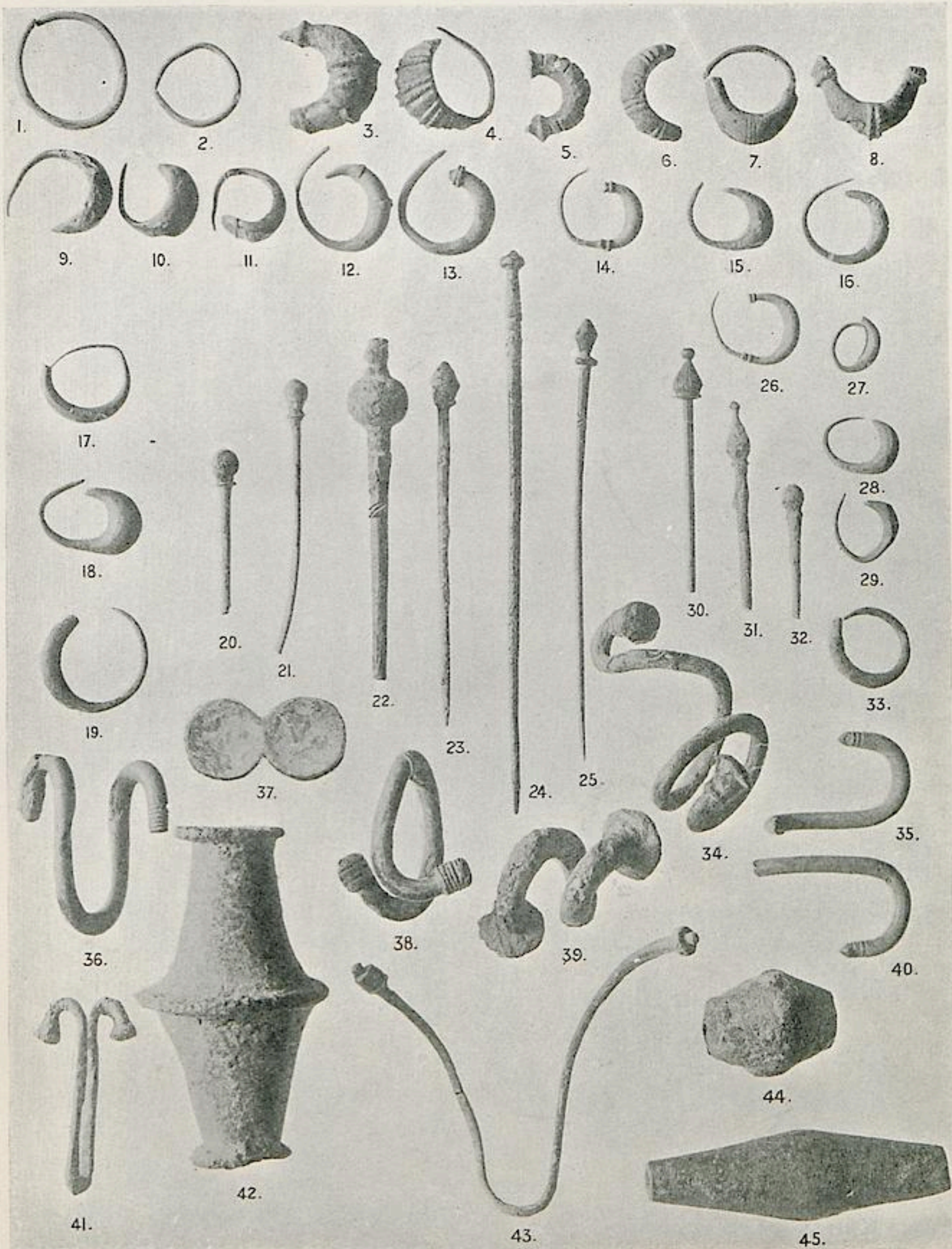
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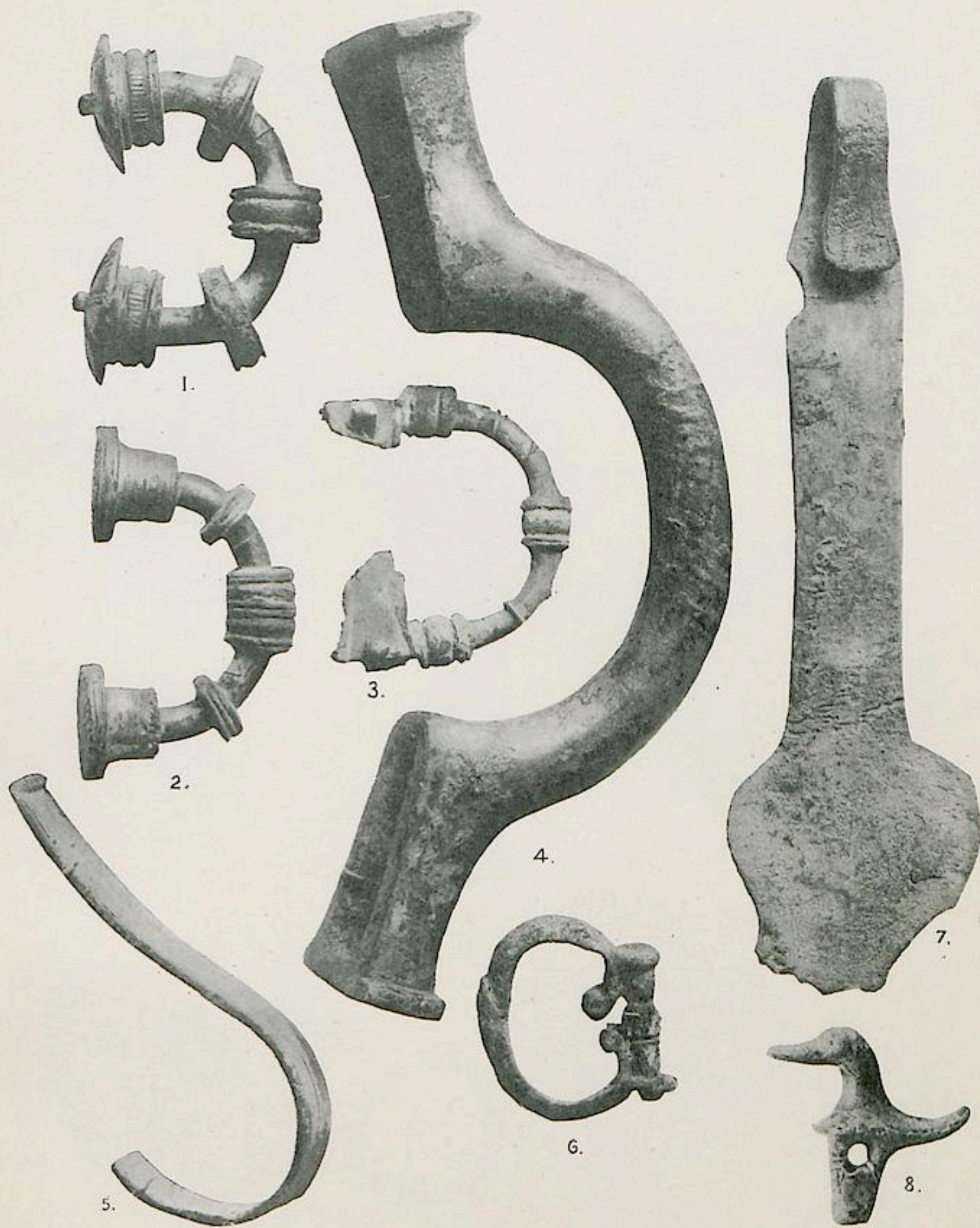
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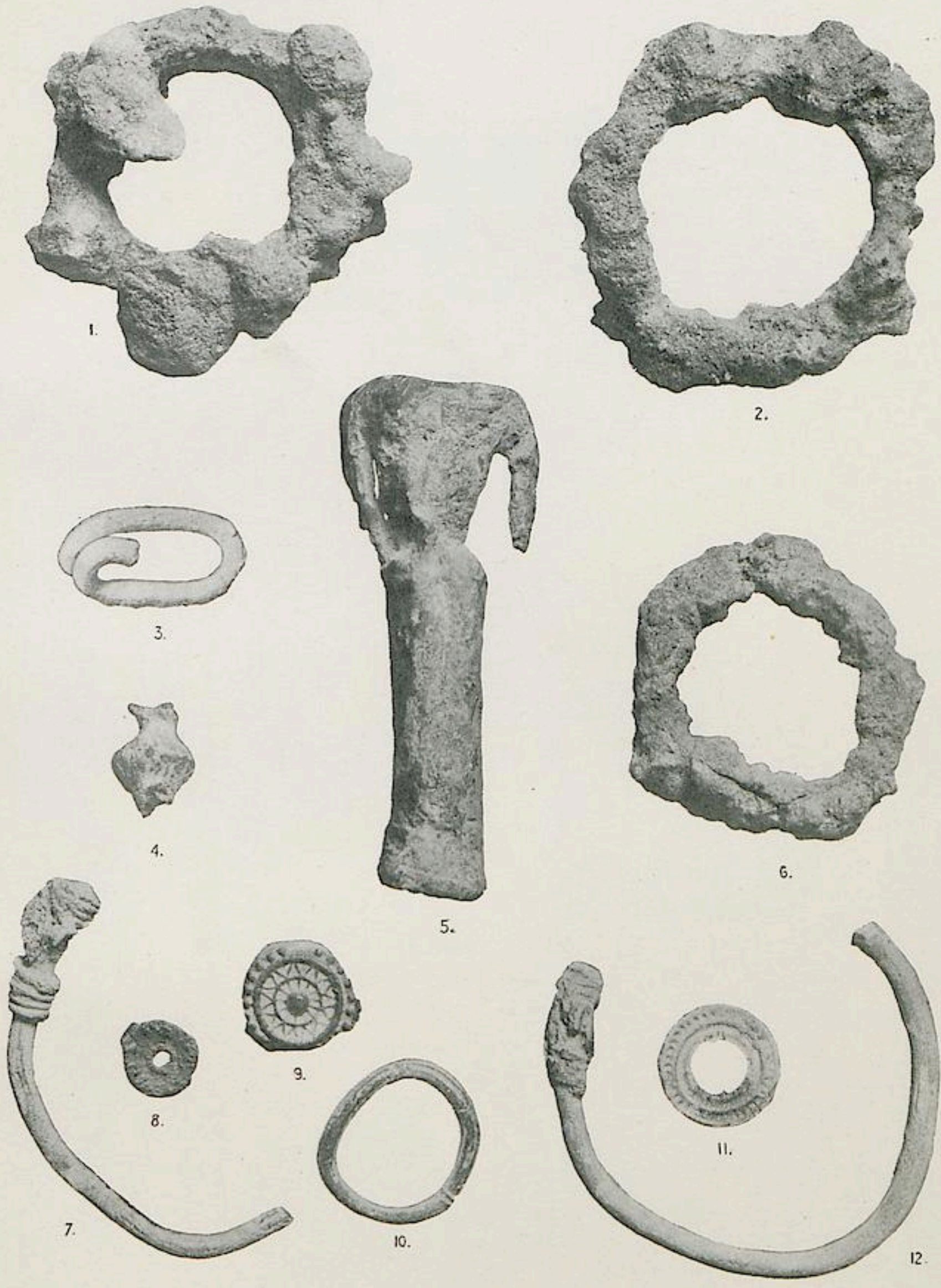
BRONZE.
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BRONZE.
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BRONZE.
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IRON AND LEAD.
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6

IVORY STATUETTES.



1b.



