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The *Edictum Diocletiani et collegarum*

The so-called Edict of Maximum Prices was issued in AD 301 as part of a comprehensive administrative and financial reform released in the reign of the Roman emperor Diocletian.¹ Diocletian came to power in AD 284 after a period in Roman history traditionally understood as a time of ‘crisis’, produced by a series of inter-related factors:² a frequent turnover of emperors; problems with the economy in terms of production and coinage; incursions

by various tribes on the edges of the empire; internal unrest; the rise of Christianity and periodic persecutions. Diocletian’s actions were arguably pragmatic responses to the situation he found the empire in on his accession. The Edict should be seen alongside a number of reforms during his reign and is regarded by some scholars as the most important inscription of Late Antiquity.³ Several editions and translations have been published thus far. In addition to the continuous publication of new finds of the text itself, commentaries on different aspects of the Edict abound.⁴

1. Noethlichs 2010, s. v. *Edictum Diocletiani*. The term ‘Edict’ is generally thought to have been coined by Theodor Mommsen, who referred to *dicunt* in the preface of the text; however, it should be noted that W. M. Leake had already used the term in 1826 (Leake 1826). In the text itself *lex* (law) and *statutum* are used, demonstrating that we are dealing with a law that was supposedly valid and, at least according to its own standard, enforced throughout the empire, in the East as well as the West (*Lex: Ed. Diocl. praef.* 15; *statutum: Ed. Diocl. praef.* 15, 18, 19, 20). In the case of any violation (including superelevated prices, illegal negotiations between sellers and buyers as well as the hoarding of goods), transgressors were threatened with capital punishment. The Edict was produced in the names of the two Emperors C. Aurelius Valerius Diocletianus and M. Aurelius Valerius Maximianus and their intended successors Flavius Valerius Constantius and Galerius Valerius Maximianus, but is traditionally named after Diocletian alone. The 18th *tribunicia potestas* of Diocletian mentioned in the text suggests that the Edict was issued between 21 November and 31 December AD 301, according to Corcoran 1996, 206, or between 20 November to 9 December, according to Speidel 2009, 497, note 43. Translations of literary passages are adapted from the relevant Loeb volumes.

2. Recent scholarship questions notions of crisis, recognising that not all of these factors affected all of the empire, all of the time: see e.g. Potter 2013; Hekster 2008.

3. Brandt 2004, 47.

4. Cf. e.g. the bibliography in Kuhoff 2001, 515-564; von Reden 2002.

The main purpose of the Edict, at least according to its own preface, was to fix maximum prices for a wide range of services and products that had constantly been jeopardized by the avarice of some merchants and traders who were known to ask for prices up to 8 times the usual amount.⁵ According to the text itself, the main beneficiaries of the Edict were the soldiers of the Roman army with a fixed salary that would not have allowed them to purchase the

above-mentioned products and services at such excessive prices.⁶ The prices mentioned regard transportation, food, wages for craftsmen as well as special goods such as marble and numerous clothing items and textiles. All in all, around 1300 items, wages, and services are mentioned.⁷ In detail, studies on specific materials mentioned in the Edict, like glass and marble, are well covered as are those on the different areas of production, services, and costs

5. *Ed. Diocl. praef.* 97. The purpose of the Edict and the question of whether the law and its price regulations was ever understood as binding by the population or whether it should rather be considered a more symbolic demonstration of imperial power, remain a matter of scholarly dispute. It is, however, indisputable that the Edict was accompanied by a fundamental reorganization of the tax system and two further edicts regulating coinage. One of the major problems faced by the emperors of the late principate was the dramatic rise in inflation. The second Coin Edict was probably issued on the 1st of September in AD 301, a few months before the Price Edict (Erim 1971). The consequences of this might have been a general increase in prices that demanded quick counteraction. Burkhard Meißner has suggested that there may have been additional factors that made the Edict of Maximum Prices a necessary initiative, in particular the military reforms also undertaken by Diocletian (Meißner 2000, esp. 79-84). As the number of recruits steadily increased and the frontiers of the empire were more intensely fortified, local demand on markets could increase enormously and cause prices to soar. Meißner therefore suggests that the Edict was intended as an *ad hoc* measure aimed at stabilizing prices, especially in the most militarised regions of the empire (Meißner has been contradicted by Brandt 2004, see below). That the Edict could also be perceived as a measure taken for the welfare of all (as frequently stressed in the *praefatio*) is confirmed by an inscription commenting on the purpose of the Edict found in the province of Caria and Phrygia (Meißner 2000, esp. 91-94). There, the provincial commander, Fulvius Asticus, added an explanation that the Edict was meant to establish adequate prices. He does not explicitly single out the military, as does the *praefatio*, but claims instead that the Edict was issued for the welfare of the whole provincial population. Meißner has taken this addition as an indication of the different areas of concern of the provincial governors. He still assumes, however, that the province of Caria and Phrygia was affected by inflation caused by the presence of the military. Hartwin Brandt contradicts this by pointing to inscriptions that give proof of soldiers plundering the houses of civilians, especially in Lydia and Caria and Phrygia. In Brandt's opinion, an edict aimed to maintain the purchasing power of soldiers with a fixed salary could not have satisfied the people that had been their victims, but, quite the contrary, would have aroused resistance and anger (Brandt 2004, 50-51). Michael Speidel offers yet another interpretation: he assumes that the Edict was motivated by the Emperors' concerns regarding their solvency, especially towards the soldiers, and their interest in keeping the soldiers content and supportive of their power (Speidel 2009).

6. Noethlichs 2010 argues that soldiers were especially affected by this because they had to spend a considerable amount of their salary on food, clothing and related items. Some researchers deny the impact of Diocletian's Edict altogether (Meißner 2000, esp. 79-82). They refer to the contemporary of Diocletian, Lactantius, who states that the Edict had to be abrogated (Lactantius, *De mort. pers.* 7,6f.). Lactantius claims that the Edict did not succeed and that after a short time goods were said to have disappeared from the market as a direct reaction to it, so that it had to be annulled. The hypothesis that Diocletian did not succeed is, however, not confirmed by recent scholarship: the Edict appears to have succeeded in slowing down inflation (Noethlichs 2010). In 1989 Alexander Demandt argued that the maximum prices of the Edict were sometimes well above the market price, as shown by comparisons with prices in papyri and other inscriptions (Demandt 1989, 56-57, cit. by Brandt 2004, 47; for a discussion of the papyri see Mickwitz 1932). Therefore, he concluded that the main intention of the Edict was to stabilize prices, because the margin was not always exhausted. Both Bagnall and Corcoran note that transactions would occasionally adhere to prices stipulated of the Edict, even after the Edict itself had been annulled; this is best documented in connection with military clothing (Corcoran 1996, 233; Bagnall 1985, 69, esp. on the three identical sets of prices in 302, 314 and 323).

7. Arnaud 2007.

for transport.⁸ Some aspects of ancient textile technology and clothing have been treated in greater detail, such as the different types of purple mentioned, wool, clothing and cloth, as well as specific terminological questions related to clothes.⁹ Despite this interest in the range and types of clothing, scholarship has not yet focussed on the textile tools mentioned in the Edict. This contribution proposes to fill part of this gap.

Greek or Latin original

The Edict is written in Greek and Latin, and the question of the original language of the Edict is seemingly straightforward. As a law promulgated by an emperor of the Western part of the empire, it was undoubtedly Latin. The elaborate preface of the inscription is so far only known from Latin versions of the Edict, not in the Greek versions. The Greek text(s) that survived cannot be traced back to a single official master document. As Marta Giacchero suggested, local authorities seem to have been rather at liberty to translate the Latin text according to need.¹⁰ This seems to be corroborated by the observations of E. G. Turner. He argues, based on papyri from the reign of Diocletian, that Diocletian did not pursue an active language policy to enforce the use of Latin in Egypt, and that he only imposed very narrow measures to limit the use of Greek through the introduction of “a quasi-Roman municipal and taxation system, Roman coinage, and Roman dating by consuls and by indiction” in order to promote the gradual increase in the use of Latin language and terminology.¹¹ While an interest in political and administrative terminology is understandable, it is, however, unlikely that one would have stipulated any precise terminology for (items

of) trade, except in very general terms. This has to be kept in mind when dealing with questions of tool terminology which might have been influenced by, for instance, misunderstandings by the copyist, misspellings and other factors.

Textile tools in the Edict

Textile tools as a case study

This investigation of textile tools provides some insights into the use and production of textiles and their producers and consumers and thus allows glimpses at economic implications and the practical application of the Edict in everyday life. It also highlights key aspects of ancient technology invisible in literary sources. Indeed, since the relevant chapters concerning textile tools are preserved in both Greek and Latin, we are offered, in addition, an invaluable bilingual source for textile terminologies for both more common as well as more specialised tools.

