

# THE ATTIC STELAI

## PART II

	PAGE
GENERAL INTRODUCTION .....	178
I. AGRICULTURAL PRODUCTS .....	180
II. CLOTHING AND SHOES .....	203
III. FURNITURE .....	210
IV. LIVESTOCK AND BEEHIVES .....	255
V. REAL PROPERTY .....	261
VI. SLAVES .....	276
VII. TILES AND BRICKS .....	281
VIII. TOOLS AND MISCELLANEOUS OUTDOOR ITEMS .....	287
IX. WEAPONS .....	306
X. MISCELLANEOUS .....	308
<i>Addenda et Corrigenda</i> TO PART I .....	316
THE <i>Demioprata</i> OF POLLUX X, BY ANNE PIPPIN .....	318

## GENERAL INTRODUCTION

THE Attic Stelai comprise a group of inscriptions recording the sale of items of personal property confiscated from Alkibiades and other condemned men, who were accused of mutilating the Herms and profaning the Eleusinian mysteries in 415/4 B.C. In Part I of this study, published in *Hesperia*, XXII, 1953, pp. 225-299, were presented the texts of the Attic Stelai, together with a commentary, largely epigraphical in nature. In Parts II and III the authors offer an interpretation of the individual items, with a discussion of the prices where these are preserved. Because of the broad scope of the material, it has been deemed best to divide it. Part II, presented herewith,<sup>1</sup> concerns all of the items except the containers, vases and other, which will be treated separately as Part III by Professor D. A. Amyx in a subsequent fascicle of this *Journal*. Part II is followed by an *addenda et corrigenda* to the

<sup>1</sup> The completion of this study was made possible by a generous grant in aid of travel by the American Philosophical Society (Penrose Fund). The Committee on Research of the University of California assisted me with a grant to pay the expenses of a research assistant, Dr. Anne Pippin, to whom I am particularly indebted in the section on furniture. The study itself was instigated largely by Professor Homer A. Thompson, and would not have been undertaken or completed without his encouragement and that of Miss Lucy Talcott. Both have read the manuscript, and I am

Greek texts, incorporating the changes made in Parts II and III. This is in turn followed by an appendix by Dr. Anne Pippin dealing with Pollux, Book X, wherein some thirty-four items of the Attic Stelai are collected. At the end of Part III, the two authors will present an index to the Greek words from the Stelai discussed in Parts II and III.

An examination of each word has been made, taking into consideration its meaning and often its etymology, and its significant occurrences in ancient literature and on other inscriptions; and an effort has been made to identify it with objects repre-

grateful to both for many fruitful suggestions and criticisms. Professor D. A. Amyx, in preparing Part III, has been able to shed light on many of my problems. I owe heartfelt thanks to Miss A. Kokoni for her devotion to the difficult task of typewriting the manuscript. Finally, my deepest obligation is to my wife, who has helped me to form my thoughts at every stage.

For references cited frequently the following abbreviations are used:

- Andreades, *Hist. of Gr. Pub. Finance* = A. M. Andreades, *A History of Greek Public Finance* (tr. by Carroll N. Brown), Cambridge, Mass., 1933.
- Bekker, *Anecd.* = J. Bekker, *Anecdota Graecae*, Berlin, 1814.
- Blümner, *Technologie* = H. Blümner, *Technologie und Terminologie der Gewerbe und Künste*, Vol. I, 2nd ed., Leipzig and Berlin, 1912; Vol. II, Leipzig 1879; Vol. III, Leipzig, 1884; Vol. IV, Leipzig, 1887.
- Böckh, *Staatshaushaltung der Athener*<sup>3</sup> = A. Böckh, *Die Staatshaushaltung der Athener*, 3rd ed. by M. Fränkel, Berlin, 1886.
- Boisacq, *Dictionary*<sup>4</sup> = E. Boisacq, *Dictionnaire étymologique de la langue grecque*, 4th ed., Heidelberg, 1950.
- Buck, *Dictionary* = C. D. Buck, *A Dictionary of Selected Synonyms in the Principal Indo-European Languages*, Chicago, 1949.
- Buck and Petersen, *Reverse Index* = C. D. Buck and W. Petersen, *A Reverse Index of Greek Nouns and Adjectives*, Chicago, 1945.
- Cloché, *Classes*, etc. = P. Cloché, *Les classes, les métiers, le trafic*, Paris, 1931.
- Day, *Ec. Hist. of Athens* = J. Day, *An Economic History of Athens under Roman Domination*, New York, 1942.
- Ebert, *Fachausdrücke* = F. Ebert, *Fachausdrücke des griechischen Bauhandwerks*, Würzburg diss., 1910.
- Economic Survey* = T. Frank, *Economic Survey of Ancient Rome*, Vols. I-V, Baltimore, 1933-1940.
- Ehrenberg, *People of Aristophanes*<sup>2</sup> = V. Ehrenberg, *The People of Aristophanes*, 2nd ed., Oxford, 1951.
- Jardé, *Céréales* = Jardé, *Les céréales dans l'antiquité grecque*, Paris, 1925.
- Michell, *Ec. of Anc. Greece* = H. Michell, *The Economics of Ancient Greece*, New York and Cambridge, 1940.
- Olynthus* = D. M. Robinson, *Excavations at Olynthus*, Baltimore, Vol. VIII (with J. W. Graham), 1938; Vol. X, 1941; Vol. XII, 1946.
- Ransom, *Couches and Beds* = C. L. Ransom, *Studies in Ancient Furniture, Couches and Beds of the Greeks, Etruscans and Romans*, Chicago, 1905.
- Rostovtzeff, *Soc. and Ec. Hist. of Hell. World* = M. Rostovtzeff, *The Social and Economic History of the Hellenistic World*, Oxford, 1941.
- Schwyzler, *Gr. Gram.* = E. Schwyzler, *Griechische Grammatik*, Munich, Vol. I, 1939; Vol. II, 1950.
- Tod, *Gr. Hist. Inscr.* = M. N. Tod, *Greek Historical Inscriptions*, Oxford, Vol. I, 2nd ed., 1946; Vol. II, 1948.

sented on vases or found in excavations. Where objects had previously been so identified, a reference to the pertinent literature has sufficed. Unfortunately, most studies of objects have been limited mainly to archaeological evidence, with little thought for the philological aspects. A standard work on Greek furniture, for example, makes no effort to canvass the literary material or to bring the objects together with their Greek names. And indeed, the gap between archaeology and philology has proved a very difficult one to bridge.

Where prices have been preserved on our Stelai, they have been compared with any other ancient prices which the writer could collect. Because of the lack of indexes to much of the vast epigraphical material, no claim can be made to completeness, although it can truly be affirmed that the present work includes many prices which have not appeared in previous economic studies. There is obviously need for a general evaluation of Greek prices.

Any general economic conclusions which it has been possible to arrive at have been offered at the beginnings of the relevant sections.

A word as to form. Italics have been used for the first occurrence of the transliterated Greek names of the items in any given section, but not thereafter except to distinguish the use of such names as terms from their use to denote actual objects.

The present study is necessarily restricted to the items listed in the Attic Stelai. Ideally, each word should be interpreted in a context which includes all related words and objects, so that a complete picture would emerge. But the painting of such a broad picture must be the work of much future investigation. The Attic Stelai have not yet yielded up all their secrets.

## I. AGRICULTURAL PRODUCTS

Sir A. Hort in his index to his edition of Theophrastos' *Enquiry into Plants*, Vol. II, Loeb Classical Library, London and New York, 1916, has given correct Latin and English botanical names of plants, which are repeated here for the sake of convenience. These terms have been compared with those of E. Halácsy in "Conspetus florum graecae," *Magyar Botanikai Lapok*, XI, 1912, pp. 115 ff. Halácsy cites the sections of Greece in which the various plants were grown in 1912. One improvement has been made in Hort's list: *kenchros* is 'common millet,' not 'millet.'<sup>1</sup> The chief work on the subject of plants is still V. Hehn, *Kulturpflanzen und Haustiere in ihrem Uebergang aus Asien nach Griechenland und Italien sowie in das uebrige Europa*, 7th edition, Berlin, 1902.<sup>2</sup> For bibliographical references, including a list of

<sup>1</sup> See N. Jasny, "The Wheats of Classical Antiquity," *Johns Hopkins Univ. Stud. in Hist. and Pol. Sc.*, LXII, 1944, no. 3, p. 12.

<sup>2</sup> The 8th edition of 1911 was not available to me. Also unavailable was a study in modern Greek by P. Gennadeios, *Λεξικὸν Φυτολογικόν*, Athens, 1914.

articles in Pauly-Wissowa, *R.E.*, see F. M. Heichelheim, *Wirtschaftsgeschichte des Altertums*, II, Leiden, 1938, p. 1102, note 46.

With regard to prices of various agricultural products, figures have been given not only for Athens, Delos, and other parts of Greece when available, but for the Roman republic and empire. These latter figures have been culled in great part from T. Frank's *Economic Survey*, I-V. The author is well aware of Hasebroek's warnings about faulty conclusions in the field of ancient economic history which result from failure to exercise caution in the correlation of evidence from different periods.<sup>3</sup> Nevertheless, so few figures are available for most products that we have presented all of them for examination. In fairly steady industries there was little variation in peacetime prices. T. Frank has noted, for example, that prices of wheat and wine were about the same in Diocletian's day as in Varro's,<sup>4</sup> and he has found the same ratio of prices at Delos and in Rome.<sup>5</sup>

The document which most closely resembles ours is the Edict of Diocletian of A.D. 301, although the latter is in a much better state of preservation. For convenience, references have been made to the text and translation of Miss E. Graser in the appendix to *Economic Survey*, V.<sup>6</sup> The Edict attempted to set maximum retail prices for the empire; these were not necessarily market prices. Eight years earlier in Egypt an artaba of wheat had been valued at a considerably lower figure than that given in the Edict.<sup>7</sup> Indeed, Diocletian stated in the Preamble: "We have decreed that there be established, not the prices for articles of sale—for such an act would be unjust when many provinces occasionally rejoice in the good fortune of wished-for low prices and, so to speak, the privilege of prosperity—, but a maximum, so that when the violence of high prices appears anywhere . . . avarice . . . might be checked."

For convenience the following tables of Greek measures are given. These are reproduced from the table of F. Hulstsch, *Griechische und roemische Metrologie*, Berlin, 1882.<sup>8</sup>

<sup>3</sup> J. Hasebroek, *Trade and Politics in Ancient Greece*, English translation, London, 1933, p. vi.

<sup>4</sup> *Economic Survey*, I, p. 404.

<sup>5</sup> *Ibid.*, p. 193.

<sup>6</sup> To the text of Miss Graser may now be added the following fragments: A. D. Keramopoulos, *Ἀρχ. Ἐφ.*, 1931, pp. 163-164; M. Guarducci, *Rendiconti della pontificia Accademia di Archeologia*, XVI, 1940, pp. 11-24; I. W. MacPherson, *J.R.S.*, XLII, 1952, pp. 72-75; Bingen, *B.C.H.*, LXXVIII, 1954, p. 349; and G. Caputo and R. Goodchild, *J.R.S.*, XLV, 1955, pp. 106-115. Two additional fragments have recently been discovered in Greece by Mr. E. J. Doyle.

<sup>7</sup> *Pap. Oxy.* 2142.

<sup>8</sup> The discovery of standard measures of capacity in the American excavations in the Agora and on the north slope of the Acropolis has demonstrated that the figures of Hulstsch are approximately correct; see below, p. 193, note 139.

*Greek Liquid Measures*

Name	Liter
kotyle	0.2736
chous (12 kotylai)	3.283
metretes (12 choes)	39.390

*Greek Dry Measures*

Name	Liter
kotyle	0.2736
choinix (4 kotylai)	1.094
medimnos (48 choinikes)	52.53

## DESCRIPTION OF AGRICULTURAL PRODUCTS

1. *ἀμυγδάλη* (Stele II, line 140). Almond, *Prunus Amygdalus*. The word is of Syrian origin,<sup>9</sup> and the Syrian almond was famous in antiquity.<sup>10</sup> The word does not occur in the Epic, and the view is held that the tree was not introduced into Greece until relatively late times.<sup>11</sup> The word appears first in Phrynichos Comicus.<sup>12</sup> Theophrastos describes the plant in detail, and by the first century B.C. the fruit had become known in Rome as the *nux graeca*.<sup>13</sup> Excellent almonds were grown on the islands of Naxos and Cyprus, and they were often eaten while still unripe and having a soft skin.<sup>14</sup>

Prices: In the Edict of Diocletian, the maximum price placed on almonds was 6 denarii an Italian pint (*xestes*: 0.547 liter).<sup>15</sup>

2. *ἄχυρα* (II, 85). Chaff. The word is joined, as in our list, with *ἦμα* in Pherekrates, frag. 161.<sup>16</sup> Theophrastos refers to the difference between the husk (*achyron*) of wheat and that of barley.<sup>17</sup> Herodotos states that the Scythians stuffed the skins of horses at royal burials with achyra.<sup>18</sup> For the use of achyra in building walls, see *I.G.*, II<sup>2</sup>, 468, line 68, Aristotle, *H.A.*, 612b, 22 and Vitruvius, II, 1; in

<sup>9</sup> Boisacq, *Dictionnaire*<sup>4</sup>, p. 56.

<sup>10</sup> Heichelheim, "Roman Syria," *Economic Survey*, IV, p. 138 (with references).

<sup>11</sup> See Wagler, *R.E.*, s.v. Ἀμυγδαλή. We should note, however, the frequency with which the almond is represented in miniature plastic lekythoi in the late fifth and fourth centuries; see for example, *C.V.A.*, Oxford, I, pl. XL, nos. 14-16, and cf. Beazley, *B.S.A.*, XLI, 1945, p. 14.

<sup>12</sup> Frag. 68 (Kock, *C.A.F.*, I, p. 387).

<sup>13</sup> Pliny, *H.N.*, XV, 90. Cf. Cato, *De agric.*, VIII, 2; and Macrobius, *Sat.*, III, 18, 8.

<sup>14</sup> Athenaeus, II, 52 b-c.

<sup>15</sup> Col. VI, 52.

<sup>16</sup> Cf. Eustathius, 1445, 42.

<sup>17</sup> *H.P.*, VIII, 4, 1.

<sup>18</sup> IV, 72.

planting with seeds in mud, Theophrastos, *H.P.*, IV, 8, 8. Two of the Old Comedy poets refer to a cheap barley cake mixed with chaff.<sup>19</sup> Although commonly meaning 'chaff,' *achyra* sometimes seems to be used for grain and chaff together.<sup>20</sup> Inscriptions preserve references to storehouses for chaff at Delos.<sup>21</sup>

Prices: Achyron was not without value. In the Eleusinian accounts of the year 329/8 B.C. (*I.G.*, II<sup>2</sup>, 1672, lines 196-197), the price of *achyra* and *chnous* together is given as 30 drachmas.<sup>22</sup> The quantity is not given. For Egyptian prices, see A. C. Johnson in *Economic Survey*, II, pp. 470-471. The price of *achyron* in the Edict of Diocletian is given as 2 denarii per 4 pounds.<sup>23</sup> There is the general heading 'fodder' and two other entries under it in the Edict.<sup>24</sup> In connection with this regulation pertaining to hay and forage in small units of two, four and six pounds, it may be recalled that in the Preamble the purpose of the Edict, Diocletian's concern to check the profiteering by those who supplied the army (and presumably the civil service), is set forth in part with these words (translation of E. Graser): ". . . sometimes in a single purchase a soldier is deprived of his bonus and salary, and the contribution of the whole world to support the armies falls to the abominable profits of thieves, so that our soldiers seem to offer . . . their completed labors to the profiteers . . ."

3. *ἐλάα* and *ἐλαία* (II, 84, 89, and 118). Olive, *Olea Europea*. *Elaa* is the old Attic form. Both forms, however, occur on Stele II. The words are used for the fruit, although the same word was used for the olive tree.<sup>25</sup> For the cultivating, harvesting, and use of the olive, reference may be made to the lengthy article of A. S. Pease, *R.E.*, s.v. *Oelbaum*.<sup>26</sup> The olive was known in Early Helladic times, as is shown by the discovery of pits in excavations. Its cultivation was mentioned by Homer, and oil was exported from Athens in the time of Solon. During the classical age it was widely produced. Olives, along with olive oil, bread, cheese, salt, and wine, were regarded as the necessary provisions of life,<sup>27</sup> although there is considerable evidence that the ancients held that they had little nutritive value.<sup>28</sup> Olives thrive in a calcareous soil, such as that of Attica, and the Athenian olive was famous everywhere. Using figures given in [Demosthenes], XLII, *Against Phainippos*, Jardé (*Céréales*, p. 187)

<sup>19</sup> Poliochos, frag. 2 (Kock, *C.A.F.*, III, p. 390); Antiphanes, frag. 226 (Kock, *C.A.F.*, II, p. 111).

<sup>20</sup> Gow *ad* Theokritos 10, 49. Cf. Ure, *Class. Quar.*, XLIX, 1955, p. 227.

<sup>21</sup> *I.G.*, XI, 2, 287 A, line 149, etc.

<sup>22</sup> *Chnous* is likewise coupled with *achyra* in Aristophanes, frag. 76. It is defined in *Syll.*<sup>2</sup>, II, p. 309, note 138.

<sup>23</sup> XVII, 7.

<sup>24</sup> XVII, 6-8.

<sup>25</sup> See Buck, *Dictionary*, p. 380.

<sup>26</sup> See also Michell, *Ec. of Anc. Greece*, pp. 76-77.

<sup>27</sup> Aristophanes, *Ach.*, 550, *Eccl.*, 308; Plato, *Lg.*, VI, 782 b, etc.

<sup>28</sup> Athenaeus, II, 56 a; Galen, VI, 579 K; Celsus, II, 18.

has estimated that an olive grove would yield approximately three times the value of a similar area planted in wheat.

Information concerning olive prices was not collected by Pease. In a passage of Plutarch which relates that Sokrates led a complaining friend to places where the common necessities of life were sold and pointed out the cheapness of the latter, it is stated that a choinix of olives cost two chalkoi,<sup>29</sup> which is at the rate of two drachmas a medimnos. Some seven hundred years later, the Edict of Diocletian established the price of ripe olives as 4 denarii an Italian pint (*xestes*), of olives in brine at 4 denarii for forty pounds, and of olives from Tarsus at 4 denarii for twenty pounds.<sup>30</sup>

4. *ἔλαιον* (I, 123, 124). Oil. The most detailed treatment of *elaion* is the 1937 article of A. S. Pease in *R.E.*, *s.v.* *Oleum*. Oil was used in ancient times for affording light, in food, and in the exercises of the gymnasia.

Prices are given in cols. 2472-2473 of Pease's article. In Book II of the *Oeconomics* ascribed to Aristotle,<sup>31</sup> the price of a chous of oil at Lampsakos is given as three drachmas (or one and one-half obols a kotyle; 36 drachmas a metretes). In an Athenian inscription of the fourth century, which lists the tariff of fees for sacrifice,<sup>32</sup> three kotylai of oil cost one and one-half obols (or one-half obol a kotyle; 12 drachmas a metretes). Prices of oil at Delos are discussed by Larsen,<sup>33</sup> and in Spaventa de Novellis' *I prezzi in Grecia e a Roma nell' antichità*, pp. 51-54, there are listed in tabular form 105 epigraphical references giving prices at Delos from 310 to 169 B.C. At the close of the fourth century, oil brought the astonishingly high price of 55 drachmas a metretes.<sup>34</sup> By 250 B.C. the price ranged between 16 and 18 drachmas, and thereafter remained stable. The lowest price, of 11 drachmas, was reached in 190-180 B.C.<sup>35</sup> For the Roman period, T. Frank has summarized the evidence concerning olive oil as follows: "In the Catonian period oil sold wholesale at about one and a half sesterces the liter. . . . In Diocletian's day the price of oil had about doubled in the East. Ordinary oil was then about eighteen cents the liter, while the best grade sold at about 30 cents. For Cicero's day it probably would be fair to assume a price of 2-3 sesterces the liter."<sup>36</sup> The prices of oil are given in par. III of the Edict. The figures for one Italian pint of oil from unripe olives, second quality oil, and common oil are 40, 24, and 12 denarii respectively.

