

MATER CAELATURAE

IMPRESSIONS FROM ANCIENT METALWORK

Plasticen matrem caelaturae et statuariae sculpturaeque dixit. "Modelling," said Pasiteles, "is the mother of metal-chasing, of making statues, and of carving stone."¹ Not only did the artist make studies and preliminary models in clay and wax, but throughout all his activities, he reverted to the softer media for testing his work. This modelling obviously differs considerably from the routine modelling and mould-making by the coroplast engaged in making figurines of commercial character.



Fig. 1. Head of Herakles

Thus when the excavations produced from the débris of metalworking establishments moulds for bronze-casting and moulds and trial pieces taken from metal originals, they were easily recognized.² Though made of common clay, they retain with startling freshness the imprint of lost masterpieces of ancient casting.

Of the clay impressions taken from metal originals only one is archaic. True to its age, it is a brilliant bit of modelling, a head not easy to forget, broken from a thin terracotta plaque (Fig. 1).³ It was found in a miscellaneous filling that offered no information as to its date. A better preserved example from the Acropolis shows that the scene was the struggle of Herakles with the Nemean lion (Fig. 2).⁴ The two pieces obviously derive from one original, though details, like the shape of the head, show that they come not only from different moulds but from different patrices. On the Agora piece traces of the paw of the lion clawing at the

¹ Pliny, *Nat. Hist.*, XXXV, 156.

This paper has profited much by the interest of friends, especially Miss Talcott and Miss C. Olmstead. My husband's knowledge of ancient metalwork has corrected and illuminated many points for me. Most of the photographs of the objects owe their clarity to the skill of Miss Alison Frantz. As an experiment, the casts have been taken in Attic clay, the medium in which the original impressions would have been made; with the modern casts the shrinkage is less than with the ancient, which were baked.

² *Hesperia*, VI, 1937, pp. 82 ff.

³ Agora Inventory T 563. Found in 1934 in a miscellaneous filling. Height, 0.048 m.; width, 0.04 m. From a plaque; back flat, with traces of the board on which the clay was laid. Striations indicate that the head was bent forward at right angles to the vertical. Fine buff Attic clay. No traces of paint. Previously noted in *Hesperia*, IV, 1935, p. 370, fig. 26.

⁴ D. Brooke, *Acrop. Cat.*, II, no. 1323; E. Reisch, "Heraklesrelief von Lamprae," *Ath. Mitt.*, XII, 1887, pl. III, pp. 118 f.; C. Hutton, *J.H.S.*, XVII, 1897, pp. 317 f., fig. 10.

front of the head indicate that the position of the beast was identical on the two plaques.

The type of unbearded Herakles, unusual in Attica at this time, is, according to Furtwängler,⁵ not a later development of the bearded type, but is synchronous with



Fig. 2. Acropolis Plaque

it and appears chiefly in Ionia. It occurs early, for instance, on the Assos frieze. The scheme of the group on our plaque is also peculiar. It belongs not to the standing scheme that was popular in black-figured vases, but to the stooping formula that appears first in late black-figure and in early red-figure.⁶ Nor is it canonical even in this class. The usual type shows Herakles bending over the lion, which bites him

⁵ Roscher, *s. v.* Herakles, col. 2151.

⁶ S. B. Luce, *A.J.A.*, XX, 1916, pp. 441 f. and pp. 460 ff.

as it lifts a hind-paw to push away the hero's head. The plaques appear to show Herakles as kneeling, having swung the beast over his head to lie upon its back on the ground.⁷ Its hind-paws claw desperately at the youth's head, and its right fore-paw is bent back of its mane in an endeavor to dislodge Herakles' arm. The lion's head is shown from above, like an Ionian panther's.⁸ The locks of the mane were probably added in paint.

The closest parallel is that first indicated by Reisch⁹ on a marble relief from Attica, but on that the bearded Herakles and the pose of the lion follow closely the conventional types. In the absence of information, we can only surmise that the source was Ionian. The later development of the scheme may be seen on a gem of about one hundred years later, showing Herakles from the back.¹⁰ The formula, though tortuous, is an ingenious variation on a hackneyed theme.

The style of the Agora plaque is that of the last decade of the sixth century. In sculpture it may be compared with the two famous statue bases from Athens.¹¹ The head on our plaque, however, is a little more pointed, the chin sharper, the eye narrower and more curved, and the hair arranged in a different scheme.¹² The Theseus from the Eretrian pediment is also close, especially in the treatment of the hair.¹³ The vases of Euthymides and of Phintias¹⁴ also offer good parallels, though again the painted heads are less pointed; but the profile, particularly at the lips, is remarkably like.

But in its essence, this head is not carved or painted; it is as though struck from a die in the wet clay. The sharp detail, the tiny pellets for curls around the face, the tense modelling of the parted lips, of the square jawbone and lean neck, belong to another medium. The wavy locks of hair simply could not have been made by a graver in clay without leaving a soft edge; they must have been cut with a drill in metal. The pellet-curls were made by striking metal from inside with a punch. A plasticine impression of this head shows the technique as clearly as if the artist himself were describing it. Our plaque has been taken from a metal original, but it looks as though the original itself were a mould—in the negative. In such a negative, the coils of the ear reveal themselves not to have been added but to have been pressed outward from within.¹⁵ Strange as this procedure may seem, the existence of just such a bronze mould in Olympia supports our hypothesis.¹⁶ It is of course not impossible that the procedure was more complicated and that despite

⁷ Roscher, *loc. cit.*, col. 2197.

⁹ *Ibid.*, pp. 118 ff., pl. III.

⁸ Reisch, *op. cit.*, p. 128.

¹⁰ Furtwängler, *Antike Gemmen*, pl. XII, 26.

¹¹ A. Della Seta, *Dedalo*, III, 1922-23, pp. 207 ff. and pp. 409 ff.

¹² Cf. *ibid.*, pp. 212 and 219.

¹³ *Antike Denkmäler*, III, pls. 27, 28.

¹⁴ Cf. Pfuhl, *Malerei und Zeichnung*, III, figs. 366, 367, 369.

¹⁵ In all technical questions I have consulted Yanni Bakouli, the Agora mender, whose acquaintance with such matters can be relied upon.

¹⁶ *Olympia*, IV, pl. VII, no. 88. The depth of the mould must preclude the explanation that lead was hammered into it. It seems itself to have been cast from a clay matrix and somewhat reworked.



Fig. 3. Etruscan Mirror of Herakles and Malaché

appearances our head was taken from a clay mould, itself formed by pressing damp clay against a repoussé relief. If so, the relief is unbelievably crisp.

The head, then, should bear close comparison with coins. In an excellent series from Syracuse, in fact,¹⁷ the treatment of the hair in a series of wavy locks over the head and a roll spattered with pellet-curls over the forehead becomes very popular about the year 510 B.C. Closer at home, on Attic coins, we find the same coiffure, the same profile with its sharp lips and jutting chin.¹⁸ Though the eyebrow of Herakles is a typical thin relief line, the eye differs markedly from those of the coins. It is not heavily lidded, but treated simply as though lids and pupil were to be added in paint, as on the Melian reliefs.¹⁹ This point, taken in consideration with the duller Acropolis impression, suggests that the same man worked in clay and in metal, using now one, now the other medium to suit his convenience. Probably at this time the crafts were not sharply differentiated.

The only surviving metal relief that can hint at the appearance of the original is the Etruscan mirror of Heracles and Malaché (Fig. 3).²⁰ The clumsier modelling of the head and neck of the hero serves as a foil to reveal the mastery of the Athenian piece. Yet the scheme of the two might well derive from one source. Inasmuch as both scenes show the unbearded Herakles in a similar position, it looks as though the type had originated in Ionia, whence it had travelled to Attica and to Etruria.

The date of the Agora fragment must be close to 510 B.C., as previously suggested by Payne.²¹ The Acropolis and Agora plaques must also be related to a similar series of plaques showing Athena mounting a chariot.²² The best of these too might have been taken from a metal original. They are rare pieces and we must regret that we have no more of the work of those coroplasts whose relations with the metalworker were closer than with the vase-painter.

We must now pass over nearly one hundred years to consider another group of clay impressions from metal. The one complete mould gives us an excerpt from what was probably a full-length figure in the original (Fig. 4).²³ The mould-maker

¹⁷ E. Boehringer, *Die Münzen von Syrakus* (Berlin-Leipzig, 1929), pl. 3, no. 52 (cf. p. 15).

¹⁸ C. Seltman, *Athens: its history and coinage* (Cambridge, 1924), pl. XII for numerous instances of pellet-curls (527-510 B.C.), but pl. XIV, A 197 (514 B.C.) is closer in style.

¹⁹ P. Jacobsthal, *Die melischen Reliefs*, pl. 8, no. 14; cf. no. 15, fig. 2.

²⁰ H. B. Walters, *Cat. Bronzes in the Brit. Mus.*, pl. XVIII, no. 542. I owe the new photograph to the kindness of Mr. Martin Robertson. The scene occurs, with minor variations, also on later mirrors; cf. Gerhard, *Etruskische Spiegel*, IV, pl. CCCXLIV (cf. II, pls. CLIX, CLX).

²¹ *J.H.S.*, LIV, 1934, p. 186. Payne first referred me to the Acropolis plaque and generously discussed the subject with me.

²² Brooke, *Acrop. Cat.*, II, pp. 414 ff. The finish of these plaques varies markedly.