The fragments of the Edict related to textile tools

The preserved fragments of the Edict testify to several textile tools. Some tools are directly attested by name, others only indirectly through craft terminology and occupational designations. Among the tools explicitly mentioned are needles, pins, spindles, whorls, combs and looms. In this contribution, we focus on the items that are mainly attested in two parts of the Edict so far: chapters 13 and 16. Their translation and interpretation varies widely in philological literature and thus merits a reassessment. The chapters are preserved in both Latin and Greek fragments (Fig. 1). Not all fragments have their bilingual counterpart nor are fully

8. Glass: Whitehouse 2004; 2005; marble: Corcoran & Delaine 1994; production: Giacchero 1983; services: Polichetti 2001; transport: Arnaud 2007.

9. Purple: Steigerwald 1990; Leadbetter 2003; wool: Reynolds 1981; clothing and cloth: Erim 1970, 132; Note on “clothing and cloth” by J.P. Wild; clothes: Wild 1964; wool: Wild 2014-2015.

10. Giacchero 1974, 98: “La versione in greco della tariffa non sembra sia stata redatta in un testo unico e ufficiale. Infatti le notevoli varianti lessicali riscontrabili nei frammenti greci inducono a ritenere che la traduzione dell’elenco di merci e servizi sia stata compiuta in maniera autonoma da autorità locali.” Giacchero here follows Mommsen & Blümner 1958, 57 and Bingen 1953, 648.

11. Turner 1961, 168.

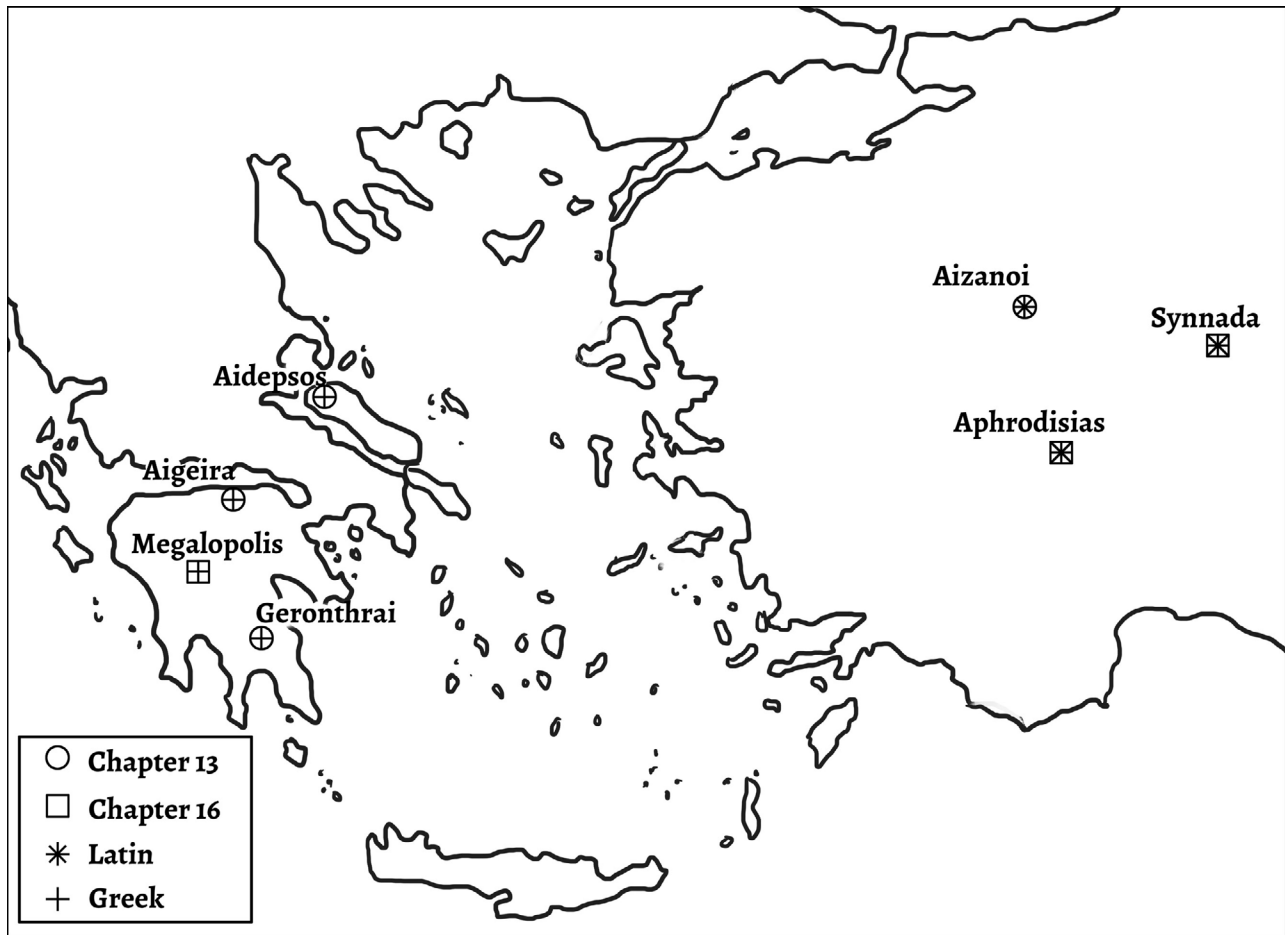


Fig. 1. Map of findspots of fragments related to textile tools, adapted from Giacchero 1974.

attested in even one language. Some lines are attested only once/in one fragment in each language, others more than once in several fragments, others again are missing in both languages, while others are missing only in one language and can sometimes be reconstructed by using their Latin or Greek counterpart.

Of the Latin version we have one fragment of chapter 13 (ll. 1-10) and two fragments of chapter 16 (ll. 12-14). Of the Greek version three fragments have been found of chapter 13 and one fragment of chapter 16. We therefore have 4 fragments of chapter 13

(of which one is in Latin and three are in Greek) and three of chapter 16 (of which two are in Latin and one is in Greek: see Fig. 2 for an example). Two of these fragments (*Aezan.* IV and *Aphr.* XXIX) postdate the edition of Siegfried Lauffer¹² that is still fundamental for studies of the Edict, but *i.a.* change the line numbering of the chapters that are treated in this contribution. We therefore in general follow the edition of Marta Giacchero,¹³ who was able to include the new finds, and have modified our analysis with reference to later scholarship.¹⁴

12. Lauffer 1971.

13. Giacchero 1974. Additional information in German and Italian in the following footnotes is taken from Lauffer and Giacchero.

14. *E.g.* Crawford & Reynolds 1977; see also Barańscy *et al.* 2007; Roueché 1989, 281.



Fig. 2. The Synnada fragment of chapter 16, adapted from Macpherson 1952, Plate X 1.

The attested textile tools in chapters 16 and 13

Chapter 16:

16,12 ¹⁵	[De] <i>Acu</i>	
12a	<i>Acus sartoria sive subfiscalatoria suptilissima</i>	X IV
13	<i>Formae secundae</i>	X II
14	<i>Acus ciliciaria sive sagmaria</i>	X II
16,12	[Περὶ βελον]ῶ[v]	
12a	[βελόνη] ῥαφικὴ ἰσχυροτάτη	X δ'
13	[δευτέρ]ας φόρμ(ης) βελόνη α'	X β'
14	[βελό]νη σα<κ>κοράφη ἤτοι σαγμα[τ]ική	X β'

The brief chapter 16 is headed *De acu* and does not mention any other tools than *acus* in the preserved fragments. The Greek title is badly damaged, but the restoration [Περὶ βελον]ῶ[v] is unproblematic since in the following lines only the term βελόνη is mentioned¹⁶ which corresponds to the Latin *acus*. Both terms are commonly translated as ‘needle’, which seems to match the meaning of the chapter very well.

The chapter starts with an *acus sartoria*, whose translation as ‘sewing needle’ is unproblematic.¹⁷ Immediately after the mention of this sewing needle both the fragment from Synnada and the (slightly more damaged) one from Aphrodisias give the information *sive (acus) subfiscalatoria suptilissima*, “or a very fine *subfiscalatoria*-type needle”.¹⁸ Both cost the same, 4 *denarii* each. However, the meaning of *subfiscalatoria* is unclear. It could, analogous to

15. = 16, 8-10 Lauffer.

16. Loring (1890, 320) notes that the restoration [Περὶ βελον]ῶ[v] is conjectural, but fairly probable, because “headings are pretty abundant in this part of the inscription”.

17. *Sartorius*, ῥαφικός ‘für den Schneider’, cf. 7, 48.

18. *Suptilis* = *subtilis*, ἰσχνός ‘dünn, fein’, cf. 7, 48. *Corpus Glossariorum Latinorum* III 181, 5 ἰσχνός *stuptilis*.

sartoria, indicate the use of this needle, but it could also indicate the material of the object. For the interpretation, one has referred to the noun *fistula*, which would refer to a needle in the shape of or (originally) made of a tube or stalk.¹⁹ The term *acus* thus presumably distinguishes here either two different uses of the same needle or two distinct needles, distinguished by use and/or material that were sold for the same price. The Greek text is fragmentary but gives ῥαφική for *sartoria* and ἰσχυοτάτη that matches the Latin *suptilissima*, but there is no Greek term corresponding to *subfiscalatoria*. The question remains open as to whether these needles were similar enough to be grouped together for reasons other than their identical price.

