

AES CORINTHIUM: FACT, FICTION, AND FAKE

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DESPITE ITS FAME since ancient times, *aes Corinthium*—or at least the significance of the term—is not understood clearly. The articles in Pauly-Wissowa and Daremberg-Saglio¹ cite most of the pertinent ancient testimonia, but venture no conclusions. Recently Murphy-O'Connor enlarged the collection of ancient citations.² Although he offers cogent observations on such matters as the use of Corinthian bronze for vessels and the "indiscriminate use of 'Corinthian'" in the first century after Christ (81–83, 88), the available evidence calls for further discussion. Did this alloy really include silver and gold, or was *aes Corinthium* a unique mixture of tin and copper? Or did the term merely denote its provenience or place of manufacture? Further, how extensive was the copying/forgery industry in the Roman world—a phenomenon hinted at by the sources and acknowledged by Murphy-O'Connor (92–93)?

Corinthian bronzes are known primarily as costly antiques on the Roman collectors' market, especially during the first century before Christ and the first century after, although the industry that produced them is but little in evidence from the material excavated at Corinth. The earliest reference to Corinthian vessels (*sc.* made of bronze) is made in New Comedy, late in the fourth century B.C., by Diphilus³ who speaks in a tone that shows respect for high-quality merchandise. We do not hear, however, that it

The following works are referred to by author's name alone: Earle R. Caley, "The Corroded Bronze of Corinth," *ProcPhilSoc* 84 (1941) 690–759; P. Craddock, "The Composition of Copper Alloys Used by the Greek, Etruscan and Roman Civilizations: 1. The Greeks before the Archaic Period," *JAS* 3 (1976) 93–113; G. R. Davidson, *Corinth XII: The Minor Objects* (Princeton 1952); Carol C. Mattusch, "Corinthian Metalworking: The Forum Area," *Hesperia* 46 (1977) 380–389; J. Murphy-O'Connor, "Corinthian Bronze," *Revue Biblique* 90 (1983) 80–93; Elizabeth G. Pemberton, "The Attribution of Corinthian Bronzes," *Hesperia* 50 (1981) 101–111; *The Elder Pliny's Chapters on the History of Art*, tr. K. Jex-Blake with Commentary and Historical Introduction by E. Sellers (London 1896; reprinted Chicago 1976); G. I. Varoufakis, "Μεταλλουργική έρευνα γύρω από τόν κρατήρα τού Δερβενίου," *ArchEph* 1978, 160–180; Ellen Reeder Williams, "Ancient Clay Impressions from Greek Metalwork," *Hesperia* 45 (1976) 41–66.

¹A. Mau, "Corinthium aes," *RE* 4 (1901) 1233–34; E. Pottier, "Corinthium aes," *DarSag* 1.2 (1908) 1507 f.

²Thanks to M. B. Wallace and W. McCarty, the Appendix below adds several more, obtained through the use of the IBYCUS computer.

³A fragment in Athenaeus 236b; to this must be added Callixinus of Rhodes (199e), "two craters of Corinthian workmanship," and Theophrastus of Eresus (128d), "bronze platter of the Corinthians" (Murphy-O'Connor 81–82).

fetched fabulous prices in Late Classical or Hellenistic times; this was a Roman phenomenon and the Romans treasured not new bronzes, but ancient (to them). When Corinthian bronze is first referred to in Roman literature, it is again in the form of vessels; Cicero, in 79 B.C., mentions *vasis Corinthiis* (*Rosc. Am.* 46).⁴ Later, Petronius (*Sat.* 50) uses the adjective "Corinthian" with *poculum* and *vasa*. Pliny the Elder was not only aware of such vessels, but he even claimed that only artifacts of this class were genuine Corinthian bronzes (*HN* 34.7, discussed below). The Younger Pliny, too, mentions Corinthian vessels (*Ep.* 3.1.9). There are ample grounds, then, for the observation that the output of Corinthian foundries consisted of such "utilitarian" objects (Pemberton 109, Murphy-O'Connor 89–90). The word "utilitarian," however, must not be given the connotation "common" or "cheap," for age alone cannot account for the prices paid for *aes Corinthium*. Decoration and craftsmanship must also be taken into account, as Cicero tells Verres emphatically: *tu videlicet solus vasis Corinthiis delectaris, tu illius aeris temperantiam, tu operum linimenta sollertissime perspicias!* (*Verr.* 2.4.98).⁵ The same lavish decoration was applied to other bronze objects: *loricas galeasque aeneas, caelatas opere Corinthio, hydriasque grandis simili in genere atque eadem arte perfectas* (2.4.97).

