

## The Roman flax-hackle (AENA)

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The cultivation of flax and the preparation of a textile fibre from its woody stalk were associated in antiquity with a series of specialised operations. These can still be observed at first hand in many parts of Europe, although of course modern machinery has replaced much of the manual labour on the larger flax farms<sup>1</sup>.

The basic processes in the preparation of flax, taken in order, are the following: 1. pulling the ripe flax stalks, 2. retting (that is, rotting them in stagnant water to loosen the fibre bundles from the bark), 3. drying, 4. breaking, 5. skutching (*schwingen*) (striking the dried stalks with a wooden blade to detach the bark and core) and finally 6. hackling (*hecheln*) (combing the fibres to get rid of the remnants of the outer bark). The implements required are essentially simple and so are not likely to have undergone radical changes of shape since antiquity. The modern technical terms for the operations listed above and for the implements are hard enough for the general reader to grasp – it is not surprising that the ancient expressions for the same things cause even greater difficulty.

Pliny the Elder, who is the only Roman writer to give an account (albeit short) of contemporary flax preparation, uses a term in his description of the process of hackling which has baffled modern editors<sup>2</sup>. His words are: *et ipsa tamen (sc. stuppa) pectitur ferreis [ ] donec omnis membrana decorticetur*, ‘the actual tow, even, is combed with iron [ ] until all the outer bark is stripped off’. The noun which I have omitted is in dispute, but must clearly be the Latin term for a flax-hackle, as all the editors agree. It is the form of this word and the nature of the implement itself which I shall discuss in this note.

To fill the gap left in the text above, the reading *aenis* is offered by the Mss. D, G, F, E and *enis* by Mss. d, T (I use the notation of Carl Mayhoff in the Teubner text of 1892). These Mss. are of secondary value; the passage is not contained in the few Mss. considered to be more reliable<sup>3</sup>. The Vulgar Latin pronunciation of the diphthong *ae* as long *e* (which the inscriptions show to have begun at an

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<sup>1</sup> On modern flax-harvesting and preparation see CIBA-Review 49 (1945) 1773ff.; F. Bradbury, *Flax Culture and Preparation* (London 1920). I have discussed the evidence for the Roman linen industry in my forthcoming book on Roman textiles.

<sup>2</sup> *N. h.* XIX 17 ed. C. Mayhoff (Leipzig 1892); see the Leiden text (1669) for comments of earlier editors.

<sup>3</sup> On the text see W. Kroll in RE 21, 1, 435; he is severe on emendations of recent edd. (‘recht oft unnötig, nicht selten falsch’).

early date<sup>4</sup>) probably accounts for the discrepancy between the two readings. *Aenis* is thus the more likely to be correct.

The older editors accepted *aenis* at its face value. Later editors, assuming an etymological connection between *aenis* and *aënus*, the adjective from *aes* ('bronze'), were troubled by the apparently paradoxical *ferreis aenis*. Barbari (1492) emended the text to *hamis* ('with hooks'); Jan in the older Teubner text (1854) conjectured *taeniis* and Mayhoff (1892) *aculeis* ('with spikes'). These conjectures seem to be unnecessary, and I hope to show that the reading *aenis* can be accepted.

It would be useful at this point to examine the archaeological evidence for the flax-hackle in antiquity and the early Middle Ages in order to form some idea of what Pliny had in mind.

In the peasant communities of Italy and eastern Switzerland at the present day the flax-hackle consists of a rectangular wooden board, in the centre of which a group of long spikes are set pointing vertically upwards<sup>5</sup>. They may be set in a circle or a square and vary in length from 4 cm to as much as 20 cm. The hackle is fastened to a bench or held firmly between the knees while the flax stalks are drawn through the spikes in a combing action. A fourteenth-century Ms. of Pliny in Milan illustrates the passage under consideration with just such an implement<sup>6</sup>. It is clear that many of the editors were aware of this type of primitive hackle, which was the dominant type during the Middle Ages in Europe. Byzantine literary sources indicate that it was known at least as early as the ninth century<sup>7</sup>.

A less sophisticated implement than the mediaeval flax-hackle was found in a neolithic context at Lattrigen (Kt. Bern) in Switzerland<sup>8</sup>. It consists of a carefully shaped, approximately semicircular, board (c. 16 cm wide), provided with a short handle. On the face of the board were set about 270 groups of thorns; the straight edge was finished off with a cordon. So far as is known, a species of wild flax was the only fibre spun and woven by the people of the 'Pfahlbauten'<sup>9</sup>. Emil Vogt's suggestion therefore that the implement is a flax-hackle carries conviction. From its shape and the cordon one might conclude that it was applied to the flax as a free comb instead of being fixed so that the stalks could be drawn across it.

The flax-hackle bears many different names in modern Italian dialects; but in the Rhaetoromanic-speaking areas of Switzerland (particularly Upper Engadin) it is called an *aina*<sup>10</sup>. In the course of time technical terms are sometimes trans-

<sup>4</sup> F. Sommer, *Handbuch der lateinischen Laut- und Formenlehre*<sup>2</sup> (Heidelberg 1914) 70ff.

<sup>5</sup> P. Scheuermeier, *Bauernwerk in Italien, der italienischen und rätoromanischen Schweiz* 2 (Bern 1956) 248ff., Fig. 451-4, Phot. 386-8.

<sup>6</sup> Ms. E 24 inf., fol. 193v in the Ambrosian Library, Milan: L'Arte 10 (1907) 189 fig. 4.

<sup>7</sup> Phot. *Lex.* 172, 21 ed. S. A. Naber (Leiden 1864); *Tim. Lex.* s.v. *κράφος*; for Timaeus' date see RE 6 A 1, 1226f.