<sup>29</sup> *De tranquillitate animi*, 470 F.

<sup>30</sup> Col. VI, 89, 90, 91.

<sup>31</sup> 1347a, 33.

<sup>32</sup> *I.G.*, II<sup>2</sup>, 1356. For the fixed prices in this and other sacred laws, see below, p. 198, note 170.

<sup>33</sup> "Roman Greece," *Economic Survey*, IV, pp. 388-390.

<sup>34</sup> The notorious uncertainty of the olive crop might account for violent fluctuations in price in antiquity as in modern times when a good harvest may be followed by a complete and utter failure,—a few days of rainy weather at the critical time of blossom may bring disaster.

<sup>35</sup> *Insc. Délos*, 440, line 22.

<sup>36</sup> *Economic Survey*, I, p. 404. Cf. also pp. 192-193 and 284.

5. *ἦμα* (II, 85). Husks, chaff. Eratosthenes, according to Eustathius, defined the word as the stalks or straw of pulse (*ὄσπριων καλάμαι*).<sup>37</sup> This definition is made with reference to *Od.*, V, 368, where the rousing of the waves by Poseidon is compared to a great wind tossing a heap of parched *eia*. For several conjectural etymologies, see Boisacq, *Dictionnaire*<sup>4</sup>, p. 316.

Prices. No figures are preserved for *eia*. For the price of hay and vetch fodder, see above, under *ἄχυρα*.

6. *κορίαννον* (II, 141). Coriander, *Coriandrum sativum*. References to *koriannon* are chiefly in connection with cooking. Alkaios Comicus refers to powdered coriander-seed used as seasoning with game,<sup>38</sup> and Anaxandrides includes *koriannon* in a recipe for smoked fish.<sup>39</sup> The word occurs twice in the *Equites* of Aristophanes in connection with a garnish for fish,<sup>40</sup> and B. B. Rogers notes that coriander leaves, not seeds, are meant; he compares its use as a culinary herb for salads in England.<sup>41</sup> The coriander of Egypt was considered the best, and leases are preserved from Oxyrhynchus which mention its planting.<sup>42</sup>

7. *κριθή* (II, 94-95, 237; V, 17, 18, 21).<sup>43</sup> Barley, *Hordeum sativum*. In classical antiquity, when maize was unknown and millet did not survive the Mediterranean winter, barley was the only strong competitor with wheat for consumption. Barley could command an advantage over spring wheat because of its shorter growing season in a climate with a summer drought.<sup>44</sup> Jasny believes that in Greece and in most islands of the eastern Mediterranean, wheat was definitely second to barley. For Attica this seems proved by an inscription which gives the amounts of the first-fruits sent to Eleusis in 329 B.C. by each of the phylai and outlying districts as well as colonies.<sup>45</sup> The Attic crop reached a total of 363,400 medimnoi of barley and only 39,112 of wheat.<sup>46</sup> In addition, the island of Salamis produced 24,525 medimnoi of barley. There was then about ten times more barley being raised than wheat, as was to be expected in a country of poor soil, although the public taste greatly preferred wheat.<sup>47</sup>

<sup>37</sup> Eust., *ad Od.*, V, 368 (1445, 42). Cf. Photius, 64.4; and above, *s.v.* *ἄχυρα*.

<sup>38</sup> Frag. 17 (Kock, *C.A.F.*, I, p. 759).

<sup>39</sup> Frag. 50 (Kock, *C.A.F.*, II, p. 157).

<sup>40</sup> *Eq.*, 676, 682. Aristophanes refers to an obol's worth, but the quantity of the spice is not given.

<sup>41</sup> *Ad Eq.*, 676.

<sup>42</sup> See A. C. Johnson, "Roman Egypt," *Economic Survey*, II, p. 3.

<sup>43</sup> The root meaning of the word is uncertain; see Buck, *Dictionary*, p. 516.

<sup>44</sup> N. Jasny, *op. cit.*, p. 71.

<sup>45</sup> *I.G.*, II<sup>2</sup>, 1672. Somewhat lower figures are given by Jardé, *Céréales*, pp. 36 ff., 94 ff.

<sup>46</sup> The figures are taken from the calculations of Heichelheim, *R.E.*, Suppl. VI, 1935, *s.v.* *Sitos*, 846. 329 B.C. is regarded by most historians as a year of severe shortage; A. W. Gomme (*Population of Athens in the Fifth and Fourth Centuries B. C.*, Oxford, 1933, p. 30) dissents.

<sup>47</sup> For the Athenian dislike of barley, see the references collected by Amyx in *A.J.A.*, XLIX,

For a general discussion of *krithe*, see Orth, *R.E.*, s.v. *Gerste*.<sup>48</sup> Athenaeus devotes a lengthy section in Book III (109 b ff.) of the *Deipnosophistai* to a description of many kinds of bread, including that made with barley. Lesbian barley was the best for this purpose (112 a), but Athenian bread was varied and choice (112 c). Barley bread or cake was called *maza*, and *alphita* usually denoted barley groats.<sup>49</sup>

Evidence for the prices of barley is collected by Jardé, *Céréales*, pp. 180-183; Heichelheim, *Wirtschaftliche Schwankungen*, Jena, 1930, pp. 51-52; Spaventa de Novellis, *I prezzi in Grecia e a Roma nell' antichità*, p. 50; and Larsen, *Economic Survey*, IV, pp. 384-385.<sup>50</sup> Barley frequently sold for half the price of wheat, although Larsen has warned that this observation must not be made into a hard and fast rule.<sup>51</sup> *Ca.* 330 B.C. the price of barley was five drachmas a medimnos.<sup>52</sup> According to the [Demosthenes] speech *Against Phainippos* of the same period, the price of barley must have been six drachmas, for eighteen drachmas are said to have been three times the former price;<sup>53</sup> but in 329/28 B.C., in the accounts of the epistatai of Eleusis, barley is priced at three drachmas a medimnos.<sup>54</sup> For Delos, the statistics are presented by Heichelheim<sup>55</sup> and by Larsen.<sup>56</sup> The lowest price known was two drachmas; the most common price was four. In the Edict of Diocletian, the price for the sale of barley which no one might exceed was 60 denarii for one castrensis modius,<sup>57</sup> which was at the rate of 180 denarii a medimnos. For prices at Rome, see Frank, *Economic Survey*, I, pp. 48-49, 98, 192.

8. *μείλινη* (II, 139). Italian millet, *Setaria italica*. We know from Demosthenes that Italian millet was one of the principal crops of Thrace,<sup>58</sup> and from Xenophon that it was grown in Cilicia<sup>59</sup> and in that part of the Black Sea which is termed 'Thrace-in-Asia' (Bithynia).<sup>60</sup> Generally yielding only a small return, millet could

1945, p. 516. The relative positions of the two grains is perhaps most succinctly illustrated by the practice in the Prytaneion: barley loaf on normal days supplemented by a wheaten loaf on festivals; see Solon's ordinance quoted by Athenaeus (IV, 137 e).

<sup>48</sup> For a classification of *krithe* as husked and naked grain, see Moritz, *Class. Quar.*, XLIX, 1955, pp. 130-134.

<sup>49</sup> See Orth, *R.E.*, s.v. *Gerste*, 1281.

<sup>50</sup> See also below, p. 199.

<sup>51</sup> *Op. cit.*, p. 385. In the time of Cicero (*Verr.*, III, 188), barley was reckoned at one-half the price of wheat.

<sup>52</sup> *I.G.*, II<sup>2</sup>, 408, lines 13-14. *κριθαί* is a restoration, but it appears certain.

<sup>53</sup> XLII, 20 and 31.

<sup>54</sup> *I.G.*, II<sup>2</sup>, 1672, line 283.

<sup>55</sup> *Wirtschaftliche Schwankungen*, Table XIV, pp. 128 ff.

<sup>56</sup> *Op. cit.*, pp. 384-386.

<sup>57</sup> Col. I, 2.

<sup>58</sup> VIII, *On the Chersonesos*, 45; and X, *Against Philip*, IV, 16. Xenophon (*Anab.*, VI, 5, 12) refers to a tribe in Thrace as the 'Millet-eaters.'

<sup>59</sup> *Anab.*, I, 2, 22.

<sup>60</sup> *Anab.*, VI, 4, 6.

not compete with grains which were hardy enough to withstand the winter, and it never attained more than the position of a secondary crop.<sup>61</sup> For ancient references, see Orth, *R.E.*, *s.v.* *Hirse*.

Prices. The maximum price of *meline* in the Edict of Diocletian was fixed at 50 denarii for one *castrensis modius* (150 denarii a *medimnos*).<sup>62</sup>

9. *oĩvos* (I, 114, 117-121; VI, 60-61, 64-65). Wine. Viticulture in antiquity is discussed in an excellent article by Jardé in Daremberg-Saglio, *Dictionnaire, s.v. Vinum*.<sup>63</sup> In addition to the casual remarks of Theophrastos in his two treatises, we know the names of many authors who published special works on viticulture.<sup>64</sup> Most instructive are the preserved leases of vineyards which enumerate various terms which the lessor had to carry out.<sup>65</sup> In Book I of the *Deipnosophistai*, Athenaeus has given a lengthy catalogue of different vintages of wine: <sup>66</sup> the pleasantest of the Greek wines was the Chian; <sup>67</sup> among the poorest the Corinthian, which Alexis had termed 'tor-ture.' <sup>68</sup> Athenaeus speaks of some wine as sixteen years old,<sup>69</sup> and gives the usual dilution as half and half.<sup>70</sup> Although wine was one of the most important products of Attica, many better sorts were imported from various places abroad.<sup>71</sup>

For the prices of *oinos*, see below, pp. 199-203.

10. *oĩxos* (I, 113, 115, 116, 122; II, 117).<sup>72</sup> Vinegar. The word *oxos* was used by the ancients for vinegar and for a sour wine of inferior quality.<sup>73</sup> Various types of

<sup>61</sup> See N. Jasny, *op. cit.*, p. 16.

<sup>62</sup> Col. I, 6.

<sup>63</sup> Cf. also his article *Vinitor*.

<sup>64</sup> See E. Oder in F. Susemihl, *Geschichte der griechischen Litteratur in Alexandrinazeit*, I, Leipzig, 1891, pp. 839 ff. For Roman treatises on viticulture, see R. Billiard, *La vigne dans l'antiquité*, Lyon, 1913, pp. 156 ff.

<sup>65</sup> *Syll.*<sup>3</sup>, 963 and *I.G.*, II<sup>2</sup>, 2492. M. Rostovtzeff (*Soc. and Ec. Hist. of Hell. World*, II, p. 1188) observes that these leases have not been studied in connection with ancient agronomists for the information they contain concerning viticulture. Mention might also be made of the interesting Thasian laws, directed against speculation in wine, published by G. Daux in *B.C.H.*, L, 1926, pp. 214 ff.

<sup>66</sup> 25 f ff.

<sup>67</sup> I, 32 f.

<sup>68</sup> I, 30 f.

<sup>69</sup> XII, 584 b.

<sup>70</sup> X, 426 b.

<sup>71</sup> Chios, Thasos, Pramos, etc. See the references in Ehrenberg, *People of Aristophanes*<sup>2</sup>, p. 136, note 5. Imported wine jars of the second half of the fifth century, found in Athens, include (e. g.) amphoras from Chios (*Hesperia*, III, 1934, fig. 1, no. 1; XXII, 1953, p. 104, nos. 150-152 and pl. 39); from Mende (*Hesperia*, IV, 1935, p. 496, fig. 17, no. 88; XXII, 1953, p. 106, no. 161 and p. 103, fig. 5); and from Thasos (*A.J.A.*, L, 1946, p. 34, fig. 3, no. 3).

<sup>72</sup> For the etymology of the word, see Buck, *Dictionary*, p. 383.

<sup>73</sup> See Saglio in Daremberg-Saglio, *Dictionnaire, s.v. Acetum*; and Stadler, *R.E.*, *s.v. Essig*. The comic poet Alexis (frag. 285: Kock, *C.A.F.*, II, p. 400) humorously referred to the notoriously sour Decelean wine as *oxos*.

vinegar, which was regarded by Attic writers as a condiment *par excellence*,<sup>74</sup> are described by Athenaeus, II, 67 c ff. The best varieties were reported to be Knidian and Egyptian. The oldest preserved recipe is found in Cato, *De agricultura*, 104. Vinegar was usually extracted from the cheaper sorts of wine, but there are references which show that the ancients also made it from dates, figs, etc.<sup>75</sup>

This writer has found prices for oxos only in papyrological sources and in the Edict of Diocletian. *Pap. Gen.*, 71 (Fayum, second century after Christ) comprises a list of the sales of oxos.<sup>76</sup> The price varies between 4 drachmas and 5½ drachmas a dichoron.<sup>77</sup> A few other prices are given by A. C. Johnson, "Roman Egypt," *Economic Survey*, II, pp. 314-315. In A.D. 301 the maximum price for vinegar was established in the Edict of Diocletian at 6 denarii an Italian pint (*xestes*).<sup>78</sup>

11. ὄροβος (II, 91). Bitter vetch. *Ervum Ervilia*.<sup>79</sup> The *orobos* was one of the vetches of which, according to Athenaeus,<sup>80</sup> several varieties were eaten both green and dry.<sup>81</sup> When dry, they were served either boiled or roasted like chestnuts.<sup>82</sup> In a fragment of Alexis the *orobos* seems to be regarded as belonging to a pauper's diet.<sup>83</sup> This is the purport, too, of a passage in Philostratos, which tells of finding *oroboi* on sale in the market only when the rich men had shut up all the grain.<sup>84</sup> The point of the answer to Plutarch's 46th Greek Question, "Why is it that the people of Tralles call *orobos* 'purifier' and make particular use of it for ritual cleansings and purifications?", is that *orobos* was lacking in value as a food.<sup>85</sup> Finally, the same may be inferred from a passage in Demosthenes.<sup>86</sup> He says about a time of great scarcity in the last war with Sparta, "You know that *oroboi* were sold for food."

Pliny refers to a flour of bitter vetch used as leavening in barley bread.<sup>87</sup> Athenaeus cites Phainias of Eresos in his work *On Plants* as referring to the use of *orobos* as fodder for plough-cattle.<sup>88</sup>

<sup>74</sup> Athenaeus, II, 67 c.

<sup>75</sup> Xenophon, *Anab.*, II, 3, 14; Pliny, *H.N.*, XIV, 103; Columella, XII, 5 and 17; *Geoponika*, VIII, 33.

<sup>76</sup> J. Nicole, *Les papyrus de Genève*, Geneva, 1896.

<sup>77</sup> A dichoron equals eight choes.

<sup>78</sup> Col. III, 5.

<sup>79</sup> See Fournier in Daremberg-Saglio, *Dictionnaire, s.v. Cibaria*, 1144 b; V. Hehn, *Kulturpflanzen und Haustiere*, 7th edition, Berlin, 1902, pp. 213 ff.; and Olck, *R.E.*, s.v. *Erbse*.

<sup>80</sup> II, 54 f.

<sup>81</sup> Theophrastos (*H.P.*, II, 4, 2) states that only vetches sown in spring are digestible.

<sup>82</sup> Cf. Aristophanes, *Pax*, 1136.

<sup>83</sup> Kock, *C.A.F.*, II, 447.

<sup>84</sup> *Vit. Apoll.*, I, 15.

<sup>85</sup> See W. R. Halliday, *Greek Questions of Plutarch*, Oxford, 1928, pp. 189-190.

<sup>86</sup> XXIII, *Against Aristokrates*, 115.

<sup>87</sup> *H.N.*, XVIII, 104.

<sup>88</sup> IX, 406 c. Cf. Aristotle, *H.A.*, III, 522 b, 28; VIII, 595 b, 5.

For the prices of orobos, see below, p. 199.

12. *πυρός* (I, 126-139; II, 93). *Pyros* is a generic term,<sup>89</sup> which included both hulled and naked types of wheat.<sup>90</sup> N. Jasny, in his 1944 monograph on "The Wheats of Classical Antiquity,"<sup>91</sup> has made a strong case for the theory that the wheat grown in Greece was of the emmer group, including both hulled and naked types, almost to the exclusion of other groups. By far the most common subspecies has been identified as *durum*.<sup>92</sup> From his study of the Mediterranean climate and soil, Jasny concluded that production of wheat was not likely to have been large in the south-eastern part of Greece, including Attica. Wheat production became increasingly greater northward and westward from Attica.<sup>93</sup>

For prices of *pyros*, see below, pp. 196-198.

13. *σήσαμον* (II, 136). Sesame, *Sesamum indicum*. Evidence for the extent of the cultivation of sesame, from India to the Mediterranean, is collected by Steier in *R.E., s.v. Sesamon*. In Syria sesame-seed was more expensive than wheat-seed,<sup>94</sup> for sesame oil was there regarded as a substitute for olive oil. Babylonia, which in places could not produce the olive, used sesame oil, and prices of it in the third century B.C. are given by B. Meissner.<sup>95</sup>

In Greece, where Steier states that sesame is today grown in Thera and Attica, its cultivation in antiquity must have been common; for Theophrastos frequently uses the sesame for comparison with unfamiliar plants.<sup>96</sup> Sesame was a summer crop and did well with irrigation.<sup>97</sup> It was used for medical purposes and as an ingredient of perfumes and drugs.<sup>98</sup> References to sesame bread and sesame cake are numerous. The latter was frequently referred to by Aristophanes as a favorite dainty, and was the recognized wedding cake at Athens.<sup>99</sup> Athenaeus lists sesame-seeds among des-

<sup>89</sup> Galen, *De alimentorum facultatibus*, I, 6, 1. For derivation of the term, see Buck, *Dictionary*, p. 515.

<sup>90</sup> Naked grain is that in which the kernels fall out of their hulls in threshing. In hulled grain the kernels remain enclosed in threshing.

<sup>91</sup> See above, note 1.

<sup>92</sup> J. and Ch. Cotte, *Étude sur les blés de l'antiquité classique*, Paris, 1913, p. 93; and N. Jasny, *Amer. Hist. Rev.*, XLVII, 1942, p. 762.

<sup>93</sup> "Wheats," p. 117. For the major sources of Athenian grain in the fifth century, see L. Casson, *T.A.P.A.*, LXXXV, 1954, p. 168.

<sup>94</sup> *Bab. Baba Megia*, 21a, 104b. Cf. Heichelheim, "Roman Syria," *Economic Survey*, IV, p. 132.

<sup>95</sup> "Warenpreise in Babylonien," *Abh. der pr. Akad. der Wissenschaften*, No. 1, Berlin, 1936, p. 9.

<sup>96</sup> *H.P.*, III, 16, 6; III, 18, 13; IV, 8, 14; VI, 5, 3; etc.

<sup>97</sup> *Ibid.*, VII, 7, 3.

<sup>98</sup> Theophrastos, *De odoribus*, 20; *H.P.*, IX, 11, 9; and Pliny, *H.N.*, XIII, 11; XXIII, 95; etc.

<sup>99</sup> *Pax*, 689; *Thesm.*, 570; *Ach.*, 1092.

serts.<sup>100</sup> Among the professions of freedmen, we have the record of a man and a woman who were sesame-sellers at Athens in the fourth century B.C.<sup>101</sup>

The maximum price of sesame in the Edict of Diocletian was 200 denarii for one *castrensium modius*, which was double the price fixed for wheat.<sup>102</sup>

14. *σταφυλή* (II, 83, 88). Grapes, a bunch of grapes.<sup>103</sup> Quotations with reference to several types of grape are given by Athenaeus, XIV, 653 b-654 a. The form *staphyle* Athenaeus regarded as Asiatic. It designates the ripe, fresh grape in contrast with *ἄμφαξ*, the unripe grape, and *σταφίς*, the raisin. Cf. *Anth. Pal.*, V, 304 (Paton's translation): "When you were a green blade (*omphax*) you refused me; when you were ripe (*staphyle*) you bade me be off, at least grudge me not a little of your raisin (*staphis*)."