A clue to their interpretation may be found in the next line where the needle is termed *formae secundae* in Latin, δευτέρας φώρμης in Greek, i.e. of ‘second-grade quality’. This type of needle only costs half the price of the *subfiscalatoria*-type needles, 2 *denarii*. Needles of the second quality are therefore presumably contrasted with those of the *subfiscalatoria*-type that seem to be of ‘first-grade’ quality (*forma prima*), being finer (*suptilissima*/ἰσχυοτάτη).

In the last line, we meet a similar phrasing in the first line, an *acus ciliciaria sive sagmaria* which costs 2 *denarii*, like the second-grade quality needles in the previous line. This probably denotes a single type of needle that is used for two distinct purposes: first, for

rougher textile qualities, the Latin adjective *ciliciaris* pointing to so-called ‘Cilician’ fabrics that were originally made of goat hair;²⁰ and the corresponding Greek word σακκοράφη pointing to bags made of a rough fabric; second, *sagmaria* for saddle-cloths, confirmed by the Greek σαγματική, with *sagma*-, according to one editor,²¹ referring to a pack-saddle, but which is probably a saddle-cloth.²² With regard to σα<κ>κοράφη, Loring notes that the stone clearly reads σαρκοράφη, but that this is a mistake; he adds that since it was a large needle, and used for sacking, it was probably a packing-needle.²³

These kinds of *acus* may be interpreted as needles in the modern sense of the word, as sharp and pointed objects made of metal (or another hard material that could be formed into a very thin needle), with an eye at one end. They might have been used to stitch fabric together or to apply decorative objects (including pearls, metal ornaments and thread) on fabrics. This interpretation seems to be corroborated by finds of metal needle hoards in different regions of the Roman world. One set of 17 “badly rusted” needles comes from Dura Europos in modern-day Syria, dating probably to the middle of the 3rd century AD, very close in time to the Price Edict (Fig. 3). According to the publication, they were made of iron and tucked into a fragment of undyed wool cloth. Their length varied from 5.2 to 6.0 cm, and the average diameter is 0.15 cm.²⁴

19. Lauffer: *sufisculatorius* = *suffisculatorius* ‘rohrförmig’ (*fistula*, ‘Rohr, Halm, Hohnadel’), cf. Plin. *NH* 17,100: *sutoriae simili fistula*; *Corpus Glossariorum Latinorum* III 10,48 σπιριστής *fisculator*; V 248, 14 *tenui havena fistula vulgo fiscla dicitur*. *CIL* VI 4444,4 *fistlatori*. Perhaps we are dealing with a situation similar to English ‘weaver’s reed’. Macpherson (1952, 73), discussing the Synnada fragment, notes that *sufisculatoria* could be derived from the form *fisculus* or from *fistula*; he furthermore adduces *Corpus Glossariorum Latinorum* II, 580 for the form *fisculator*, and Plin. *NH* 17,100 for the word *fistula*, referring to a shoemaker’s tool (*sutoriae simili fistula*); and Festus (308-309 Müller) for *suffiscus*.

20. Lauffer: *ciliciaris* ‘für Decken aus kilikischem Ziegenhaar’ or ‘grobes kilikisches Tuch’ (*cilicium*), cf. Mart. 7,95,13. *Corpus Glossariorum Latinorum* III 574,22 *coactile genus cilicii*. P. Lond. III 1164h 10 p. 164 κλικίφ. σα(κ)κοράφος ‘zum Sacknähen’, cf. *Etym. Magn.* 46,31 ἀκέστρα ἢ βελόνη ἢ μείζων, ἣν νῦν σακκοράφιον καλοῦσιν. Cf. also Blümler 1912, 204.

21. Loring (1890, 320) understands the σαγμα[τ]ική in line 14 as another large needle, perhaps a saddler’s needle, σάγμα being a ‘pack-saddle’.

22. *Sagmarius*, σαγματικός ‘zum Sattelnähen’, cf. 11,4-6. *Corpus Glossariorum Latinorum* II 429,28 σαγματοποιός *sagmarius*.

23. Loring 1890, 320.

24. Pfister & Bellinger 1945, 60, cat.no. 293.

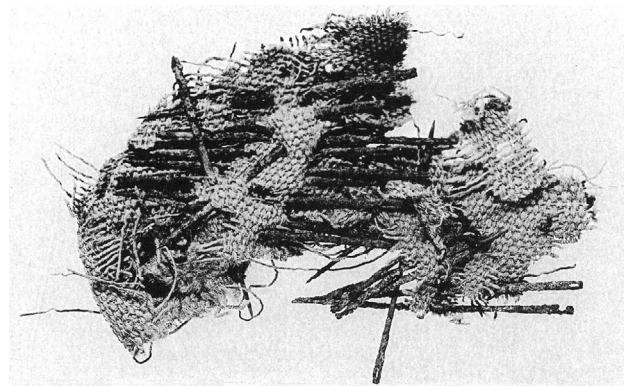


Fig. 3. Needles from Dura Europos, from Pfister & Bellinger 1945, plate XXXI 293.

Another set of needles was found in Magdalensberg in Austria, 'Old Virunum', and might have been produced for trade (Fig. 4). The settlement flourished in the period 50 BC to 50 AD. The ruler in the photo of the publication shows that some of the needles were actually 14 cm long and probably meant for heavy duty sewing. However, we have to keep in mind that finer needles are presumably less likely to be preserved than thicker ones, which might have distorted the statistics of the hoard finds.

While chapter 16 is relatively straightforward, chapter 13 poses several terminological problems. These regard both its internal structure that seemingly does not match the headline; the interpretation of the



Fig. 4. Needles from Magdalensberg, from Gostenčnik 2010, 83, fig. 13b.

Chapter 13: *On pin-beaters*²⁵

13, 1	<i>De radiis textoribus</i>	
1a	<i>Radium buxum numero vac. I</i>	[X XIII]
2	<i>Radia promisquae materiae vac. N I[I]</i>	[X XXX]
3	<i>Pectinem textorium buxum</i>	[X XII]
4	<i>Pectinem textorium promisquae materiae</i>	[X XIII]
5	<i>Fusum buxum cum verticillo</i>	[X XII]
6	<i>Fusum cum verticillo alterius materiae</i>	[X XV]
7	<i>Pectinem muliebrem buxum</i>	[X XIII]
8	<i>Acus osseas muliebres N IIII</i>	[X XII]
9	<i>Acus testudines I</i>	[X III]
10	<i>Acus sucinea I</i>	[X ?]
13,1	Περὶ κερκίδων	
1a	κερκίς πυξίνη α'	X ιδ'
2	κερκίδες β' ἐκ διαφ(όρων) ξύλ(ων)	X λ'
3	κτένα πύξινον	X ιβ'
4	κτένα ἐκ διαφόρων ξύλων ἰς πῆν(ην)	X ιδ'
5	ἄτρακτος πύξις μετὰ σφονδύλου	X ιβ'
6	ἄτρακτος μετὰ σφονδύλου ἐξ ἐτέρων ξύλων	X ιε'
7	κτένιον γυναικεῖον πύξινον	X ιδ'
8	κνήστρον ὀστάιν[ον γ]υναικεῖον	X ιβ'
9	κνήστρον χελών[ινον]	X δ'
10	κνήστρον σούκινον	X [—]

different items mentioned; and finally the translation of the terms from Latin to Greek and *vice versa*. The Latin text is only attested in one fragment that was found in Aizanoi, while the Greek version (containing the lines corresponding to *acus*) is preserved in two fragments from Geronthrai in Laconia and Aidepsos on Euboea.²⁶

Chapter 13 is headed with *De radiis textoribus*/Περὶ κερκίδων. The terms κερκίς and *radius* are consistently translated in both literature and dictionaries as “(weaver’s) shuttle”. However, research since in the

1930s has at regular intervals noted and stressed that this is a highly problematic and anachronistic translation. The term *textoribus* suggests that we are dealing with weaving tools but the chapter does not limit itself to its own headline (this is not unusual in the Edict).²⁷ Instead, after listing several *radia*/κερκίδες specified according to material, it goes on to list combs; spindles with whorls; items specified as “women’s items” – among which are another small comb and also a different kind of needle or pin or tool that has been interpreted as “scraper”, but which is probably better

25. The Latin text follows Crawford & Reynolds 1977, the Greek text Giacchero 1974, 165.

26. *Aizanoi* IV. This fragment was published by F. Naumann, after Lauffer’s edition, but, as noted by Crawford & Reynolds (1977, 125), the *ed.pr.*, published with admirable speed, was susceptible to improvement in some places, we therefore follow the readings of Crawford & Reynolds. Both Greek fragments of the chapter (*Aedeps.* and *Ger. II*) are unfortunately badly preserved. Different interpretations, depending on editorial choices of the texts, have not, however, been the subject of sufficient scholarly discussion.