In Cicero's time, then, the pre-eminence of Corinthian chasing was well established. It not only set the standard by which all decorative bronzes (including such objects as breastplates and helmets) were judged, but also lent its name to this type of work—*opus Corinthium*. The loot to which Cicero refers consisted of objects dedicated by Scipio Aemilianus⁶ following the destruction of Carthage (146 B.C.). The preponderance of evidence down

⁴Cicero also mentions vessels at *Verr.* 2.4.2, 2.4.98, 2.4.131, and Propertius (3.5.6) refers to "bronzes" in connection with Corinth, but does not use the expression "Corinthian bronze" or an equivalent. The exact words "*aes Corinthium*" appear for the first time in *Tusc.* 4.14. Because "Corinthian bronze" so often denotes vessels, it is generally accepted that the Corinthiarius, an official of the Imperial family, was keeper of the Imperial dinnerware: *CIL* VI 445 (?), 5900, 8756, 8757, 33768; also "*a Corinthiis*," VI 5847, X 692, 6638.30; "*Corinthius*," VI 8686, X 6.

Suetonius (*Aug.* 70) records an anecdote on Octavian's beginning the collection in the proscriptions following Caesar's murder. A scurrilous graffito was inscribed on his statue's pedestal: *pater argentarius, ego Corinthiarius*—"Father was a money-grubber, I'm a Corinthian-grabber." Verres also perished in the proscriptions because Antony coveted his "Corinthian" treasures (*HN* 34.6).

⁵Elsewhere in the speech (2.4.32) he speaks of one Pamphilus who owned two decorated cups which were almost seized by Verres, and a prized hydria made by the famous Hellenistic artist Boethus whom Pliny the Elder lists as a noted *caelator* (*HN* 33.155) who also made small-scale statues (*HN* 34.84; Pausanias 5.17.4). It is tempting to think of Pamphilus' articles as "Corinthian bronze," but they were, at best, similar in quality to some of the stolen treasures.

⁶Pemberton (109) maintains that these "may well have been . . . new, not antique"; but things "new" in 146 B.C. would be "old" in 79! Murphy-O'Connor identifies Cicero's Scipio as the elder Africanus, but Aemilianus is to be preferred, for the words *Carthagine deleta* at 2.2.83 are explicit. On Cicero's special admiration for the younger Africanus,

to the first century B.C., then, indicates that genuine *aes Corinthium* was made principally into vessels in the Late Classical and Hellenistic periods, and production ended with the sack of Corinth.

By the second half of the first century after Christ, however, the fact of the destruction of Corinth, together with the scarcity and costliness of "Corinthian bronzes," had inspired the popular misconception that on this occasion the alloy was created by the chance blending of bronze with gold and silver. Petronius, through his character Trimalchio, expresses his disdain for the story by presenting it as a laughable farrago (*Sat.* 50): the prized alloy was the result of Hannibal's melting down all of the bronze, gold, and silver statues after sacking Troy! This, presumably, would have produced a huge ingot from which all of the extant Corinthian *vasa* were made.

It is astounding to a modern scholar that the serious-minded Pliny would have accepted such a patently apocryphal tale. Nevertheless, it appears in the *Natural History* (34.6). Whether he has taken the sack myth uncritically from some written source⁷ or given an oral myth the undeserved dignity of inclusion in his treatise, Pliny does not perceive the irrationality of declaring that "Chance mixed it when Corinth was burned while being taken" (*hoc casus miscuit Corintho, cum caperetur, incensa*). Apart from its historical inaccuracy, this statement also contradicts his own view (34.5, two sentences earlier) that ancient bronzes were made by a lost craft which not even luck can reproduce: *adeoque exolevit fundendi aeris pretiosi ratio ut ne fortuna quidem in ea re ius artis habeat*. It is this statement, and not the sack myth, that helps to clarify Pliny's dating of *aes Corinthium* given at *HN* 34.7:⁸

Corinth was taken in the third year of the hundred and fifty-eighth Olympiad, that is, the year of Rome 608 [146 B.C.], centuries later than the celebrated workers, whose statues our amateurs still assume to be all of Corinthian bronze It follows that the only vessels of Corinthian bronze are those which these connoisseurs use as dishes, lamps or basins, with no regard for their workmanship (tr. Jex-Blake).

