

Bronze in Epigraphy

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Bronze was an important support material of ancient inscriptions. Public documents of political relevance were, besides other types of inscriptions or inscribed monuments, the most important category of texts for which bronze was used. Although there are Greek precursors, documenting texts on bronze tablets was very likely a primarily Roman practice. Roman monuments decorated with gilded bronze letters, so-called *litterae aureae*, appear in the Roman Empire from as early as Augustan times. Various inscriptions make reference to the usage of bronze, especially for religious cults and the furnishing of sanctuaries, veneration of emperors, and honouring of prominent personalities. They explicate in detail how many and which kinds of statues, decorations, or various bronze objects were donated. Craftsmen working with bronze are attested in about 166 Greek and Roman inscriptions. They show different kinds of crafts in extracting, processing and selling bronze in various forms. During the Roman Empire, citizens, freedmen, slaves and foreigners working in the field were able to afford funerary monuments or sites.

Key words: Greek inscriptions, Latin inscriptions, Epigraphy, bronze, metal, crafts, craftsmen

1. Introduction

Bronze was of great importance during all epochs of antiquity. This was mainly due to the material's utilisation in various fields, especially in coinage, crafts, and everyday life in general. While classical literature covers bronze extensively and comprehensively, ancient inscriptions are significantly less informative. Yet, in some cases they reveal different information.

Inscriptions give two types of insights. On one hand, not unlike literary sources, they cover diverse aspects of the extraction and processing of bronze as well as its use. On the other hand, bronze functioned as a support material for various types of written texts. For some genres bronze was even the exclusive medium, preferred over stone and other materials.

This paper thus examines the body of epigraphic source material on and about bronze and its historic value.

2. Bronze as support material of inscriptions

Apart from stone, bronze was the most important support material for (non-serial) Latin inscriptions. Nevertheless, inscriptions on bronze today are few in number compared to inscriptions on stone (probably less than 5000), although the material itself is very durable. But because bronze was much rarer and thus more precious than stone, it was often reused, which led to the destruction of a large part of the inscriptions already in antiquity and later. Besides small votive tablets, which were deposited in sanctuaries (e. g. in the sanctuary on the Great St. Bernard Pass [Walser 1984, 89–80, catalogue nr. 1–50]), and patronage and friendship tablets of senators, municipalities and private persons, so-called *tabulae patronatus* and *tesserae hosi-*

tales (Nicols 1980; Frei-Stolba 2010; Beltran Lloris 2010a–c), public documents of political relevance were the most important type of text for which bronze was used. Such engraved bronze tablets not only served as official records but also as durable monuments with ceremonial value (Plin. NH 34.99; Williamson 1987; Beltran Lloris 2014, 99–101). Already in early Roman times these documents included statutes, such as the – albeit only literarily recorded (Stein 1931, 12–19 with more ex.) – Law of the Twelve Tables (Liv. 3.57.19; Diod. 12.26.1; Dionys. 10.57.7), as well as senatorial decrees of special political relevance. Of the latter, the oldest surviving piece is the *S. C. de Bacchanalibus*, dated to 186 B. C. and aimed at suppressing the eponymous cult (CIL X 104 = I² 581). During the imperial period important senatorial decrees were still issued on bronze, e. g. the so-called *lex de imperio Vespasiani*, a statute which defined the rights and responsibilities of the new emperor based on the powers of earlier *principes* (CIL VI 930 = VI 31207) and which was thus of greatest political importance. Other such documents took the form of honorary decrees, such as the ones for the deceased Germanicus (*Tabula Hebana* AE 1949, 215, *Tabula Siarensis* AE 1984, 508 = 1983, 515; for a new *S. C.* from Tiberian times Eck & Pangerl 2011) or for Pallas, the ex-slave and advisor of the emperor Claudius (Plin. Ep. 8.6.13); they also contained important lists like the album of councillors of *Canusium* of A. D. 223 (CIL IX 338). All in all, the number of bronze documents on display must have been vast. Sueton mentions Vespasian's effort in restoring bronze tablets with *senatus consulta* and *plebis scita* after the great fire of A. D. 69. According to the biographer, the Capitoline hill alone had housed three thousand inscriptions on bronze (Suet. Vesp. 8.5).