The grapes referred to in Stele II were sold on the vine. Pliny the Younger once casually mentions having sold his hanging crop,<sup>104</sup> and his uncle in giving the price that was paid for a crop notes that the grapes were sold on the vine.<sup>105</sup>

Prices. In the Diocletian Edict, the price of table grapes is given as 4 denarii for 4 pounds,<sup>106</sup> which T. Frank states was equivalent to two pounds for one cent in terms of the 1932 gold dollar.<sup>107</sup>

15. *σῦκον* (II, 83, 88, 134).<sup>108</sup> Fig (fruit), *Ficus Carica*.<sup>109</sup> We know from Theophrastus that the ancients discovered a very scientific remedy in the process called 'caprification' (cross-fertilization of the cultivated fig with the wild by means of the wasp) to prevent the dropping of the immature fruit.<sup>110</sup> Athenaeus devotes a lengthy section of Book III of the *Deipnosophistai* to the fig.<sup>111</sup> It seems to have grown everywhere, and Attic figs, which were among the best,<sup>112</sup> were exported as far as Babylon.<sup>113</sup> Because of the sugar content, figs made a highly sustaining army ration.<sup>114</sup> Dried figs

<sup>100</sup> XIV, 640 d: Greek *tragemata*, 'things to chew,' i. e., nuts and dried fruits.

<sup>101</sup> *I.G.*, II<sup>2</sup>, 1554, line 40; and 1561, line 23.

<sup>102</sup> Col. I, 26.

<sup>103</sup> For the collective meaning and the etymology of *staphyle*, see Buck, *Dictionary*, p. 378.

<sup>104</sup> *Ep.*, VIII, 2, 1.

<sup>105</sup> *H.N.*, XIV, 50. Cf. Frank, *Economic Survey*, V, p. 150, note 17.

<sup>106</sup> Col. VI, 80.

<sup>107</sup> *Economic Survey*, I, p. 404.

<sup>108</sup> For the derivation of the word, see Buck, *Dictionary*, pp. 377-378.

<sup>109</sup> See Olck, *R.E.*, s.v. *Feige*; V. Hehn, *Kulturpflanzen*<sup>7</sup>, pp. 94-102; and Michell, *Ec. of Anc. Greece*, pp. 77-78, 284.

<sup>110</sup> *H.P.*, II, 8, 1. For the history of caprification, which is today practised extensively, see Olck, *op. cit.*, 2100-2103.

<sup>111</sup> 74 c-80 e. Pliny, *H.N.*, XV, 68-83, enumerates twenty-nine kinds.

<sup>112</sup> Athenaeus, III, 74 d-e.

<sup>113</sup> Plutarch, *Regum et imperatorum apophthegmata*, 173 C.

<sup>114</sup> Polybios, XVI, 24, 5 and 9.

(ἰσχαδες) were a cheap food for the poor,<sup>115</sup> and choice ones appeared on the tables of the well-to-do.<sup>116</sup>

Prices.<sup>117</sup> Teles in Stobaeus I, 98 (Hense) tells the anecdote, similar to the one told of Sokrates in Plutarch,<sup>118</sup> that Diogenes pointed out to a complaining friend the cheapness of common necessities in Athens, including dried figs which were priced at two chalkoi a choinix, or two drachmas a medimnos. The period of Diogenes is toward the end of the third century B.C. On the authority of Varro, Pliny gives the price of 30 pounds of dried figs in Rome in 150 B.C. as one *as*.<sup>119</sup> About the same time, Polybios gives the price of figs for lower Lusitania in Spain as a talent's weight for three obols,<sup>120</sup> but T. Frank has explained that this and other quoted prices seem so preposterously low because the area was excluded from the markets for heavy goods.<sup>121</sup> All of these prices, it should be emphasized, are for dried figs. In the Edict of Diocletian of A.D. 300, however, prices for figs of different types are given.<sup>122</sup> The maximum price for the best quality was 4 denarii for 25 pounds, and common figs were 4 denarii for 40 pounds. T. Frank has estimated this last figure as equal to 1.7 cents in terms of the gold dollar of 1932.<sup>123</sup>

16. φακός (I, 125; II, 92). Lentil, *Ervum Lens*.<sup>124</sup> Lentils, as other legumes, were grown for food, fodder, and for the purpose of fertilizing the fields.<sup>125</sup> Athenaeus devotes several chapters to the humble lentil soup and gives many recipes.<sup>126</sup>

For the price of lentils, see below, p. 199.

17. χέρχρος (κέγχρος) (II, 138). Common millet,<sup>127</sup> *Panicum miliaceum*. In comparing *kenchros* with *melinos*, Theophrastos states that the former is the more robust plant, the latter is sweeter.<sup>128</sup> We know from Xenophon that *kenchros* was grown in Cilicia.<sup>129</sup> Pliny states that there is no food which the Pontic people prefer to

<sup>115</sup> Columella, XII, 14.

<sup>116</sup> For the Attic dried figs, which were very much esteemed, see Athenaeus, XIV, 652b-653b. Cf. also Suetonius, *Aug.*, 76, 1.

<sup>117</sup> See Olck, *op. cit.*, 2134-2135.

<sup>118</sup> *De tranquillitate animi*, 470 F.

<sup>119</sup> *H.N.*, XVIII, 17.

<sup>120</sup> Polybios, XXXIV, 8, 9.

<sup>121</sup> *Economic Survey*, I, p. 196. Cf. Van Nostrand, "Roman Spain," *ibid.*, III, pp. 140-141.

<sup>122</sup> Col. VI, 78, 79, 84, 85, 88.

<sup>123</sup> *Economic Survey*, I, p. 404.

<sup>124</sup> See Hehn, *Kulturpflanzen*<sup>7</sup>, pp. 212, 218-219; Fournier, Daremberg-Saglio, *Dictionnaire, s.v. Cibaria*, 1144 b.

<sup>125</sup> Columella, II, 10, 15-16; Pliny, *H.N.*, XVIII, 123.

<sup>126</sup> IV, 156 d-159 f.

<sup>127</sup> See N. Jasny, "Wheats," p. 12.

<sup>128</sup> *H.P.*, VIII, 7, 3.

<sup>129</sup> *Anab.*, I, 2, 22.

Italian millet,<sup>130</sup> but Galen comments on the superiority of kenchros.<sup>131</sup> Athenaeus quotes a fragment from Anaxandrides (41, line 23: Kock, *C.A.F.*, II, p. 151) in which a pot of millet is listed as part of a dower which was contributed for a brilliant banquet.<sup>132</sup> For a beer made from kenchros, see Athenaeus, X, 447 d.

The maximum price of uncrushed kenchros in the Edict of Diocletian was 50 denarii for one castrensis modius; 100 denarii for crushed millet.<sup>133</sup>

### MEASURES

Plutarch (*Mor.* 416 B) observed that "often the measures and the things measured are called by the same name, as, for example, the kotyle, choinix, amphoreus and medimnos." That there were standards for dry and liquid measures of capacity in the time of our inscriptions appears clearly from Andokides, *De Mys.*, 83, Plato, *Lg.*, 746 D-E, and, more particularly, Aristotle, *Ath. Pol.*, 10. Aristotle compared the measures of his own day, which he believed to be the same as those of Solon, with the pre-Solonian measures, which he believed to be Pheidonian. In this part of the study of the Attic Stelai, we shall be concerned with the words only as they are used in the sense of measures. The same words, where they are used of containers, will be discussed by Mr. Amyx in Part III of this study.

The entire study of metrology is now very much in a state of flux. This results from the probability, first, that individual city-states may have changed their official measures throughout the course of antiquity; and, secondly, that capacities were not necessarily uniform from one city-state to another. The situation may be much like that with regard to the Greek festival calendars. It is quite obvious that there is pressing need for study in this area, study which should be based on the archaeological evidence; and the present writer can only regard his conclusions as very tentative.

In our lists, the dry measures, according to which grains, figs, and almonds were sold, are as follows:

<i>Measure</i>	<i>Product</i> <sup>134</sup>
ἡμισάκιον <sup>135</sup>	Italian millet, sesame, common millet
μέδιμνος	Barley
φιδακνίς	Barley
φορμός	Almonds, coriander, barley, bitter vetch, wheat, figs, lentils

<sup>130</sup> *H.N.*, XVIII, 101.

<sup>131</sup> *De alim. fac.*, I, 15, 3.

<sup>132</sup> IV, 131 c.

<sup>133</sup> Col. I, 4 and 5.

<sup>134</sup> Listed in the order of the discussion above.

<sup>135</sup> Also noted by Pollux (X, 169) as found in the *Demioprata*.

In addition, we know from Pollux that three *ἡμιφόρμια* of salt were sold in the *Demioprata*.<sup>136</sup>

The liquid measures are:

<i>Measure</i>	<i>Product</i>
χοῦς	Wine
ἀμφορεύς	Wine, vinegar
στάμνος	Oil, olives, wine, vinegar

#### DRY MEASURES

*ἡμισάκιον*. There is insufficient evidence to determine the size of this measure, if indeed it represented a fixed capacity. The word has hitherto been known only from the reference in Pollux to the *Demioprata*. Pollux quotes an entry which may have been copied from our Stele II, lines 136-137. Liddell-Scott-Jones gives no example of *σακίον* as a measure and but one of *σάκκος*, in a papyrus dated in A.D. 185.<sup>137</sup>

*μέδιμνος*. F. Hultsch has estimated the capacity of this dry measure in Athenian standards as 52.53 liters,<sup>138</sup> which would make it approximately 1½ bushels by United States standards.<sup>139</sup> The U. S. Government, for customs purposes, assumes that 60 pounds of wheat or 48 pounds of barley comprise the equivalent of a bushel measure. An Attic medimnos of wheat, then, would weigh 90 pounds; a medimnos of barley, 72 pounds.<sup>140</sup>

*φιδακνίς*. The Attic form is for *πιθακνίς* of other dialects. The word has hitherto appeared only in Pollux, who knew it from the *Demioprata*,<sup>141</sup> although the diminutive form *πithaknion* is more common. *Phidaknis* occurs only once in our Stelai and then in connection with barley.<sup>142</sup> The alternative form *phidakne* (*πithakne*) is best known from the picturesque language of the *Equites* of Aristophanes where the poet refers to the influx of the country-folk into Athens, which was too small to contain them,

<sup>136</sup> X, 169.

<sup>137</sup> U. Wilcken, *Griechische Ostraka aus Aegypten und Nubien*, Leipzig and Berlin, 1899, no. 1096.

<sup>138</sup> *Op. cit.*, p. 703.

<sup>139</sup> American excavations on the north slope of the Acropolis and in the Agora have brought to light Athenian containers which had been used as official measures. Preliminary reports concerning their capacities have clearly indicated that the older conclusions of Hultsch on Athenian metrology are approximately correct. See, in particular, O. Broneer, *Hesperia*, VII, 1938, p. 223; S. Young, *Hesperia*, VIII, 1939, p. 280; M. Crosby, *Hesperia*, XVIII, 1949, p. 111; and H. A. Thompson, *Hesperia*, XXIV, 1955, pp. 69-70. The estimates of Viedebant, which had come to be regarded as standard, are too low.

<sup>140</sup> The ancients used measures, not weights, and this fact has misled some writers, including Glotz, in their calculations; see N. Jasny, *Amer. Hist. Rev.*, XLVII, 1941-42, p. 752, note 11; and *Johns Hopkins Univ. Stud. in Hist. and Pol. Sc.*, LXII, 1944, p. 80, note 34.

<sup>141</sup> X, 74; cf. Pollux, X, 131.

<sup>142</sup> V, 21.

and to their dwelling in phidaknai.<sup>143</sup> Hesychius and Suidas define them as small pithoi. Athenaeus states that at symposia and the public mess the wine is mingled in pithaknai.<sup>144</sup> Ion of Chios spoke of ladling wine with jugs (*olpai*) from sacred pithaknai.<sup>145</sup> Liddell-Scott-Jones cites several examples in which the jar was used for storing figs, etc. These references give a general idea of the size of the cask; its exact capacity cannot be determined.

*φορμός*. The *phormos* was much the most common dry measure used in our Stelai. Unfortunately, it is a measure about which very little is known. C. D. Adams in his commentary on Lysias has written, "The word means a basket; but as to how much the standard grain basket held we have no knowledge whatever."<sup>146</sup> The word is not discussed in Viedebantt's standard work on the subject of measures,<sup>147</sup> nor in Tannery's article *Mensura* in Daremberg-Saglio, *Dictionnaire*; nor does it appear in the index to Hultsch's *Metrologicorum scriptorum reliquiae* (2 vols., Leipzig, 1864 and 1866). But that it was an official measure referred to in a *nomos* is clear from Lysias, XXII, 5.<sup>148</sup> In the speech *Against the Grain Dealers*, it is stated that the provision of the law was that no retailer, under penalty of death, should buy more than fifty phormoi at a time. The oration was probably delivered in 386 B.C., at a time when the Spartans had dislodged the Athenians from Aegina and were able to menace the grain ships approaching the Peiraeus. Böckh suggested that the phormos was a 'back-load,' similar to the *cumera* of the Italians, and that it could not have differed much from the *medimnos*<sup>149</sup> which, being more than 52 liters, would probably have held about 90 pounds in weight.<sup>150</sup> There is a passage further on in the same oration (XXII, 12) which states that the dealers sometimes sold grain "at a profit of a drachma just as though they were buying a *medimnos* at a time." Shuckburgh states that the profit of a drachma was per phormos,<sup>151</sup> and if so, it is a not unreasonable inference that the phormos and *medimnos* were identical. To judge from the prices of wheat in our Stelai, we can say that there is no other Attic dry measure with which

<sup>143</sup> Line 792.

<sup>144</sup> XI, 483 d.

<sup>145</sup> A. Nauck, *T.G.F.*<sup>2</sup>, 734.

<sup>146</sup> *Lysias, Selected Speeches*, New York, 1905, p. 222. Cf. Gernet and Bizos, *Lysias*, II, Paris, 1926, p. 82.

<sup>147</sup> "Forschungen zur Metrologie des Altertums" in *Abh. der königl. sächs. Gesellschaft der Wissensch.*, Phil.-hist. Kl., XXXIV, no. 3, Leipzig, 1917.

<sup>148</sup> In Aristophanes, *Thesm.*, 813, there is reference to the wife who has stolen a phormos of wheat from her husband. For an interpretation of the passage, see B. B. Rogers, *ad loc.*

<sup>149</sup> A. Böckh, *Staatshaushaltung der Athener*<sup>3</sup>, I, p. 104. Cf. F. Hultsch, *Metrologie*<sup>2</sup>, pp. 106-107.

<sup>150</sup> The standard U. S. bushel (35.2383 liters) holds 77.6274 pounds of distilled water at 39° Fahr. The U. S. Government for customs purposes has established the equivalent of a bushel of wheat as 60 pounds.

<sup>151</sup> *Lysiae Orationes*, XVI, London, 1882, p. 318.

the phormos can reasonably be connected. We have, therefore, followed Böckh in regarding the phormos as equivalent to the medimnos.<sup>152</sup> We should not fail to add, however, that whereas vetch, lentils, and wheat were sold by the phormos in II, 91-93, barley was sold by the medimnos in the following entry.

## LIQUID MEASURES

*χοῦς*. For the secure identification of the *chous*, when used as a measure, as equivalent to 3.283 liters in the metric system, see O. Broneer, *Hesperia*, VII, 1938, pp. 222-224; S. Young, *Hesperia*, VIII, 1939, pp. 274-284; and M. Lang, *B.C.H.*, LXXVI, 1952, pp. 24-25.

*ἀμφορεύς*. A discussion of the word in the sense of a container is made by Professor Amyx. In this study, the *amphoreus* has been given the equivalent of a metretes, or twelve choes. This is in accordance with the conclusion, for example, of Hultsch (*op. cit.*, p. 101) on the basis of literary evidence. Moreover, Miss Lang has conveniently summarized the measurements of 36 amphoras listed in Brauchitsch's *Die panathenaischen Preisamphoren* as follows: ". . . the Panathenaic amphoras of the earliest fifth century <held> . . . twelve times the early fifth century *chous* and have dimensions which are simple multiples of the *chous*."<sup>153</sup> Unfortunately the literary evidence cited by Hultsch condenses down to one decisive passage from the fifth-century comic poet Philyllios (Frag. 7: Kock, *C.A.F.*, I, p. 783), which was quoted by Pollux:<sup>154</sup>

σοὶ μὲν οὖν τήνδ', ἀμφορεύ,  
δίδωμι τιμήν, πρῶτα μὲν τοῦτ' αὐτ' ἔχειν  
ὄνομα μετρητῆν μετριότητος εἵνεκα.

But Wernicke has protested that this is only a joke,<sup>155</sup> and was misinterpreted by Pollux (X, 70). The speaker is making a pun about the moderate size of the wine jar placed before him. The point is well taken, and when Hultsch in 1894 returned to a treatment of the amphora as a measure, he did not repeat his earlier determination.<sup>156</sup> More recently Miss Lang has written, on the basis of unpublished measurements, that "the ordinary amphora of Greek as well as Roman times is more likely to hold eight choes" (*Hesperia*, XXV, 1956, p. 3). Although the archaeological evidence is not

<sup>152</sup> Similarly, it may be noted that the *kados*, 'jar,' was equivalent to the *amphoreus*, 'a liquid measure,' according to Pollux, X, 71.

<sup>153</sup> *B.C.H.*, LXXVI, 1952, p. 26, note 1.

<sup>154</sup> The value of Moeris' note (p. 45: Pierson), which is not mentioned by Hultsch, seems to me problematical: ἀμφορεύς Ἀττικοί, μετρητῆς Ἑλληνες.

<sup>155</sup> *R.E.*, s.v. *Amphora* 1, col. 1970.

<sup>156</sup> *R.E.*, s.v. *Amphora* 2. As an Attic measure in the Roman period, Hultsch now identified the amphora as two-thirds of a metretes and referred for this identification to an article s.v. *Quadrantal*. With the passage of some sixty-four years, the *R.E.* unfortunately has not yet embraced the letter Q.

decisive, the present writer has with some hesitation accepted the figure of 12 choes because the first of Miss Lang's two groups, the Panathenaic amphoras of the early fifth century (see note 153), is presumably closer in date to our inscription.

*στάμνος*. *Stamnos* has not been grouped with dry measures although our Stelai refer to stamnoi of olives (II, line 118), as well as those of oil, wine, and vinegar. It seems preferable to assume in the absence of any evidence of stamnos as a dry measure that the olives were in brine or in oil; hence not 'dry.'

*Stamnos* is used as a measure of oil in a Greek inscription from Stratoniceia in the time of Iovian.<sup>157</sup> The price of the oil is given as 10,000 denarii per stamnos "because of the continuous unfruitfulness of the olive crop."<sup>158</sup> Moeris, the second-century grammarian, has equated the stamnos with the amphora,<sup>159</sup> which would give it a capacity of 10.3 U. S. gallons (8.5 British, or imperial, gallons). In Pollux X, 72, the stamnos is mentioned in connection with wine containers.

Recently the French have found in Thasos a *sekoma* of which the two cavities are labelled ΣΤΑΜΝΟΣ and ΗΜΙΑΜΦΟΡΙΝ.<sup>160</sup> On the side of the *sekoma* is a dedication by an agoranomos and the word ΟΙΝΗΠΑ (i. e. μέτρα), 'wine-measures.' There can be no doubt, then, that in Thasos about the first century B.C., which seems to be the date required by the letter-forms, the stamnos is a liquid measure. Professor Georges Daux has kindly informed me that the capacity of this Thasian stamnos is 7.68 liters, or one-half the capacity of the Thasian 'half-amphora.' It was exactly equivalent, then, to a quarter of an amphora. This evidence, it is possibly needless to add, does not prove that the stamnos was a uniform unit of measure in Athens of the fifth century; it does prove that the word was so used at times in the Greek world.

## PRICES

## WHEAT

Prices paid for wheat were as follows:

<i>Sales Price</i>	<i>Item</i>	<i>Reference</i>
[Γ]ΗΗ	πυρὸν φορμός	I, 137
[Γ]Η	πυρὸν φορμό[ς]	I, 138
ΓΗΗ	πυρὸν φορμό[ς]	I, 139

<sup>157</sup> *Syll.*<sup>3</sup>, 900, line 27. For other evidence of its use as a measure, see Hultsch, *Metrologorum scriptorum reliquiae*, II, p. 216.