27. See Doyle 1976, 91: “as often in the Edict, covers only one of the items listed”, although he assumes that “the shuttles, spindles, combs, and scrapers, (are) all doubtless made traditionally in the same shop”.

translated as “scratcher” if the function is to be emphasised. Prior to the discovery of the Aizanoi fragment, chapter 13 was only known in Greek.

As already mentioned, the headline is usually translated as concerning “shuttles”. According to John Peter Wild, an early advocate against this common interpretation, the shuttle was unknown to the Romans;²⁸ and Elizabeth Barber hypothesises that the shuttle only came to the Mediterranean area around the 10th century AD.²⁹ Since the instrument is specified as a weavers’ instrument (*textoribus*), the solution may be to term it “(weaving) pin”, i.e. a pointed instrument, not necessarily with an eye/hole, that was multi-functional and could serve as: a “weft-carrier/spool” to pass the weft through the warp threads, and as a weft-beater (and even as a hairpin – see below). This interpretation also has the advantage that a pin – in contrast to a shuttle – could be used on different kinds of looms, e.g. warp-weighted, ground, and two-beam looms,³⁰ which might have been useful in an inscription that was supposed to regulate the prices of tools in a vast empire with different weaving traditions.

It is interesting to note that the Latin headline specifies *de radiis textoribus* “on pin-beaters for weavers”, while the Greek headline merely states

περὶ κερκίδων “on pin-beaters”, perhaps because the tool’s use for weaving was the predominant sense of the Greek word.³¹ Crawford and Reynolds note that the form of the adjective *textoribus* for *textoriis* is “curious”,³² referring to *textorium* in lines 13,3 and 13,4. Naumann even assumes that *textoribus* is an error for *textoriis*,³³ but there is no fundamental problem in reading *textoribus*, i.e. “radia for weavers”, instead of “weaving radia”. It should be noted that³⁴ *radium* (13,1a) and *radia* (13,2) are the uncommon³⁵ neuter forms³⁶ of the word. While they may be in the nominative, the accusative case is of course equally possible, which would conform to lines 3-7 that are in the accusative, making all items listed in lines from 13,1a-7 accusative.

After the heading, the chapter starts with a pin-beater of boxwood, which was the cheapest material for textile tools (*buxeum*, πύξινοϛ),³⁷ presumably due to its prolific and widespread availability. One pin-beater costs 14 *denarii*. Boxwood textile tools are consistently indicated apiece, perhaps as a point of reference or default category; conversely it could be due to the fact that boxwood is singularly useful for textile tools: it is smooth and light, and good for working with raw material such as wool, because it does

28. Wild 1970, 65; cf. Barber 1991, 85, 273-274; Edmunds 2012. Crawford & Reynolds (1977, 149-151) are rare in translating the term *radius* as pin-beater (once, *ad* line 13,2, ‘pin-beaters or spools’). At the end of their article they acknowledge the assistance of John Peter Wild. Lauffer translates as ‘Weberschiffchen’, while Giaccherio translates as ‘spola’. Wild 1967, 154-155.

29. Barber 1991, 85 n.3.

30. Looms: Ciszuk 2000; Wild 2008 (with a revision of the results in Wild 1970) on the horizontal loom; Thompson & Granger-Taylor 1995-1996 on the zilu loom.

31. Cf. Crawford & Reynolds 1977, 149: “That the *radii* listed here were for weaving was regarded as self-evident by the Greek copyists who use κερκίς unqualified.”

32. Crawford & Reynolds 1977, 150.

33. Naumann 1973, 46, n. 25: “textoribus falsch für textoriis”.

34. Crawford & Reynolds (1977, 150) merely note that its gender is “another grammatical mistake”.

35. The *Thesaurus Linguae Latinae* is, to our knowledge, the only dictionary to mention the neuter form *radium*. That the neuter was also in use is, however, clear from the premonition of the grammarian Flavius Caper (*GL* VII 102,1): “*hic radius, non hoc radium*”. Moreover, Charisius (*GL* 1.71) includes the word among the words that are masculine in Latin, but feminine in Greek. Outside this passage it is attested e.g. in *Corpus Glossariorum Latinorum* III 195, 53, where it translates *certides* (= *cercides*), and in the Vindolanda tablets (II 309,7), where its meaning is ‘spokes’.

36. Of course *radium* may also be interpreted as a masculine accusative singular, but *radia* in the subsequent line makes this improbable.

37. For πύξινοϛ cf. 13,1a;3;7; *forma*, φῶρμα cf. 8,1a.

not splinter.³⁸ In the following line the pin-beaters are made of other kinds of wood, a category subsumed by the generic expressions *promisquae* or *alterius materiae* and διαφόρων or ἑτέρων ξύλων. The number of *radia* in the Latin text is partly restored, but the Greek equivalent (that also gives the plural: κερκίδες) specifies two that cost 15 *denarii* each. That all wood other than boxwood could be lumped into one category confirms the hypothesis that boxwood was a kind of “default material” for this type of textile tool.

This pattern is repeated in the next two lines that list weavers’ combs (thus deviating from the pin-beaters in the headline and first two lines). First one made of boxwood for 12 *denarii* is listed, then one made of any other wood than boxwood at 14 *denarii* each. We do not know what these combs looked like, but, with reference to these lines (13,3-4), Reynolds and Crawford note that “[t]he Roman weaving comb had a wide head and very small teeth (Wild 1970, 67)”. They observe that in this light, it is curious that it has the same price as the above-mentioned *radius* (or a *fusus*, spindle, see below), as it requires more skill to make it, and it would presumably be larger.³⁹ They further note that in line 13,4 the Greek fragment from Geronthrai “adds ἰς πῆνν, ‘for weft’, i.e. for beating up the weft – perhaps a paraphrase of the Latin *textorius*”. It should be noted that ‘combs for raising the nap on woollen cloth’ are mentioned elsewhere in the Edict.⁴⁰

pectines lanarii[i.c. 21.. X *se]ptingentos
quinquagint[a]
[pectin]em? m[... c.28..] X *quadraginta vacat**

In chapter 13, the following two lines (13,5-6) conform to the pattern of the list that was established for the previous items: They list spindles, first one made of boxwood with a whorl, for the price of 12

denarii, then one made of other wood than boxwood, also with a whorl, for the price of 15 *denarii*. While spindles were made of wood, spindle whorls could be made of many types of material: wood, bone, clay, stone, lead.⁴¹ Even if the price for the spindle also covers the cost of the whorl, whose material is not indicated, the prices of 12 and 14 *denarii* seem extravagant, given the cheap materials presumably employed. All the tools from chapter 16 mentioned so far conform to one pattern, i.e. were made of boxwood vs. other woods: pin-beater, comb, and spindle (with whorl). It is curious that pin-beaters of wood other than boxwood are counted in pairs. Otherwise, all are textile tools, and even if they do not fit closely under the headline of ‘pin-beaters’ as a whole, one can comprehend them being listed in this category since they are wooden tools belonging to the textile profession.

The evidence becomes much more idiosyncratic with the following lines. It is rather intriguing that after the weavers’ combs in line 13,3 and 13,4 (both *textorium*), there are two lines which mention spindles, but line 13,7 again mentions a comb. However, this time it is specified as *pectinem muliebre[m] buxum*. Crawford and Reynolds translate it as ‘woman’s comb of boxwood’, noting that “double-sided boxwood combs were relatively common in the Roman world”.⁴² Both Greek passages confirm this reading with κτένιον γυναικεῖον πύξινον. This comb seems to be distinct from the one mentioned in line 13,3 since it is explicitly characterized as a ‘woman’s’, and termed by the diminutive κτένιον in the Greek text, not κτένα like the weaving combs. It is not, however, differentiated as being smaller in the Latin text. It should also be noted that although both one sort of ‘weaving comb’ and the ‘woman’s comb’ are made of (relatively cheap) boxwood, the latter is two *denarii* more expensive than the boxwood weaving comb

38. Ida Demant, pers. comm.

39. Crawford & Reynolds 1977, 150.

40. Aphrodisias: *Aphr.* XXIX Col.III, 8-9 (=15.78-9). The editors (Erim & Reynolds 1973, 107) note that: “*Pectines lanarii* used for raising the nap on woollen cloth were characteristically made of iron, cf. Juvenal vii, 224 *qui docet obliquo lanam deducere ferro*”.

41. Crawford & Reynolds 1977, 150. See Gostenčnik 2010, 76, figure 14.5, for an example of a spindle from Magdalensberg (1st century BC to 1st century AD).