He thus proposes the following points:

- (a) Since Corinth was destroyed, the production of the bronze must have ended then; the formula was lost and the art of the bronzeworker has declined since then (cf. 34.5);

cf. A. E. Astin, *Scipio Aemilianus* (Oxford 1967) 7–10; on Verres' loot, 76, n. 4, and 304, n. 2 (in n. 3 he points out that Valerius Maximus also was not immune from confusing the Scipios).

⁷On Pliny's weakness in this respect, cf. William H. Stahl, *Roman Science* (Madison, Wisc. 1962) 105–106.

⁸See *contra* Sellers, note to 34.6: "Pliny sees the impossibility of reconciling the story of the Corinthian alloy and the dates of famous statues, but instead of questioning the truth of the story, proceeds to deny *in toto* the existence of Corinthian bronzes"

- (b) Corinthian bronze is not found in statues, but in vessels made after the age of great sculpture;⁹
- (c) The great sculptors never worked in Corinthian bronze in any case (expounded in subsequent passages).

It is apparent, therefore, that the vessels he accepts as truly "Corinthian" were the elaborately decorated ones typical of the Hellenistic Age, down to 146 B.C.

The Younger Pliny believes in the authenticity of a "Corinthian" statuette he has purchased and dedicated in a temple (*Ep.* 3.6). Murphy-O'Connor (89) suggests that it was of a scale (about half life-size) which Pliny the Elder says was popular in the second half of the third century B.C. (*HN* 34.24, *tripedanea*). This is possible, but smaller, free-standing figurines were more common. Indeed, the "utilitarian" nature of genuine Corinthian bronzes suggests a better alternative which has been overlooked by both the Elder and Younger Pliny—that it was a decorative figure detached from a candelabrum,¹⁰ a tripod, a mirror, a cauldron, or some other vessel. The seated figures on the shoulder of Derveni Crater, which are about 0.3 m. tall, are superb examples of this sort of ornament.¹¹ It is possible, then, that Pliny the Younger came into possession of a genuine Corinthian bronze. Nevertheless, his uncle would have disagreed, since it was not a vessel:

The figures known as Corinthian are often so much prized that the owners carry them about with them, as the orator Hortensius did the figure of a sphinx which he had taken from his client Verres. The image was mentioned in the course of the trial, for when Hortensius declared that he could not guess riddles, Cicero replied that he should be able to do so since he kept a sphinx in his house (*HN* 34.48, tr. Jex-Blake).

Although he is probably in error concerning the authenticity of Verres' sphinx, he has indicated the reasons for his position. First, he knows that

⁹In Pliny's opinion, the last great sculptors flourished in the first decade of third century B.C.; *cessavit deinde ars*. When the quality of sculpture began to rise again (about a decade before the fall of Corinth), the artists were, nevertheless, somewhat inferior to the earlier group (*HN* 34.52).

¹⁰See, for example, those illustrated by Bogdan Rutkowski, "Griechische Kandelaber," *JdI* 94 (1979) Figs. 30–35, 37. For other such attachments, Davidson 65–67, nos. 499–502, 506–512. Cf. Petronius *Sat.* 50: *fecerunt catilla et paropsides et statuncula*.

¹¹The two craters "of Corinthian workmanship" mentioned by Callixenus of Rhodes had figures seated on the rim. B. Barr-Sharrar cites them as a parallels for the Derveni Crater, which may have been inspired by Corinthian work: "Macedonian Metal Vases in Perspective: Some Observations on Context and Tradition," in B. Barr-Sharrar and E. Borza (eds.), *Greece and Macedonia in Late Classical and Early Hellenistic Times* (Washington 1982, *Studies in the History of Art* 10) 133–134. The date of the Derveni Crater (late fourth century) approximately coincides with the first mention of Corinthian vases by Diphilus.

the Corinthian reputation for bronzes is connected with vessels and he is specifically concerned with works of high artistic quality. Second, and more important, he knows why many Romans incorrectly identify such bronzes as Corinthian: when Mummius returned from Greece, the booty he displayed in his triumph over Corinth included objects captured elsewhere (*HN* 34.12). It is reasonable to presume, furthermore, that even the booty from Corinth itself included objects not made there, but only captured there. All, however, was displayed in the Corinthian triumph and, therefore, was perceived by the Roman public as "Corinthian." This is why a certain Gegania (*HN* 34.11–12) happily paid 50,000 sesterces for a "Corinthian" candelabrum. Whether or not Pliny is correct in denying its Corinthian origin on the grounds that candelabra were not made in Corinth, it was at least Greek and very likely an antique.