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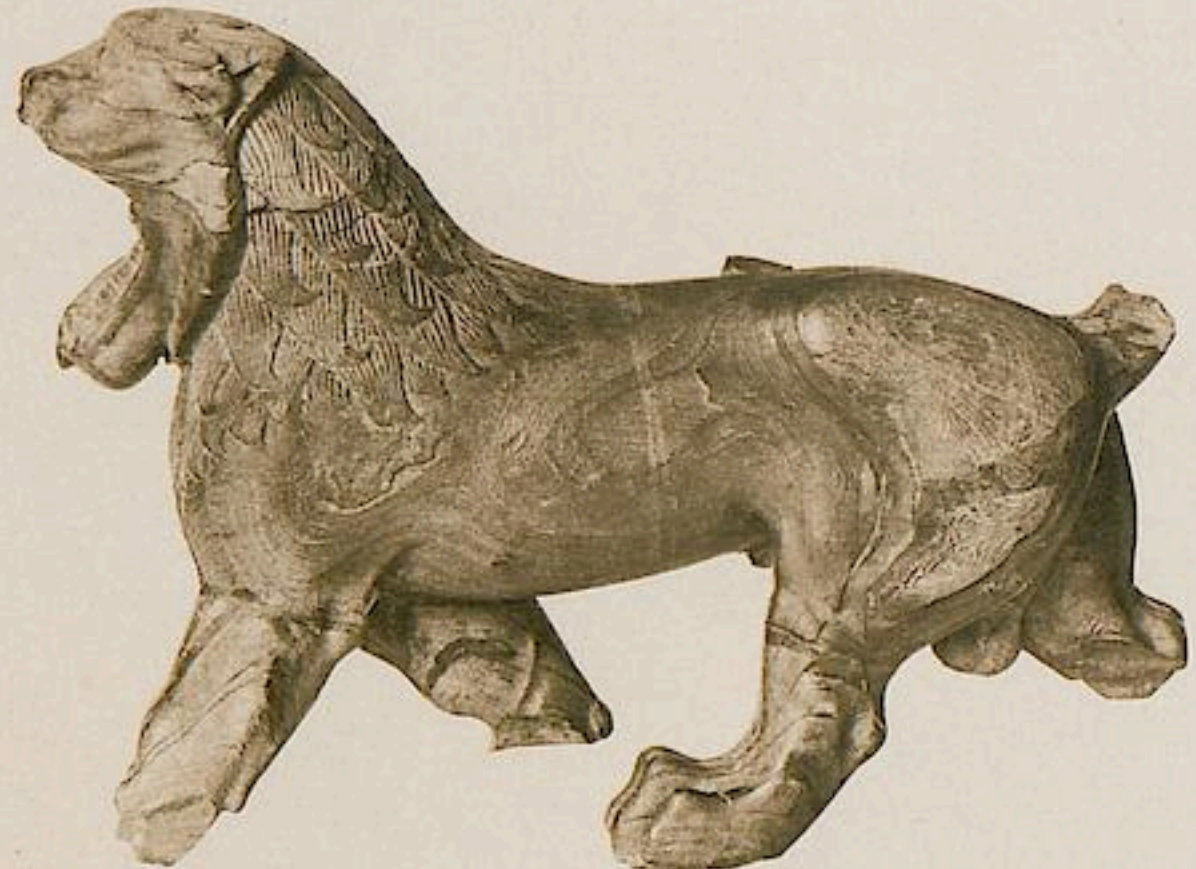
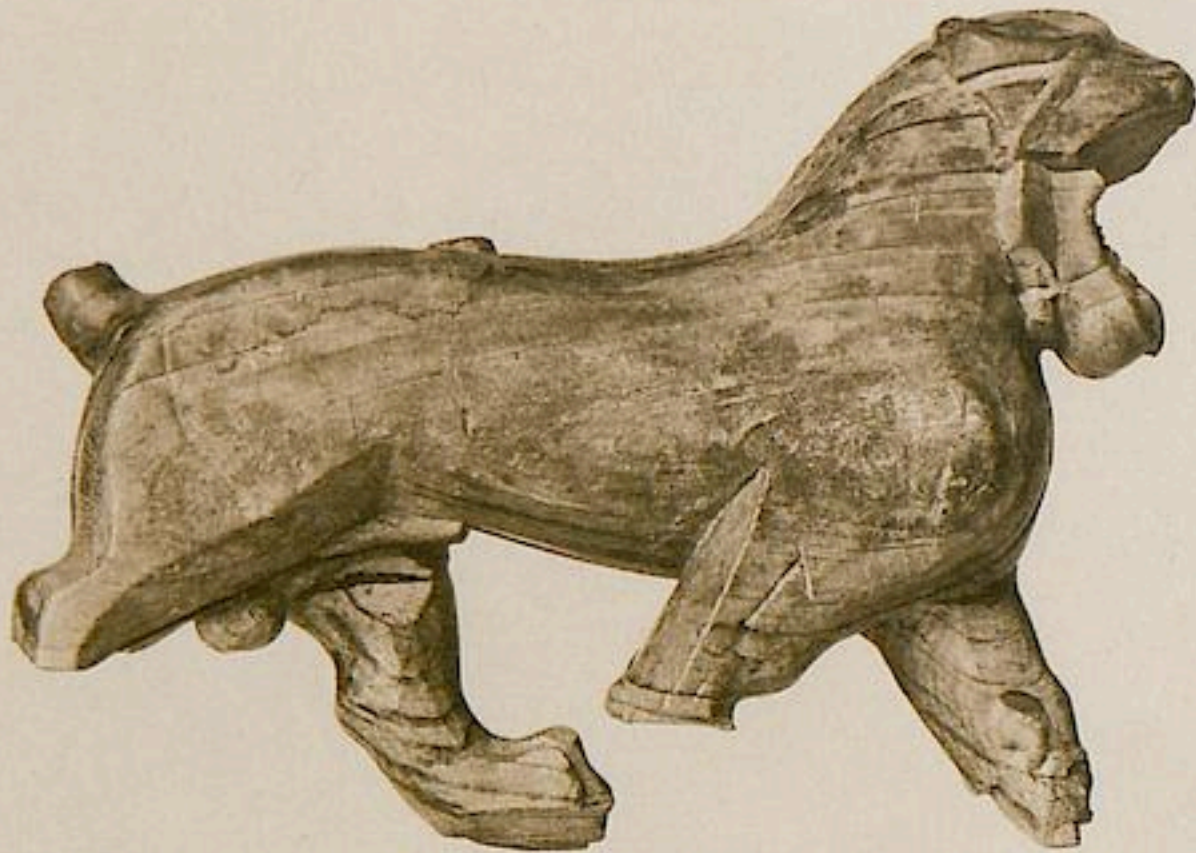


1c.

IVORY STATUETTE, IN THREE VIEWS.



2.



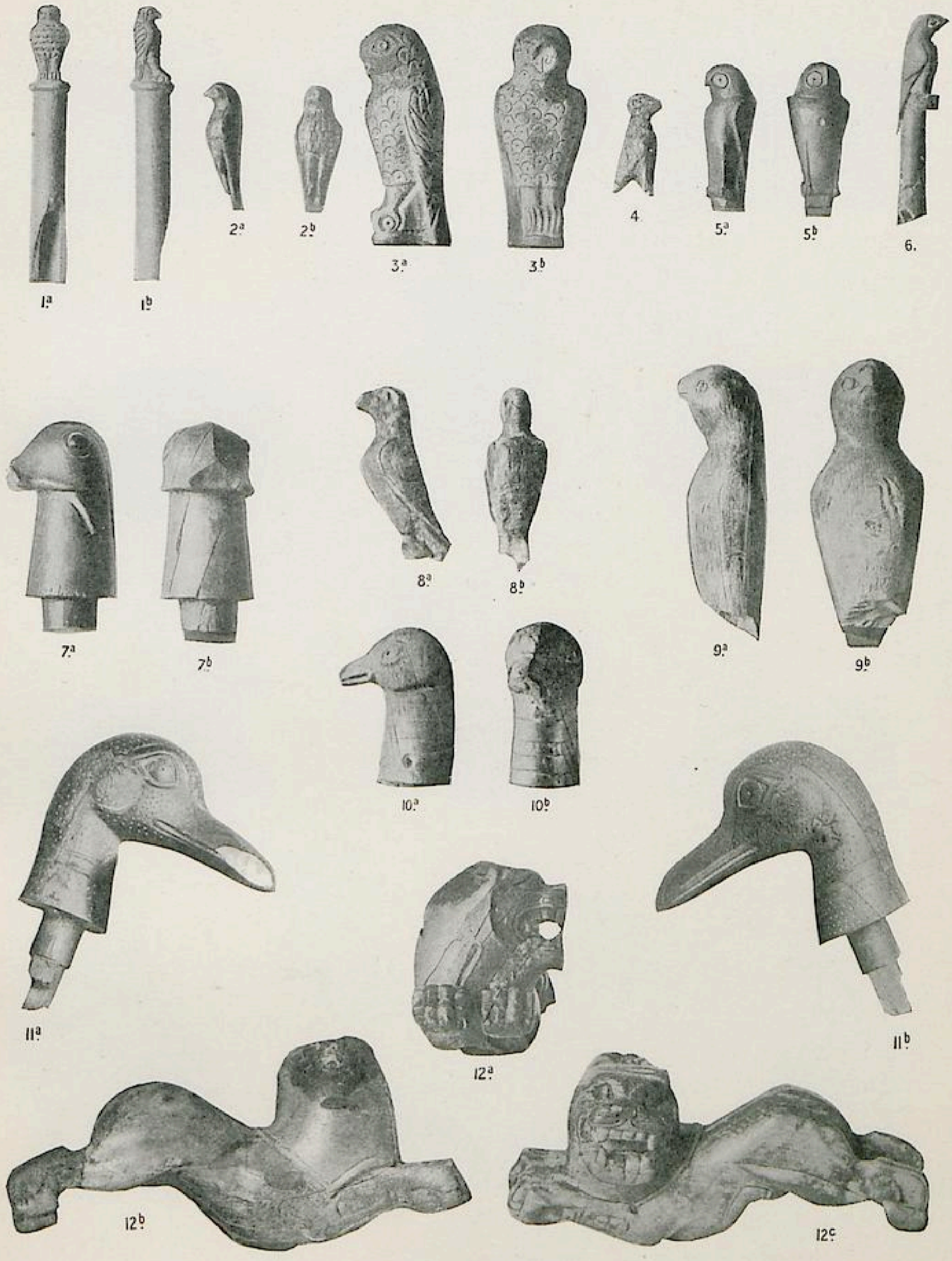
3.

IVORY STATUETTES.

PLATE XXIII.



IVORY STATUETTES.
1 : 1



IVORY STATUETTES.

1 : 1



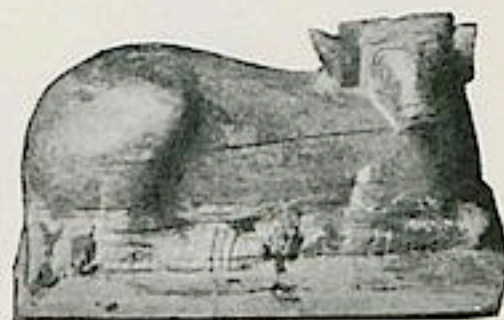
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2^a



2^b



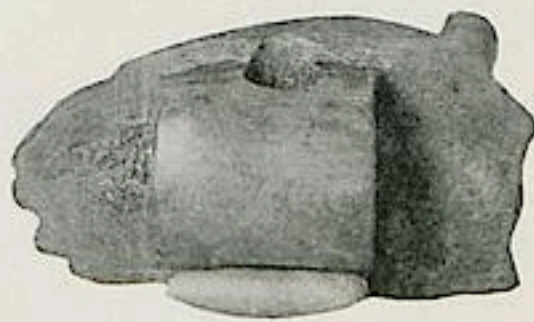
1^b



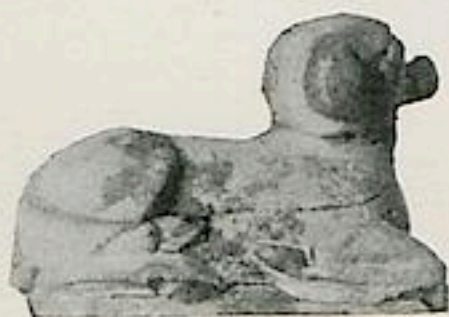
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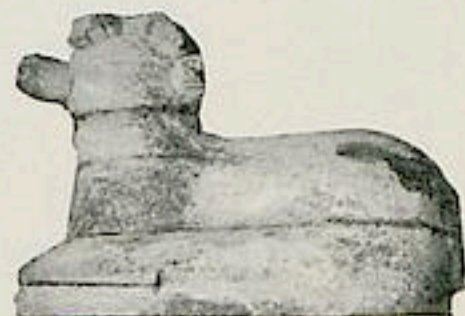
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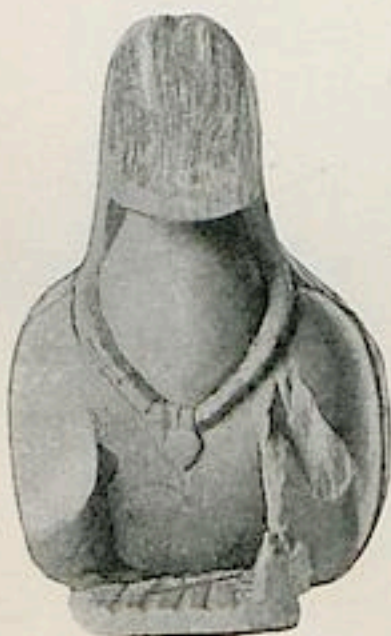
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5^b



9^a



7



8



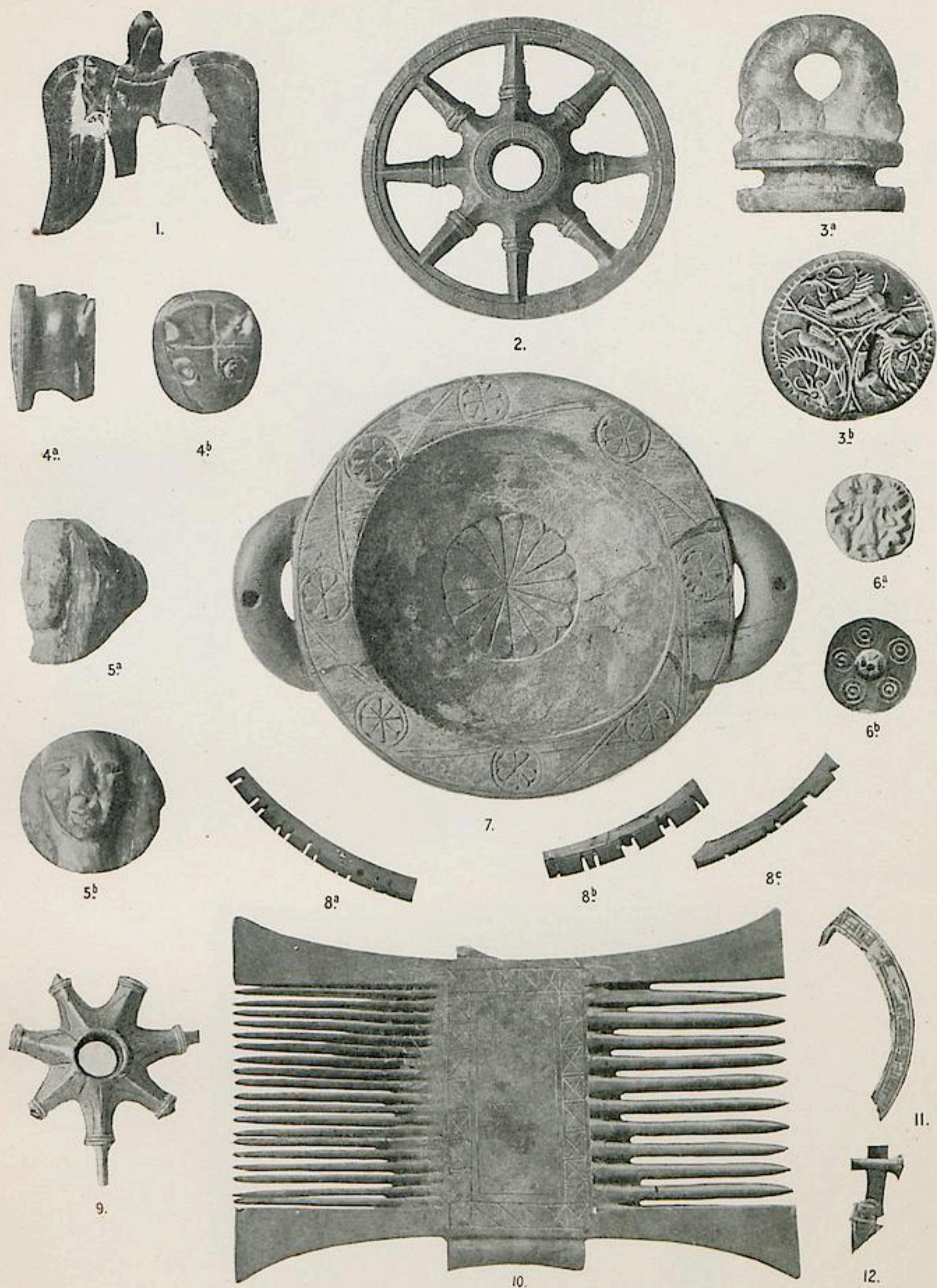
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9^b

IVORY STATUETTES.