In addition, decrees as well as speeches and letters of emperors and magistrates were issued in bronze. The most famous is without doubt the *Res gestae Divi Augusti*, which was published on two bronze pillars in front of Augustus' mausoleum (RGDA heading), where the attachments are still visible in the pavement today. Bestowals of citizenship also belong to this category; they were published in bronze on the Capitol and later at other prominent places in Rome (CIL XVI 1; Eck 2009, 75–77; Eck 2012). Further examples stem from the provinces, especially from Spain (Beltran Lloris 1999; Caballos Rufino 2009), but also from Gaul, such as the speech of emperor Claudius about the *ius honorum* of the Gallic peoples (CIL XIII 1668), as well as from other regions of the Roman Empire (Eck & Veh 2010; Eck 2008). Other similarly important official documents on bronze include regulations for provincial communities about the irrigation of cultivated land in the *lex rivi Hibernensis* (AE 2006, 676; Beltran Lloris 1996) and an oath on an emperor from *Conobaria* in southern Spain (AE 1988, 723). The famous city laws were also published in bronze. They were mainly found in the southern Spanish province of *Baetica* (Urso: CIL II²/5, 1022; Caballos Rufino 2006; *Irni*: AE 1986, 333; Gonzalez 1986; Wolf 2011; *Malaca*: CIL II 1964; *Salpensa*: CIL II 1963). Other examples stem from municipalities in Italy (*Bantia*: CIL IX 416 = I² 582, *Heraclea/Roma*: CIL I² 593), *Noricum (Lauriacum*: AE 1907, 100; AE 1953, 124) and *Moesia inferior (Troesmis*: Eck 2013a-b).

In a first step, these official documents used to be publicised in a temporary way by means of oral proclamation or display on wooden boards. It was only in a second and later step that, in the western part of the Roman Empire, they were recorded in bronze and were thus publicly perpetuated (e. g. CIL X 104 = I² 581, l. 22–27; Kolb 2003, 135–140; Corbier 2006; Eck 2009; Eck 2014). In the Greek east, stone was the preferred support material for such texts. Therefore, the texts on bronze are much rarer there than in the west, with the exception of western Greece and southern Italy. As examples from Olympia, Athens and other places show, Greeks used bronze for formal documents too (Guarducci 1969, 539–543; SEG 51, 532, 1185; IG I³ 49 Athens; SEG 51, 1409 Kroton; SEG 54, 427 Argos archive of 150 tablets). From Aeolic Elea (near Cyme) survives a decree (129 B.C.) which records the response of a Greek city to the Romans' request to publish the treaty in bronze (SIG³ 694, l. 23–29; Williamson 1987, 180–183 with more examples; McLean 2002, 206; Meyer 2004, 96). However, this tendency to publish important documents in the form of a bronze tablet (*tabula aenea / aere incisa*) is more frequently observed with Roman records and thus very likely represents a Roman practice. The most prominent example with such a requirement is the senatorial decree dated to the 10th December 20 A.D., which delivers the proceedings on *Cn. Calpurnius Piso* and his subsequent conviction.

He was tried for poisoning Germanicus, Tiberius' adopted son (Eck, Caballos & Fernandez 1996; for a new fragment from Geneva: Bartels 2009). The text ultimately describes its publication on a bronze tablet at the busiest place in the city: *hoc s[enatus] c[onsultum] [...] i[n] urbis ipsius celeberrimo loco in aere incisum figere/tur* (AE 1993, 21 a) ll. 170–173). Similar provisions are found in Rome in the record of the Secular Games of 17 B.C. (CIL VI 32323 l. 59 s.) and in municipal laws such as the *lex Irnitana* (r. 95 *de lege in aes incidenda*). Such regulations were primarily intended for official statements by magistrates or the emperor that were designated to become publicly visible permanently.

Other documents of public interest issued in bronze were land register maps and other information concerning the distribution of land (*limitatio, terminatio*; Campbell 2000; Lewis 2001; Willi 2014). According to the regulations of the land surveyors, an allocation of land had to be recorded in a *forma* (Nicolet 1988, 163–179; Chouquer & Favory 2001, 45–49) at the place in question and a copy of it was to be archived in Rome (according to Sicc. Flacc. [Campbell 2000] 120, 22–32 and Hyg. Grom. 158, 26–34 [Campbell 2000], it was viable to use materials other than bronze, namely wood and parchment). Only few fragments of bronze maps testify this practice. Extant examples were found in Italy (Verona AE 2000, 620) as well as in the provinces (*Lacimurga* in Spain AE 1990, 529). A bronze tablet from the Spanish town of *Ilici* (Elche) lists names and corresponding square measures as the result of an allocation of land, *sortitio* (AE 1999, 960).