Despite modern progress in art criticism and stylistic analysis, for various reasons it remains difficult to identify bronzes of Corinthian origin (cf. Pemberton, esp. 102, 104, 108–109). Some of the objects found in the Corinth excavations clearly were cast there, but they are fragmentary and too few to provide a large enough sampling to establish the characteristics of a Corinthian style. Some, moreover, are easily recognized as imports and others are molds taken from imports. Because of Corinth's eminence in international commerce, much foreign merchandise passed through her warehouses. Some of it remained there and was copied,¹² probably for the same markets as the originals. All of Mummius' spoils were considered Corinthian: the same would be true in earlier times for all goods marketed by Corinthians, both the trans-shipped articles and the copies.

If any bronze vessel on the Roman antique market had a legitimate claim to the name "Corinthian," it would be one recovered from an old Corinthian grave by some colonist at Caesar's new Corinth (cf. Strabo 8.6.23). Nevertheless, for the reasons suggested, even this impeccable provenience could not guarantee that a piece was either of Corinthian manufacture or made of *aes Corinthium*. By Pliny's time, any Greek bronze of the Archaic, Classical, or Hellenistic Period was likely to be called Corinthian unless it had some other pedigree. This is clearly the case in Plutarch, who regards as Corinthian all of the bronzes dedicated at Delphi (*Mor.* 395b-c).

In this passage, two variants of the sack myth are set forth. A visitor at Delphi has heard that the mixing of gold and silver occurred on the occasion of a house fire. But this tale is challenged by the next speaker, who says that he knows an even wilder fantasy—that the precious metals were mixed with copper as a smuggling ploy. Since both of these stories (as well as the idea of precious metals as components) are flatly rejected by

¹²Cf. G. M. A. Richter, "Ancient Plaster Casts of Greek Metalwork," *AJA* 62 (1958) 369–377, at 374; Williams 43–44; Pemberton 105–108.

Plutarch (395c)¹³ and the sack myth is presented humorously by Petronius, it is clear that these two authors consider the story preposterous.

Pliny's testimony on this point must be read with caution, for he may have believed in the inclusion of precious metals in the alloy: *in Corinthiis aes placet argento auroque mixtum, in caelatis ars et ingenia* (HN 37.49). It is not clear whether he means the precious metals are components of the alloy, or applied to the alloy by some secret plating process.¹⁴ He apparently has the same in mind with regard to the colossal statue of Nero (HN 34.45–47): even with the assurance of an adequate supply of gold and silver, Zenodorus was unwilling to attempt an imitation of Corinthian bronze.

He may be speaking from personal observation when he says that genuine *aes Corinthium* may exhibit the appearance of either gold, silver, or a mixture of the two (HN 34.8): *tria genera: candidum argento nitore quam proxime accedens, in quo illa mixtura praevaluit: alterum in quo auri fulva natura: tertium, in quo aequalis omnium temperies fuit*. Here Pliny says nothing explicit concerning the ingredients of Corinthian bronze, but deals only with appearances. In the light of the other references to silver and gold, however, it is not unfair to suppose that he believed the effects were achieved by their inclusion in the alloy. But since it has been established that ancient founders produced such colours without the use of precious metals,¹⁵ one must conclude that Pliny is describing high-tin bronzes. A high tin content also increases the alloy's resistance to corrosion, as the splendid condition of the Derveni Crater demonstrates. This, too, was a property of Corinthian bronze, according to Cicero (*Tusc.* 4.32.2): *ut aes Corinthium in aeruginem, sic illi in morbum et incidunt tardius et recreantur ocus*. There is no better explanation, therefore, of the nature of genuine Corinthian bronze.¹⁶

It would not be difficult for comparable alloys to be mixed elsewhere, but the skill and experience required for raising a vessel from a single disc and executing decoration in repoussé would be the property of a special few.¹⁷ For this reason, it is quite plausible that Corinth enjoyed a near monopoly on the manufacture of ornate vessels in this difficult material. It remains

¹³Cf. J. Jouanna, "Plutarque et la patine des statues à Delphes," *RevPhil* 49 (1975) 67–71, at 69–70.