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IVORIES.
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2.



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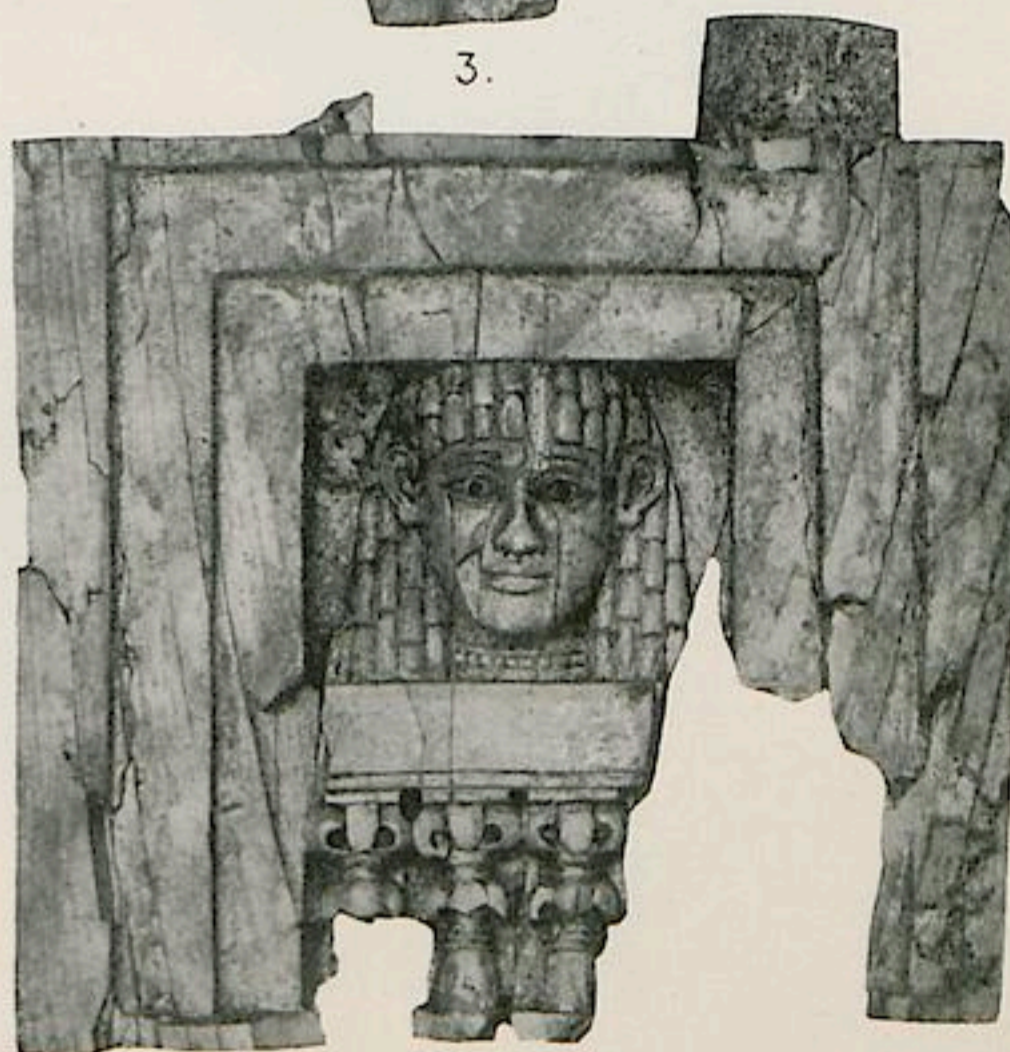


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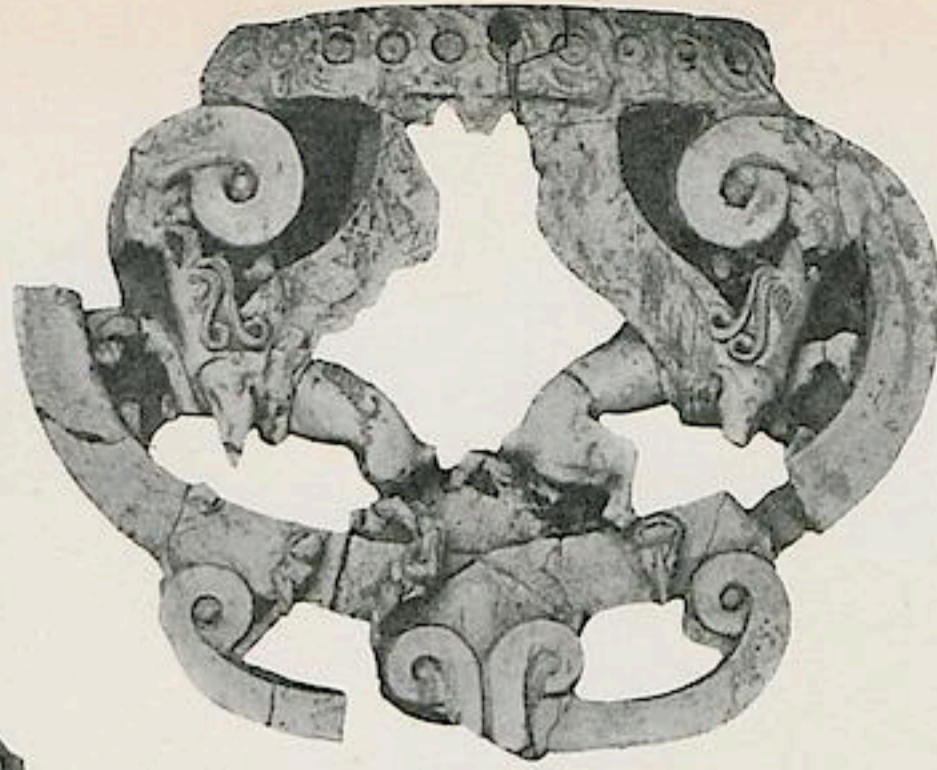
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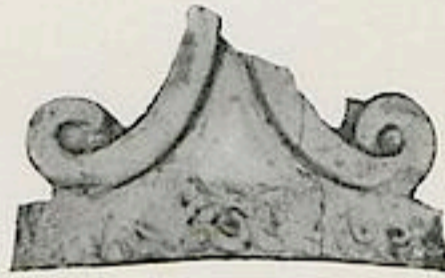


5.

IVORIES: 1, 4 FROM CAMEIROS (3:2) : 2, 3, 5 FROM NIMRÔD (1:1).



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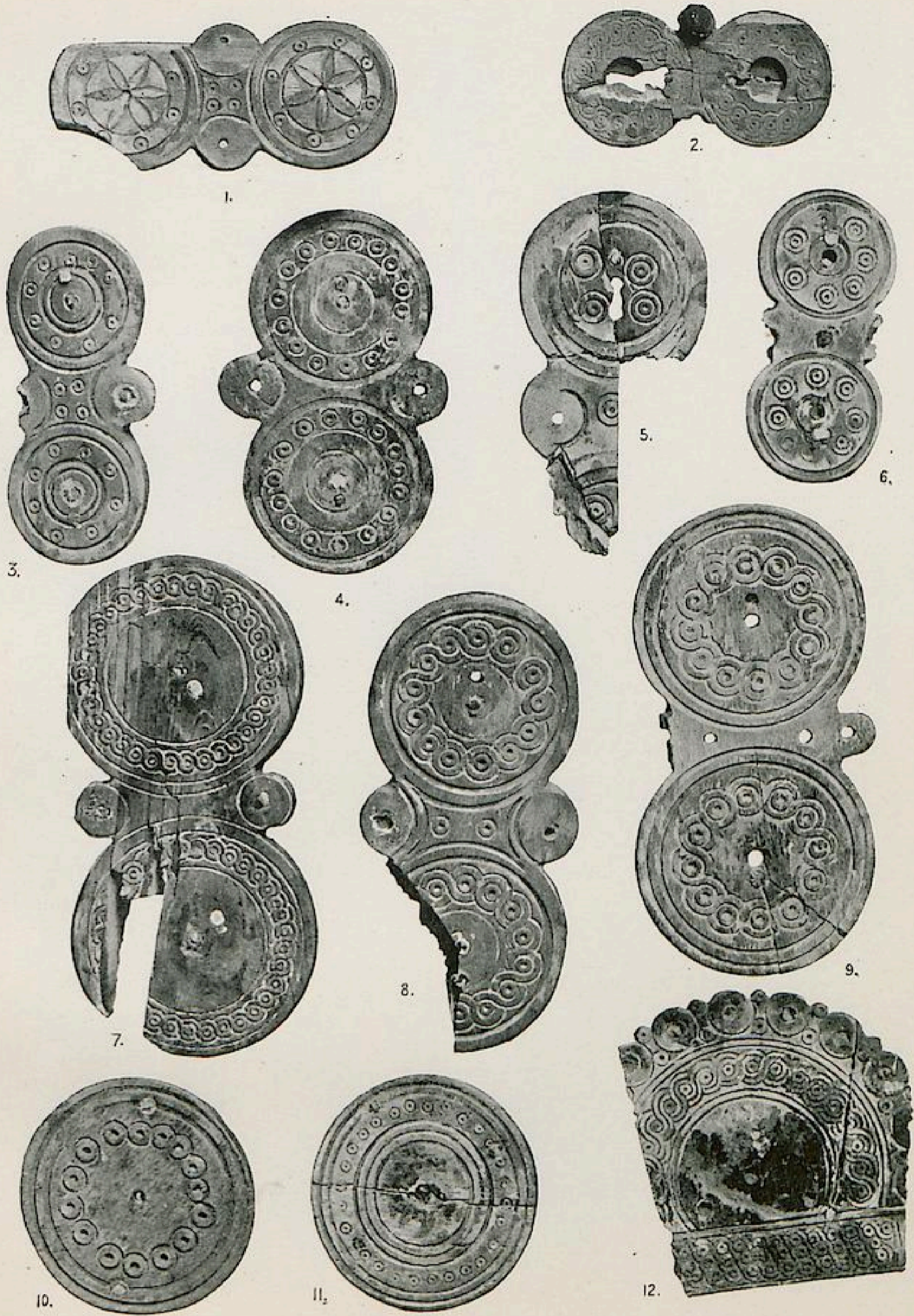
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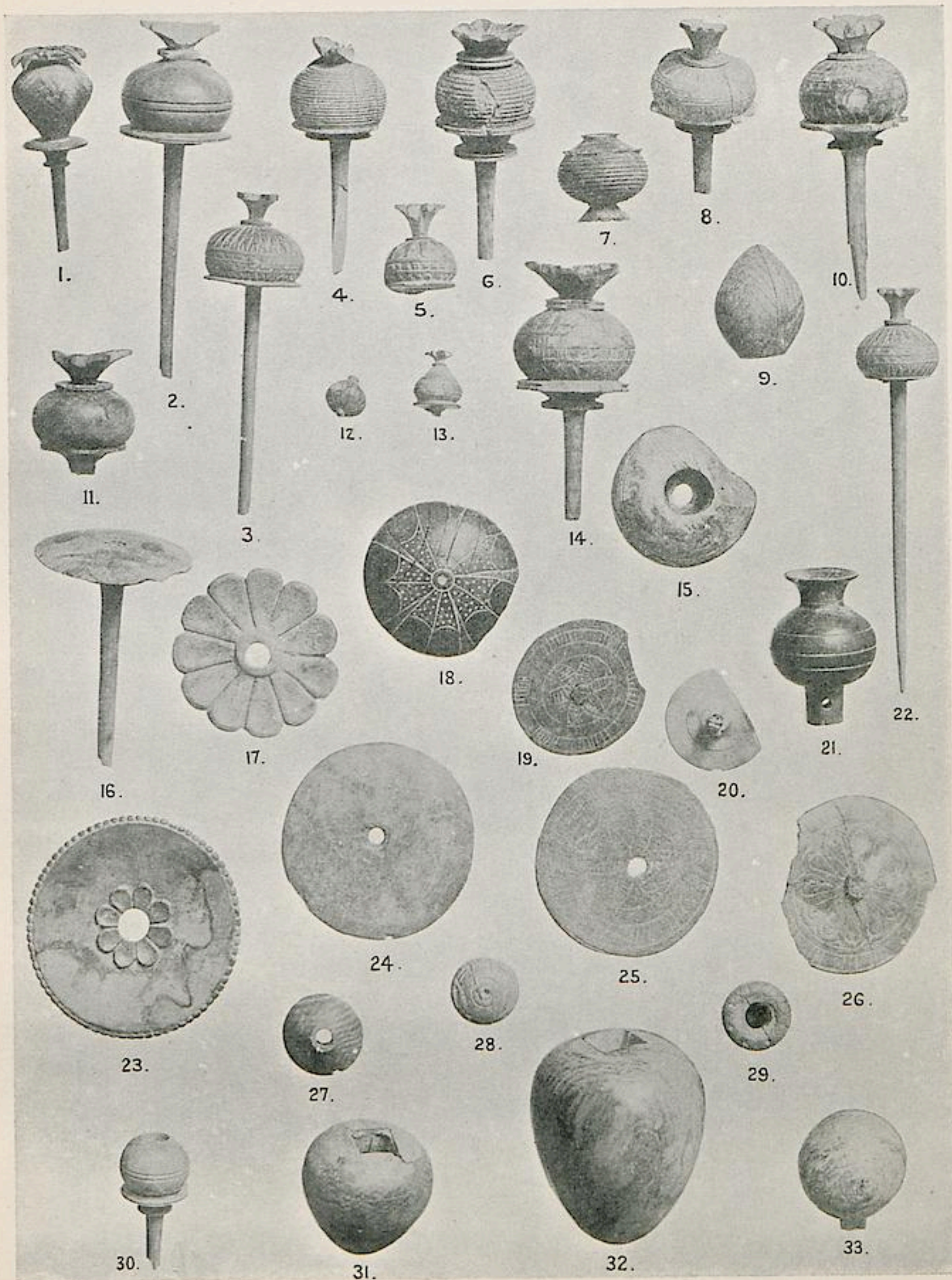
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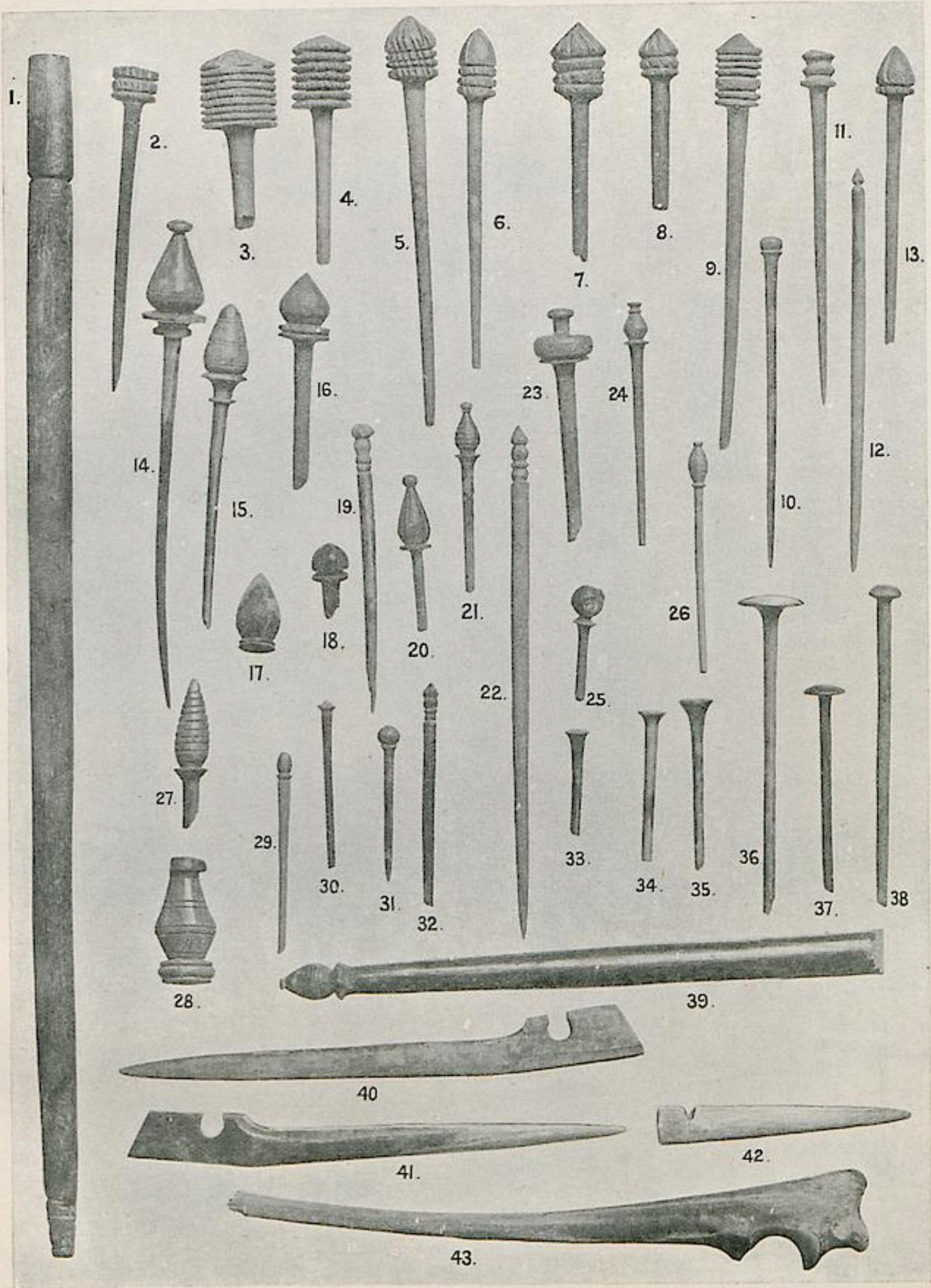
IVORIES FROM CAMEIROS, AND (4) NAUKRATIS (1 : 1).