²³ Inv. No. T 1931. Found in 1939 in the débris of a metalworking establishment north of the electric railroad. The context was of the mid-fourth century before Christ. Height, 0.065 m.; width, 0.065 m.; thickness, 0.025 m. The mould is complete, carefully rounded behind, but cut off clean on its left side. Slight chips and scars, particularly at the tip of the spear and on the arm.

selected the head and torso for his mysterious purposes. The positive, retaken from the ancient mould, shown by its delicately engraved details to have been in metal, represents a warrior equipped for battle.²⁴ His long-plumed Attic helmet, its cheek-guard lifted to show a palmette tendril design engraved beneath it, is set upon heavy, short locks. Our warrior wears a peculiar costume—a cuirass modelled like a nude torso, but without the leather flaps that usually hang below it to protect the body below the waist.²⁵ Instead the curling edge of the overfold of his chiton shows beneath the cuirass. The short sleeve of this chiton shows on his arm. Over his right shoulder (see Fig. 4, Cast from the Mould) runs the strap of his sword

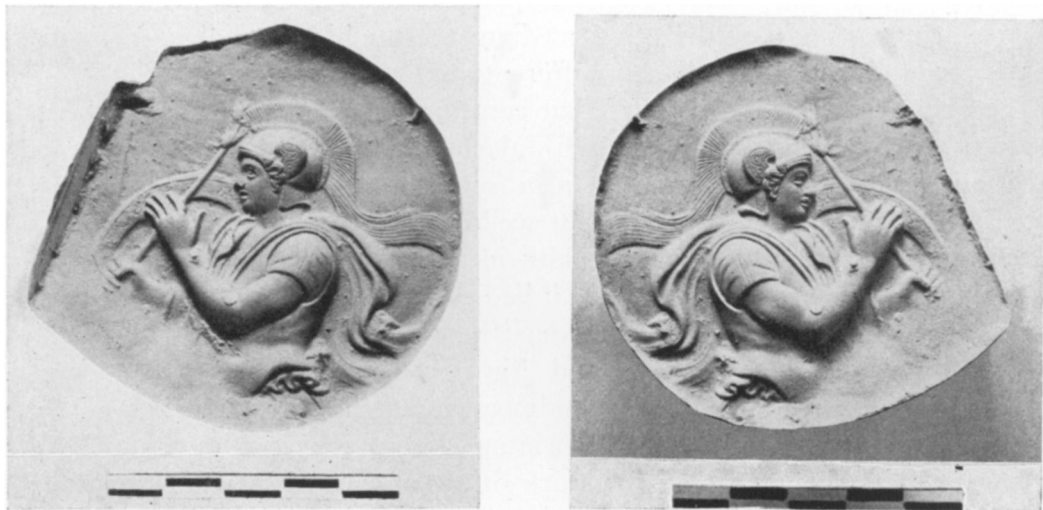


Fig. 4. Mould of Warrior Relief (Left) and Cast from the Mould (Right)

belt. On his left arm he firmly holds his spear and shield. The rim of the shield is exquisitely decorated with a running tendril design. From the warrior's left shoulder a chlamys blows out behind, curving vigorously though its wearer is at rest. He stands quiet and expressionless, though he raises his right hand, with full-spread fingers, in what appears to be surprise. It is an unusual gesture among the Greeks of this period, yet it scarcely seems enough ground on which to base a theory of identification. Our warrior must remain nameless.

This piece probably belongs to the class of reliefs that covered the expensive armor fashionable during the Peloponnesian War. No border encloses the scene

²⁴ Suggestions have been made that this figure represents Athena, but the cuirass, the sword belt, and the chlamys have never, to my knowledge, been worn by that goddess.

²⁵ A. Hagemann, *Griechische Panzerung*, I, *Der Metallharnisch* (Leipzig and Berlin, 1919), pp. 20 ff.

to indicate its original shape. The size and the curvature are perfectly plausible for those of the cheek-guard of a helmet. But a single figure like this might also come from the lappet that locked the shoulder of the cuirass to its body.²⁶ On elaborate sets of armor no doubt many small areas were treated. Presumably the original position was conveniently visible, for the artist has outdone himself in minutiae. The tiny engraved motives on the helmet and shield, such as are often shown on vases of the second half of the fifth century,²⁷ and the fastidious attention given to the features and even to the finger-nails have to be seen closely to be appreciated.

The sturdiness of our warrior is an inheritance from the Pheidian school. His heavy arm and hand, raised in solemn gesture, his round head, his emphatic features and round eye, are all comparable with those on grave reliefs that show the influence of the Parthenon.²⁸ The details of the face even are not far removed from those of the copies of the Parthenos.²⁹ For more close comparison we must go to coins. The facial type and the treatment of the hair occur on coins of Thurii, dating 420-400 B.C., and on those of Pharsalos of somewhat later date.³⁰ Kaineus and an Amazon on the Bassae frieze wear their hair in similar thick short locks; their faces also are not dissimilar,³¹ and their cloaks curl backward like that of the warrior, the folds bent back on themselves in weak "fibula" shape.³² In the same spirit is the irregular agitation at the bottom of the overfold, as it is arranged in a pattern of more advanced character than that used on the Parthenon frieze. The movement that animates the scene leaves the figure still staunch. It is a movement of wind from outside, not a movement of the spirit. This is the style of the last decades of the fifth century.

The costume on our mould has rather interesting affiliations. The type of helmet and the shape of the cheek-guard find parallels on the Parthenon frieze.³³ Commonly, however, in the late fifth century, the "muscle-cuirass," which is modelled like a nude torso, has leather flaps and is worn over a sleeveless chiton. The variant worn by our warrior³⁴ does appear on the Parthenon frieze, where it is worn over

²⁶ *Ibid.*, p. 52; the invention of shoulder decoration is assigned to South Italy; on p. 27 cuirasses covered with reliefs are considered not earlier than the first century before Christ.

²⁷ Hagemann, *op. cit.*, *passim*; Pfuhl, *Malerei und Zeichnung*, figs. 504-507, 510, 576, 595. Examples of decorated armor are now being found at Olympia.

²⁸ H. Diepolder, *Die attischen Grabreliefs* (Berlin, 1931), pl. 17.

²⁹ Cf. H. Schrader, *Phidias* (Frankfurt, 1924), p. 42, figs. 11 f.

³⁰ G. Macdonald, *The Hunterian Collection*, I, pl. VII, 13-15 (Thurii, 420-400 B.C.); pl. VIII, 6 (Velia, 450-420 B.C.); cf. pl. VIII, 8-9 (after 400 B.C.); *Brit. Mus. Cat. Coins, Thessaly*, pl. IX, 9 (Pharsalos, fourth century). Mr. E. T. Newell kindly examined a photograph of the mould and mentioned the parallels.

³¹ Brunn-Bruckmann, pls. 88, 90.

³² *Ibid.*, pl. 86; cf. R. Carpenter, *The Sculpture of the Nike Temple Parapet*, p. 23.

³³ A. Smith, *The Sculptures of the Parthenon*, pl. 92, no. 388.

³⁴ Hagemann, *op. cit.*, p. 39, with note 2 (a list of examples).

an overfold identically as on our relief.³⁵ The Perikles figure on the Strangford shield also wears his cuirass over an overfold.³⁶ This version seems to have remained rare in Greece proper. In Italy, on the other hand, it occurs frequently, particularly on Etruscan mirrors.³⁷ There also the chiton is shown with a sleeve sewn down the centre in a narrow band. More curious is the hair that covers the heads on Etruscan mirrors in grotesque looped curls.³⁸ Their prototypes must have looked like the locks of our Agora warrior. All these points are illustrated on the Praeneste bone plaques of the third century that bear a bizarre resemblance to our figure (Fig. 5).³⁹ These examples embody in a stereotyped,



Fig. 6. Mars of Todi (from Giglioli, pl. CCLI)

even a degenerate form, the formula that is alive in the mould before us. To bridge this gulf with some understanding of the relations between these distant cousins, let us consider the bronze Etruscan statue known as the Mars of Todi (Fig. 6).⁴⁰ He stands with his spear in his left hand and his right hand raised, in much the same pose as our figure. The "classic mien" sits gravely upon the heavy features, the open eye, even upon the curls that form loops in restrained fashion. This statue is now dated in the early fourth century before Christ. It is exactly what one might expect of a bronze-worker in Italy who had seen Greek work of the period of our own.



Fig. 5. Praeneste plaque (from Giglioli, pl. CCCVI)

³⁵ Smith, *Sculptures of the Parthenon*, pl. 63, no. 7.

³⁶ *Corolla Curtius*, pl. 18, 1.

³⁷ Hagemann, *op. cit.*, p. 39, note 7, and pp. 67 ff.

³⁸ Gerhard, *Etruskische Spiegel*, II, pl. CCLV B ff.; V, pls. 77 ff.

³⁹ G. Q. Giglioli, *L'Arte etrusca* (Milano, 1935), pl. CCCVI; M. Rostovtzeff, *History of the Ancient World*, II, pl. VI, 1 (p. 28 dates the plaques in the third century before Christ).

⁴⁰ Giglioli, *op. cit.*, pls. CCL f.; Brunn-Bruckmann, pls. 667-668, in which Arndt likens the Mars to mid-fifth century Greek work, but considers it later. Giglioli dates it in the first half of the fourth century before Christ.

The inspiration of our mould was itself probably in metal. Its Pheidian flavor, taken in consideration with the parallels for the unusual costume on the Parthenon frieze and on Athena's shield, suggests that the artist had perhaps in his earlier days himself worked on the shield. That the motives and costumes of this school migrated to Italy on all sorts of copies is apparent from the number of copies there. But hitherto we have not had the originals and this small specimen startles us by its superiority to the echoes.

The character of the next two pieces is clearer. One is a mould; the other is an ancient impression from a mould. Both show unmistakable earmarks of having

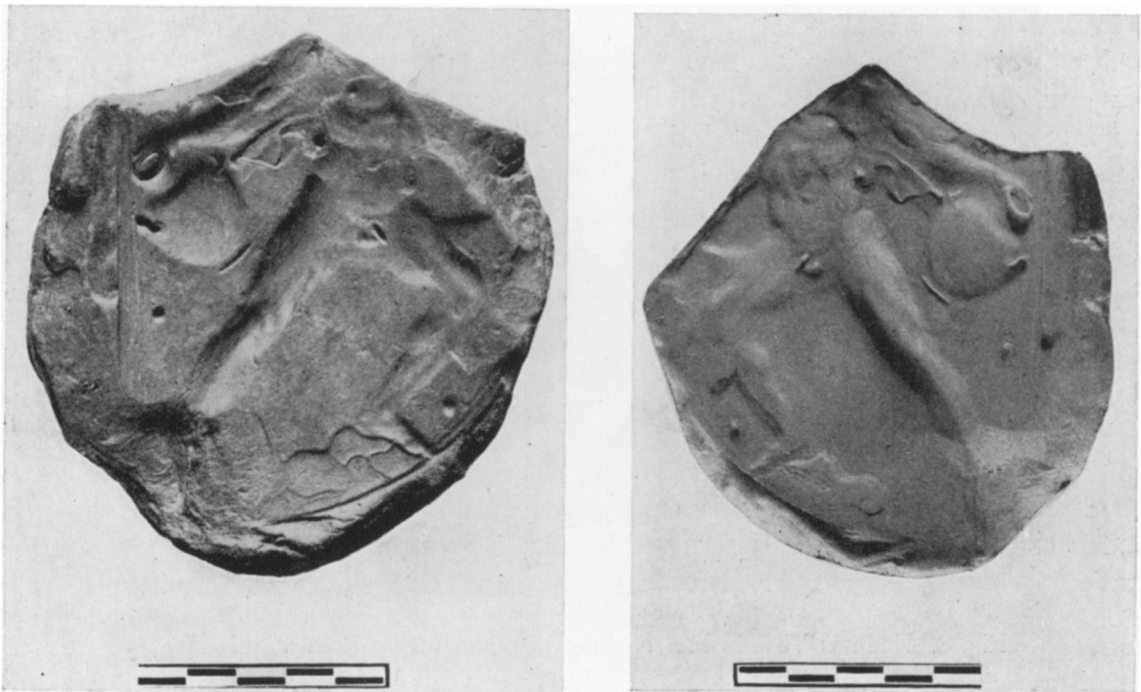


Fig. 7. Kadmos Mould (Left) and Clay Impression from the Mould (Right)

been taken from metal originals: rivet-marks, pitting of rocks, and finely engraved details. The shape of the objects is that of the cheek-guard of a helmet. In the mould the shape is Attic; in the impression it follows a hybrid type known as "Chalcidian."⁴¹ The indentation at the top is for the eye. Many variations of cheek-guards exist; perhaps the best known is that shown on copies of the Parthenos, a cheek-guard which is raised; an engraved griffin prances on its inner side.