<sup>158</sup> Dittenberger (*loc. cit.*, note 12) regarded the price as an obvious exaggeration. However, L. Robert, *Études anatoliennes*, Paris, 1937, p. 346, has collected other examples of high prices during periods of scarcity.

<sup>159</sup> P. 44 (ed. J. Pierson, *Lexicon Atticum*, 1831). Cf. schol. Aristophanes, *Ranae*, 22. Hultsch (*Metrologie*<sup>2</sup>, p. 108) computes 39.395 liters for the amphora.

<sup>160</sup> I owe the knowledge of this *sekoma* to the kindness of Dr. Virginia Grace and Professor G. Daux. Two photographs of it have now appeared in *B.C.H.*, LXXIX, 1955, p. 365.

Furthermore, wheat, along with barley, lentils and bitter vetch, was sold in Eretria in one lump sum as follows:

Η <sup>Α</sup> Δ	ὀρόβον φορμοί ΓΠ φακῶν φορμός Ι πυρῶν φορμοί ΔΓ κρι[θ]ῶν μέ[διμ]νος	II, 91-95
------------------	---	-----------

From the three references in Stele I, we see that the price of wheat varied between 6 and 6½ drachmas per phormos. This variation is probably to be explained by the difference in quality of the wheat, as seems to be the case in an inscription containing prices paid for wheat in 329/8 B.C., where the record shows that most of the wheat brought six drachmas per medimnos, but ten measures were sold for only five drachmas.<sup>161</sup>

For purposes of comparison, the following table gives the known prices of wheat at Athens throughout the fourth century and in the first part of the third.

<i>Prices of Wheat at Athens</i> <sup>162</sup>		
<i>Date</i>	<i>Price per medimnos</i>	<i>Reference</i>
Beginning of fourth century	6	<i>I.G.</i> , II <sup>2</sup> , 1356
393	3	Arist., <i>Eccl.</i> , 547-8
340-330	9	<i>I.G.</i> , II <sup>2</sup> , 408, line 13
ca. 330	16	[Demosthenes], XXXIV, 39
	5	
330/29	5	<i>I.G.</i> , II <sup>2</sup> , 360, line 9
329/8	6	<i>I.G.</i> , II <sup>2</sup> , 1672, line 287
329/8	5 <sup>163</sup>	<i>I.G.</i> , II <sup>2</sup> , 1672, line 288
324	5	<i>I.G.</i> , II <sup>2</sup> , 360
295	300 or 1800 <sup>164</sup>	Plutarch, <i>Demetr.</i> 33

<sup>161</sup> *I.G.*, II<sup>2</sup>, 1672, lines 287-288.

<sup>162</sup> This table is based on F. Heichelheim, *R.E.*, Supplement VI, *s.v.* *Sitos*, 887-888.

<sup>163</sup> The lower price in the same document is probably to be explained by inferior quality of the wheat.

<sup>164</sup> The preserved text of Plutarch states that 300 drachmas was the price for a modios (¼ of a medimnos) during the siege of Athens by Demetrios Poliorketes. The lower figure rests on an emendation of the text by Wilamowitz and is the one frequently adopted; see W. S. Ferguson, *Hellenistic Athens*, London, 1911, p. 133 and A. Jardé, *Céréales*, p. 176, note 3. During the siege of Athens by Sulla, a medimnos of wheat brought 1000 drachmas; see Plutarch, *Sulla*, 13. The author of the second book of Aristotle's *Oeconomica* gives several examples of extortion rates in times of scarcity.

The average price of wheat at Athens in the fourth century B.C. according to this table was more than 6 drachmas per medimnos. In [Demosthenes], XXXIV, *Against Phormio*, 39, it is expressly stated that the normal Athenian price was five drachmas.<sup>165</sup> For prices elsewhere, the most convenient summary is given by Larsen from Delian figures.<sup>166</sup> "In 282 the average price of wheat for seven months was 6 dr. 5 ob. For 281 and 279 Jardé (173-175) estimates an average price of 9 dr. 5½ ob. and 8 dr. 3½ ob. respectively but considers these prices abnormally high. For the first part of the second century Heichelheim repeatedly lists but questions a price of 10 dr."<sup>167</sup>

For Roman prices of wheat there is considerable evidence, which has been summarized by T. Frank in *Economic Survey*, I, for various periods.<sup>168</sup> Three sesterces a modius (⅙ medimnos) was an average price for wheat in peacetime.

If we accept the identification of the phormos with the medimnos, the price of wheat in 414 B.C. was over twenty per cent higher than what is given in [Demosthenes] as the normal price. Our figures, moreover, give a slight clue to the cost of living at Athens. We know that the ration of the Spartan soldier in the field was one forty-eighth of a medimnos.<sup>169</sup> At our figures this ration would have cost 45 drachmas per year in a period when a workman earned a drachma per diem and worked 300 days per annum. This may be regarded as a maximum figure, for the Spartan soldier was given a very liberal allowance and his servant was given only half as much.<sup>170</sup>

<sup>165</sup> *I.G.*, II<sup>2</sup>, 400, speaks of 'the established price.'

<sup>166</sup> "Roman Greece," *Economic Survey*, IV, p. 384. Cf. Day, *Ec. Hist. of Athens*, p. 7.

<sup>167</sup> Cf. the table in L. Spaventa de Novellis, *op. cit.*, p. 49.

<sup>168</sup> Pp. 49, 77, 97-98, 158-159, 191-192, 283-284, and particularly 402-404.

<sup>169</sup> Herodotus, VII, 187; Thucydides, IV, 16; VII, 87. For detailed estimates of the cost of living in the third century, see the careful tabulations of Larsen, *op. cit.*, pp. 412-414.

<sup>170</sup> It may be noted here that two frequently quoted fifth-century prices have not been taken to refer to wheat. In Plutarch (*Solon*, 23) the price of grain is given as one drachma in the Solonian sacrificial valuations. The type of grain is not specified. Several scholars (Jardé, *Céréales*, pp. 123 and 178; M. N. Tod in *Cambridge Ancient History*, V, p. 25) regard it as barley. Secondly, Plutarch (*De tranquillitate animi*, 470 F) puts into the mouth of Sokrates the words ὀβολοῦ τὸ ἡμίερον. This would make the medimnos equal two drachmas. But the grain here specified is clearly *alphita*.

The evidence of the fifth-century sacred calendar in the Elgin Collection, which has been most recently published as *I.G.*, I<sup>2</sup>, 842, is probably not to be connected with grain prices. The right side of this early Fasti, which exhibits a script with three-bar sigma, reads in part as follows: "Ἡρ[ω]ν πυρῶν δύο χοίνικε, τρεῖς ὀβελοί. Prott (*Leges graecorum sacrae*, I, Leipzig, 1896, p. 6), who published the text as no. 2 of his *Fasti Sacri*, stated that the form ὀβελός must refer to a loaf of bread, and there is ample evidence for the use of the form with this meaning, as it must now be noted against Prott's objections for its use as a coin. On the other hand, Hicks (*Ancient Greek Inscriptions in the British Museum*, I, Oxford, 1874, p. 136), who was the first editor of the text, believed that the reference was to the price of wheat: "To the two heroes, two choinixes of wheat, (price) three obols." This would make the medimnos, which contained 48 choinikes, amount to 12 drachmas. Böckh has suggested with reference to the prices in a similar sacred calendar that a considerable

## OROBOS

The price of orobos can be roughly estimated from the five line entry in II, 91-95, the total of which amounted to 160 drachmas. If we allow 97½ drachmas for the fifteen phormoi of wheat (6⅓ dr. per phormos) and approximately 3 drachmas for the medimnos of barley,<sup>171</sup> we are left with 59½ drachmas for the 7 phormoi of orobos and the one phormos of *phakos*. If the two latter sold at the same rate, the price per phormos would be 7½ drachmas. Records of the sale of orobos are few. In a papyrus from Karanis dated in A.D. 191 (some 600 years later than our figure) the price of an artaba of orobos and an artaba of wheat is identical: eighteen drachmas.<sup>172</sup> Barley, incidentally, was slightly more than one-half this price. In the Edict of Diocletian (A.D. 301) the price of orobos was fixed at the same price as wheat (*sitos*), 100 denarii for one castrensis modius.<sup>173</sup> As to the price of *phakos*, there is more abundant evidence from Egypt, for lentils were there equated with wheat in payment of tax.<sup>174</sup> Similarly, in the Edict of Diocletian, the maximum price of lentils was made the same as the price of wheat (*sitos*) and orobos.<sup>175</sup> Our figure then, which indicates that certainly orobos, and probably *phakos*, was a drachma per phormos higher than wheat, seems not entirely unreasonable.

## OINOS

The two entries in our Stelai which preserved wine prices are as follows:<sup>176</sup>

<i>Price</i>	<i>Entry</i>	<i>Reference</i>
[. . ]H <sup>□</sup> ΔΔΔ	οἶνο ἀμφο[ρῆ]ς [---]	VI, 60-61
	H <sup>□</sup> ΔΔΔΔ τρ[ῆ]ς χόε[s]	

profit was allowed to the priests (*Staatshaushaltung der Athener*<sup>3</sup>, I, p. 132); and hence that these documents should not be used as evidence for current prices (cf. J. H. Oliver, *Hesperia*, IV, 1935, p. 27). Other sacrificial calendars (cf. *S.E.G.*, X, 348) consistently establish prices, but such prices seem to be indicated by numerals. It is not clear where numerals would be inscribed in our text, which preserves both right and left sides at the place in question. Finally, Tod (*Num. Chron.*, 6th Ser., VII, 1947, p. 1) has defined these *obeloi* as 'spits' and has cited the parallel of a Coan sacrificial calendar. In any case, one would hesitate to use the lines in question as evidence for retail prices.

<sup>171</sup> The price of barley was normally about half that of wheat; see Jardé, *Céréales*, pp. 182-183. Cf. Larsen, *op. cit.*, p. 384. In *I.G.*, II<sup>2</sup>, 1672, lines 283 ff., 298 ff., where the price of wheat is given as 5-6 drachmas, the price of barley is 3 to 3⅝ drachmas; and in *I.G.*, II<sup>2</sup>, 408, the prices of wheat and barley are 9 and 5 drachmas, respectively.

<sup>172</sup> E. J. Goodspeed, "Greek Papyri from the Cairo Museum," *University of Chicago Decennial Publications*, V, Chicago, 1904, p. 33.

<sup>173</sup> Col. I, 16.

<sup>174</sup> Grenfell, Hunt, and Hogarth, *Fayum Towns and their Papyri*, London, 1900, 101; and Westermann and Keyes, *Columbia Papyri*, Greek Series II, New York, 1932, I. 6.

<sup>175</sup> Col. I, 11.

<sup>176</sup> For the number of letter spaces in the sales prices, see below, p. 255.

[.]ΔΔ

οἴνο ἀμφορ[εῖ]ς Ἀττι[κῶ]  
καθαρῶ ΗΙΙΙ εἰ[π]τὰ χό[ε]ς

VI, 64-65

Before any computation can be made with regard to the price of the wine, the meaning of the phrases ‘ three-choes ’ and ‘ seven-choes ’ must be determined. Are they modifiers which indicate the capacity of jars called amphoras, or do they refer to the quantity of the wine sold? It should be noted, as both Miss Mabel Lang and Miss Virginia Grace have kindly informed me, that there seem to be preserved from this period actual jars of the capacity of three choes and of seven choes, containers of different standard sizes.<sup>177</sup> Secondly, one might expect, *a priori*, that reference to three and seven choes, as quantities of wine sold, would be in the form χόες ΙΙΙ and χόες ΠΙΙ, just as the references to the *amphoreis* of wine were by numerical symbols. Thirdly, it may seem significant that if we have in the second entry 104 ‘ seven-choes ’ amphoras, the price for the total sale can easily be completed as 520 drachmas, which would give an even number of five drachmas for the price of each amphora of wine. Furthermore, the price of the 590 ‘ three-choes ’ amphoras of the first entry could be completed as 1180 drachmas, which would yield a price of 2 drachmas for each ‘ three-choes ’ amphora, a price which is very close to being three-sevenths of the price of 5 drachmas per ‘ seven-choes ’ amphora in the second entry. The ratio for the prices in the two entries, as restored, would be 2.46:1, which is almost exactly the ratio of the quantities.

Nonetheless, the writer believes that the syntax will not permit this interpretation: the ‘ three-choes ’ and ‘ seven-choes ’ must refer to the quantity of the wine sold. If the capacity of the jars were designated, one would expect either genitives of measure or adjectival forms in -χοος, not the nominative case. Such adjectival compounds (ἐπτάχοος, etc.) are collected in Buck and Petersen, *Reverse Index*, p. 178. This point of syntax is in my opinion fundamental. As to the use of cardinal numerals, it may be noted that they were several times used in this same inscription (lines 29, 68, 69, 70) in lines very near the passages under discussion. Furthermore, there are epigraphical parallels to the practice of putting large numbers as signs following the noun and smaller numbers as cardinal numerals usually preceding the noun; see *I.G.*, II<sup>2</sup>, 1672, line 267 (κρι ΔΔΔΠΙΙ ἐκτεὺς τρεῖς χοίνικες), line 279 (μέδιμνοι ΧΗΠΙΙΙ ἡμικετῆα τέτταρα δύο χοίνικες). For numerous other examples, see lines 264, 268, 269, 270, 270-271, 279, etc. As far as the even prices go, the two batches of wine need not have been of exactly the same quality, and so the achievement of the same price per unit in both entries need not be truly significant.

In our former entry, then, 6963 choes, or 590.25 metretes of wine were sold; in

<sup>177</sup> Also, see V. Grace’s article “ Standard Pottery Containers ” in *Hesperia*, Suppl. VIII: “ Ancient pointed amphoras available for measurement do actually show very considerable variations ” (p. 176).

the latter, 1255 choes, or 104.58 metretes. A metretes contains twelve choes. The ratio of the quantities is 4.83:1.

To determine the numerals which may reasonably be restored for the cost prices of the two entries, the more significant figures for the prices of wine in classical antiquity have been collected. For the fifth century, there are no Athenian prices for wine preserved in literary sources unless we regard Hesychius' gloss on *Trikotylos oinos* as reflecting the price in the period of Old Comedy, as V. Ehrenberg does.<sup>178</sup> *Trikotylos*, which occurs in Aristophanes, *Thesm.*, 743, and in *adesp.*, 1320 (Kock, *C.A.F.*, III, p. 628) is defined by Hesychius as an obol's worth of wine. A metretes at this rate would be worth eight drachmas. In a fragment of Alexis,<sup>179</sup> the price of wine is given as ten obols a chous, which is at the rate of twenty drachmas a metretes, but the price appears to be an exaggeration in a comic author. Plutarch states that in the time of Sokrates a costly Chian wine was worth one hundred drachmas the metretes.<sup>180</sup>

From the fourth century, we have the statement in [Demosthenes], XLII, *Against Phainippos*, 20, that wine was sold at a price of 12 drachmas a metretes, but later in the same oration the speaker states that wine had been disposed of at three times its former price.<sup>181</sup> The latter price for the metretes would be only four drachmas. In [Demosthenes], XXXV, *Against Lakritos*, 10 and 18, there is reference to a marine loan, which usually amounted to fifty per cent of the capital required,<sup>182</sup> on three thousand keramias of Mendaeian wine at three thousand drachmas. The borrowers gave out, moreover, that they possessed security for three hundred drachmas more;<sup>183</sup> so the goods were valued at a price of two drachmas a keramion. In this sum was included the cost of the vessels, for reference is made to the stowage of the wine. If we assign a capacity of eight choes to the keramion as a unit of measurement, the figure used by Larsen for his Delian estimates,<sup>184</sup> the price of the wine would amount to three drachmas a metretes.<sup>185</sup>

As instances of very low prices in extremely fertile areas outside of Greece,

<sup>178</sup> *Op. cit.*, p. 223.

<sup>179</sup> Kock, *C.A.F.*, II, 301.

<sup>180</sup> *De tranquillitate animi*, 470 F.

<sup>181</sup> XLII, 37. Clearly, the barley, quoted with the wine, sold at a price much higher than normal.

<sup>182</sup> See G. M. Calhoun, *Journal of Economic and Business History*, II, 1930, p. 581.

<sup>183</sup> See the commentary of Paley-Sandys, *Select Private Orations of Demosthenes*, 3rd edition, Cambridge, 1898, pp. 71-72.

<sup>184</sup> *Op. cit.*, pp. 393-395: "It is probable but not certain that when keramion was applied to a unit smaller than the 12-choes metretes it meant par excellence an 8-choes measure (cf. Viedebant, s.v. Κεράμιον, P.-W., XI, 254)." F. Heichelheim (*Schwankungen*, p. 111) regards the keramion as equivalent to 6 choes.

<sup>185</sup> Apart from literary references, graffiti on ancient jars may sometimes be interpreted as referring to the price of the contents. Some such were reported by L. Talcott in *Hesperia*, IV, 1935, pp. 495-496, 515-516.

Polybios states that the metretes of wine in the Po Valley was worth two obols and in Lusitania one drachma.<sup>186</sup> T. Frank states that these prices seem preposterously low, and he explains that neither area had an export market;<sup>187</sup> the normal Roman price was six to eight times the Lusitanian price. For Ptolemaic Egypt, Heichelheim has presented a lengthy table for the price of wine in which it appears that the cheapest price per *keramion*, which he regards as a half metretes, is 3% drachmas and that the average is considerably higher.<sup>188</sup> Concerning Delos, Larsen has written, "The one definite fact known concerning the price of wine is that in 296 B.C. 1 metretes cost 11 dr."<sup>189</sup> He notes that the normal sum was 10 drachmas and in another context states that wine production could not have been profitable if the wine sold at 4 drachmas 3 obols a metretes.<sup>190</sup> The prices of wine at Rome are given by T. Frank in Volume I of the *Economic Survey*.<sup>191</sup> In Diocletian's Edict, the entire second paragraph was devoted to the prices of wine. *Vin ordinaire* (10) sold for 8 denarii an Italian pint (one seventy-second of a metretes), but good Italian wines brought much higher prices.<sup>192</sup>

To return to the problem of the numerals to be restored for the cost prices of the two entries, we may offer the following table for some of the lowest figures which may be restored.

<i>First Entry</i>	<i>Wine Prices</i>	<i>Price per Metretes in Drachmas</i>
<i>(VI, 60-61)</i>	<i>Total Price in Drachmas</i>	
	380	.64
	1280	2.17
	2180	3.69
	5280	8.94
	6180	10.47
	etc.	etc.

<sup>186</sup> II, 15; and XXXIV, 8.

<sup>187</sup> *Economic Survey*, I, pp. 195-197.

<sup>188</sup> *Op. cit.*, p. 111. A. C. Johnson (*Economic Survey*, II, pp. 314-315) lists prices which will give about the same average. There are, doubtless, additions from recent papyrological publications. M. Segre, in identifying the figures 22 drachmas 1 obol with the price for a metretes of Cyprian wine, has noted some such prices in *Annuario della Scuola archaeologica di Atene*, XXVII-XXIX, 1949-1951, p. 322. For wine prices in Byzantine Egypt, see L. Casson, *T.A.P.A.*, LXX, 1939, pp. 1-16.

<sup>189</sup> *Op. cit.*, p. 392. For a more recent discussion of wine prices at Delos, see J. H. Kent, *Hesperia*, XVII, 1941, p. 312.

<sup>190</sup> *Op. cit.*, p. 394.

<sup>191</sup> Pp. 193, 284, 355, 403-404.

<sup>192</sup> We have not included in our study of the price of wine any reference to the graffiti on ancient amphoras (*Hesperia*, XXV, 1956, pp. 1-24). Their connection with wine is uncertain. Just as the stamnos was associated in our inscriptions with oil, olives, and vinegar as well as with wine, so we know from literary sources that the amphora was a container, for example, for oil, milk, and

<i>Second Entry</i>	<i>Total Price in Drachmas</i>	<i>Prices per Metretes in Drachmas</i>
(VI, 64-65)	120	1.14
	520	5.00
	1020	9.81
	etc.	etc.