IVORY AND BONE.
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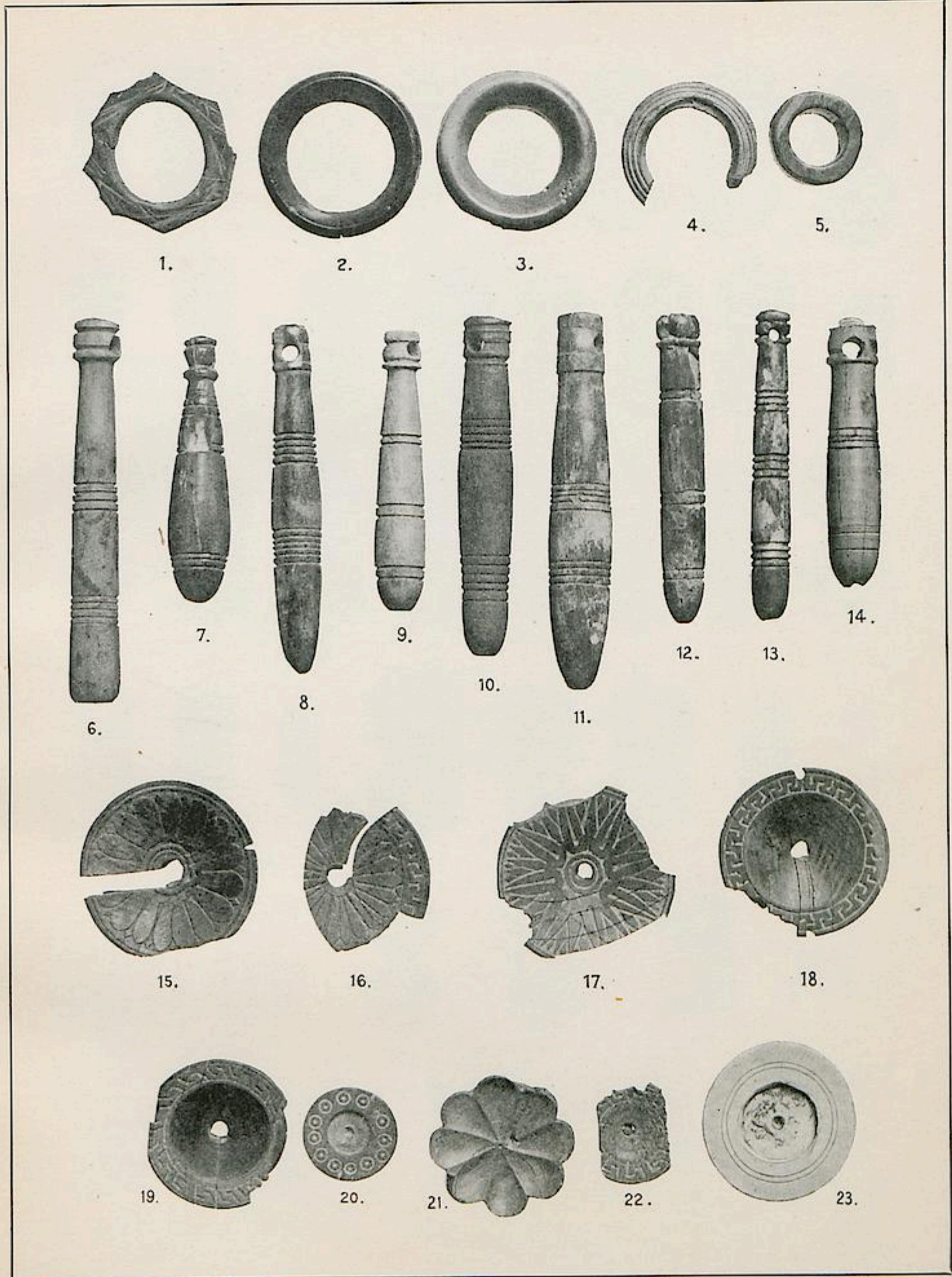


IVORY AND BONE.
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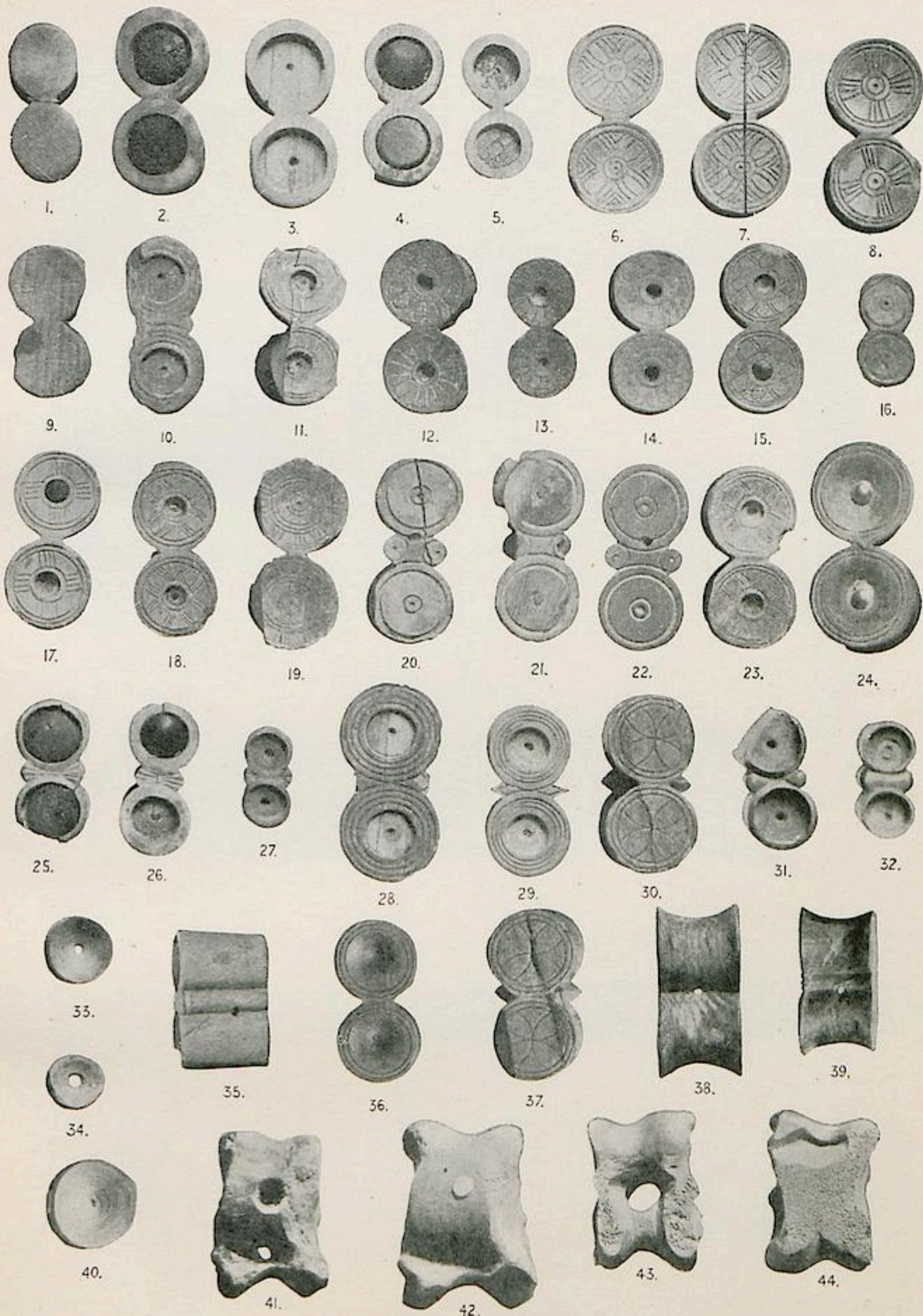


IVORY AND BONE.