Our reliefs presumably occupied the outside of the guards. A few comparable

⁴¹ B. Schröder, *Arch. Anz.*, XX, 1905, p. 19, fig. 6; Furtwängler, *Olympia*, IV, p. 170.

pieces survive.⁴² So many appear on vases of the fifth century as to suggest that decorated helmets were common (see above, note 27).

The mould was evidently taken from a metal original, itself rather rubbed and worn. The positive (Fig. 7)⁴³ shows a youth, nude save for an edge of the cloak that flies out behind his shoulders, hurrying toward the left up rocky ground. He holds out behind him an hydria, grasped firmly by the neck handle, as though it were full. Though the upper part of the figure is missing, the body is modelled to



Fig. 8. Kadmos Vase in Metropolitan Museum (from Richter, pl. 126)

suggest that he is looking backward at the foe. Around the scene runs a narrow border, finer than those on the Dodona cheek-guards, but very like one on the famous piece showing Helen and Eros (Fig. 17).⁴⁴ Three rivet heads, to bind the thin bronze to a lead lining, appear on the surface.⁴⁵

The youth has evidently been surprised as he went to fill his jar at a spring. This

⁴² C. Carapanos, *Dodone*, pls. XV, LV; *Jahrbuch*, II, 1887, pp. 13 ff., pl. I.

⁴³ Inv. No. T 930. Section Γ. Cistern of a context of the third quarter of the fourth century before Christ. Found in 1935. Preserved height, 0.11 m.; width, 0.103 m.; thickness, 0.02 m. Top broken away; smoothed behind; surface dull. Fairly coarse buff clay with some grit.

⁴⁴ *Jahrbuch*, XLI, 1926, pp. 191 ff.

⁴⁵ *Jahrbuch*, II, 1887, p. 15.

motive occurs on an Italian hydria⁴⁶ dating *ca.* 430 B.C. A maenad, attacked by satyrs, rushes away, holding her jar out behind her just as does our youth. Two vases in the Metropolitan Museum, less exact parallels in pose, yet give the explanation of the scene before us. The krater⁴⁷ shows Kadmos, alarmed at the spring whither he had gone for water, turning to run, but looking back to hurl a stone at the dragon (Fig. 8). It rears up hissing from reeds that grow around a rock on which sits Harmonia, composed, but not without interest. In composition this version holds all the elements of the relief, though in style it is less developed and less vitalized. On the other Metropolitan vase,⁴⁸ the composition is different: Kadmos, carrying spears and hydria, in shape like ours, but drawn in profile, advances somewhat cautiously, stone in hand. The dragon threatens him over the placid head of Harmonia. The feeling of the piece is sober, and the style is not unlike that of the Parthenon. Both these vases are dated *ca.* 440 B.C.

The style of our relief is obviously more animated and the modelling more advanced than those on the vases. The hydria in its proportions and in the position and curve of the handle can be likened to several others dating *ca.* 430 B.C.⁴⁹ Our relief probably does not date long after. It seems to fall between the vases just mentioned and an Apulian krater of the fourth century.⁵⁰ On this Kadmos turns, as on our relief, to hurl a large and stippled stone, as his clumsy amphora slips from his left hand. The onrush of the pose, checked by looking back, the drooping profile, the pitted stone, despite the lifelessness of the whole scene, clearly hark back to an Attic original very like our relief.⁵¹

To reconstruct the pair of cheek-guards, we should place a human figure on the missing piece. It is unlikely that half the scene would have been given to a dragon, however imposing. Harmonia herself is an attractive candidate. Seated as on the Metropolitan vases, she would adapt herself admirably to the space, allowing the dragon to coil itself up over her head into the confined area beside the eye. Her calm, resisting the dragon's insolence, would subtly balance the onrush of Kadmos.

The balance of opposing forces inherent in the composition is characteristic of the style of the last half of the fifth century before Christ. It is continually expressed in works of the Pheidian school and of their followers and appears particularly on copies of the Amazonomachy on the shield of the Parthenos. The prototype for

⁴⁶ W. Hahland, *Vasen um Meidias* (Berlin, 1930), pl. 12a.

⁴⁷ G. M. A. Richter, *Red-Figured Athenian Vases in the Metropolitan Museum*, no. 127, pl. 126.

⁴⁸ *Ibid.*, no. 132, pl. 131.

⁴⁹ Richter-Milne, *Shapes and Names of Athenian Vases*, fig. 85; W. Lamb, *Greek and Roman Bronzes*, pl. LXXI (compare *a* with *b*); cf. Richter, *A.J.A.*, XLI, 1937, p. 533, fig. 1 for a fine bronze example.

⁵⁰ Gerhard, *Etrus. und Campan. Vasen*, pl. C, 6. For full bibliography, see A. W. Trendall, *Paestan Pottery*, p. 23, no. 2.

⁵¹ For the pose in contemporary metal, cf. Richter, *Met. Mus. Bronzes*, no. 760.

Kadmos himself may be seen in a copy in Copenhagen ⁵² and on the Parthenon frieze itself.⁵³ But a nervous intensity unknown to Pheidias infuses the whole composition; it is the tension of the period of the Peloponnesian War.

Our second example of relief from a cheek-guard is again an excerpt from a battle scene (Fig. 9).⁵⁴ A nude youth, raising a large stone behind his head with both hands, turns toward his foe. Over his left shoulder swings a panther skin, the paws and tail flying out at his right side. These were engraved on the original. The border around the scene is like that on our previous example.

The youth lifts the heavy stone much in the manner of Centaurs and he wears the panther skin beloved of Centaurs and Satyrs. But the beardless youthful face is not that of a Centaur, and a Centaur's body would obviously not fit into the space. Yet no warrior, no hero even, ever uses rocks as weapons in combat. Rocks are the weapons of wild and rough peoples—of Centaurs, of Giants, of Titans:



Fig. 9. Cheek-guard Relief of Giant

πέτρας ἡλιβάτους στιβαρῆς ἐν χερσὶν ἔχοντες.⁵⁵

They were used as missiles only; not until late times did poets develop the legend of the Giants piling Pelion on Ossa.⁵⁶ These Giants wore animal skins as tokens of their wildness.

To call this handsome youth a Giant seems far-fetched. But that he is one of their company, as seen through the civilized eyes of the Athenians, is clear from com-

⁵² H. Schrader, "Zu den Kopien nach dem Schildrelief der Athena Parthenos," *Corolla Curtius* (Stuttgart, 1937), pp. 81 ff., particularly pl. 18, 2.

⁵³ Smith, *Sculptures of the Parthenon*, pls. 47, 58.

⁵⁴ Inv. No. T 359. Found in 1933 in the filling of the Middle Stoa, together with a New Style Athenian coin and Hellenistic sherds. Preserved height, 0.09 m.; preserved width, 0.079 m.; thickness, 0.035 m. Lower part broken away. The upper corner has been rounded off as though the original were much rubbed when the impression was taken. Back indented with thumb marks. Coarse clay.

⁵⁵ Hesiod, *Theogony*, 675; cf. 715. In the beginning the rocks were used by Gods against Giants, but vases contemporary with our mould always show the reverse.

⁵⁶ Roscher, *s. v.* Gigant, cols. 1643 ff.

parison with the Naples fragment of a great Gigantomachy vase (Fig. 10).⁵⁷ Here the Giants appear as beardless youths, lifting boulders in defence against the swarming hosts of the Olympians. This conflict is repeated in the same manner on other vases of the period.⁵⁸ Similar figures, symbolizing the forces of law against barbarism, are shown on the east frieze of the Hephaisteion. Scholars have suggested that the vases echo such Pheidias compositions as those indicated by the east metopes of the Parthenon and by the interior of the shield of the Parthenos.⁵⁹

On the shield of the Parthenos itself this very type is foreshadowed. In the Amazonomachy as figured on the outside of the Lenormant copy of the shield, the well-known figure of a man raising a stone shows the pose in all its essentials.⁶⁰ But he is an old man. More significant therefore is that figure which is painted on the interior of the Strangford copy. It is described as the traces of a bearded Giant lifting a stone.⁶¹ This certainly must echo the original from which the vases and our relief derived their inspiration.

In this connection our new piece offers fresh evidence on a still vexed problem: in what medium was the Gigantomachy executed on the shield of Athena? Pliny says (*Nat. Hist.*, XXXVI, 18): — — — sed in scuto eius Amazonum proelium caelavit intumescente ambitu, in parmae eiusdem concava parte deorum et Gigantum dimicationes, in soleis vero Lapi-
tharum et Centaurorum. *Caelavit* means chased and is commonly used for metalwork in relief, certainly not for painting. Yet another remark of Pliny's about Pheidias'



Fig. 10. Naples Fragment of Gigantomachy Vase (from F.-R., I, fig. 75)

⁵⁷ Furtwängler-Reichhold, pls. 96-7, and p. 196, fig. 75.

⁵⁸ Pfuhl, *Malerei und Zeichnung*, figs. 584-5.

⁵⁹ Cf. C. Praschniker, *Parthenonstudien* (Augsburg-Wien, 1928), pp. 186 ff., particularly fig. 129; Roscher, I, col. 1659 (cf. 1664).

⁶⁰ A. Michaelis, *Der Parthenon*, pp. 276 ff.; pl. 15, 1, b.