For the second entry, which gives the price of domestic Athenian wine, described as *katharos* ('pure, unmixed'), I would favor the reading of the figures for 520 drachmas. This price would more nearly approximate the fourth century figure of four drachmas a metretes inferred from [Demosthenes], XLII, *Against Phainippos*, 20 and 31; and, secondly, it is hard to overlook the coincidence that the figure of 520 drachmas results in the even figure of five drachmas a metretes—disregarding the seven choes.<sup>193</sup>

The first entry may well refer to unexported Thasian wine. The descriptive adjective of line 60 is unfortunately lost, but the five preceding lines (VI, 55-59) concern property on the island of Thasos, and lines 60-61, the concluding lines under the name of Adeimantos, may well be part of the Thasian list. The restoration of the sum of 2180 drachmas would give a ratio for the prices in the two entries of 4.19:1, which is close to the ratio of the quantities (4.83:1). The price of 3.69 a metretes might then be explained on the assumption that there was considerable war risk in a purchase made in Athens of wine on Thasos. On the other hand, Thasian wine was considered by Dionysos, in a fragment of Hermippos,<sup>194</sup> to be the best of wines, with the exception of Chian; so a figure of 8.94, 10.47, or higher for a metretes may seem preferable. There is scarcely evidence to permit a choice.

## II. CLOTHING AND SHOES

The most convenient bibliography on clothing of the classical period is given by F. Heichelheim, *Wirtschaftsgeschichte des Altertums*, II, pp. 1048-49, note 35. Heichelheim includes articles in Daremberg-Saglio, *Dictionnaire*, and those published in Pauly-Wissowa, *Realencyclopædie*, up to 1938. In addition, there is a spate of works on garments written primarily from the standpoint of the drapery in Greek sculpture. These include L. Heuzey, *Histoire du costume antique*, Paris, 1922; A. W. Barker, "Domestic Costumes of the Athenian Women in the Fifth and Fourth Centuries, B.C.," *A.J.A.*, XXVI, 1922, pp. 410-425; M. Bieber, *Griechische Kleidung*, Berlin and

pickled slices of dolphin (Simonides, 147: Diehl; Euripides, *Cyclops*, 327; Xenophon, *Anab.*, V, 4, 28). Presumably the contents could be extended to a wide variety of products. A price on an amphora is not, then, in itself necessarily an indication of the price of wine.

<sup>193</sup> Since the standard United States gallon is equivalent to 3.7853 liters, the metretes would amount to more than 10 gallons.

<sup>194</sup> Kock, *C.A.F.*, I, 249.

Leipzig, 1928, and *Entwicklungsgeschichte des griechischen Tracht*, Berlin, 1934; and G. M. A. Richter, *Sculpture and Sculptors of the Greeks*, rev. ed., New Haven, 1950, pp. 87-108. For ancient textiles in general, see the references given below, p. 249, note 250. On the whole, however, the author has found the article of Leroux in Daremberg-Saglio, *Dictionnaire, s.v. Pallium*, the most useful. This article is well documented in the references to ancient sources. For the unusual difficulty in the matter of defining articles of costume, reference should be made to the well-chosen introductory remarks of Buck, *Dictionary*, p. 416.

We may also present here for convenience a few references to prices in the literature where the garment is not specifically designated.<sup>1</sup> We learn from Eupolis (frag. 252) that in the twenties of the fifth century, a woollen garment was valued at 20 drachmas. In the *Ecclesiazusae* of Aristophanes (ca. 392 B.C.), a pauper who appeared at the Pnyx unclad is said to have announced himself in need of 16 drachmas for an outer garment.<sup>2</sup> Extravagant women paid as much as 1000 drachmas for garments.<sup>3</sup>

For literature concerning footwear, reference may be made to Hug in *R.E., s.v. Schuh*. Of the works there cited, use has particularly been made of K. Erbacher's Würzburg dissertation (1914), *Griechisches Schuhwerk*.

As with clothing so with footwear, there are ancient references to prices for the general category (*hypodemata*). These include a passage in the *Plutus* of Aristophanes (388 B.C.),<sup>4</sup> in which a young man asks an old lady for eight drachmas to purchase a pair of shoes. In the year 327 B.C. the accounts of the epistatai of Eleusis show a payment for shoes for 17 slaves at the rate of 6 drachmas per pair.<sup>5</sup> Two prytanies later for the repair of the same number of shoes a payment of 4 drachmas per *zeugos* was made.<sup>6</sup> In Lucian,<sup>7</sup> a pair of woman's shoes, of Sikyonian manufacture, cost two drachmas.

<sup>1</sup> For the price of a chiton of wool at Delos, see G. Glotz, *Journal des Savants*, XI, 1913, p. 24

<sup>2</sup> Line 413.

<sup>3</sup> *Adesp.*, 516 (Kock, *C.A.F.*, III, p. 503).

<sup>4</sup> Line 983.

<sup>5</sup> *I.G.*, II<sup>2</sup>, 1672, line 105. Cato (*De agric.*, 59) assumes that a slave should have a pair of shoes every other year.

<sup>6</sup> Line 190; cf. line 230. The passage in question reads as follows: ὑποδημάτων δημοσίοις κάττυσι, τοῦ ζεύγους Ἀπολλοφάνη. Τυρμίδει ΗΗΗ, κεφάλαι ΠΔΠΗΗ. P. Guiraud (*La Main-d'oeuvre industrielle dans l'ancienne Grèce*, Paris, 1900, p. 190) states that the price of repair was 2 drachmas per pair. This would apparently require that we interpret *zeugos* as totalling four shoes. But it is clear, for example, from the phrase ζεύγος ἐμβάδων in Aristophanes, *Equites*, line 872, that *zeugos* here means only one pair of slippers. The Sausage-seller gives the slippers to Demos to wear. It should be noted that the word κάττυσι (Attic), or κάσσυσι, known only from *I.G.*, II<sup>2</sup>, 1672, lines 190 and 230, does not appear in Liddell-Scott-Jones. See, however, Buck and Petersen, *Reverse Index*, p. 595.

<sup>7</sup> *D. Meretr.*, 14, 2.

Our evidence concerning clothes and footwear is very scattered, but no prices seem to be cheap in terms of work-days.

The following table lists references to prices contained in *Economic Survey*, I-V. For the most part, references are to general terms for clothing and shoes and they afford little evidence for the prices of the specific items preserved in our lists.

<i>Source</i>	<i>Volume</i>	<i>Pages</i>	<i>Items</i>
Rome	I	194, 200	Clothing
Egypt	II	318-320	Clothing, Shoes
Syria	IV	179	Clothing allowance to one's wife <sup>8</sup>
		186-187	Clothing
Greece	IV	399-400	Clothing
Diocletian	V	351-353	Shoes
Edict		369 ff.	Clothing

1. ἀμπέχονον (I, 160). Mantle or shawl. The garment is discussed in connection with the himation by G. Leroux in Daremberg-Saglio, *s.v. Pallium*, 290 b. It is here described as a Dorian mantle worn by the Syracusans of Theokritos, and reference is made to Theokritos, 15, 21. Gow in his study of this idyll has defined the *ampechonon* as a "wrap, regularly worn by women at this period, which resembles an ample himation, but is often made of thin and clinging materials which allow the heavier folds of what is worn beneath to show through. It can be draped about the figure in a great variety of ways, but when worn out of doors most usually envelops both arms and also hoods the head."<sup>9</sup> He provides illustrations from terracotta figures. Praxinoa's ampechonon was put on last and was torn in the crowd. In *I.G.*, II<sup>2</sup>, 1514 ff., the inventories of the overseers of Artemis Brauronia, the ampechonon appears as distinct from the himation.

2. ἐξωμῖς (VII, 107-111). Type of chiton or tunic. The garment was worn in such a way as to leave the right shoulder bare and the arm free. The *exomis* is the ordinary dress of workers and craftsmen, human and divine; it is a short plain rather scanty garment, usually, as seen on the monuments, of some fairly heavy material.<sup>10</sup>

<sup>8</sup> This interesting passage from the Talmud of the first or second century after Christ specifies the minimum allowance to be made by a husband to his wife. The annual allowance included a hat, an apron, new shoes for each major festival and new clothes to the value of fifty denarii. This was prescribed for the poorest.

<sup>9</sup> *J.H.S.*, LVIII, 1938, pp. 185-186.

<sup>10</sup> Cf. e. g., the vase-painter at work, on the bell-krater in Oxford, Cloché, *Classes*, etc., pl. XXII, 1; or, for Hephaistos, an oinochoe in New York (Richter and Hall, *Red-Figured Athenian Vases in the Metropolitan Museum of Art*, New Haven, 1936, pl. 142, no. 140). Here the contrast between this garment and the fuller, often pleated, and much thinner short chiton, likewise often worn *exomos* by horsemen and others and called by convention chitoniskos, is plainly seen; Hephaistos

For a description of this garment, see Heuzey, *op. cit.*, pp. 37-62; and Amelung, *R.E.*, s.v. *Χιτών*, 2328-2330.

Aristophanes (*Vespae*, 444) enumerates the exomis among the garments which a master provides for his slaves. We are fortunate in possessing in the Eleusinian building accounts of the year 327/6 three entries for exomides purchased from various *himatiopolai* for public slaves.<sup>11</sup> The first entry was for eleven garments at 7 drachmas 3½ obols each; the second for thirteen garments at 7 drachmas 1 obol; the last for four garments at 7 drachmas 4 obols. The average price for the 28 exomides was roughly 7 drachmas 2½ obols. Sokrates says in Plutarch (*Mor.*, 470 F) that the price of the exomis at Athens was 10 drachmas.<sup>12</sup>

3. *ἱμάτιον* (I, 189-201, 209-210; VII, 101-106). Cloak, or loose outer garment.<sup>13</sup> The *himation*, worn by both men and women, was a large rectangular piece of cloth, seven or eight feet long, which could be wrapped about the body in every conceivable way; it is familiar from innumerable representations in vase-painting and sculpture. For the great variety of cloaks, see Heuzey, *op. cit.*, pp. 85-113; G. Leroux in Daremberg-Saglio, *Dictionnaire*, s.v. *Pallium*; and Amelung, *R.E.*, s.v. *ἱμάτιον*.

In the *Plutus* of Aristophanes (388 B.C.), the young man asks the old lady whom he was pretending to woo for 20 drachmas to purchase an *himation*.<sup>14</sup> He doubtless had in mind one of superior quality.

In 329 B.C. the cost to the state of *himatia* for 17 slaves was 314 drachmas 3 obols.<sup>15</sup> The purchase was made from a Megarian, Antigenes. The price for each *himation* was 10 drachmas 3 obols. In the Delian records of the third century B.C., a man's *himation* in 279 cost 24 drachmas;<sup>16</sup> in 274, 22 (?) drachmas;<sup>17</sup> in 269, 20 drachmas.<sup>18</sup> For 200 B.C. there are recorded two purchases of a man's *himation* for 20 drachmas and one purchase of a woman's *himation* at 30 drachmas.<sup>19</sup> All of these Delian garments, as well as the Athenian garments of 329 B.C., were for slaves and must have been of a cheaper sort. In 92 B.C., the maximum value of *himatia* which could have been worn in connection with the mysteries of Andania in Messenia varied

wears the exomis proper to his trade but his companion Dionysos wears the thinner more elaborate short chiton.

<sup>11</sup> *I.G.*, II<sup>2</sup>, 1673, lines 45 ff. Of the four *himatiopolai* named in these lines and in *I.G.*, II<sup>2</sup>, 1672, line 103, three were Megarians.

<sup>12</sup> Cf. *I.G.*, XI, 2, 287 A, line 87, where the price of a chiton is given as 10 drachmas.

<sup>13</sup> For the derivation of the word, see, in particular, W. Petersen, *Greek Diminutives in -ιον*, Weimar, 1910, p. 46; and Buck, *Dictionary*, pp. 395 and 416.

<sup>14</sup> Lines 982, 983.

<sup>15</sup> *I.G.*, II<sup>2</sup>, 1672, lines 102-103.

<sup>16</sup> *I.G.*, XI, 2, 161 A, line 117.

<sup>17</sup> *I.G.*, XI, 2, 199 C, lines 59-60.

<sup>18</sup> *I.G.*, XI, 2, 203 A, line 60.

<sup>19</sup> For references, see J. A. O. Larsen, "Roman Greece," *Economic Survey*, IV, p. 399.

from 50 to 200 drachmas.<sup>20</sup> These values of course were for finer garments. For prices of himatia in Egypt, see A. Segrè, *Circolazione monetaria e prezzi nel mondo antico*, Rome, 1922, p. 161.

Of the various items of clothing in our lists, the himatia are the only ones for which there is a clue as to the price. The sales tax for a single himation was 3 drachmas.<sup>21</sup> The price, then, falls into the 5-50 drachmas bracket.

4. *κρόκη* (I, 212). Woollen cloth. The word is derived from *κρέκω*, and etymologically means the 'woof, thread which is passed between the threads of the warp.'<sup>22</sup> In the passage of Euripides cited in Athenaeus, X, 413 d and in Aristophanes, *Vespae*, 1144, the reference is to the 'nap' of the woollen cloth. In Pindar, *Nem.*, 10, 83, *kroke* seems to be used for a cloak of woollen texture. In Sophocles, *O.C.*, 474, it is woollen cloth.

*Kroke* in our list is qualified by the adjective *θαψίνη*. This word, describing the color of the cloth, takes its name from the *thapsos*, the fustic plant from the island of Thapsos which is called by modern botanists *Thapsia Asclepium* L.<sup>23</sup> A plant used by dyers,<sup>24</sup> it imparted a yellow cadaverous or sallow hue which was associated with the pallor of sickness and death.<sup>25</sup> Plutarch associates *thapsine* with the color of the fillets or headbands which entwined the mystic *koitai*, or chests.<sup>26</sup> Significant for the meaning of *kroke* in our texts is its position between two entries for the same word, *koite*, 'chest.' Our yellow-colored woollen cloth must have been contained in or been used as a cover for the chests.

If our arrangement of fragments *d* and *h* of Stele I is correct, a very rough approximation of the cost of the material can be obtained. Only the first numeral of the sales tax is preserved, but this is an obol sign, which means that the price of the cloth was some figure between one obol and 49 drachmas 5 obols.

5. *τρίβων* (II, 105-111). Thick cloak or mantle. For a description of the various types, see M. Brillant in Daremberg-Saglio, *Dictionnaire*, s.v. *Tribon*, also G. Leroux, s.v. *Pallium*, p. 290a; and E. Schuppe, *R.E.*, s.v. *Tribon*. It is noted by these authors that the original and early use of this word had nothing to do with 'used or ragged clothing,' but that the *tribon* was rather a particular type of dress. The definition of

<sup>20</sup> *Syll.*<sup>3</sup>, 736, lines 15-20.

<sup>21</sup> I, 209-210. The sales tax is inscribed on one stone, the word *himation* on another. Their position with relation to one another is determined by counting upwards from the original last lines of columns III and IV of the stele.

<sup>22</sup> See Boisacq, *Dictionnaire*<sup>4</sup>, s.v. *κρέκω*. It is not to be confused with *kroke*, meaning 'pebble,' which is of different derivation.

<sup>23</sup> See Blümner, *Technologie*, I<sup>2</sup>, p. 251, and IV, p. 522.

<sup>24</sup> See V. Chapot in Daremberg-Saglio, *Dictionnaire*, s.v. *Tinctior*, p. 340 b.

<sup>25</sup> Aristophanes, *Vespae*, 1413.

<sup>26</sup> *Phocion*, 28.

Liddell-Scott-Jones, 'worn garment, threadbare cloak,' is, therefore, not complete. The Spartans wore a rather short himation, made of a warm and rough material, often doubled, which was called the tribon or *tribonion*.<sup>27</sup> It was introduced into Athens following the Persian Wars, but was worn chiefly by young men, and was looked upon as a sign of poverty.<sup>28</sup>

6. Ἄμυκλάδια, τὰ (II, 203-204). Amyclean shoes. Amyclae was a city in Laconia. Hesychius defines Ἄμυκλᾶδες as an expensive type of Laconian shoe. For a description of the shoes, see Erbacher, *op. cit.*, pp. 1-2; and Hug, *R.E.*, *s.v.* *Schuh*, 748.

7. ἄσκέρα (II, 148). Shaggy shoe for winter wear.<sup>29</sup> Suidas terms it an Attic shoe. For reference to the particular type of shoe, see Erbacher, *op. cit.*, p. 3; and Hug, *R.E.*, *s.v.* *Schuh*, 748.

8. κονίπους (VI, 38; see below, p. 230, note 129).

This form [κονί]ποδες, suggested by the fact that the item came from the property of a shoemaker, was offered as a restoration for line 38 of Stele VI. Tod, however, has kindly invited my attention to the fact that the substitution of the restoration [σκίμ]ποδες would have the advantage that a fairly homogeneous group would then be listed in consecutive lines. Lines 38-42 and possibly lines 35-42 (see below, *s.v.* *κρουπέζιον*) would be items of furniture. This would seem a more probable restoration.

It may be mentioned that the *konipous* was a type of sandal which covered only part of the foot. The earliest mention of it is in Aristophanes, *Eccl.*, 848, where the context shows that it was rather elegant.<sup>30</sup> A. A. Bryant suggests that it may have been a kind of Chinese slipper without straps.<sup>31</sup> For references and a description, see Erbacher, *op. cit.*, pp. 12 and 33.

9. κρηπίδιον (II, 205). Type of sandal. The only meaning cited for *krepidion* in Liddell-Scott-Jones is 'kerb,' which is doubtless derived from the general meaning of 'groundwork, foundation' of *krepis*.<sup>32</sup> Since our word occurs after the entry for a pair of Amyclean shoes, it must be taken as the diminutive of *krepis* in the meaning of a type of sandal.<sup>33</sup> Liddell-Scott-Jones has defined *krepis* as 'man's high boot, half boot,'<sup>34</sup> but this meaning was corrected in the *addenda* (p. 2085) to 'shoe with

<sup>27</sup> Plato, *Prt.*, 342; Xenophon, *Lac.*, II, 4; Demosthenes, LIV, *Against Konon*, 34. Cf. Plutarch, *Nicias*, 19; Athenaeus, XII, 535 e.

<sup>28</sup> Aristophanes, *Eccl.*, 850; Isaios, V, *Estate of Dikaiogenes*, 11.

<sup>29</sup> So Pollux, VII, 85.

<sup>30</sup> Cf. the translation of Van Daele, 'fines sandales,' and see the commentary of Van Leeuwen, *ad loc.*

<sup>31</sup> *H.S.C.P.*, X, 1899, p. 79.

<sup>32</sup> For *krepis*, see Buck, *Dictionary*, p. 428, who derives it probably from \*(s)ker- 'cut.'

<sup>33</sup> The suffix *-ion*, when applied to footwear, usually has the meaning 'belonging to the category of'; see Petersen, *op. cit.*, p. 96.

<sup>34</sup> Also Bryant, *op. cit.*, p. 85.

upper or straps covering, or partly covering, the foot.' Gow, on the authority of Plutarch and Pliny, has defined the krepis as "a nail-studded sole with loops at the side by which it was laced to the foot."<sup>35</sup> Hippokrates, as cited by Galen,<sup>36</sup> the most ancient authority, recommended his contemporaries to "wear shoes fitted with lead, fastened on the outside by ties (straps) and having the same properties as the krepida of Chios." This probably means a heavy peasant's shoe, suitable for long walks, in which the nails of the sole are replaced by lead plates (?). E. Pottier in Daremberg-Saglio, *Dictionnaire*, s.v. *Crepida*, states that such shoes can be seen in parts of modern Greece; his article fully illustrates the sandal. See also Erbacher, *op. cit.*, pp. 12-13, and Bieber, *R.E.*, s.v. *Krepis*.

10. *κρουπέζιον* (VI, 35; see below, p. 241). The form [*κροπέ*]ζιον, which occurs in Pollux, X, where so many of our items are found, was offered as a restoration in line 35 of Stele VI. The item had belonged to Aristarchos the shoemaker. But the use of the singular number seems to weigh against this restoration, and the reading [*τραπέ*]ζιον, therefore, may be substituted.<sup>37</sup>

Pollux (VII, 87) refers to *κρούπεζα* as shoes with wooden soles. Kratinos (frag. 310: Kock, *C.A.F.*, I, p. 103) mentions these as Boeotian. They correspond to the Roman *scabellum* and are illustrated in Daremberg-Saglio, *Dictionnaire*, IV, 2, pp. 317 and 1106. For further description, see Erbacher, *op. cit.*, p. 14; and Hug, *R.E.*, s.vv. *Schuh*, 757; and *Sculponea*, 909.