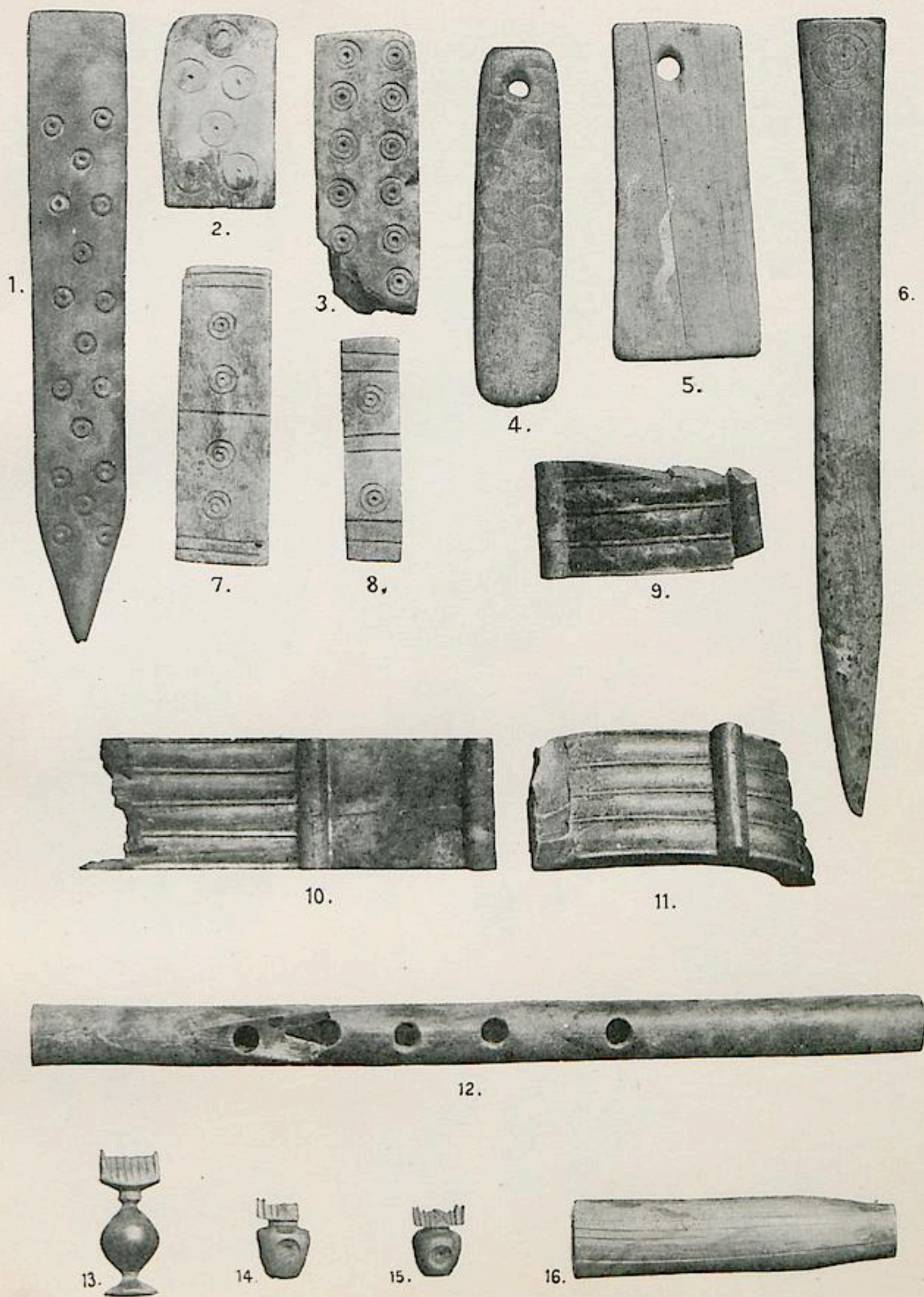
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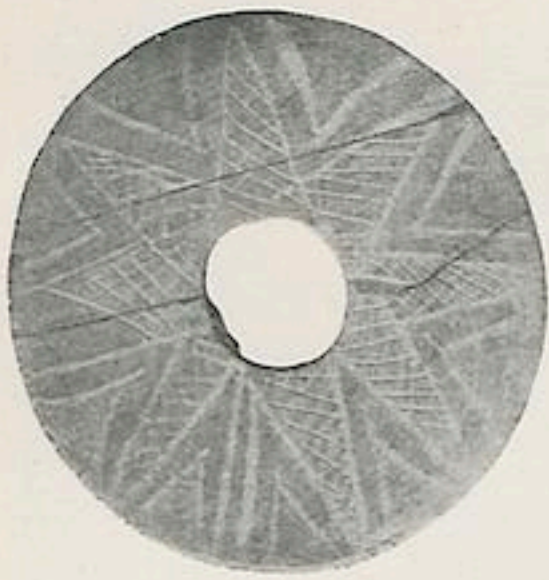
IVORY AND BONE.
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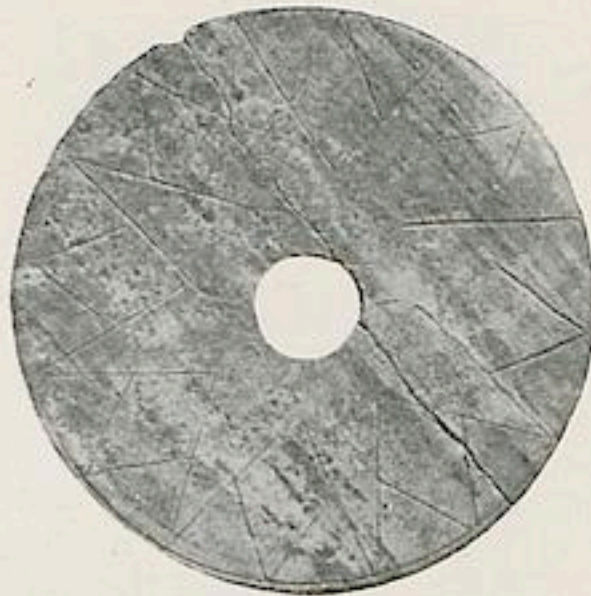
IVORY AND BONE.
1 : 1



IVORY AND BONE.
1 : 1



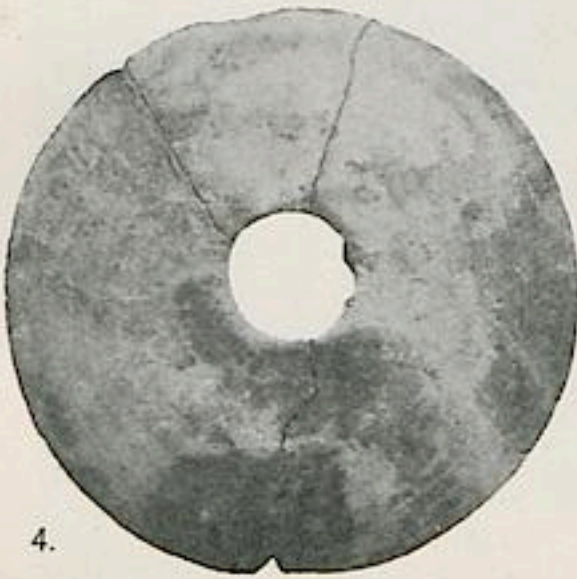
1.



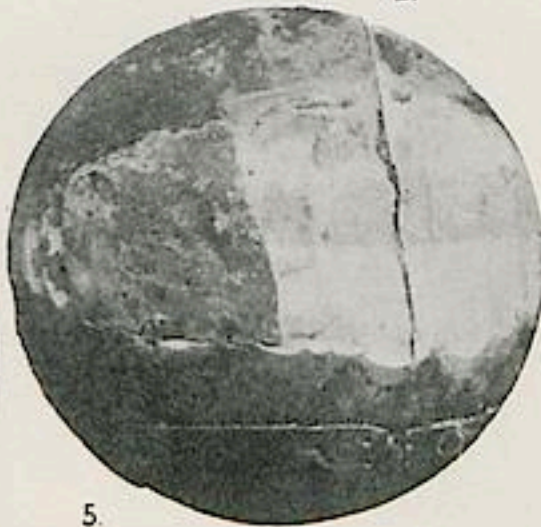
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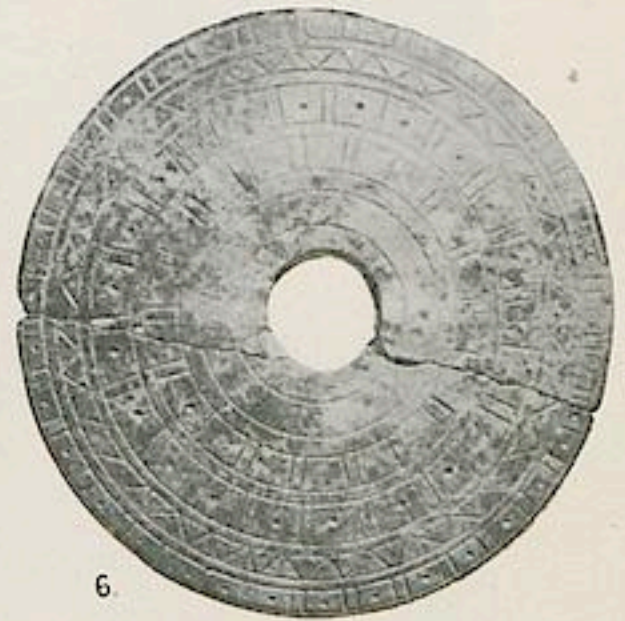
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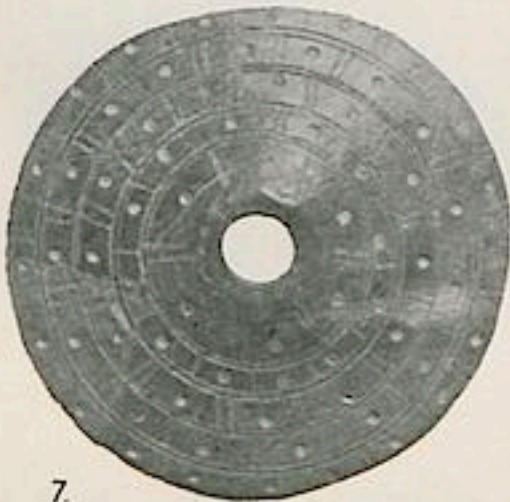
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5.



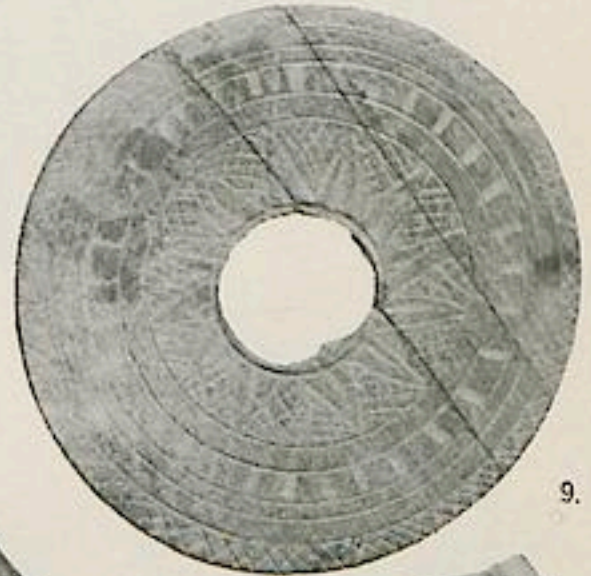
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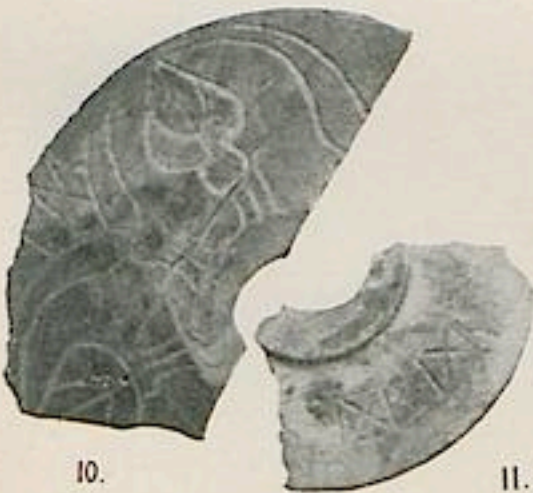
7.



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10.

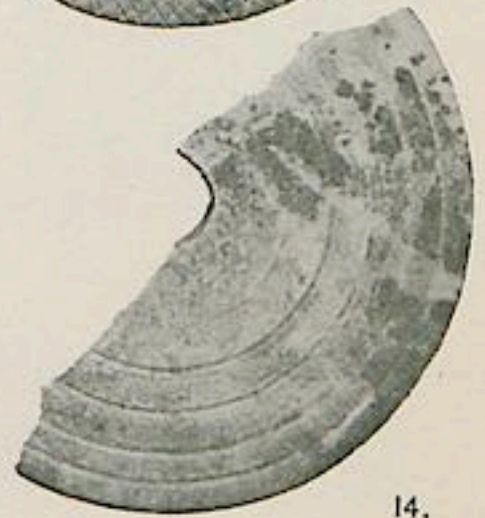
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12.



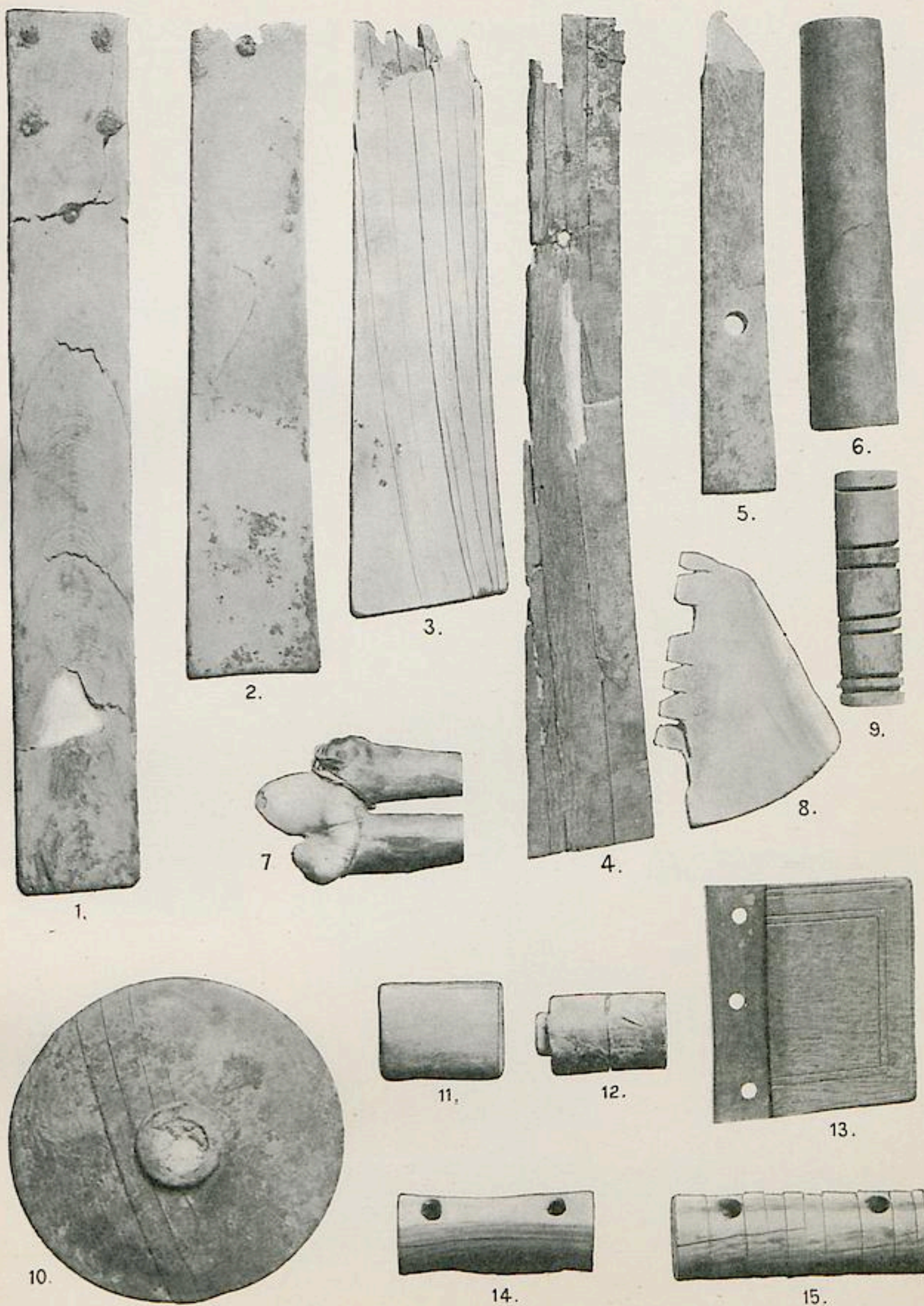
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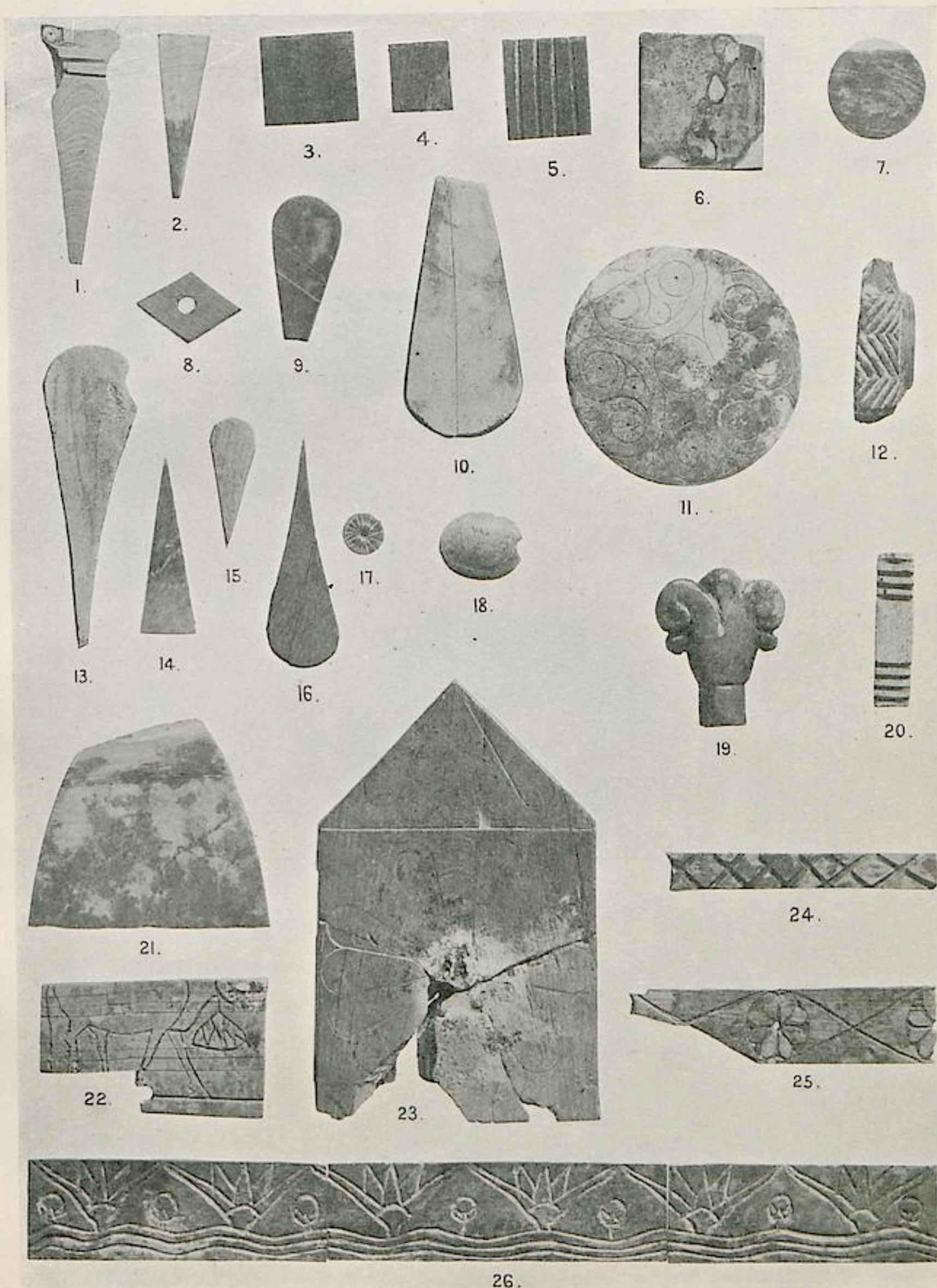
14.