⁶¹ C. Smith, "A New Copy of the Athena Parthenos," *B.S.A.*, III, 1896-7, p. 137. I am much indebted to Martin Robertson of the British Museum for checking the figures on the Strangford Shield for me.

having painted a shield at Athens has been forced to refer to this shield of the Parthenos by Ulrichs (followed, with flourishes of ingenuity by Furtwängler, Cecil Smith, and many others).⁶² On the face of it, the obvious explanation is that there was one painted shield and the shield of the great Athena, which, being of gold, had no reason whatsoever for being painted inside or out. C. Smith, arguing on the evidence of the painting on the inside of the small Strangford copy, considers that on the original the interior had to be lined with felt or woven material. Yet surely, whatever the lining of an ordinary shield may have been—and wood or hide could easily have been painted—the Parthenos' shield was scarcely primarily a practical weapon in which the roughness of relief might have been inconvenient! All the evidence, particularly including that of the chryselephantine statues recently found at Delphi, points to the shield as having been entirely of gold. Ivory was allotted to the flesh on such statues. To paint the gold is absurd; to line the gold with plaster or woven stuff is also absurd. The goldsmith's practice of the day would solve the problem by working the outside in repoussé relief and then lining the ugly cavities on the interior also with gold—as on the Vaphio cups, for example. This interior lining could itself be treated in relief or engraved. Thus we might well claim that our little relief echoes the original more faithfully than most of our copies.

Actually the Pheidian influence on our relief is not far to seek. The pose occurs frequently on the south metopes of the Parthenon, and on the frieze the youths with jars lift the arm likewise and turn their faces in three-quarter view.⁶³ Yet the style of our piece is not purely Pheidian. It is the development in younger hands of a type created by the master. The slenderness of the body and the curl of the panther-skin are post-Pheidian. The skin is lightly engraved apart from the body in the manner of the Bassae frieze.⁶⁴ Again it is to the decade or so after the Parthenon that we must attribute the execution of the cheek-guard itself. The impression, to judge from the worn appearance and the context of the piece, must have been taken some time afterward, in the fourth century.

In South Italy the history of the motive continues. The best metal version is a bronze relief of Athena attacking a snake-legged Giant; it may date as early as the late fourth century.⁶⁵ Even more interesting is an Italian relief sherd of about the same date that gives another version of the theme (Fig. 11).⁶⁶ In this case it is not

⁶² Smith, *loc. cit.*; Furtwängler, *Masterpieces*, pp. 44 f.

⁶³ A. H. Smith, *The Sculptures of the Parthenon*, pl. 42, nos. 17-18.

⁶⁴ Brunn-Bruckmann, pl. 90.

⁶⁵ A. H. Smith, *J.H.S.*, IV, 1883, p. 90, dates the bronze as Hellenistic, related to the Pergamon frieze rather than to its prototypes, but Kuhnert, Roscher, *s. v.* Gigant, col. 1665, points out with good ground that it probably dates no later than the early third century. Compare the clay versions, H. Heydemann, *Hall. Winckelmannsprog.*, I, pp. 11 f., and J. Sieveking, *Münch. Jahrb.*, XII, 1921-2, pp. 124 ff., fig. 6. Sieveking considers the bronze Tarentine.

⁶⁶ *Arch. Anz.*, LI, 1936, col. 483 and fig. 17.

the Athena of the bronze, but Herakles who is resisting the attack of a Giant armed with a deflated boulder. The Giant also wears a panther skin tied beneath his chin. His legs, to judge from the picture rather than from the description, are human, for the snake head that seizes him on the thigh is surely an enemy rather than his own foot forgetting itself in the excitement. The bearing of this scene on the Italian development of the snake-legged Giants might bear investigation. It is not impossible that the figure on our missing cheek-guard was Herakles. The widely spaced, frontal composition reflects an original more like ours than does the crowded and twisted



Fig. 11. Italian Relief Sherd
(from *Arch. Anz.*, 1936, fig. 17)

version of the bronze relief. The motive of a figure rushing forward, but looking back at his opponent, is, as we have seen, the formula on which late fifth-century artists played a number of variations. It is interesting to note that it is in relief and not on vases, in South Italy and not in Attica that the theme survived.

The next relief gives a more stereotyped rendering of the subject, a warrior pulling an enemy from horseback (Fig. 12). Like that of Herakles and the Lion, it is a conventionalized conception. For, despite the small size of Attic ponies and the unevenness of Attic ground, such an assault could not have been easy even on the most propitious hillside. The relief, which is made of the soft and finely washed fabric

commonly used for the better terracottas, is complete in itself.⁶⁷ The assailant, using neither the spear, sword, nor shield with which he is armed, drags the youth from his horse's back by the hair of his head. The nude and unarmed victim, abandoning the reins and any attempt at self-defence, has rather thrown himself on the assailant's mercy by the supplicating gesture of touching his foe's chin with his left hand. The conflict is in its essence uneven—an assault by a strong, armed man upon a pusillanimous lad who makes nothing of the advantage of being mounted. The type is derived from that used in earlier times for the story of Troilos. Achilles, it will be remem-



Fig. 12. Troilos Relief

bered, lay in ambush waiting for Troilos to accompany his sister, Polyxena, to the fountain. The earlier versions show Achilles in hiding; then, in archaic times, chasing after Troilos and his two horses and the terrified Polyxena.⁶⁸ Later, the Brygos Painter conceives of Achilles as still running after the horses, but catching up with them and seizing Troilos by the hair (Fig. 13).⁶⁹ The boy, in spite of his two spears, allows himself to be pulled from his horse. This, then, is probably the subject here given.

From the artistic point of view, however, our relief differs fundamentally from

⁶⁷ Inv. No. T 265. Found in 1932 in Section ΣΤ behind a stone drain probably early Hellenistic in date. Height, 0.077 m.; width, 0.012 m.; thickness, 0.011 m. Edges preserved, though roughly finished and chipped. Traces of white slip on back and a little on front. Curvature of the piece has an approximate diameter of 0.28 m. Previously mentioned *A.J.A.*, XXXVI, 1932, p. 390, fig. 9; *Hesperia*, II, 1933, p. 471, fig. 20; E. Bielefeld, *Ein attisches Tonrelief* (see note 70), fig. 2.

⁶⁸ Roscher, *s. v.* Troilos, cols. 1228 ff.

⁶⁹ *Mon. Piot*, XVI, 1909, pl. XV, A.

the vase-paintings. The composition is a more mature conception. The opposing forces are expressed in diagonals; the figures that fly apart are yet held in equilibrium by the centripetal glances of the opponents. For the original of this motive we must turn to the creations of the later fifth century.

A study of the history of this motive has recently been printed.⁷⁰ Herr Bielefeld publishes a guttus that represents a relief in its elements identical with ours, save that the figure on the horse is a draped Amazon. Twenty-one specimens, including our Agora piece, are listed as reproducing this scene in all its important details. On only

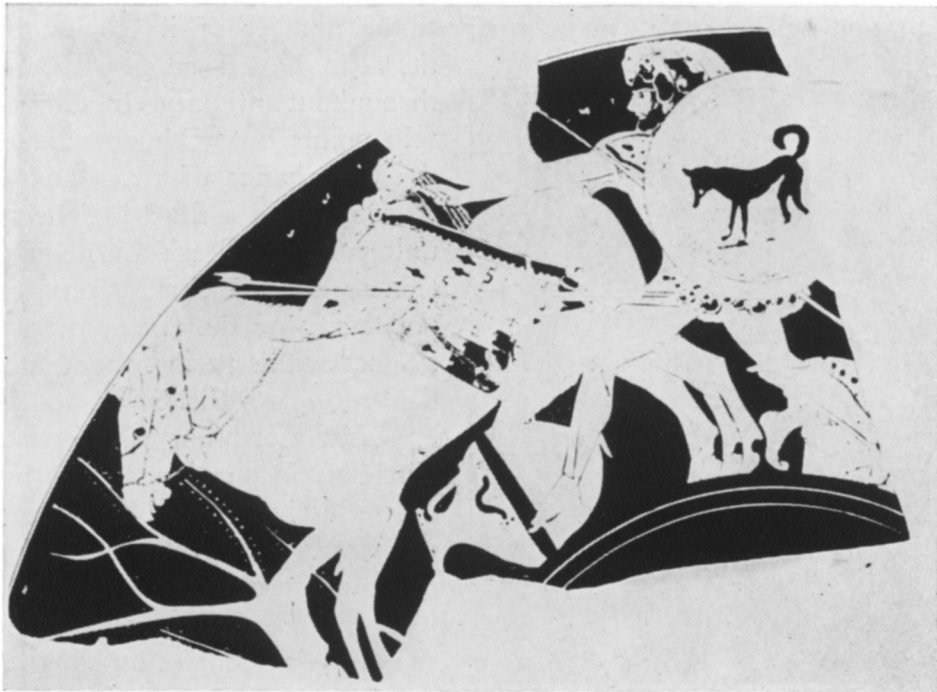


Fig. 13. Sherd by the Brygos Painter (from *Mon. Piot*, 1909, pl. XV, A)

two others of these, a South Italian mirror of the late fourth century before Christ and an Etruscan urn of the second century before Christ, is the figure on horseback a youth; in the other cases he is converted into an Amazon. Bielefeld, by analysing the principles of the composition, derives the spirit from the paintings of Amazonomachies of the mid-fifth century. Its immediate inspiration he attributes to Pheidias. He points out how frequently Pheidias used the principle of opposing diagonals, of which many metopes and both the pedimental compositions of the Parthenon are instances. Looking for a specific source, he notes that combats with Amazons were

⁷⁰ E. Bielefeld, *Ein attisches Tonrelief* (Würzburg, Buchdruckerei Konrad Triltsch, 1937 [privately printed]).

shown both on the shield of the Parthenos and on the throne of the Olympian Zeus. Surviving copies of the shield show no mounted Amazons, but the recently found reliefs now in the Peiraeus offer basically similar compositions, even to the motives of seizure by the hair and of youths hurrying up rocky inclines.⁷¹ Since information about the throne of Zeus is vague, Bielefeld finds an opening there on which to place, among the balance and opposition of its subjects, the original of our motive.

It might well be objected that our piece, one of the earliest examples extant, and another not far from it in date, show not an Amazon but a youth. No record exists, however, of a well-known representation of the Troilos story at this period. The original of our motive must, to judge from the number of its copies during all

the ages, have been famous and visible throughout antiquity. In addition, Bielefeld points out with good ground that the interchange of sexes and identities of subjects in a fixed artistic scheme is unimportant. Greek art abounds in instances of the sort. Considering the popularity of the Amazonomachy as a subject at this period, the weight of evidence supports Bielefeld's interpretation.