¹⁴Plating and gilding might be discounted because Pliny knows techniques of gilding (Book 33) and plating (see especially HN 34.160–162); but by the same token, he also knows of pyropus, an alloy of copper and gold (34.94).

¹⁵Cf. Varoufakis 161, 164: the light golden colour of the Derveni Crater (Pliny's third type?) is the result of mixing the alloy to contain 85% copper and 15% tin.

¹⁶Any discussion of copper alloys made with zinc (orichalcum) or nickel has been omitted, since they were recognized in ancient times for what they were; there is nothing connecting them with *aes Corinthium*.

¹⁷For the techniques employed, see Varoufakis 168–171, 175–176.

to be seen whether the Derveni Crater should be ascribed to Corinth or to some other centre of production.

Pliny the Elder has described well-maintained, shiny surfaces, but even high-tin bronze is not completely corrosion-proof. The Younger Pliny's figurine may have had a patina, for he writes (*Ep.* 3.6) that it appears old: *aes ipsum quantum verus color indicat vetus et antiquum*. Since a polished surface would reveal no such thing, he must mean its patina. But what would be the colour of patinated Corinthian bronze? At Delphi there were many bronze dedications left to sit and corrode, and blue is the colour Plutarch mentions (*Mor.* 395c-d). The speaker in this passage has taken them all for Corinthian, forgetting that Apollo often received dedications not only from citizens of all Greek cities, but also from foreigners! They all had the same patina because they were all exposed to the same environment. Different conditions—immersion in sea water, for example—would produce different patinas.

Many of the Corinthian bronzes circulating on the Roman market would have been exposed to the earth and groundwater at Corinth, for after Mummius the next important source was the graveyards of the old city. Strabo (8.6.23) reports that the discovery of the ancient graves caused a new wave of "Corinthomania." Sometimes the people of the Roman city exhumed the older, Greek graves in order to inter their own dead, but in most cases the disturbances of ancient burials were carried out by tomb robbers.¹⁸ Any bronze from a pre-sack grave was unquestionably antique and, by the obvious criterion of provenience, genuine *aes Corinthium*. Lying undisturbed in the soil and groundwater of Corinth, the bronzes in the graves acquired the typical patina of the region, cuprous oxide, Cu_2O , cuprite (cf. Caley 690–693). Its colour is red or reddish brown, sometimes yellow.¹⁹ These ought to be the colours associated with genuine *aes Corinthium*. Roman craftsmen would be wise to duplicate them in preparing reproductions or forgeries for the open market.

¹⁸Of 103 disturbed burials, only 28 were re-used; Hazel Palmer, *Corinth XIII: The North Cemetery* (Princeton 1964) 70.

¹⁹Cf. J. R. Gettens, "The Corrosion Products of Metal Antiquities," *Smithsonian Annual Report for 1963* (Washington 1964) 550. For a yellow patina: Davidson 65, no. 491.

It is conceivable that, just as pottery sometimes imitates metal vessels in the modelling, so too glazes might have been made to simulate patina; e.g., Pemberton 103, no. 4—light brown glaze, "misfired to red in places." There are also examples of ancient ceramics coated with metal; See E. Holmberg, *A Mycenaean Chamber Tomb near Berbati in Argolis* (Göteborg 1983) 49, 34–37, Figs. 22, 23 (nos. 31–41, 45, 46, 49); Tom B. Rasmussen, *Bucchero Pottery from Southern Etruria* (Cambridge 1979) 128, 131, 158. Such pieces would not be "fakes" to deceive the wealthy, but inexpensive showpieces for the lower classes.