42. Crawford & Reynolds 1977, 150.

(or as expensive as a weaving comb made of ‘other’ wood). This suggests that, although it was perhaps a smaller item, it may have been more elaborately worked (e.g. with two rows of teeth) or have an altogether different function. Still, we are left without an explanation as to why the composer of the list should have found it necessary to mention a ‘woman’s comb’ under the headline ‘pin-beaters for weavers’.

The text goes on with another item that is qualified as *muliebris* or γυναικεῖον (‘for women’ or ‘women’s’): an *acus* in line 8. At first glance, *acus* leads us to believe that we are dealing with a term that has the same meaning as the *acus* that we have already encountered in chapter 16: needles in the modern sense of pointed, sharp objects, presumably with an eye for a thread. The adjective would not affect this interpretation, since one could imagine a needle that was, for example, used to execute delicate work that was associated with or carried out by women. On closer examination, this explanation does not stand up to scrutiny. One of the reasons is the Greek translation of the term *acus*. *Acus* is never translated in the Edict by ῥαφίς; however, in contrast to chapter 16 where *acus* is consistently translated as βελόνη,⁴³ in chapter 13 it is translated as κνηστρον.⁴⁴ The root κνη- signifies to scrape, scratch, grate or itch, therefore the most plausible translation would be a “scratcher” rather than a needle (see below). The term has thus caused some confusion. The passage could be seen as inconsistent, or the text as flawed, and perhaps the κνηστρα as unrelated to the other textile items, but a closer look at the etymology and inner structure of the chapter provides some clues.

The other reason why a straightforward translation as ‘women’s needles (sc. for textile work)’ is difficult, is that textile implements made of these materials (bone, tortoise shell, and amber) are not as frequently attested as one may expect in the archaeological record. Bone tools are attested where the soil conditions

allow it, but other materials are much more rare than the Edict would suggest. A crucial discrepancy between chapter 16 and chapter 13 is that the latter emphasises the material of the objects rather than their function, while chapter 16 specified their function and use and never mentioned their material. We now turn to the question of how to translate κνηστρον, then discuss the different materials mentioned, and finally consider how these items may fit under the headline of the chapter.

The text regarding acus/κνηστρον in 13,8-10

The Latin text as preserved on the fragment from Aizanoi initially lists 4 *acus osseas*, i.e. made of bone, that were used by women (*muliebres*); the price is unfortunately lost. The next line gives *acus testudines*, i.e. made of tortoise shell, and lists a price for one piece, but again the price is lost. The final line gives *acus sucinea*, i.e. made of amber, and again indicates one piece and a price that is not preserved. The Greek term for amber, σούκινος, is a Latin loanword.⁴⁵

The exact reading of the Greek texts regarding lines 13,8-9 is, however, problematic. Both Greek fragments of the chapter (*Aedeps.* and *Ger.* II) are unfortunately badly preserved, but from what can be read and conjectured, the Greek texts differ slightly from the Latin. For line 13,8 in the Aedepsos fragment, Doyle reads⁴⁶ κνηστρον ὀστάϊν[ον, for ὀστέϊνον(?), tentatively translating it as “a scraper made of bone or with a bone handle?”. Line 13,10 mentions a κνηστρον σούκινον, but the price is lost. Doyle translates this line as “an amber scraper or a scraper with amber handle?”. It is noteworthy that the diminutive form κνηστρίον published by Lauffer only appears in the last line related to amber, and has no equivalent in the Latin text that only speaks of *acus*, not *acucula*.⁴⁷

The diminutive form κνηστρίον is, however, found in both lines 13,9 and 13,10 in the Geronthrai

43. Chapter 16,12;12a;13;14.

44. Chapter 13,8;9;10. Note that Lauffer has the diminutive κνηστρίον in 13,10.

45. σούκινος “aus Bernstein“ (*sucinum*), cf. Plin. *NH* 22,99 *sucinis novaculis*; Mart. 4,59,2; 6,15,2. Marcell. Emp. 26,17. *Geopon.* 15,1,29 ὁ ἠλεκτρινὸς λίθος ἦτοι σουχῖνος. *Sud.* IV.399 σούκιννοι καὶ ἐλεφάντινοι δακτύλιοι γυναιξίν εἰσι σύμφοροι.

46. Doyle 1976, 91.

47. Cf. *Corpus Glossariorum Latinorum* II 351, 31: κνηστρίον *acucula scalprum* (κνιστρίον *acucla scalpum*).

fragment. A further problem is also posed by the adjectives in this fragment. Line 8 is badly preserved and the first edition was erroneous. As it turned out, the suggestion of Doyle proved to be right (later confirmed by Lauffer (*app. crit.*)): ‘κνήστρον ὀστέϊνον’, for ὀστέϊνον(?), since it does in fact read -]ὀστέϊνον, followed by γυναικεῖον so it matches the *muliebres* in the Latin text, and gives a price of 12 *denarii*, again like the Latin text, but does not provide the information that the price is for 4 pieces. Lines 9 and 10 pose another major problem: they have been read as ‘κνήστρον ἰχθύων’, translated as fish scraper, and as ‘κνήστρον σκυτῶν’, translated as leather scraper.⁴⁸ These interpretations were questioned by Bingen who read the respective terms as χελώνινον and σούκινον.⁴⁹ It is, however, noteworthy that both tools are specified as smaller than the bone item in the Geronthrai fragment, but until this is re-edited, no detailed discussion of terms can rely on it. Our argument will thus focus on the fragments from Aidepsos and Aizanoi.

κνήστρον and its variants

We now proceed to the question of how to interpret the Greek name for the tool that matches the Latin *acus*: the κνήστρον that is attested in both Greek fragments of chapter 13 and thus cannot be dismissed as a simple mistake of either a modern reading of the fragments, or an individual misunderstanding on the part of the translator or engraver. As stated above, the root κνη- signifies to scrape, scratch, grate or itch. The mention of these ‘scratchers’ in chapter 13 rather than under the ‘needles’ in chapter 16 also suggests that they should be understood as distinct from the

βελόναι. Modern scholarship seems still unaware of this issue, for example, Giaccherio translates *acus* with ‘ago’ (needle) and does not discuss the problems of the Greek term. Crawford and Reynolds, on the other hand, consistently translate *acus* in lines 13,8-10 as pins (bone-pins for women/tortoise-shell pins/amber-pins). They state that: “the nature of the materials quoted suggest that the *acus* were ladies’ hair-pins, not another type of weaving implement. They may have been made of a single piece of bone, tortoise-shell or amber; alternatively, they may have had wooden or bone shafts with ornamental heads (...).”⁵⁰ As noted above, Doyle suggested that they may have been handles.⁵¹ Still, the question of how the Latin and the Greek term can be matched terminologically remains unanswered. There are two main hypotheses in trying to determine the potential meaning of the Greek word and the tool that it designated:

1. to assume that it is closely related to textiles since it is listed under the heading of “pin-beaters for weavers” and the other items mentioned in this chapter are also textile-related⁵²
2. to assume that it is part of the female sphere since it is characterized as such and follows the item “comb for women”, and that the Latin *acus* might give an idea about its shape which was, presumably, a sort of pin.

Let us begin by considering the first hypothesis. Beekes⁵³ (following Chantraine) connects κνήστρον to κνήσων (translated by Beekes as ‘scratcher’) which is found in an inscription from Delos, also in a textile context;⁵⁴ there is also the Latin loanword

48. Graser 1940, 359.

49. Cf. also Bingen 1965, 176, n.5: “De même, dans le texte, où aux articles 13 9 et 10 (l. 14 et 15 de la 1^{re} colonne), il ne peut être question de lire ni κνήστρον [i]χθύων[v], ni κνήστρον σκυτῶν, qui ont reçu les honneurs suprêmes du Liddell-Scott-Jones. Je proposerais sous toute réserve d’après ma copie sur place et mon estampage : κνήστρον χελώνινον et κνήστρον σούκινον, *grattoir d’écaille* et *grattoir d’ambre*. Ce qui me ferait suggérer que le OCT du mystérieux article 13 8 appartient sans doute à un κνήστρον Λ .Λ ὀστέϊνον[.]”

50. Crawford & Reynolds 1977, 151.

51. Doyle 1976, 91.

52. We cannot *a priori* assume that *acus* and κνήστρον (*vel sim.*) can be regarded as textile tools (but neither can we exclude it) since their characterization as *muliebris/γυναικεῖον* might be their main distinguishing element.