IVORY AND BONE.

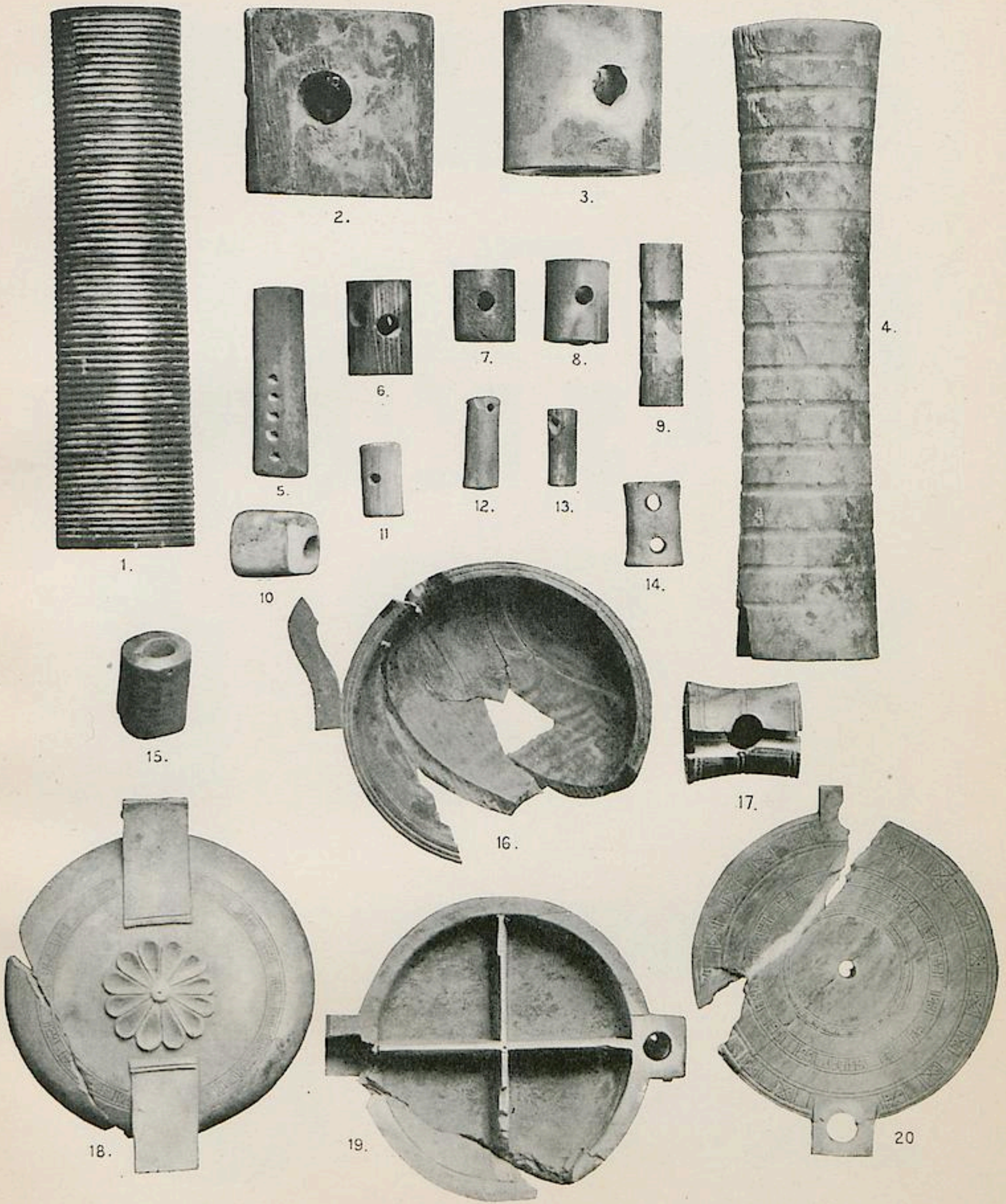
1 : 1



IVORY AND BONE.
1 : 1



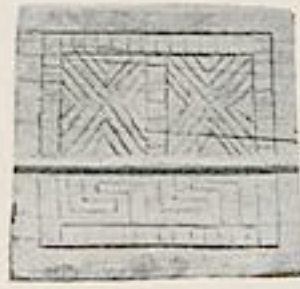
IVORY AND BONE.
1 : 1



IVORY AND BONE.
1 : 1



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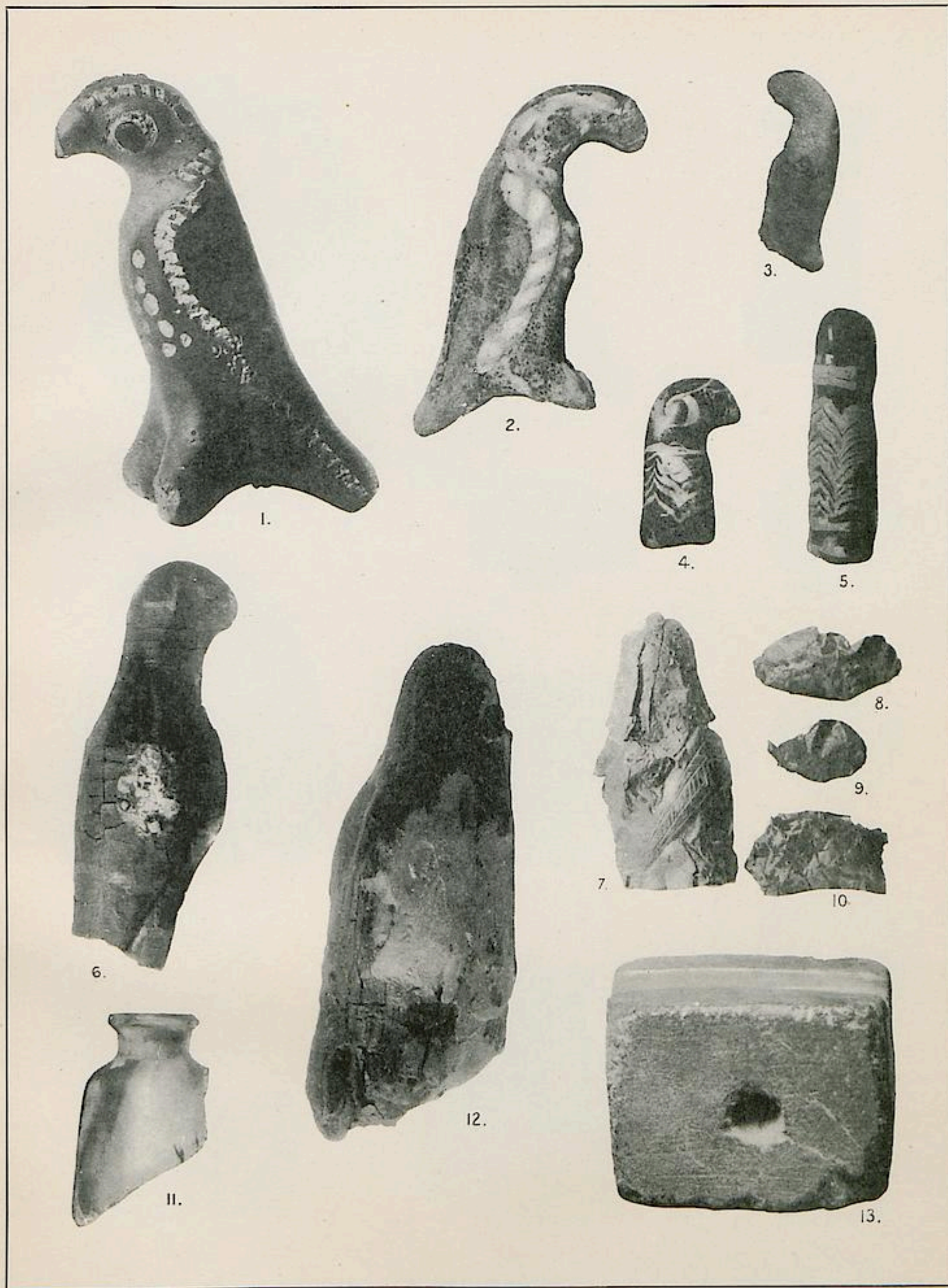
22.



23.

IVORY, BONE AND HORN.

1 : 1



GLAZED OBJECTS, ETC.

1 : 1



1.



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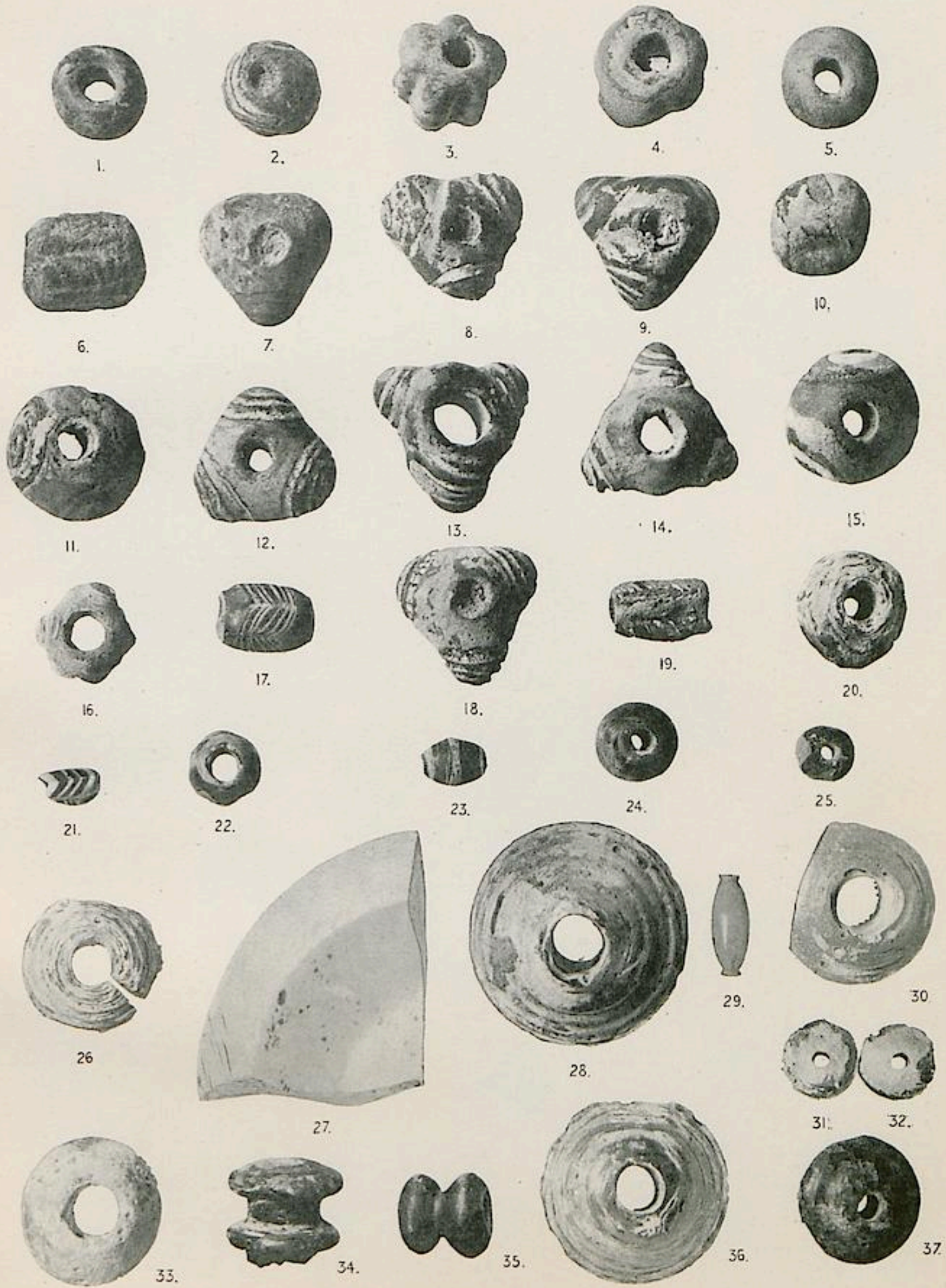
11.