His ascription of the source to a Pheidian inspiration should be a little more closely analysed in connection with our piece. We have shown how the types of figures occur on the Peiraeus reliefs. The frontality, the simple musculature, the drooping profiles on our piece retain something of the quality of the Parthenon frieze, especially its sobriety, which stands in marked contrast to the violence of the rendering on the Frankfurt guttus. It is interesting to note that one figure on the frieze (Fig. 14)⁷² actually foreshadows our Achilles in the

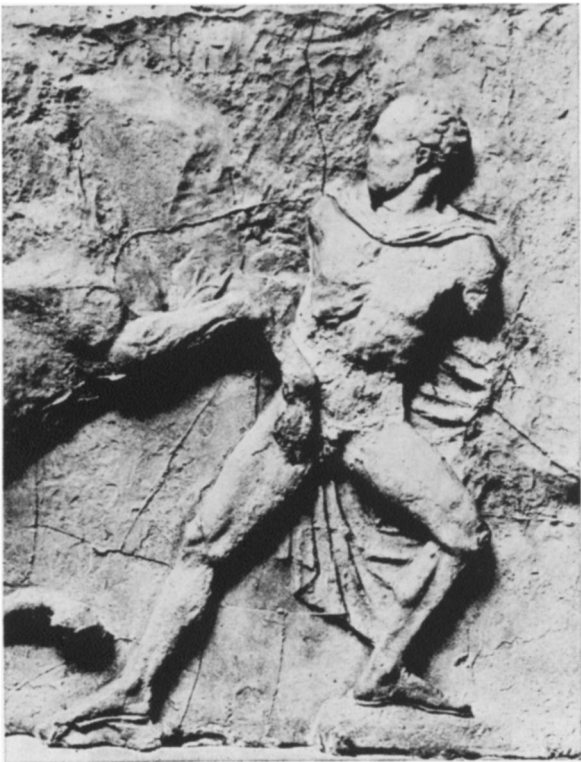


Fig. 14. Figure from Parthenon Frieze
(from Smith, *Sculptures*, pl. 70)

pose. But the Parthenon version is more frontal and the turning of the right leg in profile betrays an earlier hand. Other touches on our relief are also later: the horse, small and stiff, does not come from the stable of "Urpferde" but rather from the

⁷¹ H. Schrader, *Corolla Curtius*, pl. 17, 1; *Sitzungsber. Berlin Akad., phil.-hist. Klasse*, 1931, pp. 185 ff.

⁷² A. H. Smith, *The Sculptures of the Parthenon*, pl. 70, 27.

stud that produced the animals which prance in rocking-horse stride around the frieze of the Nike temple. On this frieze also the ends of drapery curl irrationally over arms and shoulders, filling out spaces that on the Parthenon frieze were left empty and tranquil. The same earmarks appear on the Bassae frieze, together with the first instance preserved of our very motive.⁷³ But, because the Agora piece holds nothing of the violence of these friezes, we may assign it to a slightly older original, though it was rendered with stylistic touches prevalent at the later period.

Stylistically, the closest parallel in metal, for the pose, the type of face, and the flat curly locks, if not for the proportions, is the figure of Perseus on the pail in Berlin.⁷⁴ The degree and character of this relief show that the original of ours must have been rendered likewise in metal. Gold and silver objects from the tomb at Solokha in South Russia⁷⁵ explain certain points on our relief as deriving from a metal original. The engraving of details (much worn or lost on our piece), the rendering of the reins in relief, which are commonly painted on marble and terracotta, the shallowness of modelling that gains its strength from being worked in silver, all these the bowl and the plaque have in common. It seems altogether probable that the original of our relief was in one of the softer metals.

Bielefeld, who had not seen our plaque, calls it a *patrix*, or original from which the matrix, or mould, was taken. But it is not, as an original *patrix* must be, hand-made. Nor is it a trial piece, for not only was the original from which it was taken somewhat worn, but traces of a white slip show that it has lived an independent existence. It seems more probable that the impression was made to be used on a vase. Two *lekythoi* of the earlier fourth century offer parallels.⁷⁶ The scene raised in gilded relief shows a warrior holding his shield much in the fashion of our Achilles; the other gives us the same sort of horse cantering to the left, bearing an Amazon—horse and rider might well be cousins of the Agora examples. The height of the figures is very close to that of our piece. The curvature is, of course, much sharper on the *lekythoi*. On these the figures seem to have been cut out of clay reliefs and applied to the body of the vases. These *lekythoi* were evidently cheap versions of vases in precious metals.

It would be interesting to know both the original of this plaque of ours and its final form. The size and curvature suggest that it might have come from a large vase, like a pail or a *hydria*, possibly even from a helmet. In the absence of contemporary metal originals, it would be rash to guess further. That the clay version decorated a

⁷³ Cf. Schrader, *Phidias*, p. 365, fig. 325; von Stackelberg, *Apollontempel zu Bassae*, pl. XIII (cf. pls. XVI, XXVI).

⁷⁴ B. Schröder, *Berliner Winckelmannspr.*, LXXIV, 1914, pl. II.

⁷⁵ "Explications des trésors de la tombe royale de Solokha," *Journ. int. arch. num.*, XVII, 1915, pp. 3 ff.; S. Polovtsoff, "Une tombe de roi de Scythe," *Rev. arch.*, XXIII, 1914, pp. 164 ff., pls. 3 ff.; *Arch. Anz.*, XXIX, 1914, cols. 260 ff.; dated by Schefold, *Röm. Mitt.*, XLVI, 1931, p. 121, note 1, and p. 127, note 1, as ca. 430 B.C.

⁷⁶ *Delphes*, V, pl. XXVI, 2, 5; p. 166.

vase seems likely, though again, we cannot cite a close parallel. In size and type of relief, however, a curious "gourd" in the National Museum,⁷⁷ bearing scenes from combats with Amazons, of somewhat later date, offers a suggestion of the type of vase possible.

The reiteration of this scene, substantially unchanged, throughout later times, in marble, bronze, clay, and finally on sarcophagi of the second and third centuries after Christ need not occupy us here. This history can easily be traced with the aid



Fig. 15. Mould of Female Head (Left) and Clay Impression from Mould (Right)

of Bielefeld's list. It is enough for us to note that most of the examples occur in Italy. The fame of the original must have been great.

Two moulds of different character were found in a well which was filled in the very earliest years of the fourth century before Christ. Most of its contents belonged to the fifth century, including sherds by the Altamura Painter and by the Achilles Painter. Two other terracotta fragments were found: a bit of relief plaque in late archaic style and a figure of the mid-fifth century of the "Cassandra type."⁷⁸ Since

⁷⁷ G. Nicole, *Cat. vases d'Athènes*, no. 1269; cf. Willeumier, *Le Trésor de Tarente*, p. 115.

⁷⁸ Agora Inv. Nos. T 863 and T 830. The well was in the southwest corner of Section Γ on the southerly slopes of Kolonos Agoraios. For the type of T 830 cf. Winter, *Die Typen der figürlichen Terrakotten*, I, p. 69, 6.

all these objects were found at a depth of only 0.50 m., it is impossible to consider the evidence for dating them by provenience as incontrovertible. But the weight of evidence indicates a *terminus ante quem* in the early fourth century.

The first mould seems at first glance to be utterly unrelated to the material thus far examined. The repellant female head stares grotesquely (Fig. 15)⁷⁹ at us like a barbarian among the gentlemanly company with which we introduce her. Yet the mould itself, on purely technical considerations, is the equal of any that we have hitherto studied. It is carefully made, neatly rounded behind, and retouched inside. The zealous retoucher even extended the locks of hair beyond their proper line up into one of the disks of the headdress and accented the eyes so that they glare fiercely. The sharp rills of the hair, the heavy eyelids, and the incised eyeballs and pupils indicate that the original was in metal. The relief is shallow in the manner of repoussé; the most protruding portions seem to have been somewhat rubbed in the original.

This bizarre head refuses to yield itself graciously to analysis. Three elements emerge as the most significant for understanding. The first is the eccentric head-gear of three disks that stand stiffly above the stiff face. The second is the peculiar shape and character of the face. The third is the nudity of the bust which is, just where the break intrudes, beginning to define the curve of the breasts. These elements combine to create a fantastic type, not a human woman nor even a humanized deity.

This head immediately brings to mind the flamboyant sphinxes that, in the form of plastic vases, appear in the tombs of South Russia.⁸⁰ These are nude, with fully modelled breasts; they are richly decked out with necklaces; high headdresses bespattered with rosettes rise from their curly hair that zigzags down in long locks upon their shoulders. Such vases also occur in the form of Sirens and of Aphrodite, and those of the sphinx type evidently emphasize the fertility power which is one side of her manifold character.⁸¹

All three types wear rosettes profusely attached not only to their *stephanai* but to their bodies and to the vase itself. Sometimes these rosettes are modelled leaf for leaf; often, however, the heart alone is modelled and the leaves painted. That in these cases they resemble *phialai* may not be without significance.⁸² The rosette, be it noted, appears suddenly upon Attic grave stelai both in the simple form and in more elaborate varieties. Despite many ingenious hypotheses, says Möbius, the true explanation for

⁷⁹ Inv. No. T 829. Found in 1935. Preserved height, 0.08 m.; width, 0.077 m.; thickness, 0.02 m. Rounded neatly behind, broken off at the bottom; left side somewhat damaged.

⁸⁰ G. Treu, "Griechische Tongefässe in Statuetten-und-Büstenform," *Berliner Winckelmannsprogramm*, XXXV, 1875, pl. I. Cf. *C.R.*, 1870-71, pl. I.

⁸¹ Roscher, *s. v.* Sphinx, col. 1383.

⁸² H. Möbius, *Die Ornamente der griechischen Grabstelen* (Berlin, 1929), p. 26, repudiates Bulle's suggestion that the type might represent symbolic *phialai* (compare those on the Erechtheion and on the Tholos at Epidauros), *Jahrbuch*, XXXIV, 1919, p. 160. The "*phialai*" type is not uncommon on headdresses, as, for example, on the Olynthos mould of Kybele, *Olynthus*, IV, pls. 51 ff., no. 410.

the sudden predilection at this time among the Athenians for this ornament is not yet found. The similar outbreak of rosettes upon the plastic lekythoi that abruptly supersede the painted lekythoi at just this period can scarcely be fortuitous.⁸³ Since all the lekythoi of the Parthenon period show merely plain stelai tied with fillets,⁸⁴ we can argue that this new impulse, possibly from a new cult, comes in just after 430 B.C. It is perhaps significant that at this time the Athenians were taking great interest in the oriental cults of Cybele and of the Oriental Aphrodite. It is further illuminating to note also that goddesses, variously called Artemis, Aphrodite, and Demeter, wear headdresses covered with disks in the sixth century in Boeotia,⁸⁵ in the fifth century in Cyprus,⁸⁶ and somewhat later in Kyrene, South Italy, and Etruria.⁸⁷ In Attica, the form of headdress of this class begins on the plastic lekythoi of the last quarter of the fifth century⁸⁸ and does not, to my knowledge, continue at all after the second quarter of the fourth. On this ground alone, our mould must be dated somewhere in that period.