Bronze records of the grant of citizenship and *conubium* to discharged auxiliary soldiers were a mass phenomenon. The so-called military diplomas were individual transcripts of imperial constitutions that were publicly displayed in Rome. At present more than 1000 copies of military diplomas are known, dating from the reign of Claudius (A.D. 41–54) to the beginning of the 4th century (Roxan 1978–1994; Roxan & Holder 2003; Speidel & Lieb 2007; Eck 2012).

Honorary inscriptions were frequently made of bronze, as bases for statues were clad with bronze plates (e. g. from Rome [Eck 2000]; from the provinces e. g. the so-called *nuncupator* inscription from Augusta Raurica [Janietz 2000]).

Furthermore, we must not forget monuments decorated with gilded bronze letters, so-called *litterae aurea* (Alföldy 1990, 68–74; Alföldy 1991, 297–299; Stylow & Ventura 2013). They have been described in literature since the time of Augustus (Tac. Ann. 3.57.2; 59.2; Suet. Aug. 97.2; Nero 10.2). Today, finds of gilded letters are rare. In most cases only their slots in the support material, mostly stone, remain. The technique was used for building as well as for votive inscriptions. Eye-catching examples in Rome are the

70 cm-high letters at the Pantheon (CIL VI 896), the Arch of Septimius Severus (CIL VI 1033), and the pavement inscriptions on the *forum Romanum* (CIL VI 37068) and the *solarium Augusti* (Buchner 1982; Haselberger 2011). In Segovia, Spain, the aqueduct bore a building inscription (AE 1992, 1034); in Athens the eastern architrave of the Parthenon was equipped with an honorary inscription for Nero (IG² II 3277 A. D. 61/62; for the east McLean 2002, 206–207); in addition, there are other smaller provincial votive monuments, such as can be found in Augusta Raurica (AE 1993, 1221).

Eventually, inscriptions can be found on works of art and decoration made of bronze, such as statues, figurines, jewellery or items of adornment, mentioning owners or producers like the famous *Gemellianus* from *Aquae Helveticae* (AE 1962, 193; Berger 2002) or documenting votive offerings that bear the names of deities and dedicators (e. g. CIL III 5150 Bern. 4815 Magdalensberg). Monumental offerings such as the gilded Victoria from Calvatone were not only high quality pieces of art but also impressive political monuments in the public space (Schröder 1907; Hölscher 1967). According to its inscription, a local notable honoured the emperors Marcus Aurelius and Lucius Verus on occasion of their successful war against the Parthians with a depiction of Victoria striding on a globe (CIL V 4089). More mundane offerings with inscriptions range from brooches to other household items. Gifted bronze items could also be donated for public use, for example in the case of *Marcus Nigidius Vaccula*, who donated three bronze benches and a bronze brazier in the forum baths of Pompeii (CIL X 818 and 8071, 48). Weights and measures made of bronze bore inscriptions stating that they had officially been authorized or authenticated in conformity with standardised measures (e. g. ILS 8627–8634; AE 1940, 38; AE 1955, 167). Inscribed bronze plaques denote owners or users of equipment (e. g. CIL XV 7125–7170; AE 2006, 34; slave collars: CIL XV 7171–7199).

3. Extraction, processing and usage of bronze in inscriptions

Various inscriptions make reference to the usage of bronze, especially for the fields of religious cults and the furnishing of sanctuaries, the veneration of emperors and honouring of prominent personalities. It is well known that statues and figurines of deities, emperors and public officials or notables were installed in public as well as private spaces. Some building and votive inscriptions even explicate in detail how many and which kinds of statues were donated to a certain sanctuary. One example stems from *Gabii* (Castiglione) (Latium et Campania, CIL XIV 2793): *Veneri Verae felici Gabinae / A[ulus] Plutius Epaphroditus accens[us] velat[us] negotiator sericarius templum cum / signo aereo effigie Veneris item signis aereis n[umero] IIII dispositis in zothecis et / valvis aereis et aram aeream et omni cultu a*

solo sua pecunia fecit [...]. “For Venus Vera Felix Gabina, Aulus Plautius Epaphroditus, usher, dealer in silks, has erected at his own expense a temple with a brazen image of Venus and four other brazen statues, allocated to niches, brazen registers, a brazen altar and furnishings of any kind [...]” Other texts give exact indications of weight of the metal used.