12.

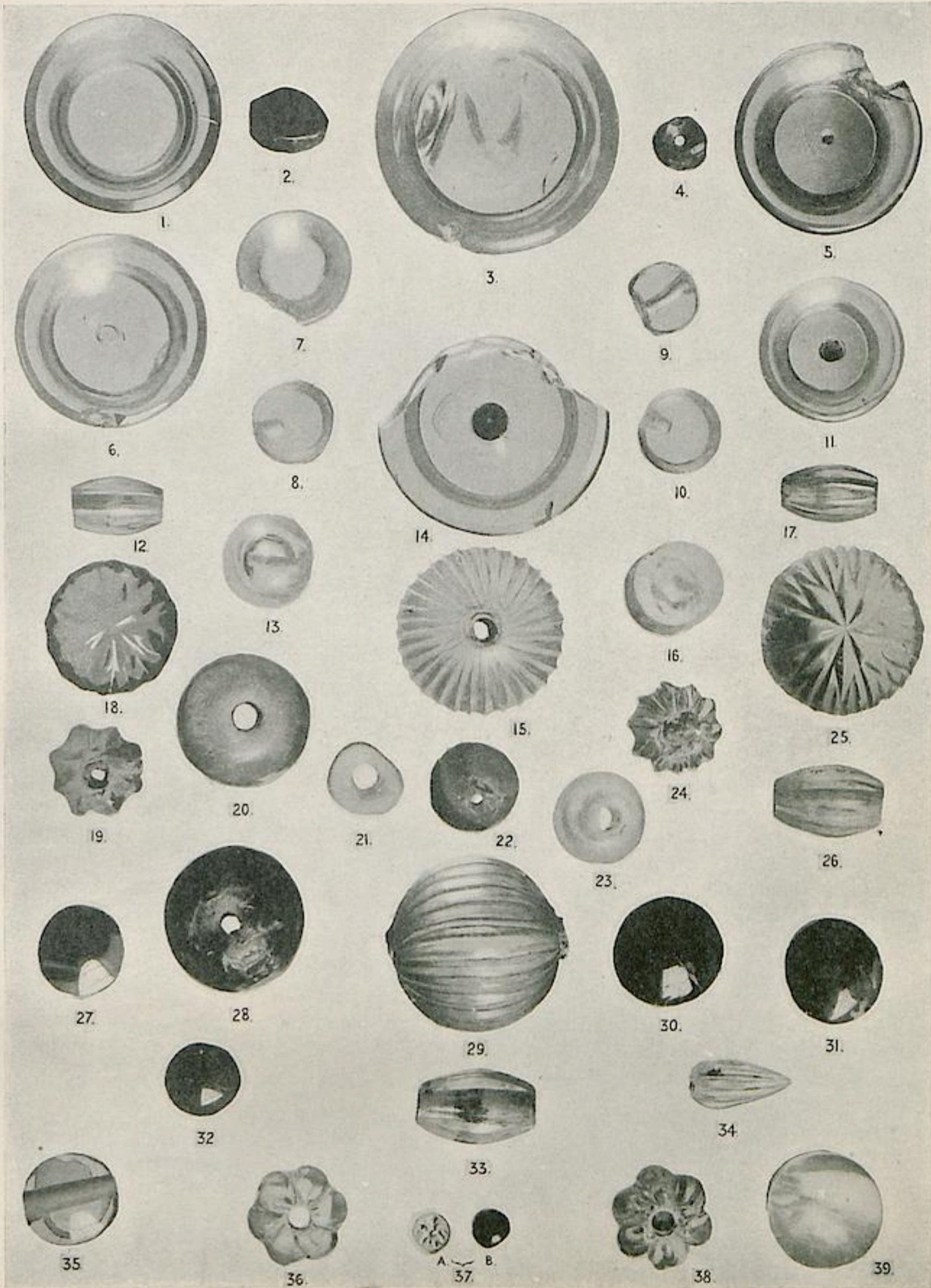
GLAZED OBJECTS.

1 : 1

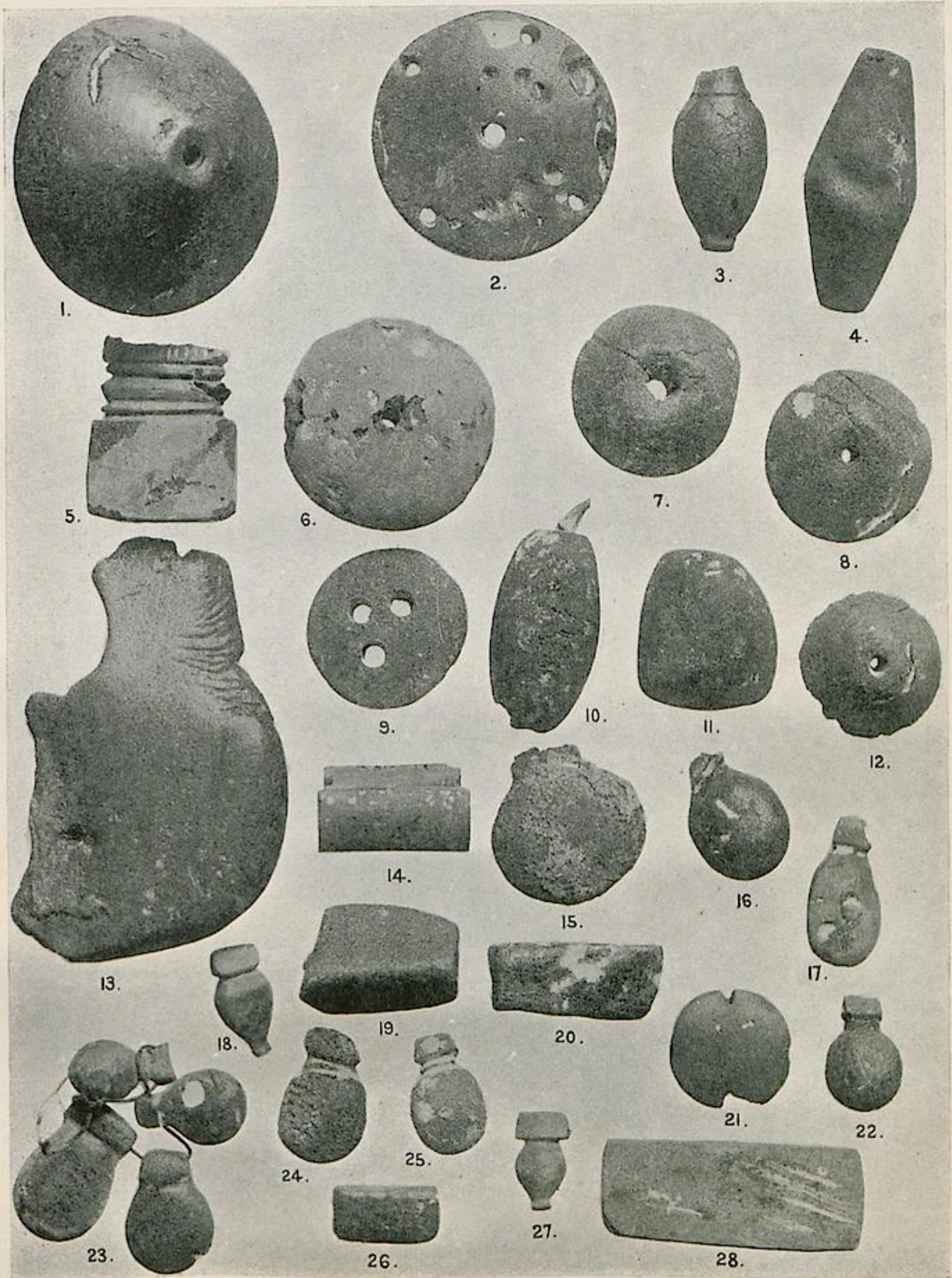


GLAZED OBJECTS AND GLASS.