Certainly the technology required for the accelerated production of patinas existed in Roman times.²⁰ For example, Pliny the Elder outlines methods for the production of verdigris—a term which includes several green or blue patinas—for medicinal use (*HN* 34.110 ff.). This can be done by treating copper or bronze with salt, soda, vinegar, and grape skins. At Corinth, a different colour was desired, and a simpler method available. Pausanias (2.3.3) remarks that here bronze was dipped red-hot in the waters of Peirene. In the Middle Ages it was thought, therefore, that the Corinthians knew a way to temper²¹ bronze. Caley, however, suspected that the purpose of the procedure was to produce a lovely, green *patina nobile*. Accordingly, he attempted to produce the classic green patina in his laboratory. The solution he used, mixed to simulate Corinth's water supply, consistently turned the bronze red—viz. to cuprous oxide (Caley 753–754). Pausanias' contemporaries, of course, were not descendants of the original populace, nor the bearers of the old Corinthian bronzeworking tradition. Any "Corinthian bronzes" they were making were reproductions or forgeries—and they used Peirene water to complete the illusion. The patinas thus produced might not have been hard or thick, but so much the better—the collector, having been convinced of the fake's authenticity by the colour, would then find to his delight that the piece was not too badly corroded and could be restored easily.

Nowadays there are scientific techniques which can detect some false patinas.²² Martial and Petronius suggest that some of their contemporaries thought they could recognize genuine Corinthian bronze by its smell. This seems a most unreliable method, but if there was any difference, perhaps the patina itself, produced by the chlorides in Corinthian water, had a distinct odor. It is more likely that Martial (9.59, *consuluit nares an olerent aera Corinthon*) and Petronius (*Sat.* 50, *ego malo mihi vitrea, certe non olunt*) meant to satirize the notion of olfactory authentication.

²⁰It was also technically possible for an ancient craftsman to fake the appearance of high-tin bronze by leaching away copper with the acids available in fruit juices, etc., leaving a tin-enriched, silvery surface: cf. Craddock 103. A small amount of arsenic also produces a silver-like surface; cf. E. R. Eaton and H. McKerrell, "Near Eastern Alloying and the Evidence for the Early Use of Arsenical Copper," *World Archaeology* 8 (1976) 176–177, 186.

²¹Cf. Caley (689), who suggests that annealing was the process Pausanias witnessed. Murphy-O'Connor (92) adheres to the translation of βάρεσθαι as "tempered" rather than "dipped," but cites other modern sources for the generation of "an ochre-like deposit" (87).

²²Cf. W. J. Young, "Authentication of Works of Art," in S. Doeringer, D. G. Mitten, A. Steinberg (eds.), *Art and Technology: A Symposium on Classical Bronzes* (Cambridge, Mass. 1970) 91–92; J. Riederer, "Die Untersuchung von Sinter und Patina zur Echtheitsprüfung antiker Bodenfunde," *AA* 90 (1975) 295–299.

Recent studies²³ indicate that the destruction of Corinth was not total. Nevertheless, there is no evidence of the survival and operation of a bronze industry during the interval between 146 B.C. and 44 B.C. Nor is there any indication that in the new city the craft regained its former stature and importance. The few²⁴ bronzeworking establishments in evidence for the Roman period and later are unimpressive. Ancient literature has little to say of the bronzes of Roman Corinth and to the Elder and Younger Pliny *aes Corinthium* is a thing of bygone days. Pausanias (2.3.3) mentions not the industry itself, but only the practice of quenching bronze in Peirene water. Petronius (*Sat.* 50) adds the following concerning the bronze market:

Trimalchio said, "I'm the only one who has real Corinthian vessels." I was waiting for him to add the remaining insolence, claiming that they were brought to him from Corinth, but he had a better one

The implication is that the ill-informed believed any bronze from Corinth was *aes Corinthium*. But Trimalchio's "punch line" shows that he is not naive enough to make such an obvious blunder: he buys the vessels from a smith named Corinthus. The point of Petronius' joke is that there were Romans who put on airs by purchasing imitation antiques and displaying them to their friends as originals. Undoubtedly, there were also those who purchased the copies thinking them genuine.

Finds from the Corinth excavations and from Athens provide enough information to reveal an active copying industry in Roman times. The artifacts²⁵ in question are:

- a mold showing a face with archaic features, from a context probably Roman;
- a mold for a Medusa head, made by pressing clay over a metal relief of the fourth century B.C., from a Roman context which also yielded an archaistic figurine;
- molds (from Athens) taken from earlier originals, found in Roman contexts.