11. *σκιάδειον* (II, 144). Parasol. The history of the parasol is given by G. Nicole in Daremberg-Saglio, *Dictionnaire*, s.v. *Umbrella*. The word is not mentioned in Greek authors until a date roughly contemporary with our inscription,<sup>38</sup> but the diminutive form *σκιαδίσκη* occurs in Anakreon (frag. 54, line 11: Diehl). The *skiadeion*, however, was commonly represented on vase paintings at least as early as the late sixth century B.C.,<sup>39</sup> and later especially in works of Myson, the Pig Painter, and the Mannerists generally. Vases with representations of parasols have been studied particularly in connection with the festival Skira.<sup>40</sup> Deubner has noted that there are a great number of vases in which men clothed as women or women clothed as men carry parasols.<sup>41</sup> Beazley has described these figures as komasts. The footnotes

<sup>35</sup> *J.H.S.*, LVIII, 1938, p. 190. He cites Plutarch, *Alex.*, 40, *al.*; Pliny, *N.H.*, XXXV, 85; XXXVI, 127.

<sup>36</sup> *Art.*, IV (C. Kühn, *Medicorum Graecorum Opera*, XVIII, p. 678).

<sup>37</sup> See Buck and Petersen, *Reverse Index*, p. 72.

<sup>38</sup> Aristophanes, *Equites*, 1348; *Aves*, 1508, 1550; *Thesm.*, 823, 829; Eupolis, frag. 445 (Kock, *C.A.F.*, I, p. 367), etc..

<sup>39</sup> Naples 2729, *C.V.A.*, pl. 27; and Beazley, *A.R.V.*, p. 123, no. 29.

<sup>40</sup> For a recent discussion of this festival, see F. Jacoby, *F. Gr. Hist.*, 328 (Philochoros), Notes, pp. 194-195.

<sup>41</sup> *Attische Feste*, Berlin, 1932, p. 49. Caskey and Beazley, *Attic Vase Paintings in Boston*, II, London and Boston, 1954, p. 56.

of the publications of these two scholars contain numerous references to the ceramic literature. On the Parthenon frieze, Eros holds a parasol to protect Aphrodite.

### III. FURNITURE

Our record of the sale of confiscated furniture seems to show that there was little sense of personal luxury in Athens in the last quarter of the fifth century, even among men of wealth. Doubtless the couches, chairs, and tables listed had the same elegant lines as the furniture pictured on vases and in reliefs, but there is no least suggestion of the later kind of lavishness which brought Cicero, for instance, to pay 12,000,000 sesterces for a table of rare citrus wood. Greek furniture makers knew how to make pieces that were costly as well as beautiful, but such elaborate products were not intended for private use. Stools of ebony, couches inlaid with ivory, chests of rare woods, tables with golden legs, and others covered with silver, are carefully listed as such in the temple inventories of Athens, Eleusis and Delos, but the furniture from the houses of the companions of Alkibiades was for the most part made simply of wood. A few decades later Lysias, in arguing that Aristophanes had lived modestly, maintained that the wealth of prominent men was always being overestimated by the people; Aristophanes, he said, had had to borrow table vessels when he entertained important guests, and in truth, many of the representatives of the old rich families could make no show at all in the way of furniture.<sup>1</sup> Though they may be exaggerated, Lysias' remarks reflect a kind of distaste for any exhibit of private wealth, a distaste which must have been prevalent enough at the close of the Periclean age to influence even the circle of Alkibiades in its manner of living.<sup>2</sup> Indeed, it is possible that these young men went further than most, and affected certain "Spartan" simplicities.

Even for plain furniture the prices listed in the Attic Stelai are remarkably low. When the property of Aristophanes was sold, that same household equipment which had had to be pieced out with loans from friends brought 1000 drachmas;<sup>3</sup> presumably this included the furniture, dishes and utensils (but not the doors, which had been stolen) of a fairly typical Athenian town house belonging to a man of some prominence. Yet if we use the furniture prices found in our list and mentally furnish such a house, it is almost impossible to reach a total expenditure much over 500 drachmas. Does this really mean that the friends of Alkibiades lived about as rudely as the Naxian farmer whose furniture, according to a mortgage stone of *ca.* 300 B.C., secured 500 drachmas of dowry?<sup>4</sup> Probably not; rather, the low prices should be considered as

<sup>1</sup> Lysias, XIX, *Property of Aristophanes*, 30.

<sup>2</sup> It is tempting to try to draw some conclusion from a fragment of Eupolis' *Poleis*, where household equipment is listed, but there is no knowing whether this catalogue was supposed to apply to a poor or rich, country or city, house (frag. 228: Kock, *C.A.F.*, I, p. 320).

<sup>3</sup> Lysias, XIX, 31.

<sup>4</sup> *I.G.*, XII, Suppl., 195; see Finley, *Studies in Land and Credit in Ancient Athens*, New

a result of the low demand even among the wealthier citizens of Athens for commodities like furniture, after so many expensive years of war.

Table A, wherein the furniture prices in the Attic Stelai are summarized, may help to make clear our statement about the cost of furnishing the typical Athenian house. Assume even a very large town house with an upstairs room, and a family of four adults, three children and fifteen slaves living comfortably: <sup>5</sup> if the prices of the required items of furniture, as given in our list, are totalled, the result, after amounts for utensils and furnishings have been added, is a figure of something near 650 drachmas.

TABLE A. FURNITURE PRICES

ARTICLE OF FURNITURE	ATTIC STELAI		DELOS		ELSEWHERE IN GREECE	
	<i>drachmas</i>	<i>obols</i>	<i>drachmas</i>	<i>obols</i>	<i>drachmas</i>	<i>obols</i>
ἀνάκλισις	2	1				
	or 6	1?				
βάθρον	1	1				
δίφρος	1	2				
ἐπίκλινητρον				1 5		
θρανίδιον	5					
θρόνος						
θύρα			18		Epeidauros 3rd c.	
					{ 39	2
					{ 20	3
διάπριστος	20	4				
συνδρομάς	11	3½				
κιβωτός (θυριδ.)	21				Eleusis 4th c.	
					20	
κλίνη	{ 6				Epeidauros ca. 300 B.C.	
	{ 6	4	19		12	
	{ 8	1				
Μιλησιουργής	{ 8	1				
	{ 7	3				
κλινίδιον	6	1				
κλινητήρ						

Brunswick, 1951, p. 72. In addition, it should be noted that Finley (*Political Science Quarterly*, LXVIII, 1953, p. 255) believes that the property marked by a horos was as a rule worth at least twice the amount of the indebtedness.

<sup>5</sup> The figures for slaves are an extreme. I am well aware that Professor Gomme (*J.H.S.*, LXVI, 1946, p. 128) would not allow, on the average, more than one domestic servant per adult among the hoplite and richer classes, very few among the thetes.

	less than		
κοίτη	5		
λυχνεῖον		1	
παραπέτασμα	10	1	
πίναξ	6	4	12-100
πρόσκλιτρον			
σκήμπους		2	
τράπεζα	4		4 3
τετράπους	6	2	
φάτνη	10	1	
χάμενα	17		

The economic picture which emerges from this chapter on Greek furniture is of a relatively simple mode of life. The words of Rostovtzeff, descriptive of the later, Hellenistic, period, could equally well be cited for the fifth century: "House furniture was very scanty: it consisted of a few couches, chairs, tables, and chests of various forms. In rich houses, couches for example—the best known pieces of furniture—were real products of art, being adorned with bronze sculptures (on the legs, backs, and side-supports), inlaid with ivory and coloured glass, and covered with fine mattresses, rugs, and pillows. But in the average houses all the articles of furniture were of plain design and cheap material. Table and domestic utensils, including lamps, were mostly of clay and of comparatively few shapes and plainly made."<sup>6</sup> Rostovtzeff's statement may be compared with the opening sentence of Richter's book on Greek furniture: "When we begin to study Greek furniture nothing is more striking than the comparative simplicity of the life of the Greeks." By modern standards, certainly, the Greek house must have been relatively empty.

The present chapter can be regarded only as an approach to the study of Greek furniture. Probably in no other section of this work has the need been more obvious for an authoritative work defining and illustrating all of the words studied. The present writer has of course restricted his investigation to those terms which occur in the Attic Stelai. But there is unquestionably material for an investigation of the meaning of numerous related words. Present studies do not begin with the literary material and are concerned for the most part with artistic representations and their development.

Miscellaneous household furnishings, like pillows, bedspreads, and curtains, have been considered with the furniture. From archaic times Greeks were fond of piling their couches and chairs with colored cushions, and of draping them with rugs and tapestries.<sup>7</sup> It may have been in his choice of furnishings that an Attic householder

<sup>6</sup> *Soc. and Ec. Hist. of Hell. World*, II, pp. 1203-1204.

<sup>7</sup> See G. M. A. Richter, *Ancient Furniture*, Oxford, 1926, figs. 6, 7, 69, 113, 118, 121, 152, 159, 161, 162, etc.

could proclaim his taste, for we find a plain hanging which sold for 10 drachmas, suggesting that the embroidered ones may have brought as much as two couches, or three tables, or even the price of a house door.

Those words for furniture which occur in the Attic Stelai have been studied under the following headings in this order: 1. Chairs. 2. Chests and Boxes. 3. Couches and Beds. 4. Doors. 5. Lampstands. 6. Tables. 7. Furnishings. The Greek words are arranged alphabetically under each heading.

### CHAIRS

There are six terms used in the Attic Stelai for pieces of furniture meant to be sat upon, and one more, *klinter*, which seems to have denoted something between a chair and a couch. Fifth-century painting and sculpture are rich in representations of various sorts of seats, but it is sometimes difficult to establish a definite relation between a given term and one of the pictured pieces of furniture. Richter, in her *Ancient Furniture*, has made only three large distinctions: the throne, the chair with a back (which she calls simply *klismos*), and the stool. There are two articles in the Daremberg-Saglio *Dictionnaire* (Saglio, *s.v. Cathedra*, and Chapot, *s.v. Sella*) and one by Hug in *R.E.*, *s.v. Stuhl*, but in none of these is there much attempt at a close consideration of the differences between various sorts of chairs.

1. *ἀνάκλισις* (I, 236). Chair having a back. This term appears only once in our list, in a group of furniture items. Wilhelm<sup>8</sup> assumes that *anaklisis* equals *anaklintron*, and refers to Pollux, VI, 9, where *anaklintron* is listed as a part of a bed, the same as is referred to by Aristophanes, *Eccl.* 907, as *epiklintron*. Phrynichos, 130 (ed. Rutherford, p. 207), stated that it was proper Attic usage to say *epiklintron*, not *anaklintron*, and thus in another passage on beds Pollux (X, 34) uses only the term *epiklintron*. It has been assumed<sup>9</sup> that all three words might apply to the raised end of a couch, on which one might rest an elbow while dining, or lean his head for sleep. In support of this interpretation we find that Hesychius defines *amphikephalos* as a bed which had an *anaklintron* at both ends.

However, if we do not immediately accept the equation of terms made above, but consider only the uses of the special term *anaklisis*, the result is somewhat different. In Attic inscriptions this word is associated not with couches but with various sorts of chairs. A typical entry is that of *I.G.*, II<sup>2</sup>, 1421, lines 97-99: *θρόνοι μεγάλοι τρεῖς οὐκ ὑγιᾶς ἀνακλίσεις ἔχοντες ἠλεφαντωμέναι*.<sup>10</sup> In *I.G.*, IV, 39, line 9 it is a *bathron* which has an *anaklisis*. There might be some doubt as to whether this part of the chair were the back or the arms, since according to Richter the *thronos* might appear with back

<sup>8</sup> *Jahreshefte*, VI, 1903, p. 240.

<sup>9</sup> Ransom, *Couches and Beds*, pp. 109 and 111.

<sup>10</sup> Cf. *I.G.*, II<sup>2</sup>, 1415, line 26; 1425, lines 206-207; 1460, lines 6-7.

or arms, or both, or neither; <sup>11</sup> fortunately another item in a furniture list makes it clear that an *anaklisis* is the back, against which one leans. In *I.G.*, II<sup>2</sup>, 1379, line 4, there is an *okladia* ('folding chair') which has an *anaklisis*; <sup>12</sup> the singular could conceivably be used for a pair of arms, but examination of vase-painting representations of *okladias* <sup>13</sup> shows that the Greeks sat on their folding chairs with the two rigid edges of the seat at front and back, unlike moderns. If the stool was to be collapsible an *anaklisis* could be added only at the back. The meaning 'chair-back' which is thus revealed is borne out in *Et. Mag.*, *s.v.* *κλιωτήρες* where that elongated chair or chaise-longue is described as having an *anaklisis*.

In all the cases listed above, the *anaklisis* is clearly described as a part of a chair item. There is, however, one inscription besides our own which lists it separately, as though it were not a part of anything but an independent item. This is a dedicatory inscription from western Cilicia belonging to the Roman period: the priest of a temple of Hermes records that he provided from his own funds the *anaklisis*, the *apoklimakosis*, and the *mageireion* for the temple. <sup>14</sup> Hicks has suggested that the first gift may have been an outdoor bench of some kind; whether or not this was the case, in the absence of any modification it must have been, if a piece of furniture, a whole piece. <sup>15</sup> Another inscription lists its later repair. <sup>16</sup> Robert has reported an inscription from Asia Minor which lists four *ἀνακλιτήρια* as separate items; the editor, in rejecting the sense of 'couch- or chair-rests' for this term, compares it with the *anaklisis* of the Attic Stelai, and would define both as comfortable chairs, having backs. <sup>17</sup> This seems to be the best meaning for the item as it stands in our list, since it was sold separately as a whole piece of furniture.

Price. The price of the *anaklisis* in our inscription was at its lowest 2 drachmas 1 obol; the next possible price is 6 drachmas 1 obol. If what was sold was something like one of the elegant curved-backed chairs so often seen on vases, <sup>18</sup> or if it was similar to the *klinter*, which Hesychius called a *δίφρος ἀνάκλιτος*, the higher price (nearly the same as the price of a *kline*) is appropriate. If on the other hand it was a plain straight chair having a back, then the lower price would be suitable, since a bathron sold for 1 drachma 1 obol.

<sup>11</sup> Richter, *op. cit.*, pp. 2-29, *passim*.

<sup>12</sup> Hug, *R.E.*, *s.v.* *Stuhl*, assumes that a folding stool never had a back. See Daremberg-Saglio, *Dictionnaire*, II, 480, fig. 2609, for a picture of one, from Roman times.

<sup>13</sup> Richter, *op. cit.*, pp. 39-43; no folding stools with backs are shown, however.

<sup>14</sup> *J.H.S.*, XII, 1891, p. 232.

<sup>15</sup> It should be noted that Robert, *Hellenica*, IX, 1950, p. 46, note 2, says of this item, with no explanation: "ἀνάκλισις ne peut guère s'appliquer à un meuble." Perhaps in this context, as H. A. Thompson has suggested to me, the meaning is 'ramp.'

<sup>16</sup> *J.H.S.*, XII, 1891, p. 233.

<sup>17</sup> *Hellenica*, IX, 1950, pp. 39 ff.

<sup>18</sup> See Richter, *op. cit.*, figs. 129-150.

2. *βάθρον* (II, 145; III, 11; V, 12). Bench, stool. *Bathron* is used for 'that on which anything steps or stands' (Liddell-Scott-Jones);<sup>19</sup> there are three treatments of the word as an article of furniture in Daremberg-Saglio, *Dictionnaire*. Girard (II, 468), citing Plato, *Protagoras* 325 e, translates the word as 'escabeau,' a stool or backless seat, and gives several illustrations from vases depicting school scenes.<sup>20</sup> Saglio (IV, 1111), equating *bathron* with Latin *scamnum* and *scabellum*, regards it as a footstool. Sometimes it was independent of the bed or chair; sometimes attached.<sup>21</sup> It served to help the person get up, or as a footrest. Chapot (IV, 1551), equating it with *subsellium*, regards the *bathron* as a seat in the form of a bench, often large enough for several people.<sup>22</sup> The most detailed study of the word is that of Hug in *R.E.*, *s.v. subsellium*. He refers to frescoes from Pompeii, reproduced in Blümner, *Technologie*, I<sup>2</sup>, pp. 309 ff., which illustrate this particular type of bench.

In the Attic Stelai, *bathron* is grouped in II, 145, with *thronoi* and *diphros*; in V, 12, with wooden household articles; and in III, 11, the entry is placed a few lines away from those for beds. The most appropriate of its various meanings for our context, therefore, seems to be 'seat, bench' (Liddell-Scott-Jones, no. 5), or 'stool.'

Price. The price of one *bathron*, in III, 11, if the restoration of the singular number, as seems probable, is correct, is one drachma one obol.

3. *δίφρος* (I, 235; II, 146, 223, 227). Backless stool. The *diphros* is usually taken to mean a stool without arms or back;<sup>23</sup> however, the word is sometimes used by ancient authors as a general term for any kind of seat.<sup>24</sup> It is also used on occasion for that part of a chair on which one sat, whether or not the chair had a back, for Erotian<sup>25</sup> says *πᾶς γὰρ δίφρος ἀνάκλισμον ἔχων Θεσσαλικὸς παρὰ τοῖς παλαιοῖς λέγεται*, and cites Hippokrates, *Art.*, 7, where a person is to sit in a chair (*μέγα ἔδος Θεσσαλικόν*), upon the seat (*ἐπὶ τῷ δίφρῳ*), resting his arm on the back (*ὑπὲρ τοῦ ἀνακλισμοῦ*).<sup>26</sup> Yet despite these special uses, *diphros* did ordinarily mean a backless stool; Plutarch<sup>27</sup>

<sup>19</sup> Cf. Boisacq, *Dictionnaire*<sup>4</sup>, *s.v. βαίω*. For inscriptional meanings of *βάθρον*, not found in Liddell-Scott-Jones, see Ebert, *Fachausdrücke*, p. 62. Cf. *I.G.*, II<sup>2</sup>, 1672, line 149.

<sup>20</sup> Cf. Demosthenes, XVIII, *De Corona*, 258.

<sup>21</sup> For illustrations, see Deonna, *Le mobilier Délien*, Paris, 1938, p. 11. It should also be noted that *ὑπόβαθρον* was used for footstool (*I.G.*, II<sup>2</sup>, 1485, line 54).

<sup>22</sup> Ehrenberg (*People of Aristophanes*<sup>2</sup>, p. 101, note 3) has asked the question whether *bathra* in Phrynichos, frag. 3 (Kock, *C.A.F.*, I, p. 370) refers to the seats in the theatre. The word would here seem, as Meineke concluded, to refer to the benches in the courtroom or the lecture room.

<sup>23</sup> Richter, *op. cit.*, pp. 30 ff.; Hug, *R.E.*, *s.v. Stuhl*. The latter article is the most detailed and contains useful bibliography, but epigraphical references are still made to *C.I.A.*

<sup>24</sup> For instance, Aelian, *Var. Hist.*, IX, 3; Herodotos, III, 146.

<sup>25</sup> IV, 36, *s.v. ἔδος*.

<sup>26</sup> Hug, *op. cit.*, seems not to know this passage, for in discussing the Thessalian *diphros*, which is also mentioned by Pollux (X, 47; VII, 112) and Athenaeus (XIII, 568 d), he says we have no way of knowing what sort of pieces these Thessalian stools were, but that they probably were decorated with color and had soft seats.

<sup>27</sup> *Lyc.*, 9.

distinguished *klinteres*, which had backs, from diphroi, and Hesychius makes the difference clear by defining a klinter as a *diphros anaklitos*: evidently one did not lean back in a plain diphros.