53. Beekes 2010, 720-721.

54. *ID* 1444Aa37: “ἐν τῷ κιβωτίῳ κνησῶνας? τρεῖς”. Cf. also an inscription from Attica, mentioning a silver κνηστρίς in a temple inventory, interpreted by the editors as a variant of κνηστρίον *IG* II² 4511, 9: .]κνηστρίν ἀργυροῦ[v — — —] (= *IG* II/III² 4511).

cnāsō ‘aiguille pour gratter’ in Paul. ex Fest (*cnasonas* (acc.pl.): *acus, quibus mulieres caput scalpunt*⁵⁵). Chantraine translates κνηστρίον as ‘instrument qui sert à racler’,⁵⁶ while *LSJ* translates it as ‘scraper’. Another thought is that it might have pointed to a certain type of tool material, since κνέωρος / κνήστωρ⁵⁷ (both words derive from the same root) designate a kind of wood, the so-called “stinging plant”, which was in fact also termed κνήστρον by some. This should, however, be dismissed since the κνήστρον is already qualified by adjectives denoting their material: bone, tortoise shell, and amber. If their main component had been “other wood than boxwood”, this would probably have been indicated, as with other items.

κνηστρίον as hairpin

Joseph Maurer treated pins and needles in an article in 1951, where he argued that pins and needles were one and the same to the Greeks and Romans, and that the nouns βελόνη, ῥαφίς, *acus*, *aculea*, *acula* signified a needle, when the object had an eye for a thread, and a pin when it had a knob, small globe, or other ornamental termination.⁵⁸ We would argue the contrary, that Greek could distinguish between the

senses of Latin *acus* by the use of two terms.

In 2008, Janet Stephens, a professional hairdresser and researcher into the hairstyles of the Greeks and Romans, reconsidered the nature of Roman hairpins and arrived at some differing functions for hairpins and needles that have implications for interpreting the Edict.⁵⁹ She argues that commentators on the techniques of Roman hairdressing demonstrate modern biases that lead to anachronistic speculation, based on a faulty understanding of the technical possibilities of the tools available to Roman hairdressers. According to Stephens, the so-called single prong hairpin (which she terms ‘hair bodkin’) cannot have been used in many contexts and she proposes that Roman women used sewing-needles (with eyes) to stitch together the elements of a hair-style (e.g. rows of plaits) when they were no longer using *vittae*⁶⁰ – linen or wool ribbons used to tie the hair together when arranging it – perhaps around 50 BC.⁶¹ Stephens carefully defines the terms of ancient Roman (and modern) hairdressing, noting correctly that the Latin *acus* is often used to define – in her opinion – three similarly-shaped but distinctly different hairdressing tools: namely the ‘hair bodkin’,⁶² the ‘needle-and-thread’,⁶³ and the

55. Paul. ex Fest. p. 52, 17 Müller.

56. Chantraine 2009, 525 (κνηστρίον as read by Lauffer).

57. Cf. Plin. *NH* 13,114.

58. Maurer 1951, 161.

59. Stephens 2008.

60. She adduces Isid. *Etym.* 19.30.4; Ov. *Am.* 3.6.56, *Ars. Am.* 1.31, *Met.* 1.477, *Pont.* 3.351, *Rem. Am.* 386; Pl. *Mil.* 792; Prop. 4.11.34; Tib. 1.6.67; Val. Max. 5.2.1; Verg. *Aen.* 7. 403. According to Stephens (2008, 111, n.5) the *vittae* can be seen in both Etruscan sculpture and the Hellenistic art of Southern Italy and the *nodus* hairstyle epitomised by Livia was presumably the most influential in promoting hair-sewing, after which the *vittae* became associated primarily with ceremonial (i.e. bridal) and hieratic (i.e. Vestal) hairstyle.

61. Stephens 2008, 111.

62. Stephens 2008, 112; their basic design being similar to modern knitting needles and made in various lengths; they are mentioned in ancient sources as made of gold and silver and decorated with precious stones (cf. Ulpian. *Dig.* 34.2.25.10: *acus cum margarita, quam mulieres habere solent* “*acus* set with pearls which women are accustomed to have”), but most surviving Roman hair bodkins are made from bone. Also termed *discerniculum*, cf. Varro *LL* 5.29.129.

63. Needle-and-thread: Stephens defines a ‘needle’ as a rod-shaped object “pointed on one or both ends and drilled through with one or more small, circular or elongated holes (eyes)”, designed to carry the thread. Furthermore, a needle must, by Stephens’ definition, “have a hole meant to carry thread, and it cannot have an enlarged head meant to inhibit its passage through the material to be sewn”. This does not accord with current archaeological evidence, where bone sewing needles with enlarged heads have been found (E. Andersson Strand, pers. comm.).

‘curling iron’.⁶⁴ According to Stephens, the definition in Festus, *acus dicitur, qua sarcinatrix vel etiam ornatrice utitur* “*acus* refers to the tool used by the cloth-mender as well as the hairdresser”,⁶⁵ indicates that ‘sewing needle’ is the “default definition of the unmodified noun *acus*.”⁶⁶ Thus, this is another example of textile technology used in a non-textile craft. In both textile craft and hairdressing, a needle with an eye is used for the same function (sewing).

The hair bodkin can have an enlarged (and decorative) head in order to maintain adequate isometric tension in the hairstyle.⁶⁷ They could also add glamour to finished hairstyles, if they were made of precious metals, gems, ivory, or bone; and the tortoise shell and amber mentioned in the Edict could very well denote decorative heads on such hair bodkins.

To return to the problem of κνήστρον: Stephens makes the pertinent and rarely (never?) observed comment that the hair bodkin would probably also have been used as a “genteel head-scratcher, which could reach deep into elaborate styles where fingers could not reach”, conforming to the statement of Festus: *cnasonas acus quibus mulieres caput scalpunt*.⁶⁸ As stated above, the *cnasonas* of Festus reflect the same root as κνήστρον. We also have evidence that the root **kna-/*kne-* could be related to a pin-shaped object that was driven into something and that was called a κνηστής.⁶⁹ The *acus* of the Edict translated by κνήστρον makes perfect sense in comparison to the κνηστής mentioned in a passage of Plutarch and to a gloss in Hesychius:

Plutarch (Plut. *Ant.* 86.4): τὸ δὲ ἀληθὲς οὐδὲς οἶδεν: ἐπεὶ καὶ φάρμακον αὐτὴν ἐλέχθη φορεῖν ἐν κνηστίδι κοίλῃ, τὴν δὲ κνηστίδα κρύπτειν τῇ κόμῃ.

But the truth of the matter no one knows; for it was also said that she carried about poison in a hollow hairpin (κνηστής) and kept the hairpin hidden in her hair.

Hesychius (s.v.): κναστήριον· ἐνήλατο<ν>. Λάκωνες

The Laconians term ‘something driven in’ κναστήριον.

Both texts confirm that a κνηστής or κναστήριον is an object that was ‘driven into something’, in the case of Plutarch’s text, into the hair. It is noteworthy that Hesychius speaks of a Laconian word, and that the inscription from Geronthrai is also from Laconia, while Aidedpsos is situated on Euboia where one could perhaps rather expect an Ionian term. Regardless of any potential Laconian basis for the term, it seems safe to claim that ‘pin’ would be an appropriate translation both for Plutarch and Hesychius, and that the κνήστρον in the Edict is etymologically related and might refer to pins, which can also be used as scratchers.

If we accept that one of the functions of the κνήστρον in chapter 13 could be as a hairpin (bodkin) which could also act as a scratcher, then we need also to add this to the functionality of the Latin *acus*. Even if in chapter 16 the use of *acus* and its translation as “needle” (matching Greek βελόνη) in the modern sense seems to be justified, we have to be aware that there can also be other possibilities of translation and use of the word. The *Thesaurus Linguae Latinae* (s.v.) proposes the following distinctions in the term *acus* (noting that it is equivalent to Greek ῥαφίς⁷⁰ and βελόνη):⁷¹

64. Also termed *calamistrum*, cf. Varro *LL* 5.29.129, and *discriminalia*, cf. Isid. *Etym.* 19.31.8. Isidorus uses the word *acus* to describe the shape of the *calamistrum*, Isid. *Etym.* 20.13.4.

65. Festus, *Glossaria Latina*, s.v. *acus*.

66. Stephens 2008, 113.

67. Stephens 2008, 116.

68. Stephens 2008, 117, Festus 52.17 (Müller).

69. The term κνήστις (note the accent) denotes a cheese-grater.

70. ῥαφίς does not occur in the Edict, but so does the adjective ῥαφική in 16,12a, qualifying βελόνη, and translating *sartoria*, cf. below. The root is also attested in ῥάπτεις/ὑποραφή/ὑπόραφεις (7,48-51).

71. Cf. Blümner 1912, 213-215 for sewing.

Pungendi figendique instrumentum
Crinium comendorum instrumentum
Crinium retinendorum ornandorumve
instrumentum
Suendi instrumentum
Varii usus instrumenta

These all have in common that they are ‘sharp’ or pointed instruments. *Acus* are also used for putting up and ornamenting the hair. The problem of understanding the semantic field is perhaps influenced by/connected to the modern sense of the term ‘needle’ which indicates a very sharp and pointed pin-like metal object.

Materiality of the acus and archaeological finds

That our “pins” in chapter 13 are of a different quality than the “needles” in chapter 16 might also be confirmed by the materials they are made of. With the exception of tortoise-shell objects (which might not be preserved) we have archaeological finds of pin-shaped objects made of bone and of amber.