²³Cf. J. Wiseman, "Corinth and Rome, I: 228 B.C.-A.D. 267," *ANRW* 2 7.1 (1979) 438-548, at 491-496. On continued operation of cults, C. K. Williams II, "Corinth, 1977, Forum Southwest," *Hesperia* 47 (1978) 21-23, n. 32; C. K. Williams II and P. Russell, "Corinth: Excavations of 1980," *Hesperia* 50 (1981) 1-44, at 27 and 43.

²⁴Murphy-O'Connor (93) overestimates the importance of the one in the Peribolos of Apollo; cf. Mattusch 382, 384; R. Stillwell and H. Askew, *Corinth I, ii: Architecture* (Cambridge, Mass. 1941) 27-31. The foundry material from the Gymnasium area is not yet published in detail; meanwhile, see J. Wiseman, "Excavations at Corinth, the Gymnasium Area, 1965-1966," *Hesperia* 36 (1967) 13-41, 402-428, at 409.

²⁵Molds from Corinth: Davidson 63, no. 479, cat. no. 3423; no. 478, cat. no. 7415 = Pemberton 107-108, no. 8. From Athens: Williams 43-44, nos. 11 and 5. Archaistic figurine from Corinth: Davidson 56, no. 395, cat. no. 8356.

Whether the molds were themselves antiques or taken in Roman times is an important question. A Roman mold from an older original must have been made with use intended. Davidson (22) identifies the Medusa head as Roman by its gritty fabric; it probably saw use. By making wax models in the mold, the Roman craftsman could make a copy by direct casting (Williams 45). Alternatively, if he still had the original he could prepare a number of molds for use as bronze molds, thus using the indirect process. Either way, he could turn out exact copies of the original.

Mattusch (384) notes that most of nearly a hundred bronze statuary fragments from Corinth come from Roman contexts. Many are obviously products of the Roman period, but some of these exhibit features characteristic of the Hellenistic and Classical periods.²⁶ The presence of these artifacts in Roman contexts does not prove that they were made by Romans—on the contrary, this kind of forgery requires the availability of Greek originals. Whether the pieces cited are copies or originals may never be known for certain, except for one. MF 6319b, an unstratified find, is identifiable as a fragment of a large-scale copy (Mattusch 386, n. 37), but was it a Roman copy or an earlier one?

Since in any age the number of extant masterpieces is limited, the prices are high. Because of scarcity and cost, many Romans purchased reproductions—as, indeed, had Hellenistic connoisseurs before them.²⁷ Such copies, which became common at Rome about the middle of the second century before Christ, put “great art” within the reach of the well-to-do. The originals remained beyond the means of any but the wealthiest individuals; Pliny (*HN* 35.8) reports that Aristides’ painting “Father Liber” fetched a bid of 600,000 sesterces from Attalus II of Pergamon.

Exact copies of sculptures could be made through the “pointing” process (marble) and indirect lost wax casting (bronze).²⁸ Nevertheless, artists working on reproductions often could not resist the temptation to “improve” them by adding touches which modern study reveals to be stylistic anachronisms.²⁹ In addition to straightforward copies, artists in the Roman world also produced new works in older styles. Some are easily recognized,

²⁶From the “Basilica fill” (cf. Davidson 21–22): no. 425 (MF 4225), 500 (MF 4941). From other proveniences: no. 491 (MF 2215), 493 (MF 1390), 502 (MF 5721), 508 (MF 6311), Pl. 144 (MF 7935–36; cf. Mattusch 384, nn. 19–21). Davidson does not date the contexts of nos. 495–501 and 503–507, but they are the sort of thing that Romans could carry about with them (*HN* 34.18.38)—little hares, cocks, bulls, etc.

²⁷Cf. M. Bieber, *Ancient Copies* (New York 1977) 182–184; Richter (above, n. 12) 369, and “Calenian Pottery and Classical Greek Metalware,” *AJA* 63 (1959) 241–249.

²⁸On pointing: Bieber (above, n. 27) 113, 135, 175, 177, 222. On casting: Carol C. Mattusch, *Casting Techniques of Greek Bronzes from the Athenian Agora* (Diss., University of North Carolina, Chapel Hill 1975) 1–11.