The diphros is said by Athenaeus (V, 192 e-f) to be meaner than the thronos or klismos (see *Od.*, XX, 259), but this is contradicted by its frequent mention in other authors as the seat of a wealthy or lordly man (as in *Od.*, XIX, 97, 101; XXI, 177) and by the fact that it was the term used to designate the chair of a Roman magistrate.<sup>28</sup> The diphros could be very plain and cheap, but it was not necessarily so; its essential characteristic seems to have been lightness and portability, for it was a diphros that was most commonly brought out for visitors.<sup>29</sup> The diphros was made of wood, but Demosthenes<sup>30</sup> mentions a stool with silver feet, and Richter pictures some with elegantly carved legs; among the treasures of Athena were five diphroi with round feet and one with silver feet.<sup>31</sup> In Homer the diphros often had a sheep-skin thrown over it; later a comfortable stool might have a cushion, and we find in Plato's *Republic* (I, 328 c) the phrase καθήστο . . . ἐπί τινος προσκεφαλαίου τε καὶ δίφρου. The kind of stool which was carried on the head of a girl in the Panathenaic procession can be seen in the Parthenon frieze<sup>32</sup> or in the terracotta figure in Richter,<sup>33</sup> and the four stools listed among the Parthenon treasures were probably thus carried.<sup>34</sup> There is also epigraphical mention of wicker stools with round cushions in a temple in Andania.<sup>35</sup>

Stools shown in sculpture or vase-painting usually have four legs, but the fact that Eupolis<sup>36</sup> mentioned a δίφρος Θετταλικὸς τετράπους suggests that a three-legged was possible. A folding stool was called δίφρος ὀκλαδῖος; therefore the plain diphros may be thought of as always having fixed legs. The seat might be rectangular or round, and so might the legs, which were ordinarily made each of a single piece of wood fixed to the corners of the seat by nails or pegs. The diphros is often mentioned among the furniture of the bedroom,<sup>37</sup> and it can have the special sense of toilet stool.<sup>38</sup>

Price. In our text of the Attic Stelai the price of a diphros is given once (II, 223) as 1 obol and again as .II (II, 227). A reconsideration of the photograph and the

<sup>28</sup> *δίφρος* = *sella curulis*, Polybios, VI, 53, 9; cf. Plutarch, *Caes.*, 66.

<sup>29</sup> See Gow, *ad Theokritos*, 14, 41; 15, 3.

<sup>30</sup> XXIV, *Against Timokrates*, 129.

<sup>31</sup> *I.G.*, II<sup>2</sup>, 1394, lines 13-14. *C.I.G.*, 3071, line 9, lists an ebony diphros.

<sup>32</sup> Daremberg-Saglio, *Dictionnaire, s.v. Panathenaia*, fig. 5496.

<sup>33</sup> *Op. cit.*, fig. 105. The *διφροφόρος* is mentioned in Aristophanes, *Aves*, 1550 ff. and *Eccl.*, 730-744. See also the relief from Lokroi Epizephyrioi, *Ausonia*, III, 1908, p. 204, fig. 53.

<sup>34</sup> *I.G.*, I<sup>2</sup>, 288, line 216.

<sup>35</sup> *I.G.*, V, 1, 1390, lines 23-24.

<sup>36</sup> Frag. 58; Kock, *C.A.F.*, I, p. 272. See also Pollux, X, 48.

<sup>37</sup> *Il.*, III, 424; Pollux, X, 47.

<sup>38</sup> Pollux, X, 45; Aristeides, *Or.*, 49(25), 19; Plutarch, *Lyc.*, 20.

squeeze has made it clear that the price in Stele II, 223, should be read either as | or as †, since the angle of the break in the stone makes it impossible to determine whether or not there was a horizontal stroke. The reading of one drachma is more consistent with other furniture prices, and it is probable that the price in II, 227, was 1 drachma 2 obols.

4. *θρανίδιον* (I, 140).<sup>39</sup> Bench. This form, with a suffix in *-ιδιον*, has hitherto been found only in Pollux, X, 47 (= Aristophanes, frag. 399) in a section which lists various words for stools, including *diphroi*, *bathra*, and *skolythra*. The form is listed as a diminutive in Liddell-Scott-Jones; it may more accurately be grouped with instrument nouns and names of tools which are equivalent to their primitives.<sup>40</sup> As Blümner notes,<sup>41</sup> the *thranos* is defined in the scholium to Aristophanes, *Equites*, 369, as the tanning-bench or the form on which the tanner stretches the hide. From *Plutus*, 545, it is clear that a *thranos* may be a wooden bench or seat. In Galen, 19, 104, it is explained as an excrement-stool. The word is defined by Saglio in *Dictionnaire*, IV, 1111b, as a stool or bench;<sup>42</sup> and is grouped by Hug in *R.E.*, *s.v. Stuhl*, 399, with other words for stools.

Price. The price of our *thranidion* is clearly given as five drachmas.

5. *θρόνος* (II, 145, 236). Chair of honor. Like many of the other terms in our list, the word *thronos* underwent a change and broadening of meaning in its ancient usage. At the time of Homer it was the chair which belonged especially to gods and to princes<sup>43</sup> (although, as Buck<sup>44</sup> has pointed out, it was not absolutely restricted to use by such persons); yet in late Greek, *thronos* could mean any sort of seat or chair.<sup>45</sup> However, since most literary appearances of the word from the fifth and fourth centuries continue the old idea that the *thronos* is the seat of authority,<sup>46</sup> the obvious method of finding out what a *thronos* was is to collect the chairs which we find pictured as seats of gods and kings. This is what Richter has done,<sup>47</sup> and what Hug<sup>48</sup> has also

<sup>39</sup> See Buck, *Dictionary*, p. 481. For the derivation and cognates, see also Boisacq, *Dictionnaire*<sup>4</sup>, *s.v. θράνος*. The Homeric form *threnys* is used for a 'footstool.' Cf. Athenaeus, V, 192 e. In her treatment of the footstool (*Ancient Furniture*, pp. 73-75), Richter has taken *threnys* as the title word.

<sup>40</sup> So W. Petersen, *Gr. Dim. in -ιον*, p. 226.

<sup>41</sup> *Technologie*, I<sup>2</sup>, p. 266.

<sup>42</sup> Cf. Hesychius, *s.v.*

<sup>43</sup> *Od.*, I, 130; VI, 308; VII, 95; X, 314; *Il.*, XXIV, 515, 522.

<sup>44</sup> *Op. cit.*, p. 481.

<sup>45</sup> For instance, Pollux, VII, 182. Hug, *R.E.*, *s.v. Stuhl*, assumes that this was true as early as the period of our inscription.

<sup>46</sup> For instance, Pindar, *Pyth.*, 4, 271; Euripides, *Heracl.*, 753; Aristophanes, *Ranae*, 765; Theokritos, 7, 93.

<sup>47</sup> *Op. cit.*, pp. 3-29. It may be noted that Seltman (*J.H.S.*, LXVII, 1947, pp. 22-30) in publishing two Athenian marble thrones, one of Hellenistic date and one of Roman, has collected examples of chairs represented on coins.

done, leaning more heavily on literary evidence and using fewer graphic illustrations. Both of these writers distinguish four major types of thronoi. First, and perhaps earliest, a style which Richter considers orientalizing, with low curving back, often ending in a decorative finial, and distinguished by carved legs, usually slanting outwards, terminating in animal feet. This type sometimes has an arm rest; it may have a stretcher beneath the seat, and it often shows a figure standing as a brace between legs and seat.<sup>49</sup> This chair we have absolute permission to call a thronos, for on an amphora in Paris, where the birth of Athena is shown, Zeus sits on such a seat, under which is the label Θρόνος.<sup>50</sup> The second type of seat for gods and princes distinguished by Richter and Hug is rectangular in shape, having straight rectangular legs which are often highly decorated and may be carved out in the same manner as the legs of beds. This chair may have a low or high back, or no back at all; it may have arms or not. In early examples it often shows animal or human motifs continuing on the back or in the figures in the space beneath the seat, but by the later fifth century the design had become almost purely architectural. The third type is a chair with cylindrical turned legs, with or without arms, which, like the rectangular-legged seat, may show animal motifs in the early fifth century, but soon is purified of these only to become excessively ornate in the fourth century. The final type of the thronos is the typical seat of a terracotta goddess; a variation of it can be seen in the stone seats of honor in the theatres. This thronos was made not with four legs, but with a solid box-like base which extended upwards for the back and might continue around the sides to create arms. According to Miss Richter,<sup>51</sup> the most popular of these four types in the late fifth century was the second, the throne with carved rectangular legs.

The thronos was also the seat of an authority which was neither political nor divine but pedagogic. Plato, in the *Protagoras* (315 c), places Hippias on a thronos and his companions upon surrounding bathra. Plutarch speaks of the sophist's loss of dignity when he gets up from his throne and puts aside his books,<sup>52</sup> and Philostratos frequently mentions the thronos as the seat of the philosopher.<sup>53</sup> This usage may be almost entirely post-Platonic, however, for in vase-paintings of school-room scenes from the fifth century there are teachers seated on folding stools, on plain diphroi, and on the curved-backed chair which Richter calls a klismos, but not so far as I know upon any of the types of thronoi listed above.<sup>54</sup> It was probably following this tra-

<sup>48</sup> *R.E.*, s.v. *Stuhl*.

<sup>49</sup> A variation of this first type, which Richter does not mention, can be seen in *Ausonia*, III, 1908, p. 175, fig. 29; here the base of the throne is a box set on animal feet.

<sup>50</sup> *Mon. Ined.*, VI, pl. LVI, 3; Richter, *op. cit.*, p. 8.

<sup>51</sup> *Op. cit.*, p. 25.

<sup>52</sup> *Moralia*, 43 F, *De recte ratione audiendi*.

<sup>53</sup> *Vit. Soph.*, II, 588, 591, 613.

<sup>54</sup> See Daremberg-Saglio, *Dictionnaire*, II, figs. 2599-2603.

dition of the philosopher's chair that the early Christians called the chair of a bishop a *thronos*.<sup>55</sup>

The use of the term *thronos* in other inscriptions does not help to determine its precise meaning in the Alkibiades list, for the word does not often occur, and when it does it refers to pieces of votive furniture which are neither described nor evaluated. Most probably the *thronoi* which were set up in the temples were of Miss Richter's type 4, a type very unlikely to appear in a list of ordinary household furniture because of its extra weight. A group of twelve *thronoi* is repeatedly mentioned in the accounts of the treasurers of Athena; in the Delian inscriptions a *thronos* is occasionally mentioned, apparently as the seat for a figure of a god which was held in place by a cord or chain, but the chair is not given any specific character, and the term seems to be used interchangeably with *klismos*.<sup>56</sup>

Hug believed that the *thronos* was not often a piece of furniture for ordinary household use,<sup>57</sup> but our text seems to show that it was common enough at the end of the fifth century. Richter gives one representation of a *thronos* in domestic surroundings,<sup>58</sup> but it seems at least likely that the woman who is here seated upon an ornate throne with rectangular legs is Phaedra, so that we have a princely mythological scene and not one from everyday life. However, in an archaic funerary plaque from Berlin a group of women are shown in their quarters, some sitting on *thronoi* of Richter's type 1, and some on animal-legged folding stools.<sup>59</sup> A fourth-century *lekanis*, or covered bowl, from Kertch, apparently intended especially for women's use, shows a group of women and a bridegroom gathered around a herm in the closed courtyard of a house. One lady, who is regarded as the bride's mother, sits on a throne of type 2, with a high back, arms, and rectangular, cut-out legs.<sup>60</sup> It may be that in ordinary use the *thronos* was particularly associated with women, for Pollux lists it among *τὰ τῶ κοιτῶνι παρακείμενα* (X, 47). Athenaeus quotes a phrase of Kritias about the Thesalian *thronos*, which was much admired, emphasizing the comfort rather than the prestige of the chair.<sup>61</sup>

Probably the *thronoi* of the Attic Stelai were something like the chair shown on the bowl from Kertch. It is doubtful that they were inlaid with metal or ivory, for this would have been specified, but they may have been highly decorated and elaborately

<sup>55</sup> Eusebius, *Hist. Eccl.*, VII, 30.

<sup>56</sup> *I.G.*, XI, 161 B, line 22 and note; cf. 287 B, line 20.

<sup>57</sup> *Op. cit.*, 415: "In den Darstellungen des täglichen Lebens begegnet man dem Thronsessel als Hausmöbel sehr selten."

<sup>58</sup> *Op. cit.*, fig. 51.

<sup>59</sup> Daremberg-Saglio, *Dictionnaire*, II, fig. 2597.

<sup>60</sup> Furtwängler-Reichhold, *Griechische Vasenmalerei*, Ser. 2, pp. 34 ff. and pl. 68 (= K. Schefold, *Untersuchungen zu den Kertschen Vasen*, Berlin and Leipzig, 1934, no. 10; and *Kertscher Vasen*, Berlin, 1930, pls. 13 and 14).

<sup>61</sup> I, 28 b: Θεσσαλικὸς δὲ θρόνος, γυνῶν τρυφερωτάτη ἔδρα.

carved. One last problem is whether or not the item *thronos* included a footstool. Certainly a low stool was a regular adjunct to the *thronos*; it is frequently mentioned<sup>62</sup> and pictured.<sup>63</sup> Athenaeus (V, 192 e) describes the *thronos* as ἑλευθέριος καθέδρα σὺν ὑποποδιῶ, and Hug defines it as “Lehn-Stuhl mit zugehörigem Schemel, θρήνυς.”<sup>64</sup> Since we have no θρήνυς in our list it might be tempting to suppose that a footstool accompanied each *thronos*; however, when so much of the inscription is lost, it is certainly unwise to argue from the absence of an item, and it is the practice of the list to indicate each separate piece. Either these particular *thronoi* did not have footstools, or the stools were mentioned on parts of the stone which can no longer be read.

Price. Neither price nor sales tax has been preserved for any of the *thronoi*. An Egyptian price of 20 drachmas for a throne for a festival is noted by Johnson, “Roman Egypt,” *Economic Survey*, II, p. 473.

6. πρόσκλιτρον (VI, 169). Chair with a back. This word is otherwise known only from the lexicons; we have found no examples of its usage at any time before the Byzantine period. And the lexicons are neither consistent nor very clear in their definitions. According to *Et. Mag.* the *prosklintron* is the same as the *proskliton*; then it is added that a *klinter* is a *thronos* which has a *prosklintron*, which would give us the meaning ‘chair-back.’ However, in the definition of κλήτος (519, 42) *proskliton* and *katakliton* are equated and explained as parts of the house; this interpretation is repeated under στοά (728, 12), where the porch is defined as a *proskliton*.<sup>65</sup> So from *Et. Mag.* two meanings emerge: ‘chair-back’ and ‘porch.’ Suidas, however, contains a definition of *proskliton* as ἐν ᾧ ἀκουμβίζομεν, and the *Thesaurus Graecae Linguae* follows this interpretation with: Id cui acclinare nos possumus.

Since a removable chair-back is by no means so easy to conceive of as a removable *epiklintron*, probably we must see in our item some kind of chair having a back. How it was different from the *anaklisis* cannot be decided without more evidence.

No price remains in our list.

#### CHESTS AND BOXES

1. κιβωτός, κιβώτιον (I, 215, 216, 227, 228; V, 16). Chest, box. There is a chapter on the chest in Richter’s *Ancient Furniture*, pp. 89-99, a brief article by Reincke, *R.E.*, s.v. *Truhen*, and another by Saglio in Daremberg-Saglio, *Dictionnaire*, s.v. *Arca*. G. Davidson, *Corinth*, XII, pp. 131-136, has a section on boxes and chests, but the finds she reports are of hardware and not of chests themselves, which were

<sup>62</sup> For example, *Od.*, VIII, 422; XVII, 409; XIX, 57; *Il.*, XIV, 240; XVIII, 390.

<sup>63</sup> Of 55 examples in Richter, *op. cit.*, of types 1, 2, and 3 of the *thronos* only 15 are without footstools, and these tend to be from the archaic period or the early fifth century.

<sup>64</sup> *Op. cit.*, p. 415.

<sup>65</sup> Cf. the English ‘lean-to’ for a shed attached to a major building.

usually made of wood. On Delian chests, see Deonna, *Délos*, XVIII, pp. 235 ff. For representations of chests in vase-paintings, see the red-figured pyxis published by C. Clairmont in *A.J.A.*, LVII, 1953, pp. 92-94 with references (especially W. von Masow, *Ath. Mitt.*, XLI, 1916, pp. 3-10).

These writers have assumed that the *kibotos* of the Greeks was a box, large or small, which had a hinged lid that might be raised, or closed and made fast; this was what the Romans called the *arca*. A second sort of storage box was presumably introduced later by the Romans; it was the *armarium* (*πυργίσκος* in late Greek), or upright cupboard or cabinet, having doors placed vertically at the front. A fine large cupboard of this sort is shown in a fresco from Herculaneum in the National Museum at Naples,<sup>66</sup> but Miss Richter has found no evidence of the use of this sort of cabinet by the Greeks, and she concludes, "Here . . . the Romans made an important original contribution . . ."<sup>67</sup>

However, there is a 1940 dissertation from Würzburg, by E. G. Budde, *Armarium und κιβωτός*, which would contest the purely Roman character of the *armarium*; one of its contentions is that the cupboard or cabinet appeared in Greece as early as the fifth century B.C. As literary evidence for Greek cupboards with vertical doors Budde cites Plato's *Symposium*, 215, which describes busts of Silenos: "when their two halves are pulled open, they are found to contain images of gods."<sup>68</sup> Actually there is nothing here to specify doors,<sup>69</sup> and Budde himself, following Panofka, refers us to certain German peasant wood carvings, the "Nürnberger Kapseln," for comparison, although here the upper half of the body was removed and the lower half split to reveal a scene inside.<sup>70</sup> The silenos figure may indeed have opened in this way, but it will take much more than this to establish the existence in fifth-century Greece of an upright cupboard.

The *kibotoi* listed in our inscription are of primary importance to Budde's argument, for he assumes that they could not be described as *dithyros* (I, 227), *tetrathyros* (I, 228), and *thyridotos* (V, 16), unless the 'doors' were set in a vertical plane. Nevertheless he rejects, for reasons which are not altogether clear, the interpretation of Dörpfeld<sup>71</sup> which would make the *kibotoi* standing in the arsenal of Philo open with doors at the front or sides rather than by lids at the top. Indeed, Dörpfeld's suggestion is not compelling; it seems more likely that since the chests of Philo were made to hold sails they would be similar to other Greek chests for storing clothes.

<sup>66</sup> Richter, *op. cit.*, fig. 343; cf. fig. 340.

<sup>67</sup> *Ibid.*, p. 145.

<sup>68</sup> Loeb translation by W. R. M. Lamb.

<sup>69</sup> He might perhaps have cited the bronze horse of *Republic*, 359 d, which was said to have "little doors," through which the body inside could be seen, since chests and coffins were often made on the same plan.

<sup>70</sup> *Arch. Anz.*, XLVIII, 1933, p. 390, fig. 1.

<sup>71</sup> *Ath. Mitt.*, VIII, 1883, p. 164.

They would be large and low, for the sails could be folded one directly on top of another, and shelves, which would be necessary for a high cupboard with front openings, would only be a useless expense. If the tops of these chests were open their contents would be visible for a passing inspection, as the inscription provides.<sup>72</sup> It may be noted that Marstrand<sup>73</sup> has reconstructed the kibotoi of the armory with open grillwork panels set in their sides; there is no evidence for such a detail in the words of the inscription, but openings of some sort would be effective in discouraging mildew in the sails, and Marstrand's notion is interesting in connection with the chest of our list which is called *thyridotos*, 'having apertures.'