Besides the erection of votive statues, inscriptions to a special degree attest to the installation of honorary statues made of bronze. Honorary inscriptions often name the author and the motivations for the honour. As the honorary text for the high-ranking senator Lucius Volusius Saturninus shows, he was awarded a bronze statue on the forum of Augustus in Rome. At the same time another two statues made of marble were to be erected in the temple of the deified Caesar (AE 1972, 174 = AE 1982, 268; other examples e. g. CIL III 214). In addition, inscriptions document – as shown by the aforementioned example from *Gabii* – various bronze objects such as altars (CIL XIV 2215, 3437) or weights (CIL IX 1656), as well as tools and instruments, e. g. *strigiles* (CIL IV 10566), caskets (CIL II 3280), lamps (CIL VI 31165; T. Vindol. 194), chairs (CIL VI 103; AE 1976, 140), or *triclinia* (AE 2000, 1295) and fittings (AE 1903, 265; AE 1986, 25).

Inscriptions relating the methods and organisational parameters of the extraction and processing of bronze are scarce. Only two epigraphic texts dating from Hadrianic times, which were found in the state district of the silver and copper mines of Vipasca in southern Portugal, give an account of mining techniques, local business activities and even the living standard of miners. We know from these inscriptions that in the mines and smelting facilities, work was not exclusively done by slaves but also by wage labourers. These legislations also regulate the provisioning of the workers by standardising the services of shoemakers, barbers, bathhouses, etc. These were organised through the lease of monopolies (CIL II 5181; Flach 1979; Domergue 1983; Hirt 2010, 261–269).

Many inscriptions from both the eastern and western Mediterranean world were set up by craftsmen and workers in the copper and bronze sector.¹ Looking at terminology specifically associated with bronze or copper, in the Greek east we find eight different occupational titles in 96 inscriptions from the 6th century B. C. to the 8th century A. D. Blacksmiths (*chalkeis*) prevail with about 40 attestations for the Empire (1st–3rd century A. D.), 28 of the Later Empire and 7 dating from earlier times (Ruffing 2008, 817–822). Among the former only five can be identified as *cives Romani* with certainty. The term denominating the smelter of ore is only attested for Classical Athens (*chalkokoptes*, 430/25 B. C.). The only earlier attestation (6th century B. C.) in Rhodes is the occupation of the *chalkotipos*, a craftsman who manufactured goods wrought in ore, a profession that is well

known in imperial times. Attestations for the manufacturer (*chalkourgos*) or merchant (*chakoprates/poles*) are less abundant.

In the Western Roman Empire, 24 terms for persons working with metal alloys alone can be found in the inscriptions, which indicate a more detailed terminology in comparison to Greek inscriptions. This great number and variety shows a broad range of techniques used (Von Petrikovits 1981, 120). The denominations range from workers of the raw material, such as moulders, smelters and copper smiths, to specialised smiths, chasers and manufacturers of statues, figurines, brass and various other instruments (weights, lamps, pans), as well as merchants. Admittedly, these denominations are not always relating to working exclusively with bronze. Often they may be – as the example of the *aerarii* shows – interpreted as ore, copper or bronze workers or smiths and smelters, respectively. In the same way, the *fusor* (smelter, moulder), *caelator* (chaser), and *artifex signarius* (sculptor) did not work with bronze exclusively. For instance, the *statuarius* is, on the basis of literary evidence, defined as manufacturer or merchant of statues made of copper alloys.

An analysis of the approximately 70 extant inscriptions from imperial times (1st–3rd century A. D.), consisting mainly of epitaphs, supplies us with the social status and background of these professionals and can thus hint at organisational aspects of their work. To some extent, additional information about the life of the craftsmen (e. g. family background) can be gained. Among the *aerarii*, the smiths or smelters, whom we know relatively well from 30 inscriptions, we find Roman citizens (7) as well as freedmen (11), possibly slaves and *peregrini*, who were able to afford funerary monuments or sites. We know of a smith from *Florentia* (Florence), a *sevir* (i. e. a member of the local body responsible for the imperial cult), who must have possessed considerable financial means. The inscription indicates a family tomb (CIL XI 1616). Therefore he might possibly have run a prosperous smithy. The three inscriptions mentioning *statuarii*, manufacturers or merchants of statues, document one slave and two freedmen. The chasers and engravers mentioned in the inscriptions (*caelatores*, one attestation of a *toreutes* in Dalmatia) stem from the same milieu and largely consisted of freedmen.