The sphinx type, being fantastic, does not fall readily into stylistic categories. Thus we must try to separate the fantastic elements from those telling for chronology.

The head finds no parallel among plastic lekythoi or terracotta masks. The face is distinctly peculiar in type. It is strikingly elongated; the proportions, in which the distance between the root of the nose and the chin greatly exceeds the height of the forehead, are like those in vogue in the second quarter of the fifth century. The eyes, though markedly slanting, are not exactly archaic. The nostrils are broad and heavy, but the mouth is neither large enough nor the lips full enough to accompany the heavy eyes and nose. Its corners do not meet sharply and its contours are given curve and countercurve in a manner far from archaic. The mouth itself would set the face well down into the second half of the fifth century.

The hair is dressed in a fashion more common before than after 450 B.C. The locks around the face are gathered into four strands and looped up under the *stephane* that supports the disks. The rendering of these strands certainly resembles work in

⁸³ P. Knoblauch, in the most recent discussion of the class, *Arch. Anz.*, LIII, 1938, pp. 342 ff., emphasizes the sepulchral character of the fourth-century lekythoi. Cf. R. Pagenstecher, *Exped. Ernst von Sieglin*, II, I A, p. 53, who points out that the white-ground Hadra vases were, like the perishable Proto-attic and most of the Attic white-ground classes, dedicated in the grave. A forthcoming article on the group from the Pnyx will cover an interesting series from Athens itself.

⁸⁴ E. Buschor, *Attische Lekythen der Parthenonzeit* (1925), *passim*.

⁸⁵ P. N. Ure, *Aryballoi and Figurines from Rhitsona* (Cambridge, 1934), p. 58, fig. 8; Winter, *Typenkatalog*, I, p. 8, 6-7.

⁸⁶ H. B. Walters, *Cat. Brit. Mus. Terracottas*, A 275 ff.; *Typenkatalog*, I, p. 90, 4, and p. 91.

⁸⁷ *Typenkatalog*, I, p. 93, 4; p. 116, 4; p. 123, 6; p. 128, 5; II, p. 203, 1-3; and P. Marconi, *Agrigento arcaica* (Roma, 1933), pl. X, 2, and p. 64; Giglioli, *L'Arte etrusca*, pl. CCCXXVIII.

⁸⁸ The best evidence for dating the beginning of this class of lekythoi is the style of two fine examples, one in the National Museum (Athens, no. 2076), the other in the Louvre (J. Charbonneaux, *Les Terres cuites grecques* [Paris, 1936], pl. 41; *Typenkatalog*, I, p. 79, 1).

metal, such as the bronze Apollo from Pompeii.⁸⁹ That the mode continued in human use after 450 B.C. seems, on the evidence of the vases, to be unlikely, but goddesses like the Parthenos and the Eirene of Kephisodotos are given this coiffure; no doubt, as the pompadour to us, it savored of the dignity of dowagers. It even occurs on certain coins of the fourth century.⁹⁰

The date of execution of this head, then, despite its archaisms can also on this evidence be placed in the last quarter of the fifth century. Such cases of archaism are not rare even at this period. Sphinxes invariably are given an old-world touch. An interesting example of a bronze parallel comes from a Macedonian tomb of the fourth century.⁹¹ The face is fuller than ours, yet retains an oval; the eyes slant; the mouth, however, is small, like a softened version of our sphinx's. The hair is a clever adaptation of the older coiffure to contemporary taste. The Medusa head is clearly later than the sphinx head.

The question of the provenience of the original of our mould is also puzzling. In this connection a curious cast coin of Olbia⁹² may throw light. It shows a woman's head with the hair arranged in much the same way, large accented eyes, wide nose, small mouth, and projecting chin. The flavor of crude archaism is not unlike that of the Agora piece. Is it significant that the coin comes from a Hellenized town of South Russia? It is after all chiefly in South Russia that the sphinx vases have been found. How many of these were made in Attica, how many by barbarian imitators or by barbarized Greeks must remain unsettled. A piece of metal work from South Russia might have made its way into Athens, there to be recorded, perhaps for an order, by an Attic metalworker. The vicissitudes of such histories cannot even be surmised.

The use may perhaps be guessed. A repellant head would presumably occupy a prominent position as an *apotropaion* on a metal object. It is too small for a shield. It might, however, fit comfortably on a helmet. The ambitious figures of sphinxes in the round on the Parthenos' helmet and on other fifth-century examples⁹³ show the popularity of the type as a protection against the enemy. Helmets of Hellenistic and Roman times survive with sphinx heads just over the forehead.⁹⁴ The size and relief of our head would suit such a position admirably. No contemporary specimen has been preserved to support our suggestion, which must be regarded as tentative.

⁸⁹ Brunn-Bruckmann, pls. 301-303; M. Bieber, *Ant. Skulpt. und Bronz. in Cassel* (1915), pp. 4 ff.; Schrader, *Phidias*, pp. 82 f.

⁹⁰ B. V. Head, *A Guide to the Principal Coins of the Greeks* (London, 1932), pls. 22, 23, 26. That the new full-face types of the late fifth century follow contemporary fashion suggests that the rare occurrences are a conscious archaism.

⁹¹ *Jahrbuch*, XXVI, 1911, p. 205, fig. 17.

⁹² Head, *Guide to the Principal Coins*, pl. 21, 3; cf. Minns, *Scythians and Greeks*, pl. II.

⁹³ Compare the Varvarkeion Athena and Kul-Oba medallions, *Ath. Mitt.*, VIII, 1883, pl. XV; and on vases, particularly Furtwängler-Reichhold, I, fig. p. 128, in which the sphinx has obligingly wheeled round on her mistress' helmet to frighten her enemy.

⁹⁴ *Jahrbuch*, XX, 1905, figs. 10 and 17.

The second mould is a small fragment so delicate in execution as to be unquestionably from a repoussé relief in silver or in gold. The clay slipped as the mould was being taken from the original, blurring the egg-and-dart border that runs along the top. The scene was crowded with figures (Fig. 16).⁹⁵ On the right side of the relief is preserved the head and bosom of a woman; she is moving to the left with dignity, holding two torches upright before her. She wears a chiton and a himation thrown back around her shoulders. From her ear hangs a tiny pyramidal earring. Although she turns her head backward to look at her following companion, the thick flames of the torches stream ahead as though to carry the eye on to the next figure. Of the



Fig. 16. Mould (Left) and Clay Impression (Right) of Maenad Relief

latter we see only the left arm with its fine chiton slipped down from the shoulder.⁹⁶ Behind her swings a great arc of drapery curled upward violently from the bottom. The hint of dignified movement alternating with whirling dance places the scene. It can scarcely come from a procession or Eleusinian rite. Rather it is more at home among the orgies that abound on vases from the time of the Painter of the Berlin Dinos to the opening years of the fourth century.⁹⁷ In these scenes, the Maenads, usually carrying two torches, turn and twist in dance in just the same fashion.

These vases also offer excellent parallels in style. The maidens of Meidias, whose curls and elaborate dresses delighted the war generation, are indeed sisters of the

⁹⁵ Inv. No. T 831. Preserved height, 0.042 m.; width, 0.045 m.; thickness, 0.008 m. The top is original; the right side has been cut off while the clay was damp. The rest is broken away. The clay is extremely fine and well-washed. No curvature visible.

⁹⁶ That this is the chiton and not a bracelet is proved by a glance at the vases of the period on which the ladies always wear a single bracelet on each wrist.

⁹⁷ Hahland, *Vasen um Meidias*, pls. 1 f.; cf. G. E. Rizzo, *Thiasos*, figs. 4, 6 b, 15 a.

Maenads. Their hair ripples back from their faces in minute waves. They often turn full or three-quarter faces to the spectator. They whirl in their dances so that their drapery curves into arcs and the ends twist upward. These mannerisms can be found likewise on plastic work of the period—on the Bassae frieze, on the frieze of the temple of Athena Nike, and on a bronze cheek-guard from Dodona.⁹⁸ The sober mien of the woman *en face* appears on minor Attic reliefs of the last decades of the fifth century.⁹⁹ For the happy union of delicacy and vigor in the drapery, the Nike balustrade presents the best parallels.¹⁰⁰ Although the marble, by virtue of its more rigid



Fig. 17. Cast from Mould of Cheek-guard
(from *Jahrbuch*, 1926, Beilage 5)

character, retains longer the formality in the structure of the folds, the essential quality of brittle delicacy is common to both types of relief. It is significant that the name of a metalworker, Kallimachos, who made a golden lamp for the Erechtheion, has been associated with the Nike balustrade reliefs.¹⁰¹ For it is undoubtedly more correct to speak of the influence of metalwork on the marble slabs than to say that the marble-cutters taught the silversmiths the drapery style that exploited richly the brilliant incisiveness peculiar to their medium. The tendency to work the surfaces of the sensitive precious metals toward over-refinement is visible also on another mould from the metalwork of this period (Fig. 17).¹⁰² This splendid example shows the same restless drapery that, in silver, causes the light to flicker as though with a life of its own.

Coins give a hint of the appearance in silver of the original of the Agora mould. The same type of head with low forehead and round cheeks occurs on the full-face types that become popular at the end of the fifth century. Sicilian and Macedonian

⁹⁸ Carapanos, *Dodone*, pl. XV.

⁹⁹ J. Svoronos, *Τὸ ἐν Ἀθήναις Ἑθνικὸν Μουσεῖον*, pl. XXVIII; G. Rodenwaldt, *Das Relief bei den Griechen*, pls. 84, 86 (cf. 89 for the torches).

¹⁰⁰ R. Carpenter, *The Sculpture of the Nike Temple Parapet*, pls. III, VI, VII.

¹⁰¹ Carpenter, *op. cit.*, p. 21; Richter, *Sculpture*, pp. 240 ff.