<sup>8</sup> E. Vogt, *Geflechte und Gewebe der Steinzeit* (Basel 1937) Abb. 72, 6, 7.

<sup>9</sup> Wild flax: W. La Baume, *Frühgeschichte der europäischen Kulturpflanzen* (Giessen 1961) 36f. with literature.

<sup>10</sup> Scheuermeier, op. cit. 253. 255. C. Pult et al., *Dicziunari rumantsch grischun* (Chur 1939-1946) s.v. *aina*.

ferred from one instrument to another of similar shape, but different purpose<sup>11</sup>. It would therefore be inadvisable to assume at once that the Rhaetoromanic *aina* confirms the reading *aenis* in Pliny; but at any rate it offers strong support for it.

To add to the difficulties surrounding the Roman flax-hackle, Pliny uses the term *aena* in another context for another instrument, the *aena fullonia*. This was used by the fuller to raise the nap on finished wool cloth<sup>12</sup>. His words (N. h. XXIV 111) are: *vulgaris quoque haec spina, ex qua aenae fulloniae implentur*<sup>13</sup>, and (N. h. XXVII 92): *hippophæston nascitur in spinis, ex quibus fiunt aenae fulloniae*<sup>14</sup>. The *spina* which he mentions (*spina fullonia*, N. h. XVI 244) was probably a species of thorn-bush<sup>15</sup>.

The probable character of the *spina fullonia* is indicated on a wall-painting from Pompeii roughly contemporary with Pliny's Natural History<sup>16</sup>. A fuller's assistant is shown in the act of raising the nap on a web of cloth which hangs down from a vertical beam. In his right hand he wields what seems to be a flat, square, object. He grasps it by a handle or more likely a strap fixed horizontally across the back. The face of the implement on which presumably the thorns were set plucks up the fibres on the surface of the cloth. The base into which the thorns were fixed was probably of wood or possibly of stout hide<sup>17</sup>.

The Greek term *κνάφος* corresponded to the *aena fullonia*, but covered both the instrument and the thorn-bush or thistle from which it was made<sup>18</sup>. Greek sources add nothing to our knowledge of the details of the instrument. Herodian<sup>19</sup> describes the *κνάφος* vaguely as *ἀκανθώδη ὄλην, ἣ περιπεταννόντες τὰς ἐσθῆτας ἐξέθλιβον τὸ πλεονάζον τοῦ περι τὰς ἐσθῆτας χροῦ*. Later writers from Hesychius onwards have a wierd assortment of explanations of the term and confuse the plant and the instrument hopelessly<sup>20</sup>. By the ninth century *κνάφος* also meant the mediaeval flax-hackle with iron spikes<sup>21</sup>.

<sup>11</sup> Cf. 'card' from *carduus*, 'thistle', transferred from the implement for raising nap to the implement for preparing raw wool (M. Hoffmann, *The Warp-Weighted Loom* [Oslo 1964] 287f.).

<sup>12</sup> It was only for this task that the fuller needed an implement set with spikes (see my note on *peza* in CQ forthcoming). The translation of *aenae* as 'pots' or 'coppers' (W. H. S. Jones in the Loeb edition, 1956) makes no sense.

<sup>13</sup> Mss. read: *enae* V; *anae* d; *lanae* T; *unae* E. J. Sillig (1853) reads *aenae* and is followed by more recent edd.

<sup>14</sup> Mss. read: *aeneae* d, E, B; *enae* V; *ene* R. J. Sillig reads *aenae*.

<sup>15</sup> It is not the fullers' teazle and is unlikely to be a thistle; cf. H. Blümner, *Technologie und Terminologie der Gewerbe und Künste bei Griechen und Römern*<sup>3</sup> (Leipzig 1912) 178; W. H. S. Jones discusses it in the Loeb text of Pliny, *N. h.*, vol. VII 539.

<sup>16</sup> V. Spinazzola, *Pompei alla luce degli scavi nuovi di Via dell'Abbondanza (Anni 1910-1923)* (Roma 1953) 773, fig. 758 (Reg. VI 8, 20).

<sup>17</sup> Hedgehog skins were often mounted instead of thorns (Plin. *N. h.* VIII 135). There is no evidence that the teazle (*Dipsacus fullonum*) was used for this in antiquity (Dioscorides III 11; cf. IV 159 [162]. 160 [163]).

<sup>18</sup> Cf. Blümner, op. cit. 179 Anm. 6, where the point is obscured.

<sup>19</sup> Herodianus Grammaticus, *Περὶ μωνήρου λέξεως* 39, 15 ed. A. Lentz (Leipzig 1867-70).

<sup>20</sup> Hesychius s.v. *ἐπὶ κνάφου ἔλκειν* ed. M. Schmidt (Jena 1857).

<sup>21</sup> Phot. *Lex.* 172, 21.

The etymology of *aena* is uncertain. The Rhaetoromanic *aina* suggests that it was disyllabic, not trisyllabic as it would be if it were connected with the adjective *aënus*.

The *aena fullonia* mentioned by Pliny and pictured at Pompeii has close similarities to the mediaeval and more particularly the neolithic flax-hackles. The view that the Latin for a flax-hackle was *aena* and that the Rhaetoromanic *aina* is a straightforward survival of this term in use thus receives confirmation. Pliny's apparent emphasis on *ferreae aenae* ('iron hackles') may be taken simply to imply that it was a more robust instrument than the *aena fullonia* with its thorns. The physical nature of the *aena* in its role as a flax-hackle can thus be suggested. If we imagine it to have been like the neolithic hackle from Lattrigen, but substitute slender iron spikes for the thorns, we may not be far short of the mark.

## Mitteilungen

### Bei der Redaktion eingegangene Rezensionsexemplare

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