Notes

- Occupational titles of bronze workers attested by inscriptions: *Greek*: χαλκείτης (Ramsay 1912, Nr. 27.16), χαλκοτεχνής (IG XII.9, 1241), χαλκεύς (AE 1977, 250; BE 1993, 371; BE 1995, 312; ETAM 22 Sel 31; ETAM 22 Sel 32; IG I³ 422, 199; IG II² 10; IG IV² 118 B, 11; IG Aeg. V 147; IG Aeg. V 157; IG Aeg. V 796; IG Bulg. II 790; IG Bulg. IV 1922, 3; IGR III 837; IK 3/171; IK 5/40 (*civ.*); IK 10.1/73*; IK 14/1384; I. Didyma 370, 18; I. Hierapolis Judeich 133; I. Killikia DF 115; I. KoKo 127; I. KoKo 113; I. KoKo 131a; I. Kos PH 37, 54; I. Kos PH 40; I. Lydia KP 3/19; I. Lykaonia 117; I. Mauer 21, 5/32; I. Perinthos 233; I. Tyr. Epit. 179; MAMA III 214a/b; MAMA III 264; MAMA III 317; MAMA III 319; MAMA III 329; MAMA III 367; MAMA III 404; MAMA III 476; MAMA III 518; MAMA III 524; MAMA III 525; MAMA III 632; MAMA III 634b; MAMA III 658; MAMA VIII 140; MAMA VIII 388; SEG VI 545 (*civ.*); SEG XVII 550; SEG XVIII 36 A 101; SEG XX 283; SEG XXIII 1155; SEG XXXIII 1156; SEG XXIV 1138; SEG XXVI 1356 (*civ.*); SEG XXVII 666; SEG XXVIII 1262; SEG XXXI 855; SEG XXXIII 1187; SEG XXXV 1684; SEG XXXVI 1370; SEG XXXVII 1292; SEG XXXVIII 883; SEG XL 572; SEG XL 1268 A 6; SEG XLV 930; SEG XLV 1337; SEG XLVI 737 B; SEG XLVI 2155; SEG XLVIII 357; SEG XLIX 1669; Sironen 1997, Nr. 97; Syll.³ 1140 (*civ.*); TAM V 936 (*civ.*), χαλκόπτης (IG I³ 1349bis = IG II² 8464), χαλκοπόλης (SEG XXXII 239), χαλκοτύπος (Brugnone 1984, 53 A 34; IG III 3860; IG Bulg. IV 1922; IGLS VI 2801; IGLS XIII.1, 9156; I. KoKo 91; MAMA III 274; MAMA III 317; MAMA III 318; MAMA III 483; SEG XII 364; SEG XXXVI 970, B 25, 46, 53; TAM V 936), χαλκουργός (Ed. Diocl. 7, 24a; IGR III 1079; SEG XX 282), χαλκωμᾶς (ILGS III 998 C I). – *Latin*: *aenator* (CIL X 5415), *aerarius* (AE 1979, 337; AE 1995, 1351 (*civ.*); AE 2003, 1369; AHB p. 505 (*civ.*); CIL I 2947 (*lib.*); CIL I 3062; CIL II/7, 334 (*lib.*); CIL II/7, 341 (*lib.*); CIL II-14-3, 1279; CIL V 5892; CIL VI 8455 (*civ.*); CIL VI 9135 (*lib.*); CIL VI 9136; CIL VI 9137 (*lib.*); CIL VI 9138 (*civ.*); CIL VI 9186 (*lib.*); CIL VI 9664 (*lib.*); CIL VI 36771 (*lib.*); CIL VII 180; CIL IX 1723 (*lib.*); CIL X 3988 (*lib.*); CIL XI 1616 (*civ.*); CIL XI 4428 (*lib.*); CIL XI 4542; CIL XII 3333 (*civ.*); CIL XII 4473; CIL XIII 2901; CIL XIII 7378 (*civ.*); CIL XIII 7551; RIB 1, 194), *caelator* (AE 1912, 258; AE 1947, 61; AE 1969/70, 36; CIL VI 4328; CIL VI 9221; CIL VI 9222; CIL VI 9432; CIL VIII 21106; ICUR 5, 13735c; IK 17-2, 4115), *candelabrarius* (CIL VI 9227; CIL VI 9228), *confector aeris* (CIL II 1179), *flatuarius* (CIL III 5833), *fusor* (ICUR 2, 5330), *imaginarius* (CIL IV 5401; CIL IV 10249), *lanternarius* (CIL X 3970), *plastest/plasta* (CIL VI 2276), *sacromarius* (AE 1993, 715; CIL X 1930; CIL XIV 309; CIL XIV 409; IRC 5, 138), *scaurarius* (CIL II 5181), *sigillarius* (CIL VI 9894; CIL VI 9895; CIL XI 6709, 28; IDR 3–4, 279), *statuarius* (AE 1984, 325; AE 1998, 591 IMS 6, 115), *testarius* (CIL II 5181, CIL VIII 16877), *toreutes* (CIL III 8839), *tubarius* (CIL VI 9103).

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