²⁹Cf. Bieber (above, n. 27) 174–180; B. S. Ridgway, *The Severe Style in Greek Sculpture* (Princeton 1970) 110–142.

but the Louvre's "Piombino bronze"³⁰ was only recently exposed as an ancient forgery. In Roman times, as in modern, it was regarded as an authentic kouros,³¹ and as such must have been extremely valuable. Ridgway convincingly argues that this was not an honest reproduction or archaising piece, but a deliberate forgery, meant to deceive.³² Other extant bronzes are such exact copies as to be nearly undetectable.³³ In such cases it is impossible to distinguish between innocent copies and frauds; the difference lies in what the buyer thought he was getting. It is plain that it was possible to fool the ancient public; even now a good copy may escape detection. Forgeries continue to be fobbed off on the unwary and the wary alike. The frequency of swindles in the modern world³⁴ suggests that they were rampant in the ancient, where the means of detection were far less reliable.

It will be difficult, perhaps impossible, to identify any extant example of genuine *aes Corinthium*. It is apparent that a Roman might apply the term to a variety of objects. Generally, it may denote any valuable antique bronze; but when used in its literal sense, the object so designated may in fact be:

- (1) the genuine article—a high-tin bronze vessel, preferably decorated with repoussé and/or figures in the round, made in Corinth before the sack;
- (2) a bronze object, even a statue, obtained from Corinth before or during the sack, but not necessarily made there;
- (3) a bronze antique excavated from a grave in the Hellenistic and Classical necropolis at Corinth or found elsewhere on the site;
- (4) a bronze reproduction made in Corinth during the Roman period:
 - (a) not touted as an antique, or
 - (b) held out as an antique by the seller to the purchaser, or by the purchaser to his friends.

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³⁰Cf. B. S. Ridgway, "The Bronze Apollo from Piombino in the Louvre," *Antike Plastik* 7 (1967) 43–75.

³¹See Pausanias 8.40.1 for a second-century view of a kouros; on ancient perceptions of style, J. J. Pollitt, *The Art of Greece* (Englewood Cliffs, N. J. 1965) 219–224, especially the citations of Cicero *Brutus* 70; Dionysius of Halicarnassus *De Isocrate* 3; Demetrius *De elocutione* 14.

³²See especially her conclusions, 70–71.

³³For example, Carol C. Mattusch, "The Bronze Torso in Florence. An Exact Copy of a Fifth-Century B.C. Original," *AJA* 82 (1978) 101–104.

³⁴Cf. Karl E. Mayer, *The Plundered Past* (New York 1973) 108–117; A. Reith, *Archaeological Fakes* (London 1970) 14–17.

APPENDIX

ANCIENT REFERENCES TO CORINTHIAN BRONZE, VESSELS, ETC.

- Callixinus of Rhodes: Athenaeus 199e.
 Cicero: Verr. 2.2.83; 2.4.1, 97, 98, 131; *Rosc. Am.* 46; *Att.* 21.11.3; *Tusc.* 4.14.32; *Fin.* 2.23; *Parad.* 5.2 (1.13 in *RE*).
CIL: *Corintharius*, VI (445?) 5900, 8756, 8757, 33768; *a Corinthiis*, VI 5847; X 692, 6638.30; *Corinthius* (adj.), VI 8686; X 6.
 Diphilus of Sinope: Athenaeus 236b.
 Florus: 1.32.6–7.
 Josephus: *Vita* 13.68.
 Martial: 9.59.11, 14.43 (*Candelabrum Corinthium*).
 Ovid: *Met.* 6.416.
 Pausanias: 2.3.3.
 Petronius: *Sat.* 50.
 Pliny the Elder: *HN* 9.139; 34.1, 6–12, 48; 37.12, 49, 148.
 Pliny the Younger: *Ep.* 3.1.9, 3.6.
 Plutarch: *Mor.* 395b–c.
 Propertius: 3.5.6 (4.5.6 in *RE*).
 Quintilian: *Inst.* 8.2.8.
 Seneca: *Medea* 796; *Tranq.* 9.6; *Helv.* 11.3; *Brev.* 12.2.
 Servius: *ad Aen.* 3.465; *ad Aen.* 6.848.
 Sidonius Apollinaris: *Carm.* 5.48.
 Statius: *Silvae* 2.2.68.
 Strabo: 8.6.23.
 Suetonius: *Aug.* 70; *Tib.* 34.1.
 Theophrastus of Eresus: Athenaeus 128d.
 Vitruvius: *De arch.* 5.5.8; 8.4.1.