Evidence of bone pins

The “bone pins for women” in chapter 13 might find a match in the archaeological evidence. A set of bone pins comes from the Roman settlement at Magdalensberg in Austria.⁷² The objects have rounded and/or decorated heads and are interpreted as spindles and distaffs and show, according to the excavators, signs of use. These objects are sometimes elaborately decorated. One could well assume that they might have been multifunctional: perhaps used by women as a decorative item, e.g. as hairpins, and pins that held garments together.

Finally, a bone pin might also have been good for working with soft threads and tapestry weaving since the smooth surface does not damage the thread. As Eva Andersson Strand points out, bone needles do not leave a hole in certain types of woven woollen fabrics when used.⁷³ Thus the “bone pins for women” might indeed refer both to pins used by women in textile work (spindles, distaffs, spools and pin-beaters) or decorative items like hairpins, or pins that held clothing in place. In the so-called Tomb of the Embroideress, dating to the late 5th-7th century, a wonderful array of textile tools was found. These include weaver’s combs, spindles with whorls and spun thread attached and a series of spools with linen thread still wound round them, and some similar shaped ‘pins’ which are wooden and ivory rods tentatively identified as weaving implements, but also perhaps as *styloi*.⁷⁴

Amber

Archaeological evidence may also attest to the *acus sucinea*, amber pin. We know amber distaffs (or rather distaffs that were made of metal and had amber elements) from Etruscan tombs in Verrucchio. Amber spindle whorls were found in Magdalensberg,⁷⁵ and Pliny notes the use of such whorls in Syria.⁷⁶

While there are examples of amber tools, they are dated much earlier than the Edict;⁷⁷ however, they do attest to the fact that there were pin-shaped textile tools made of amber. Whether the amber pins were merely status symbols that were put into the graves, or whether they were used in life, remains a matter of dispute. Their practical use would depend on the task since amber is a very soft material (that would on the other hand also be very gentle with fine textile fibres). This might actually match the characterization of the amber *acus* as “small” (or: more delicate)

72. Gostenčnik 2010, 76. See also Trinkl 2007, 81-86, for a discussion of textile tools from Roman Imperial times in Ephesus, including bone needles (fig. 13.4) and finely decorated bone distaffs (fig. 13.7).

73. Eva Andersson Strand, pers. comm.

74. Van Raemdonck *et al.* 2011, 223-224 (inv. nrs. E 1036 and 1037).

75. Gostenčnik 2010, 73.

76. Plin. *NH* 37, 11, 37.

77. See the Etruscan amber spindle or distaff from Grave 43, Verucchio, in Ræder Knudsen 2007, 110, fig. 17.14.

in both of the Greek fragments, since a small amber pin for e.g. tapestry weaving might have worked well, but a longer tool fully made of amber might have been too soft and fragile for heavier work like sewing or spinning (not to mention the price for such a piece – unfortunately none of the fragments of the Edict have preserved any numbers regarding amber so far).

Tortoise shell

Unfortunately we do not know of any archaeologically attested pin-like items made of tortoise shell, but as already stated, this may also be due to the preservation conditions in the Mediterranean areas where fragments of the Edict were found. The use of the tortoise shell pins might have resembled that for amber (also because these *acus* are mentioned in the diminutive in the Greek texts), since the material seems equally unsuitable for the heavier tasks of textile production. But they might have worked as smaller decorative items like hairpins that might as well have been a specifically female form of adornment.

Gold

Precious metals are not listed among the materials in the Edict, but it should be mentioned that according to literature golden *acus* were used as adornment for the hair.⁷⁸ Thus a certain extravagance in hairpins like amber or tortoise shell ones (or elaborate bone pins) fits well into the historical context.

Wood

The chapters discussed here refer to at least two types of wood: boxwood that seems to have been a kind of standard material for textile tools and that was used both for pin-beaters and other textile tools,

and other types of wood.⁷⁹ As with pin-beaters, spindles are subdivided into those of boxwood and those of other kinds of wood, those of boxwood being three *denarii* cheaper, i.e. 12 *den*.⁸⁰

The same varieties in wood are repeated regarding combs, where we have two items that are explicitly qualified as weaving combs in Latin (*pectinem textorium*; only the second one is so termed in Greek: κτένα ἰς πῆνην). The last variety is a comb, made of boxwood, which is termed *muliebrem*. We cannot be sure whether this last item is in fact a textile tool. It may also simply be the first item in a list of female accessories, which brings us to another interpretation of lines 7-10 in chapter 13 of the Edict.

‘muliebris’

Concerning the group specified by the adjective *muliebris* that is used for *pecten* and *acus* made of bone (*osseas*), it is doubtful whether they were used as textile tools. The subsequent *acus* made of tortoise shell and of amber are not specified as *muliebris* respectively, but they could well fit into the category anyway, since the Edict often lists items of the same kind or different qualities in subsequent lines.⁸¹ An amber or tortoise shell *acus* could presumably well be conceived of as a hairpin (especially since, like a bone pin, it could be worked very smoothly and thus would not hurt the scalp), and the material might also have been specifically connected with female adornment like in the case of amber, and thus accrue the qualification γυναικεῖα.⁸²

The prices of textile tools

The price of the textile tools from the most expensive to the cheapest are shown in Table 1. The pricing of the different items in the Edict is not easy to follow. This is to a large degree due to problems with the preservation of the inscriptions.

78. Martial 14.24.1-2.

79. See Stauffer 2008, 12, fig. 4, for late antique wooden *acus* with yarn still wound around them.

80. Whorls are in both cases sold with the spindle (13, 5; 6).

81. Wild 1964, 264; Reynolds 1981, 283.

82. The qualification γυναικεῖος recurs in three further sections of the Edict: 7,54; 9,21; 13,8. γυναικεῖος cf. 13,7.

Table 1. Prices of textile tools from the *Edictum Diocletiani*

Price	Tool	Material ⁸³	Specification	Line
Chapter 13				
15 <i>den.</i> each	Pin-beater	Other wood	-	13,2
15 <i>den.</i>	Spindle	Other wood	Including whorl	13,6
14 <i>den.</i>	Pin-beater	Boxwood	-	13,1a
14 <i>den.</i>	Comb	Other wood	For weaving	13,4
14 <i>den.</i>	Comb	Boxwood	Women's	13,7
12 <i>den.</i>	Comb	Boxwood	For weaving	13,3
12 <i>den.</i>	Spindle	Boxwood	Incl. whorl	13,5
4 <i>den.</i>	Pin?	Tortoise shell	Small (maybe also women's item)	13,9
3 <i>den.</i> each ⁸⁴	Pin?	Bone	Women's item	13,8
No price	Pin?	Amber	Small (maybe also women's item)	13,10
Chapter 16				
4 <i>den.</i>	Needle	-	<i>sartoria sive subfiscalatoria</i> <i>suptilissima</i> /ραφική ισχυροτάτη	16,12a
2 <i>den.</i>	Needle	-	Second grade	16,13
2 <i>den.</i>	Needle	-	<i>ciliciaria sive sagmaria</i> /σακκοράφη ήτοι σαγματική	16,14

As Crawford and Reynolds note: “The formula numero I, II etc. (lines 2, 8, 7⁸⁵, 10 [in the Latin version of chapter 13]) is reproduced in the Greek as simple α’ and β’ in lines 1a and 2, but is missed out elsewhere.” Crawford and Reynolds’ statement that “the pricing policy is hard to interpret” also stems from the fact that they assume certain qualities of material to be better than others, without the text corroborating it. This is the case, for example, for boxwood. Crawford and Reynolds state: “The best sort of *radius*, in boxwood, cost 14 *denarii* each; but in ordinary wood they cost 30 *denarii* for 2, or 15 *denarii* each! Similarly, a weaver’s comb of boxwood was cheaper than a comb of ordinary wood (lines 3 and

4) and a boxwood spindle was cheaper than its ordinary wood counterpart (lines 5 and 6).” To explain the price differences of the supposedly cheaper “other wood”, they come to the conclusion: “It may be that the boxwood tools were smaller than those for everyday use.” They do not take into consideration that boxwood might have been the cheaper material as opposed, for example, to walnut wood, which is mentioned for beds in the Edict.⁸⁶

Crawford and Reynold’s criticisms of the Greek version of the prices for pins in chapter 13, however, are justified. In the Latin fragment the numbers of pins that cost a certain price (that is unfortunately lost) are indicated (4 bone pins, and 1 tortoise shell

83. The materials of the needles in chapter 16 are left unspecified, the only possible exception being *sufiscalatoria* in line 12a which may denote reed. However, it seems cogent, judging from the uses specified in the text itself, to strictly relate them to sewing, which might, of course, also have implications for the material they were made from.

84. *I.e.* 4 for 12 *den.*

85. *I.e.* 9.