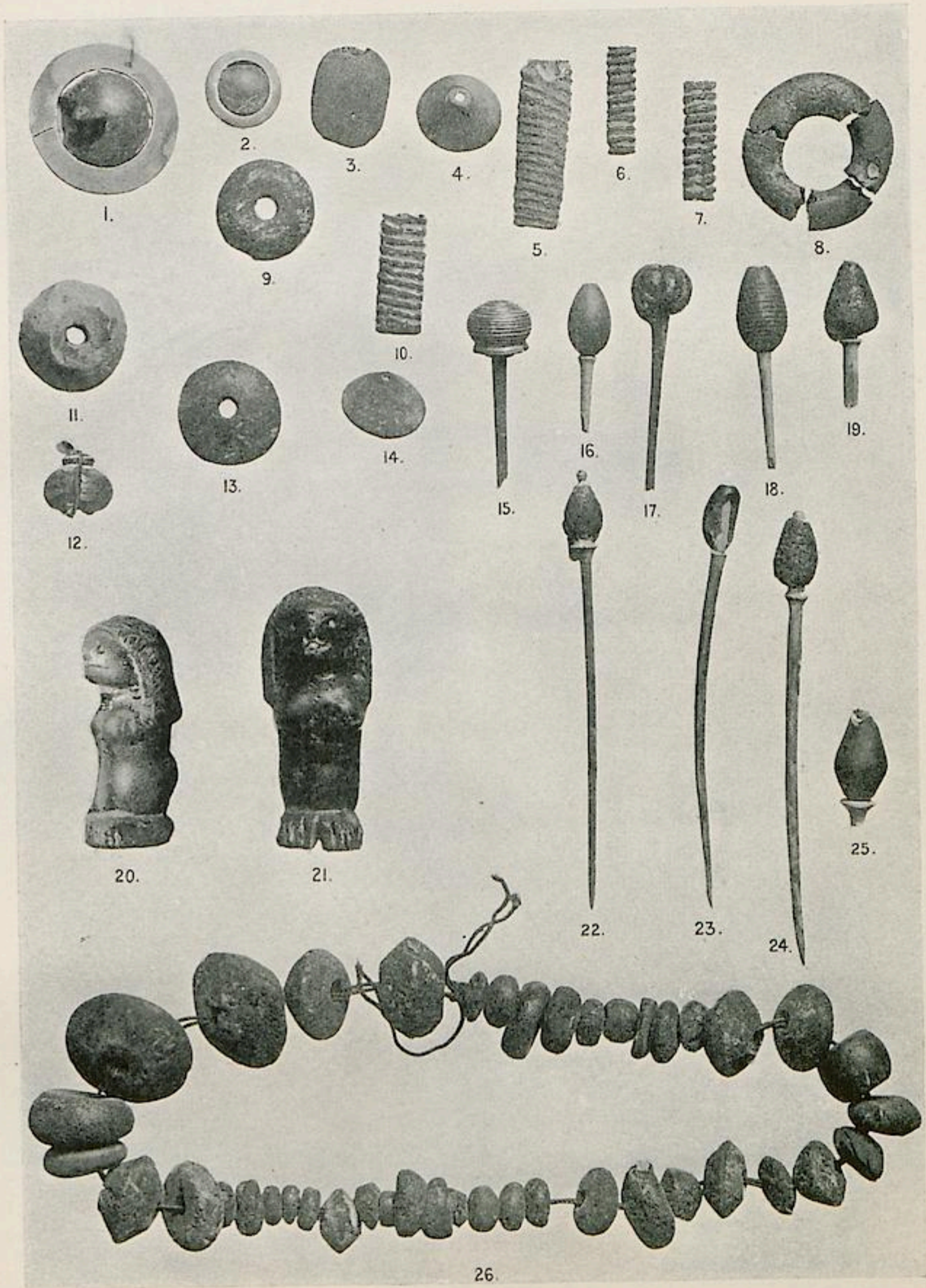
1 : 1



CRYSTAL, ETC.
1 : 1



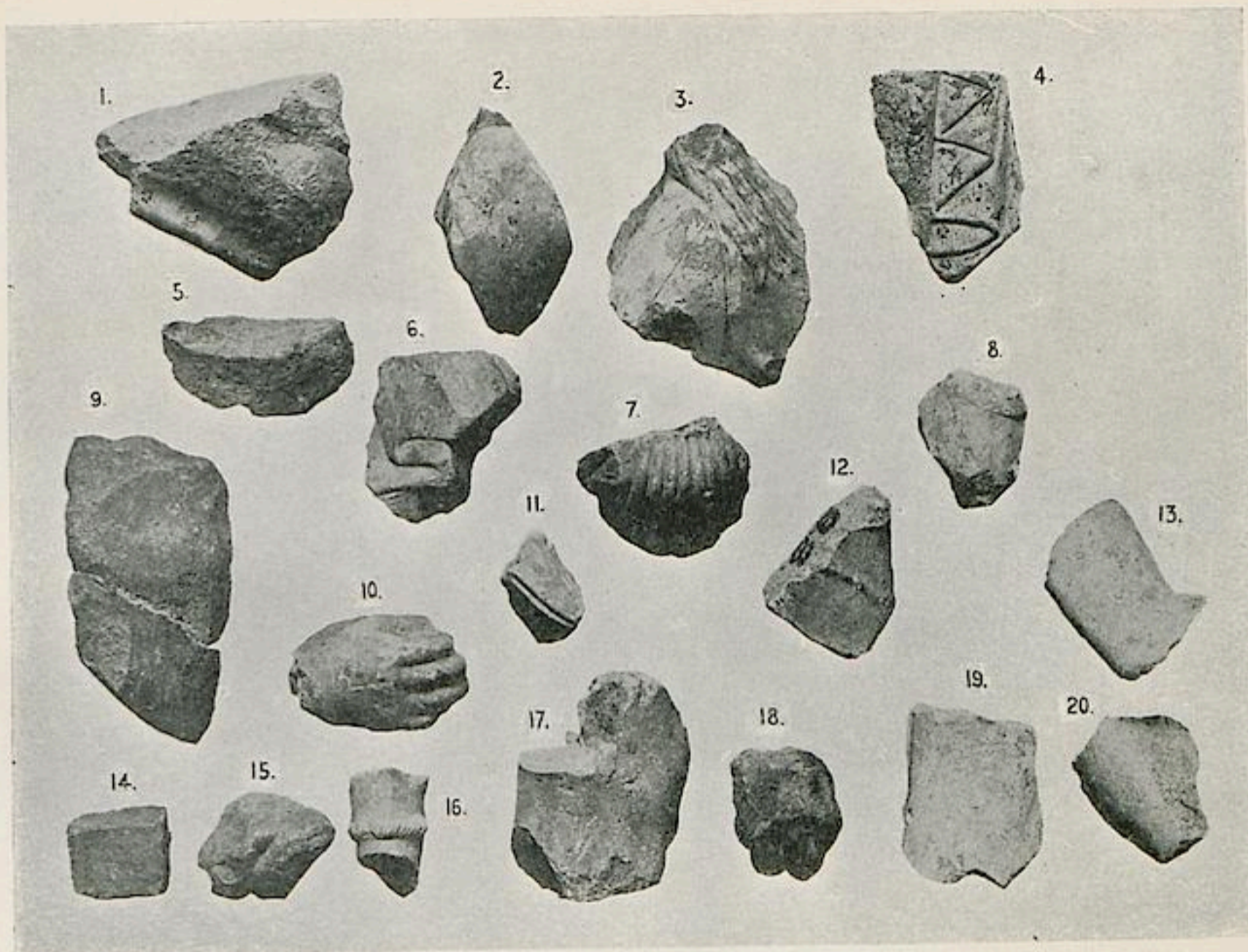
AMBER.
1 : 1



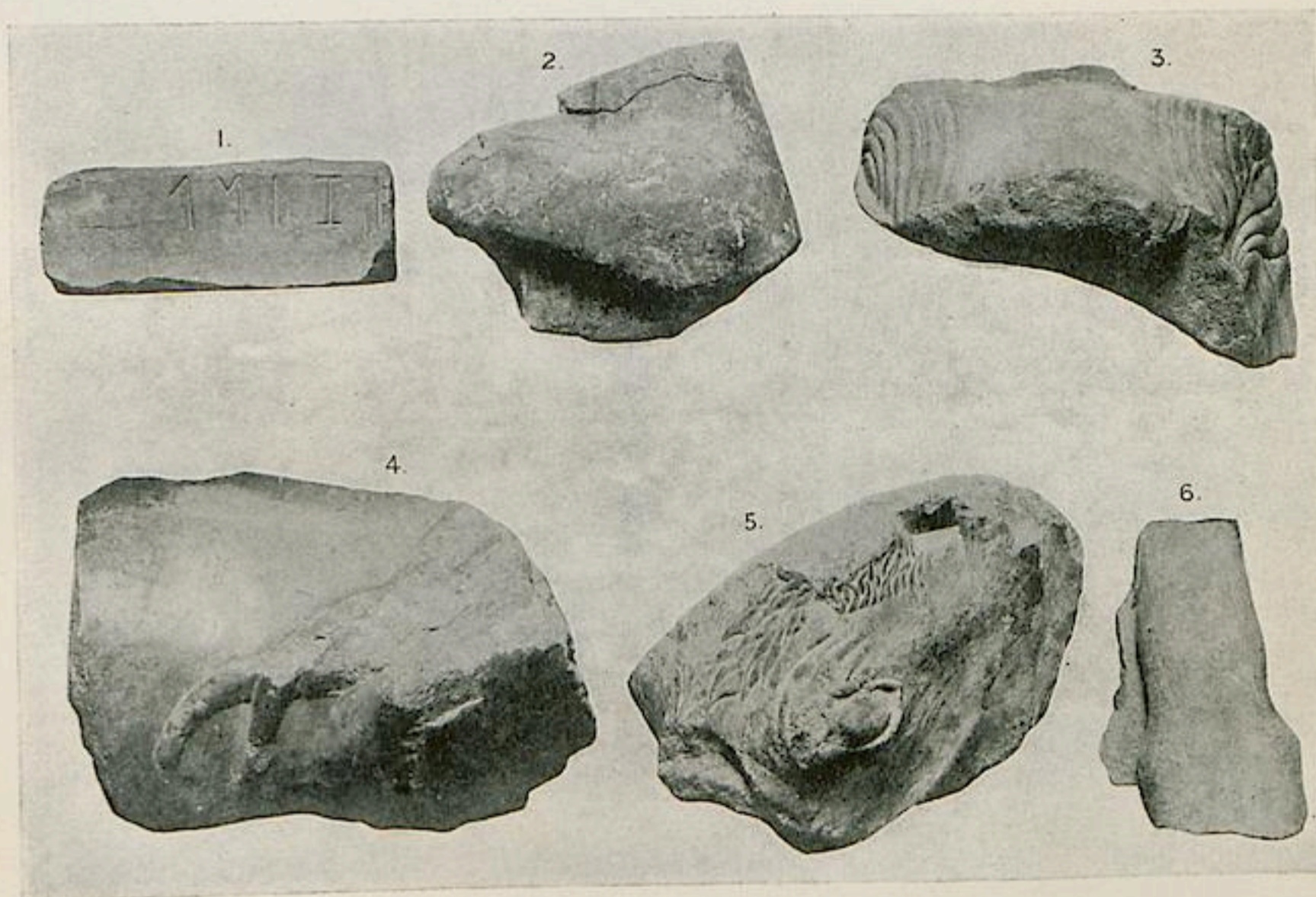
AMBER.
1 : 1



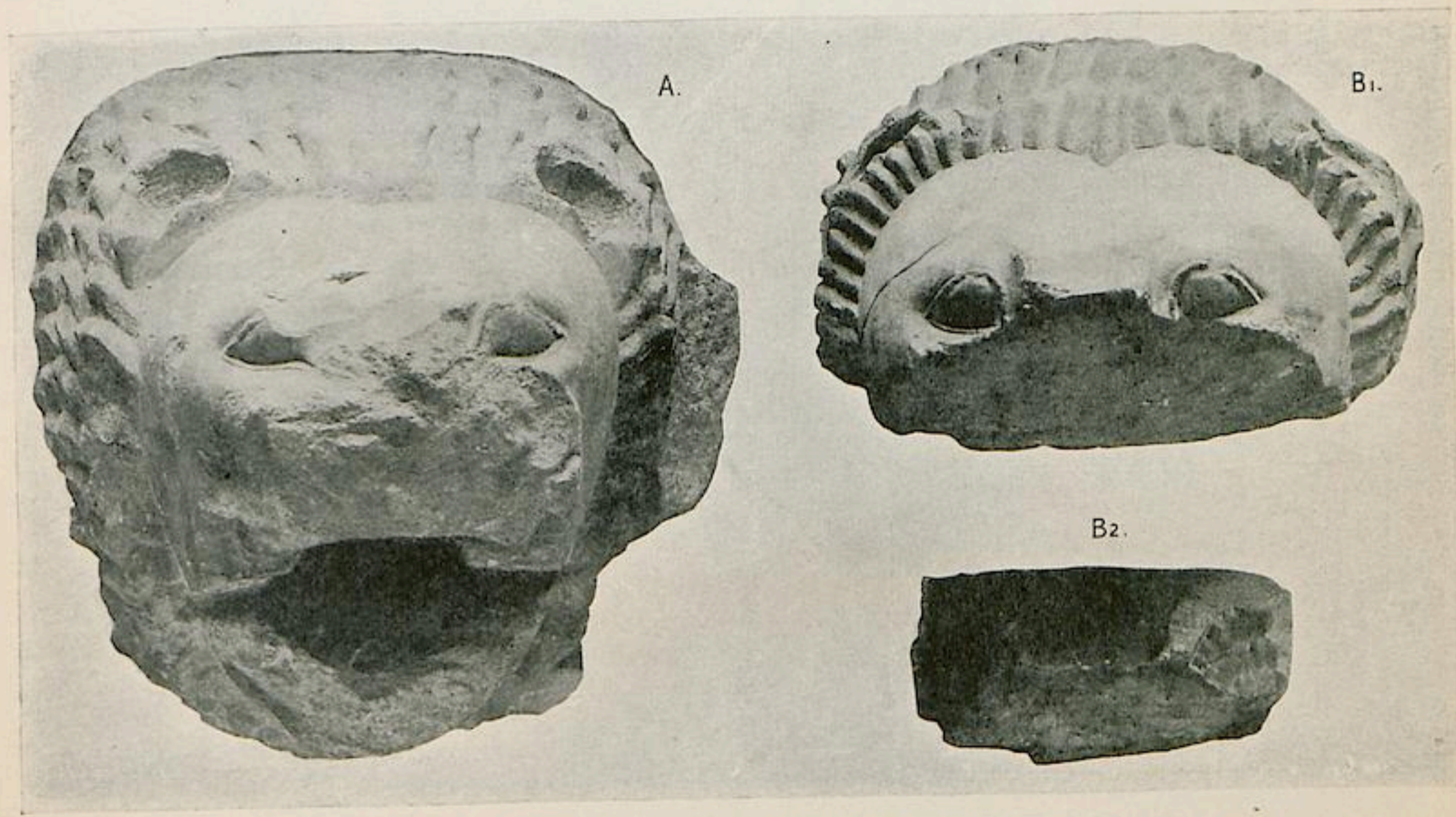
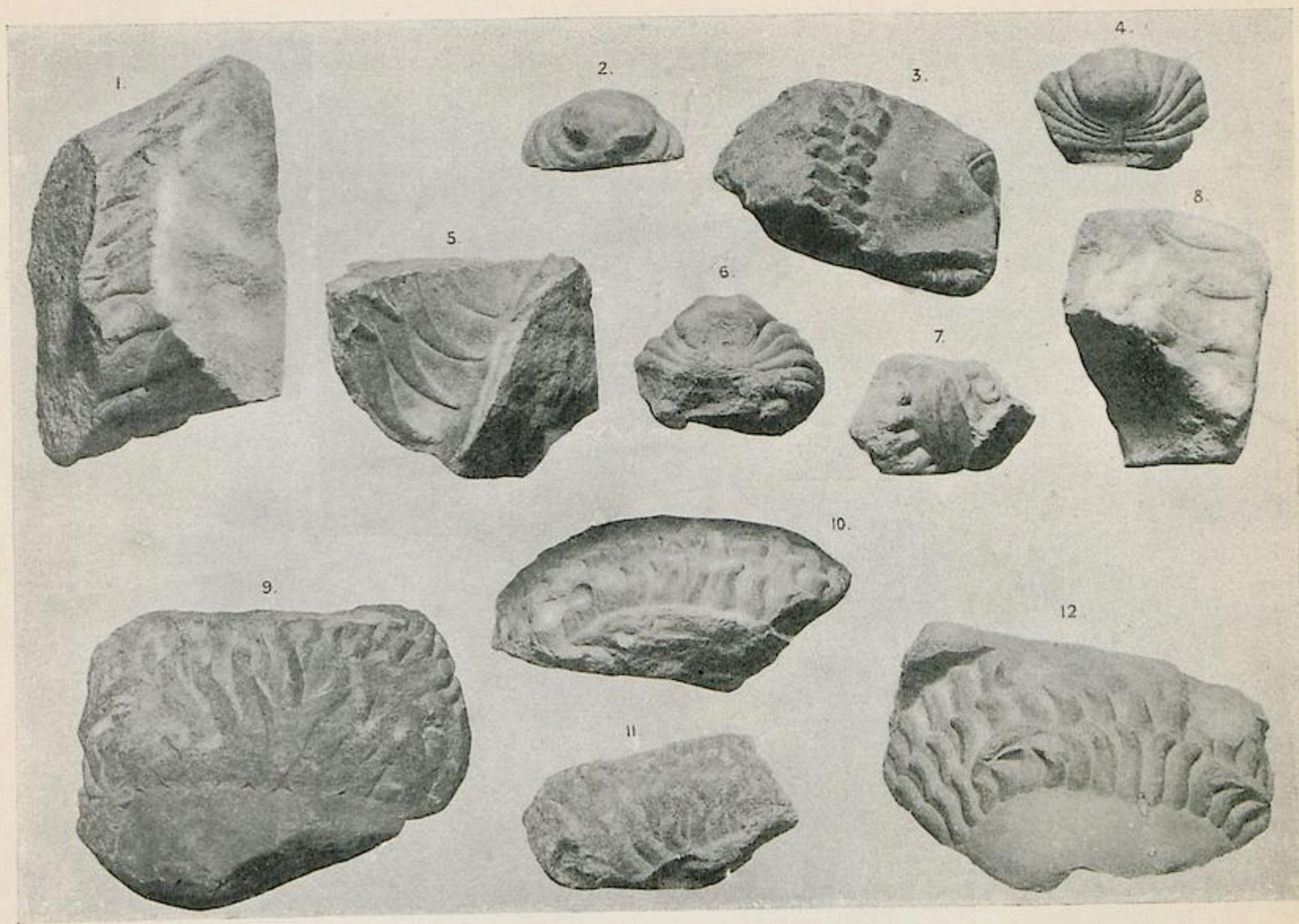
FRAGMENTS OF PAINTED POTTERY.



A.—FRAGMENTS FROM THE SCULPTURED COLUMNS. Scale 1 : 8.



B.—UNCERTAIN FRAGMENTS. Scale 1 : 5.
SCULPTURES FROM GROESUS TEMPLE.



SCULPTURES FROM CROESUS TEMPLE.



1.



3.



4.



5.



2.



6.



7.



8.



9.



10.



11.



12.



13.



14.



15.



16.



17.

COIN TYPES OF THE ANCIENT GODDESS.

1:1



FRAGMENTS OF PAINTED POTTERY.