¹⁰² G. Rodenwaldt, "Ein toreutisches Meisterwerk," *Jahrbuch*, XLI, 1926, pp. 191 ff., Beilage 5 (cf. particularly fig. 2, a silver reproduction).

examples are the best parallels.¹⁰³ On a larger scale, the splendid faces appear on mirrors; especially close are the famous pair in the Metropolitan Museum.¹⁰⁴ This scrap of terracotta, then, tiny though it be, can be said to express the spirit of that terrible decade, 410-400 B.C., as movingly as any of the vases epitomized by Beazley as showing "Hetärenhimmel," or as any of the reliefs likened by Carpenter to flowers "just in blossom and not yet too full-blown."¹⁰⁵

It is not possible to identify with certainty the object from which our mould was taken. Since no curvature is visible, the relief was presumably on a rectangular toilet

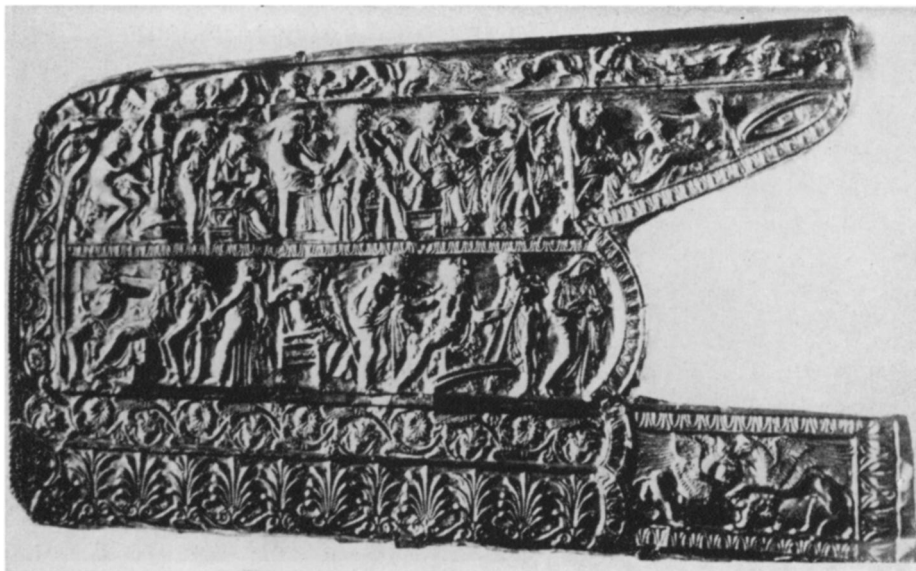


Fig. 18. *Gorytos* from South Russia (from *Rev. arch.*, 1896, pl. XIV)

box, or possibly on the base of a silver or gold statuette. Quiver-cases, or *gorytoi*, from South Russia may give us a notion of the type of decoration. Three examples exist, apparently beaten against one die, showing two main zones crammed with figures and bordered by mouldings not unlike our own (Fig. 18).¹⁰⁶ The disposition of the figures in the space, the heads extending beyond the frame, as often on vases of the last quarter of the fifth century,¹⁰⁷ the style of the seated figures, the flaring

¹⁰³ K. Regling, *Die antike Münze als Kunstwerk*, pl. XXVIII, 589-590, and pl. XXXIV, 701. The earring is of the type worn by the nymphs of Euainetos and the hair more like their simple locks than like the complicated curls on the heads by Kimon.

¹⁰⁴ G. M. A. Richter, *Greek, Roman, and Etruscan Bronzes*, nos. 758-9.

¹⁰⁵ Beazley, *Attische Vasenmaler*, p. 459; Carpenter, *op. cit.*, p. 82.

¹⁰⁶ T. Reinach, *Rev. arch.*, XXIX. 1896, pp. 145 ff., pl. XIV; Minns, *Scythians and Greeks*, pp. 164, 284 ff.; Malmberg, *Materials Touching the Archaeology of Russia* (in Russian), III, 1894, pp. 122 ff., pl. IX; *Arch. Anz.*, XVIII, 1903, pp. 83 f.

¹⁰⁷ Compare the Penthesilea Master's vase, Pfuhl, *Malerei und Zeichnung*, fig. 501, the earlier solution, with figs. 559, 575, 583, that of the last quarter of the century.

drapery of the rushing girl—all echo, by whatever devious channels, Attic work of our period. Though the technique is clumsy and the composition a foolish pastiche, the scenes are to our original as a Roman copy to a Greek statue. It is good to have at last a scrap of the real thing.

The Agora mould is significant also in this very question of Roman copies. For a long time scholars have spoken of “metal influence” on Neo-Attic vases like those found at Madhia.¹⁰⁸ Fragments of bronze plaques showing versions of these kraters were actually found on board the wreck.¹⁰⁹ But for the metallic inspiration of the Campana reliefs, we have hitherto had to assume Attic originals of the late fifth century.¹¹⁰ On the fairly convincing evidence of a signed copy of an archaistic relief, Kallimachos has been called upon to father this progeny.¹¹¹ In the Augustan age, monuments from the size of the *Ara Pacis* to the tiny appliqué stamped reliefs on Arretine vases¹¹² were covered with twisting figures and whirling drapery in the manner of the late fifth century. We can now compare them with an original more like them than any hitherto preserved. Certain differences instantly strike us: the Augustan version reduces to patter what was once genuine lyric. Even in the late fifth century the Maenads still live; they dance like real women crowded together so that their figures nearly overlap and their heads push up to cut the frame, as though to burst the bonds of pictorial space. On Roman echoes,¹¹³ they abide within their allotted area with the docility of a ballet. Exquisite as the Attic detail may be, it never lapses into mere pattern. Perhaps the difference is most tellingly expressed in the egg-and-dart border, shallow, fastidious, perfectly akey with the scene, even yielding place to it when necessary. Compared with the Erechtheion mouldings, it bears the test, both in the contour and in the character of the modelling. Compared with the bloated eggs that stretch themselves like a police cordon above the Roman scenes,¹¹⁴ it is as a Greek to a barbarian. The more severely we scrutinize the Agora relief, the more it yields us in understanding of its period, both for what it symbolizes itself and for what it meant to less gifted generations.

Dare we give this masterpiece a master? The post-Pheidian flavor of Rodenwaldt's relief (Fig. 17) and its beauty naturally aroused him to invoke a famous name for its creator. He suggested the metalworker who worked with Pheidias, Mys,

¹⁰⁸ F. Hauser, *Die neu-attischen Reliefs*, pp. 121 ff.

¹⁰⁹ A. Merlin and L. Poinssot, *Cratères et candélabres de marbre trouvés en mer près de Madhia* (Paris, 1930), p. 139.

¹¹⁰ Cf. Furtwängler, *Masterpieces of Greek Sculpture*, p. 438; Hauser, *op. cit.*, p. 128.

¹¹¹ Richter, *Sculpture*, p. 241.

¹¹² E. g., H. Dragendorff, “Terra Sigillata,” *Bonner Jahrbücher*, XCVI-VII, 1895, pp. 56 ff.

¹¹³ G. H. Chase, *Cat. Arretine Pottery, Mus. of Fine Arts*, Boston, 1916, pl. V, 1; XVI, XXIII, 13-14; XXIX, 64.

¹¹⁴ H. von Rohden and H. Winnefeld, *Architektonische röm. Terrakotten der Kaiserzeit* (Berlin-Stuttgart, 1911), *passim*; Dragendorff, *op. cit.*, pls. IV-V; Walters, *Brit. Mus. Cat. Silver Plate*, pl. X, and pl. XI, 74.

who did the shield of Athena Promachos.¹¹⁵ Likewise the Agora mould tempts us to consult Pliny's record of famous silversmiths. Is it chance that we find a noted metalist, Akragas, who made famous cups. "Extant --- opera --- Acragantis," says Pliny,¹¹⁶ "in templo Liberi patris in ipsa Rhodo Centauros Bacchasque caelati scyphi ---. Acragantis et venatio in scyphis magnam famam habuit." No positive evidence exists for his date. Perhaps it is merely coincidence that has preserved such excellent candidates of the same period as the Solokha bowl¹¹⁷ and the Agora relief to cover both his favorite themes. But even if the master of our fragment must remain nameless, the piece will stand as a marvel of exquisite modelling. Its technical perfection has probably seldom been rivalled throughout history; its beauty is of the genius of the period that created it.

The purpose for which these moulds and casts were taken is not at first apparent. A few others survive elsewhere, rare, and equally tantalizing. The cheek-guard of Helen and Eros (Fig. 17), the Aphrodite (?) from the West Slope,¹¹⁸ an early fourth-century cheek-guard of Herakles and the Lion from the Pnyx,¹¹⁹ and the bridal scene from Philopappos¹²⁰ are other clay records of metalwork that have been found in Athens itself. To understand them, we must consider the technique of contemporary metalwork.

Wax or clay studies were, of course, made previous to the transformation of the design into metal. But our moulds are not handmade "patrices" or studies; they have clearly been made by pressing damp clay against the outside of a finished—sometimes even a worn—repoussé relief. They could never have been themselves used for the casting of metal. First, they have neither the weight nor character of moulds used for casting bronze.¹²¹ Secondly, they could not have been used for the casting of silver, owing to their being too light and too much undercut.¹²² Moreover, it was the Romans and not the Greeks who made a practice of casting silver vessels from wax models.¹²³

¹¹⁵ *Jahrbuch*, XLI, 1926, pp. 200 ff. Cf. *Münch. Jahrb.*, III, 1926, pp. 131 ff., a bronze vase related by Sieveking to the school of Mys.

¹¹⁶ Pliny, *Nat. Hist.*, XXXIII, 155; cf. T. Reinach, "Akragas ou le Pirée pris pour un homme," *Rev. arch.*, XXIV, 1894, pp. 178 ff., reasonably refuted by Jex-Blake, Sellers, *Pliny*, p. 3.

¹¹⁷ Cf. A. Klügmann, "Coppa inargentata et smaltata di Villanova," *Annali*, 1871, pp. 195 ff., pl. Q; cf. Jex-Blake, Sellers, *Pliny*, p. 4, note 5, who suggest that the hunting-scenes on silvered Italian vases may echo Akragas' work.

¹¹⁸ *Ath. Mitt.*, XXVI, 1901, p. 52, no. 5.

¹¹⁹ To be published in *Hesperia* in a forthcoming report on the Pnyx excavations. Two fine examples recently found in Corinth will be discussed later in connection with other impressions from metalwork.

¹²⁰ H. Brückner, *Berliner Winckelmannspr.*, LXIV, p. 12.

¹²¹ Cf. *Hesperia*, VI, 1937, pp. 82 ff.

¹²² Mavromati, the well-known Athenian dealer, who was a silversmith in his youth and made many repoussé cups, generously gave me much time in discussing technical detail and took me to a modern establishment where I observed the stages in different types of work.