86. Chapter 12,29a. What is the distinction between *promisquae* (*materiae*) and *alterius* (*materiae*)? It is noteworthy that not only is this distinguished in the Latin fragment, but also both Greek fragments that attest these lines (Aidepsos and Geronthrai) are uniform in using ἐκ διαφορῶν ξύλων (of different types of wood) in lines 13,2 and 13,4, but ἐξ ἐτέρων ξύλων (of other types of wood) in line 13,6.

and amber pin respectively). The Greek texts do not mention the numbers of items, only the price: 12 *denarii* for 4 bone pins, *i.e.* 3 *denarii* for each, and 4 *denarii* for one tortoise pin.⁸⁷ But, as Reynolds and Crawford observe: “one would expect a tortoise-shell *acus* to cost more, not less, than one of bone [NB: that was actually cheaper, but only when one knows that the bone pins came as a set of 4]!”⁸⁸

With regard to the prices listed in chapter 13 in the fragment from Aidepsos, Doyle notes that the price listed in 13,2, for two κεράιδες, is α...'(1) in this fragment, but that the price λ' (30) of the Geronthrai fragment makes better sense; the price in line 13,4 for combs of wood other than boxwood is η' (8) in Aidepsos, but ιδ' (14) in Geronthrai; in 13,6, referring to spindles with spools made of wood other than boxwood, he states that again the Aidepsos price, α' (1), makes no sense, referring to Geronthrai, which has ιε' (15); in 13,7 the Aidepsos price for a small comb for women made of boxwood is β' (2), while Geronthrai has ιδ' (14); in 13,9, referring to the tortoise shell pin, Doyle states that the price δ' (4) is too low to be credible (also noting that Mommsen & Blümner read κνήστρον ιχθύων [*i.e.* in the very same Geronthrai fragment]).⁸⁹

It should, moreover, be noted that if we leave aside the amber and tortoise shell *acus* whose price cannot be established with any certainty, at least the bone *acus* are approximately equal in price to the needles mentioned in chapter 16. As already stated, the bone *acus* cost 3 *denarii* each and they are sold in sets of 4. This suggests that they are either used in larger numbers or that they are more likely to wear and get disposed of or be lost, a point which is corroborated by the archaeological evidence of bone pins with traces of use. They might have been used, for example, for tapestry weaving, or spinning. The needles in chapter 16 range from 4 *denarii* for a very fine sewing needle (16,12a) to 2 *denarii* apiece for so-called second grade needles (16,13),⁹⁰ and 2 *denarii* apiece

for needles for the sewing of coarser items such as sacks and packsaddles (16,14), necessitating a much stronger needle. Their material is not mentioned, but archaeological finds seem to indicate that they were most likely made of metal.

The most expensive items are pin-beaters, spindles and combs, which might have been related due to their size. The (probably also smaller) bone, amber and tortoise-shell pins come at the end of the list. We have to take into consideration that certain kinds of wood may have been much more precious than commonly assumed in an Empire that spanned desert regions where wood was extremely scarce, but needed for tools of indispensable everyday tasks like textile production.

Conclusion and further perspectives

A survey of the textile tools in chapters 16 and 13 of the Edict has yielded the following with regard to terminology: headlines do not always mirror the entirety of items listed below them, as already noted by Doyle. While chapter 16 exclusively deals with needles, as it states in its headline, chapter 13 does not only comprise the pin-beaters of the headline, but goes on to other textile tools and even, in lines 7-10, to items that may be only vaguely related to the above-mentioned tools, because they were made in the same or similar workshops. The texts mention different kinds of textile tools, of which the term *acus* posed the biggest challenge because it was translated differently in the two chapters treated here. In chapter 16 of the Edict where Latin *acus* is translated into Greek as βελόνη, these tools are:

- qualified by function and by quality
- presumably monofunctional
- presumably referring to a pointed (metal?) object with an eye that would fit the definition of a modern “needle”

87. It is a problem that the prices here are all supplemented from the Greek; there are no prices attested in the Latin fragment.

88. Crawford & Reynolds 1977, 150.

89. Doyle 1976, 91.

90. They are presumably still fine needles, as they follow immediately after line 16,12a.

In chapter 13 of the Edict where Latin *acus* is translated into Greek as κνήστρον, these tools are:

- qualified by material that varies considerably, even in textile tools
- presumably multifunctional (not merely pin-beaters or hairpins etc.)
- presumably pointed objects without an eye.
- not to be interpreted as scrapers, but rather as scratchers

The term *acus* in the Edict thus denotes two distinct objects:

- when it corresponds to Greek βελόνη, it can be interpreted as a ‘needle’ in the modern sense, *i.e.* as a pointed pin-like tool made of metal, maybe even with an eye
- when it is translated into Greek as κνήστρον, it can be interpreted as a ‘pin’ that might have served different functions depending on its actual use, ranging from female hair adornment, to spindles, distaffs and maybe even tapestry spools

Looking into texts on the uses of needles, we can state that an *acus* in the sense of Greek βελόνη was used for **a**) sewing and stitching (even repair), and as a needle for a tailor, as indicated by the adjectives in chapter 16 itself; **b**) decorating, probably tapestry, taquéte and maybe even embroidery, though the latter technique was much scarcer in antiquity than the first two mentioned.⁹¹ There is one passage in the Edict (7,53) where the use of an *acus*/βελόνη is attested to ornate garments, in this case a *centuchum*, a blanket. The Latin text reads: [C]entuchum primum ornatum ab acu ponderis supra script[i], the Greek text: κέντουκλον πρωτεῖον κεκοσμημένον ἀπὸ βελόνης λ(ιτρῶν) γ’. The crucial terms are *ornatus ab acu*/κεκοσμημένον ἀπὸ βελόνης. If the Greek term βελόνη is related to a sharper, needle-like tool as in chapter 16, the technique referred to here might very well have been embroidery and not

tapestry weaving. Of course, this assumption rests on a consistent use of βελόνη.

The *acus* in the sense of a pin was probably, if used as a textile tool, rather a spool both for tapestry and taquéte weaves (*in lieu* of a “shuttle”).⁹² Famous passages for tapestry weaving use the terms *acu pin-gere*,⁹³ *e.g.* Ovid in his *Metamorphoses* where he tells the story of the famous weaver Arachne, who dared to enter into a weaving contest with the goddess Minerva and was turned into a spider:

*Nec factas solum vestes, spectare iuvabat
/ tum quoque cum fierent (tantus decor ad-
fuit arti), / sive rudem primos lanam glom-
erabat in orbes, / seu digitis subigebat
opus repetitaque longo / vellera molli-
bat nebulas aequantia tractu, / sive levi tere-
tem versabat pollice fusum, / seu pingebat acu: scires a Pallade doctam. (Met.
6, 17-23)*

“And it was a pleasure not alone to see her finished work, but to watch her as she worked; so graceful and deft was she. Whether she was winding the rough yarn into a new ball, or shaping the stuff with her fingers, reaching back to the distaff for more wool, fleecy as a cloud, to draw into long soft threads, or giving a twist with practised thumb to the graceful spindle, or to paint with her *acus*: you could know that Pallas had taught her.”

This technique is also employed by the *plumarii*, interpreted as tapestry weavers by Wild and Droß-Krüpe.⁹⁴ Lucan describes Cleopatra’s splendid palace furnishings as a backdrop to the seduction of Caesar, but does not mention which tools were used to create the stunning effects in the fabric:

*strata micant, Tyrio quorum pars maxima
fusco / cocta diu virus non uno duxit aeno, /*

91. See also Droß-Krüpe & Paetz gen. Schieck 2014 on terms for and the rare examples of embroidery in antiquity.

92. See Wild & Droß-Krüpe 2017.

93. See also Droß-Krüpe & Paetz gen. Schieck 2014.

94. Wild & Droß-Krüpe 2017.

pars auro plumata nitet, pars ignea cocco / ut mos est Phariis miscendi licia telis (Bellum civile 10, 123-126)

The coverlets were shining bright, most had long been steeped in Tyrian dye and took their hue from repeated soakings, while others were decorated in the “feather-technique” with bright gold(-thread), and others blazed with scarlet, as the Egyptian manner is of mingling threads in the web.

The question arises as to why the Latin text used only a single seemingly indistinct term like *acus*. Future studies may reveal whether we can determine a chronological development in the terminology of *acus*, and whether we are dealing with a development that was confined to certain areas and only spread because the term was used in an imperial inscription.

Finally, the question of regional linguistic and functional variations of terms in the Edict arises. The Latin texts seemed quite standardized, at least in the fragments discussed, and can with a good degree of probability be traced back to a single document issued by a central imperial authority. The Greek versions, however, might have been subjected to several iterations and deviations, depending on the ability of copyists and engravers who might have misread and misinterpreted the template. Last, but not least, it would be interesting to look further into the question of how language and terminology correspond to the multifunctionality of textile tools in different regions and epochs.

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