¹²³ Lamb, *Bronzes*, p. 174; Richter, *Met. Mus. Bronzes*, pp. xxi f.; Walters, *Brit. Mus. Cat. Silver Plate*, p. xviii.

Greek reliefs of this type were wrought in repoussé even when in much higher relief than that of our specimens. Nor were they used as blocks or dies into which the silver could have been hammered—a mechanical method applied to the South Russian *gorytoi* but not to the best Greek work. For repoussé was done then, as now, by hammering on a sheet of metal set on a bed of hot pitch. The artist might follow a pricked outline, he might keep his eye on a model before him, but he would fill out the details freely by an eye and hand trained to thinking in the reverse of intaglio. He would often turn the metal over in order to engrave or rework minutiae on the front. His work therefore would partake of the nature of gem- or die-cutting rather than of the character of sculpture. To use moulds or piece moulds would be unnatural.

Our moulds, then, must have been taken in order to make permanent casts in altogether another medium. A wax cast might be an aid in altering the composition before attempting to change the metal itself. Plaster, much in favor for piece moulds at a later date in Egypt and in Rome, has not, to my knowledge, been found in Greece proper.¹²⁴ Those of us who resent its frigidity, but find it by far the most convenient and sensitive medium for modern casts must admit that it was recommended by the ancients.¹²⁵ Its usage by οἱ περὶ τὴν Ἑλλάδα is attested by Theophrastos (*de Lapid.*, 67), who praises it for its γλισχρότης and λειότης.

A clay cast, such as we must assume and such as we found, could be for two purposes: either to preserve the design permanently or to reproduce in a cheaper medium the type of the original. In the cases where only an excerpt from a scene was selected, as on the Maenad relief, the cheek-guards, and the warrior mould, the purpose would be purely technical. Züchner's observation, based on his study of many mirrors, explains this usage of our type of moulds and casts: ¹²⁶ "verschiedene Handwerker mehrfach die gleichen Bildtypen verwendet haben, sei es unter Benützung eines gemeinsamen Vorbildes, oder dass sich der eine ein Modell von der Arbeit des anderen verschafft hat." The Agora, then, has produced these hypothetical models whereby the craftsman followed fashion, yet permitted his originality to have a little play in the creation of variation on the set scheme. In other cases, however, the relief thus obtained in clay, as in the example of the Troilos scene, might be applied to decorate vases imitating metal. Athens was a centre of manufacture for gilded plastic lekythoi of this class.

It is possible that we now underestimate the amount of decorative metalwork. During the last half of the fifth century, as Courby points out,¹²⁷ the Athenians were using precious metals freely, even in private life. To judge from the repeated paint-

¹²⁴ For the use of plaster piece moulds, cf. Pernice, *Jahreshefte*, VII, 1904, pp. 154 ff.; C. C. Edgar, *ibid.*, IX, 1906, pp. 32 ff., and *Greek Moulds*, *Cat. gén. des ant. égypt. du musée du Caire* (Le Caire, 1903).

¹²⁵ S. Reinach, "Le moulage de statues," *Rev. arch.*, XLI, 1902, pp. 5 ff.

¹²⁶ *Arch. Anz.*, L, 1935, cols. 365 ff.

¹²⁷ *Vases grecs à reliefs*, pp. 158 ff.

ings of decorative armor on vases,¹²⁸ the richer knights vied with one another in expensive helmets and shields. The Parthenon treasure-lists bristle like Alcman's armory. The types may be summarized as follows.¹²⁹

ἀσπίδες: ἐπίχρυσοι, ἐπίχαλκοι, ἐπίσημοι.

Note a few imported specimens (e. g. ἀσπίς ἐγ Λέσβου ἐπίσημος χρυσῇ) and, among other equipment, a helmet we should much like to see:

κρανίδιον μικρὸν τὰς μὲν παρειὰς χρυσᾶς ἔχον,
τὸν δὲ λόφον ἐλεφάντινον.
θώραξ πάγχρυσος ἐντελής.
πέλτη ἐπίχρυσος ἐντελής.
κνημίδες χαλκαί.

Karo has found, however, that greaves were practically out of fashion by the late fifth century¹³⁰ and probably should not be considered among the candidates for our reliefs. Shields manufactured in the Peiraeus factory of Lysias' father must have borne reliefs of Attic design, which may well have been exported to South Italy as well as carried thither by the Sicilian army. Socrates is reported by Xenophon as reproving the extravagant taste that preferred armor decorated with silver and gold reliefs to that which fitted the body properly (*Mem.* III, 10, 14). Ἐνιοὶ μέντοι τοὺς ποικίλους καὶ τοὺς ἐπιχρύσους θώρακας μᾶλλον ὠνοῦνται. Ἀλλὰ μὴν, ἔφη [*sc.* Σωκράτης], εἶγε διὰ ταῦτα μὴ ἀρμόττοντας ὠνοῦνται, κακὸν ἔμοιγε δοκοῦσι ποικίλον τε καὶ ἐπίχρυσον ὠνεῖσθαι. This ornate armor is well illustrated to us by the famous pieces from Siris in South Italy, now in the British Museum.¹³¹

It seems probable that much of the finest metalwork of the period was lavished on this armor. Presumably such work would be undertaken by well-known artists or their schools. Thus we have noted Pheidian inspiration on several of our specimens, most probably because he employed the best metalists of his day on those masterpieces of toreutic virtuosity, the chryselephantine statues of Athena and of Zeus. As Rodenwaldt has indicated, the craftsmen employed by Mys would naturally make part of their repertory motives and mannerisms learned from their masters, which would in turn become the tradition bequeathed the younger generation.

Armor was not, however, the only field for the activity of these energetic metalworkers. The Parthenon treasure-lists mention numerous silver *phialai*, solid and plated ritual vessels, lamps, furniture, lyres, jewelry, statuettes, and even ambitious statues of gold, weighing as much as two talents apiece. Alcibiades covered his tables

¹²⁸ See above, p. 291.

¹²⁹ Lists conveniently arranged in Michaelis, *Der Parthenon*, pp. 295 ff.

¹³⁰ Daremberg and Saglio, *s. v.* Ocrea (Karo), pp. 145 ff.

¹³¹ Lamb, *Bronzes*, pl. LXVII b; better photographs, Willeumier, *Le Trésor de Tarente*, pls. XV f.

with gold and silver drinking cups.¹³² It was from gold and silver that the libations for the Sicilian Expedition were poured.¹³³ Even at the end of the century Lysias' strong-box yielded four silver *phialai* to looters.¹³⁴ Well-to-do Athenians of the period must have had considerable wealth reserved in these works of art.

Presumably most of this material was of Attic manufacture, but it is possible that a certain amount was imported. We know that Athens imported vases, armor, furniture from Argos, from Rhodes, from Lesbos, even from Etruria.¹³⁵ Ποικίλαι γὰρ ἦσαν αἱ παρὰ τοῖς Τυρρηνοῖς ἐργασίαι. A warrior is described as wearing an Attic cuirass and a Boeotian helmet, carrying an Argive shield, and riding a horse from Epidauros.¹³⁶ In such a state of free trade and internationalism, it becomes clear that the fact that our casts and moulds are of Attic clay does not necessarily mean that they are from Attic originals. In the case of the Kadmos, Giant, and Troilos reliefs and of the Maenad fragment, we have been able to find many Attic parallels. But the Herakles head appears to be more Ionic than Attic, the Warrior resembles South Italian coins rather than Athenian, the Sphinx has South Russian cousins. Likewise the Herakles relief from the Pnyx will be shown to have the closest resemblance to coins of Heraclea and to be itself copied on silvered Italian pottery. The very process of taking moulds from metal originals renders extremely easy the transmission of influences hither and thither.¹³⁷ Therefore, at the moment we are in no position to discuss schools.¹³⁸

The later influence of this metalwork was probably greater than we realize. In the course of this study we have indicated various instances where we are able for the first time to show source of motives that continued to be popular well into Roman times. In other cases, we have suggested that the influence was by revival. We must remember that the Roman conquerors of Greece looted house and temple in their search for precious metals, much of which was in the form of works of art, as we call them. Though much of this must have been melted down since the fifth century, a certain amount survived, for which collectors paid gigantic sums. A pair of relief cups, for instance, brought 1,200,000 sesterces (over \$55,000).¹³⁹ Cups by the famous Kalamis, sculptor and metalist, were proudly copied and sold for a good price.¹⁴⁰ An Arretine potter, Libertus, took from silver vases moulds which he signed.¹⁴¹ Even

¹³² Plutarch, *Alcibiades*, 4.

¹³³ Thucydides, VI, 32.

¹³⁴ *Against Eratosthenes*, 11.

¹³⁵ Athenaeus, I, 28 bc; XV, 700 c; cf. Richter, *A.J.A.*, XLIII, 1939, p. 194.

¹³⁶ Aelian, *Var. Hist.*, III, 24.

¹³⁷ The new Corinthian examples throw light on the methods of transmitting influence.

¹³⁸ I regret not being able to await the publication of W. Züchner on bronze mirrors; cf. *Arch. Anz.*, L, 1935, cols. 365 ff. For Athenian influence on Italy at this period compare Hagemann, *Gr. Panzerung*, pp. 66 ff.

¹³⁹ Pliny, *Nat. Hist.*, XXXIII, 156.

¹⁴⁰ *Ibid.*, XXXIV, 47.

¹⁴¹ J. Déchelette, *Les Vases céramiques ornés de la Gaule romaine* (1904), I, pp. 229 ff. Libertus copied contemporary originals.

plaster casts were valued, and the fact that certain famous cups by Pytheas were too delicate to admit of taking casts was considered praiseworthy by Pliny.¹⁴² Pliny laughs at the passion for worn antiques¹⁴³ and Tiberius felt forced to issue an edict to limit the greed of collectors by prohibiting the use of gold vessels save in ritual.¹⁴⁴ Thus it is only natural that Roman vases, plaques, and even sculpture should feel the influence of these lost masterpieces in precious metals. Our ignorance of the quantity and quality of such objects has perhaps warped our judgment as to their position in the history of artistic tradition. Now the chryselephantine statues just found at Delphi, and even these small clay impressions, open our eyes to this almost unknown realm of ancient art. For we see at last face to face the technical and spiritual perfection that the Greek metalist attained.

DOROTHY BURR THOMPSON

¹⁴² Pliny, *Nat. Hist.*, XXXIII, 157.

¹⁴³ *Ibid.*

¹⁴⁴ Pauly-Wissowa, *s. v.* Emblema, cols. 2488 f.