At any rate, Budde does not cite the chests of Philo as examples of his Greek *armaria*. He admits that representations of cupboards are extremely rare in Greek art but he believes that he has found some in the fifth-century reliefs from Lokroi Epizephyrioi.<sup>74</sup> In these scenes there is frequently shown what seems to be a chest placed on rather long legs so that it attains the height of a table. These are highly decorated pieces, and on the vertical face which is shown in full there are usually two panels set off in the carving; these Budde supposes to be the doors of the cabinet. It is easy to appreciate his interpretation of the function of the panels, and yet no one of the many reliefs offers clinching evidence. The panels are never shown ajar or being opened; never can we see anything which might have been meant to suggest hinge, knob or fastening, although this is the sort of detail which Greek artists were usually careful to reproduce. Sometimes the raised outline of the panel is so continued by the decorative scheme that a break in it would be necessary if the panel were to open as a door, and yet the border is shown as perfectly continuous.<sup>75</sup> And we know that some of the panels certainly did not open, for they are shown on a table with a very deep facing around the top,<sup>76</sup> and again, and this is a strong point against Budde, the same sort of panel is shown on the side of a chest, the top of which a woman is in the act of raising.<sup>77</sup> One fact which Budde might note but does not is that the tops of these small chests or tables are often laden with objects; however, the presence of these objects discourages the idea of a top opening only if we must believe that the chests were frequently opened; and since these particular reliefs show cult scenes, it may be supposed that the chests contained sacred objects which were not often brought out. Two of the Locrian chests had on their paired front panels representations of a pair of tiny, double-leaved doors, complete with lintels and consoles.<sup>78</sup> These were thought

<sup>72</sup> *I.G.*, II<sup>2</sup>, 1668, lines 85 ff.

<sup>73</sup> *Arsenalet i Piraeus og Oldtidens byggeregler*, Kopenhagen, 1922, pp. 116 ff.

<sup>74</sup> *Ausonia*, III, 1908, pp. 136 ff.

<sup>75</sup> *Ibid.*, fig. 47.

<sup>76</sup> *Ibid.*, fig. 48; an altar, according to Quagliati.

<sup>77</sup> *Ibid.*, fig. 63. See also Clairmont, *op. cit.*, pl. 51, fig. 11.

<sup>78</sup> *Ibid.*, figs. 77 and 78; cf. Studniczka, *Abh. der königl. sächs. Gesellschaft der Wissensch., Phil.-hist. Kl.*, XXX, Leipzig, 1913, p. 165, figs. 48, 49. The fact that a pot might be placed on

by Quagliati to be merely decorative carving,<sup>79</sup> but Budde and Studniczka have taken them to be the functioning doors to the chest, and Studniczka suggests that this is the *kibotos dithyros* of our inscription.<sup>80</sup> The little doors, if they opened, would offer two very restricted and awkward entrances, through which only very small objects could be introduced, although the space within was quite large.<sup>81</sup> Yet, whether or not they opened, they do constitute a representation from the fifth century B.C. of a door placed vertically in the face of a piece of furniture not unlike the usual chests, which sometimes also stood on legs. The question is: does such a cupboard, though only so doubtfully established, suit the terms of our inscription better than the well authenticated chest?

First it must be established that the mere use of the term 'door' does not, as Budde assumes, necessitate a vertical plane. A *thyra* was primarily an entrance, and the fact that it could be thought of in a horizontal plane is made clear by the term used for a trap-door, *thyra katapakte* (Herodotos, V, 16). It seems reasonable to assume that the chest which is described as *thyridotos* (V, 16) had apertures of the sort supposed by Marstrand. The same sort of open grillwork panel can be seen on a chest found in a Euboean chamber grave, a chest which incidentally shows a plain panel in its own front surface which clearly did not open.<sup>82</sup> A *kibotos* of this sort would open in the usual way, with a lid at the top.

The two-doored *kibotos* (I, 227) might easily have been one of the known types of chest. In the case of a large chest, it would be natural to divide the lid, which otherwise might be too heavy to lift easily, and to compartmentalize the interior; this would provide the usefulness of two chests, while the cost would hardly be increased. Since these chests are nearly always shown in profile, the possibility of a split lid can neither be confirmed nor ruled out by a study of vase-paintings and reliefs. Miss Richter has found a variation in the coffin-chest, with gabled top, which would also lend itself to a two-doored construction.<sup>83</sup>

The four-doored *kibotos* is much harder to envisage. The only other ancient usages of the term *tetrathyros* are by Aristotle, *H.A.*, 628a, where the meaning is

top of a *kibotos* which opened by a lid is demonstrated by Furtwängler-Reichhold, *Griechische Vasenmalerei*, pl. 57, 3.

<sup>79</sup> *Ausonia*, III, 1908, p. 227. W. von Massow, *op. cit.*, p. 10, agrees, yet sees these false doors as pointing toward actual vertical doors in the *kibotai* of the Attic Stelai. Note that Theophrastos, *H.P.*, V, 7, 6, mentions the ornamental work which was frequently glued to the surface of the chests.

<sup>80</sup> *Op. cit.*, p. 165. It should be noted that Studniczka nevertheless treats the pieces as examples of the *kuliouchion*, 'buffet' or 'side table,' and refers to Brunn, *Monum. Annali Bull. d. Inst.*, 1856, p. 114, where these same pieces of furniture are called cult tables.

<sup>81</sup> It should be remembered that Miss Richter was not unaware of the Locrian reliefs when she reached her conclusion that the cupboard with vertical doors in its face was an invention of the Romans.

<sup>82</sup> Vollmoeller, *Ath. Mitt.*, XXVI, 1901, pl. XIII.

<sup>83</sup> *Op. cit.*, pp. 94 ff., figs. 232, 234.

'four-chambered,' rather than 'four-doored,' and Kallixeinos, *ap.* Athenaeus, V, 205b, where a single doorway in a ship's hold apparently had four leaves.  $\tau\epsilon\tau[\rho\acute{\alpha}\theta\upsilon\rho\omicron\varsigma]$  has been restored in the text of Stele I, line 228, by all editors; the only other possibility would seem to be *tetrapous* (as *diphros tetrapous*, Eupolis, 58: Kock, *C.A.F.*, I, p. 272; *Pap. Oxy.*, 646; Epicharmos, 149), that is, a chest standing on four legs instead of resting directly on the ground or on a low stand. This alternative restoration is not very attractive since by the late fifth century nearly all chests stood on legs; Richter shows only one which does not.<sup>84</sup> Either the chest or the coffin-chest might well have been divided into four compartments, each with its lid, and this would be our preference, although admittedly we have no evidence for such pieces.<sup>85</sup> In the same way, a cupboard of the Locrian type could be broadened so that it would offer four doors in a row, or it could be heightened by the addition of another two-compartment tier. This last possibility seems the least likely, since the only representations we have of a possible Greek cupboard show a piece of furniture which was clearly used as much for a low table as it was for a chest, and the pieces may actually have been only tables, as was suggested by Brunn.<sup>86</sup> We cannot then assert that this kibotos tetrathyros was definitely either chest or cupboard; certainly Budde cannot use it as a proof of the early existence of the cupboard form.

Whatever their shape, the kibotoi were made of wood<sup>87</sup> with lids (or doors) attached by metal hinges.<sup>88</sup> From vase-paintings it can be seen that the usual method of closing was with thongs bound around two knobs, one on the body of the chest and one on the lid.<sup>89</sup> A kibotos could be even more firmly sealed if necessary, for in *I.G.*, II<sup>2</sup>, 1469, line 102, there are chests which are specified as *sesemasmene* and *asemantos*. The kibotos could be used for storing clothes,<sup>90</sup> or money,<sup>91</sup> or scrolls and documents,<sup>92</sup> or miscellaneous objects.<sup>93</sup>

<sup>84</sup> *Op. cit.*, fig. 224.

<sup>85</sup> In *Insc. Délos*, 442 B, line 25, there is a list of vessels from the first, second, and third *rhymoi* of a kibotos. It has been generally thought (Homolle, *B.C.H.*, VI, 1882, p. 90, note 3; Holleaux, *B.C.H.*, XXXI, 1907, pp. 53-56) that in the inventories the word *rhymos* meant 'group' or 'class,' and it might then seem possible that in this Delian chest there were actual compartments, conceivably with separate lids. But D. B. Thompson (*Hesperia*, XIII, 1944, p. 186) has shown that in some Athenian records the word means the 'yard' or lever (*statera*) of the weighing instrument. We must then take our Delian word to refer to 'weighing-lots.' In connection with the word *rhymos*, it may be noted that in the inventory *I.G.*, II<sup>2</sup>, 1443, the numerals modifying the word run as high as twenty-two (lines 12-71).

<sup>86</sup> *Loc. cit.* They are called tables also by the Brit. Mus., *Greek and Roman Life*, 2nd ed., London, 1920, p. 41, fig. 31.

<sup>87</sup> On occasion a kibotos might be of ivory or bronze, or even papyrus (*Insc. Délos*, 442 B, line 214; 443, line 138), but these materials would be specified in a list such as ours.

<sup>88</sup> Deonna, *Délos*, XVIII, pp. 242-244; Davidson, *loc. cit.*, and p. 129 for bone hinges and knobs.

<sup>89</sup> Richter, *op. cit.*, figs. 236-241.

<sup>90</sup> Aristophanes, *Vespae*, 1056; Athenaeus, III, 84 a; *I.G.*, I<sup>2</sup>, 386, line 22; XI, 2, 287 A, line 49.

<sup>91</sup> Lysias, XII, *Against Eratosthenes*, 10; *I.G.*, II<sup>2</sup>, 1388, line 61.

The diminutive *kibotion* has been grouped with its primitive *kibotos*. W. Petersen<sup>94</sup> has shown that the diminutive may mean 'a small box,'<sup>95</sup> or it may mean 'that which is like a box,'<sup>96</sup> or it may simply mean 'box,' regardless of size.<sup>97</sup> The word is frequently used in the Delian inscriptions, where it probably did refer to a fairly small box, since it was nearly always used as a place to store gold ornaments, crowns and rings, or glass cups.<sup>98</sup> In domestic use the *kibotion* would contain jewelry, money, or utensils; Pollux (X, 61) mentions *kibotia grammatophora*, which held the papyrus rolls of a teacher. Like the ordinary *kibotos*, the smaller box was usually of wood but might also be of ivory or metal.<sup>99</sup> These boxes unquestionably opened at the top, and the box described in Stele I, line 215, as *πλατύ*, 'broad,' probably looked something like Miss Richter's fig. 240.

Price. The price of the *kibotos thyridotos* (V, 16) must be restored as at least 21 drachmas, the highest price we have found for any piece of furniture; only the folding doors were more expensive at 23 drachmas 1 obol. This chest must have been quite large (in more than one legend the *kibotos* was big enough for a man to hide in), but the price may also be partially explained by the fact that the grillwork of carved wood or metal would add considerably to the value of the chest. It is reasonable to suppose that the other chests sold at somewhat lower prices. In the records of the temple at Eleusis for 329/8 B.C. a *kibotos* is valued at 20 drachmas.<sup>100</sup> One other not very indicative comparative price has been found: in the Delian accounts of 250 B.C. a workman was paid 5 drachmas (a high wage) for the repair of a *kibotos*.<sup>101</sup>

2. *κοίτη* (I, 211, 213). Chest. As an article of furniture, *koite* has two meanings: 'couch' and 'chest.' The former meaning is well attested; see *Thesaurus Graecae Linguae*, s.v. *κοίτη* and Buck, *Dictionary*, p. 480. Most of the passages cited in the *Thesaurus* and in Liddell-Scott-Jones are from lyric poetry, and the word has been regarded as poetical for 'couch' by Ransom<sup>102</sup> and Rodenwaldt.<sup>103</sup>

Hesychius, however, has defined the *koite* as a chest in which food was carried.

<sup>92</sup> *I.G.*, II<sup>2</sup>, 1455, line 16; Aristophanes, *Equites*, 1000; in papyri the term is used to mean 'archives'; *R.E.*, s.v. *Truhe*, 704.

<sup>93</sup> Pausanias, X, 28, 3; *I.G.*, II<sup>2</sup>, 1388, lines 73 ff.

<sup>94</sup> *Gr. Dim. in -ιον*, pp. 83, 147.

<sup>95</sup> *Ibid.*, p. 83.

<sup>96</sup> *Ibid.*, p. 112.

<sup>97</sup> *Ibid.*, p. 98. We found no reference to *kibotion* in J. Friedrich, *Deminutivbildungen mit nicht deminutiver Bedeutung*, Leipzig, 1916, but it should be noted that the work is not provided with an index.

<sup>98</sup> Deonna, *Délos*, XVIII, p. 235.

<sup>99</sup> *I.G.*, I<sup>2</sup>, 314, col. I, line 25; II<sup>2</sup>, 1456, line 34.

<sup>100</sup> *I.G.*, II<sup>2</sup>, 1672, line 192.

<sup>101</sup> *I.G.*, XI, 2, 287 A, line 49.

<sup>102</sup> *Op. cit.*, p. 109.

<sup>103</sup> *R.E.*, s.v. *Kline*, 847.

He also equates it with *kiste*, which he defines as a vessel (*angeion*) in which food or clothing was placed. In Plutarch, *Phocion*, 28, reference is made to fillets which entwined the mystic koitai at the time of the celebration of the mysteries, and in this context the word has been studied by Lenormant in Daremberg-Saglio, *Dictionnaire*, s.v. *Cista*, 1205. Ancient references have been collected by E. G. Budde, *op. cit.*, p. 5. Pollux, X, 91, quotes fragments from Eupolis (frag. 76: Kock, *C.A.F.*, I, p. 276) and Pherekrates (frag. 122: Kock, *C.A.F.*, I, p. 180) to show that the koite was used for carrying food (*ὄψοφόρος*). In VI, 10, he defines the koite as the chest in which bed-clothing was stored.

In the Parthenon records beginning in 434/3 B.C., a koite of gilded wood is reported.<sup>104</sup> This item continues to be mentioned at least through the accounts of 368/7 B.C. (*I.G.*, II<sup>2</sup>, 1425, lines 271-2). In one record of the treasurers of Athena, dated shortly after 385/4 B.C., thirty bronze koitai are described as 'empty,' one without a lid (*epithema*).<sup>105</sup> Three lines above a box for alabaster ornaments was inventoried. Clearly the reference in this context and with this description is not to a bed. In *I.G.*, II<sup>2</sup>, 1485, line 58, the koite was also of gilded wood.

Liddell-Scott-Jones has defined *koite* in our inscription as 'bedstead.' But earlier Wilhelm had defended the meaning 'chest,'<sup>106</sup> in my opinion correctly. The word is inscribed only two lines from *kibotion*, 'chest,' and is preceded by articles of clothing. The definition of Pollux in VI, 10, would be most suitable for our entry. Moreover, Pollux, in VII, 159, lists *koite* with *kibotos*, *kibotion*, and other words for 'chest.'

Price. The sales-tax for our koite was one obol, if fragments *b* and *d* were given their correct positions as the writer has posited in Part I, p. 248. This means that the sales-price was some figure less than 5 drachmas. It seems reasonable to assume that our chest was of unadorned wood.

#### COUCHES AND BEDS

Our stele preserves the following words for 'beds' or 'places for lying': *κλίνη*, *κλινίδιον*, *κλιντήρ*, *σκήμπος* and *χάμευνα*. There is also listed an elbow rest for a couch, *ἐπικλιπτρον*.<sup>107</sup> The most detailed study of the couch or bed is that of C. L. Ransom (*Couches and Beds*), who devotes Chapter II to a study of the construction of the ancient couch from the modest wooden type to the most elaborate. Richter,<sup>108</sup> who uses *kline* as the index word, divides the forms of the couch into three groups according to the types of legs (animal-footed, rectangular, and turned). The main article in Daremberg-Saglio is that of Girard, s.v. *Lectus*; in *R.E.* those of Mau s.v. *Betten* and

<sup>104</sup> *I.G.*, I<sup>2</sup>, 276, line 10, etc.

<sup>105</sup> *I.G.*, II<sup>2</sup>, 1408, lines 14-15. Similarly, *I.G.*, II<sup>2</sup>, 120, lines 37 ff. (362/1 B.C.).

<sup>106</sup> *Jahreshefte*, VI, 1903, p. 240. Cf. Ransom, *op. cit.*, p. 110, note 3.

<sup>107</sup> For *κάλωσ*, which in our list refers to the strap of the bedstead, see *sub* Tools.

<sup>108</sup> *Ancient Furniture*, pp. 54-71.

of Rodenwaldt *s.v.* *Kline*. Delian beds are discussed by Deonna in *Délos*, XVIII, pp. 1-4. A convenient list of words connected with the couch is given in Reincke's 1935 article *s.v.* *Möbel* in *R.E.*, Suppl. 6, 508. More recently, Miss D. K. Hill has published a bronze couch of about the first century B.C. in *Journal of Walters Art Gallery*, XV-XVI, 1952-3, pp. 49-61. References to preserved copies of ancient couches are usually made by their numbers in the list of Greifenhagen (*Röm. Mitt.*, XLV, 1930, pp. 137-146).

The couch was a very common article of furniture. Robinson surmises that a dining room with three couches (*triklinon*) was most common,<sup>109</sup> although his reference (Athenaeus I, 23 e) hardly seems to confirm this. In the case of the men's rooms, Robinson and Graham have reported: "Of the twenty-five completely excavated androns at Olynthus . . . fifteen could have accommodated five couches 2.00 to 2.25 m. long."<sup>110</sup> Studniczka reconstructs nine couches in rooms of a house in Megara.<sup>111</sup> For an interesting list of the known numeral compounds with *-κλινος* see Buck and Petersen, *Reverse Index*, p. 273.<sup>112</sup>

1. *κλίνη* (I, 229, 233; II, 7, 241, 244, 245; III, 6 [see below, p. 228]; VI, 40, 41). Couch, bed. For the derivation of the word (*κλίνομαι*, 'recline, lie'), see Boisacq, *Dictionnaire*,<sup>4</sup> p. 470; and Buck, *Dictionary*, p. 480. The earliest occurrences of this post-Homeric word are in Herodotos (VI, 139; IX, 16) and *I.G.*, XII, 5, 593, line 6.<sup>113</sup>

The *kline* was a couch for sleeping, banquets and funerals. One could lie upon it, use it at table, or sit upon it.<sup>114</sup> The dimensions must have varied considerably; see *B.C.H.*, X, 1886, p. 467, line 143; and *I.G.*, II<sup>2</sup>, 1638, line 68. Repairs of klinai are frequently mentioned in the Delian inventories.<sup>115</sup>

Prices. So far as the writer knows, the prices of couches, as of those of other articles of furniture, have never been collected. Some prices are preserved from ancient sources. In *I.G.*, XI, 2, 287, A, line 115 (250 B.C.), the price of making 14 beds for the sanctuary of Zeus Kynthios on Delos is given as 275 drachmas, or slightly more than 19.6 drachmas apiece.<sup>116</sup> In *I.G.*, IV<sup>2</sup>, 114, lines 20-24 (*ca.* 300

<sup>109</sup> *Olynthus*, XII, p. 350. As Robinson and Graham (*Olynthus*, VIII, p. 173) note, "in later times *triclinium* became the accepted term for a dining room among the Romans."

<sup>110</sup> *Olynthus*, VIII, p. 173.

<sup>111</sup> *Op. cit.*, p. 142.

<sup>112</sup> The *ἡμικλινον*, or half-sized couch, of *I.G.*, XI, 2, 147 B, line 14, seems to have received no attention in the literature dealing with furniture.

<sup>113</sup> Cf. Buck and Petersen, *Reverse Index*, p. 292.

<sup>114</sup> See the references in the *Thesaurus Graecae Linguae*, *s.v.*

<sup>115</sup> *I.G.*, XI, 144, A, line 65; 199, A, line 27; 287, A, line 70 (this is for fixing the ropes which supported the mattress); *Insc. Délos*, 443, Bb, lines 141, 162.

<sup>116</sup> I would assume that these were beds of metal construction, especially in view of Pliny's (*H.N.*, XXXIV, 4, 9) statement that the bronze of Delos was used for triclinii. When klinai were

b.c.), the price for making 50 klinai for the inn at Epidauros is given as 12 drachmas apiece.

The evidence for the prices of klinai in our document is rather extensive. There are two entries for Milesian-made klinai in I, 229 and II, 244. In the former, eleven klinai were recorded as being sold at 90 drachmas, or 8-2/11 drachmas apiece. In the latter, one kline sold at 7 drachmas 3 obols. The unmodified entry *kline* occurs in II, 241; the sales price was 6 drachmas 4 obols. The author now believes that κλί[νε] is to be restored in III, 6, where the sales price was 8 drachmas 1 obol (see below, p. 229). A broken kline, as recorded in II, 6-7, was sold for 3 drachmas 1 obol. There remains for consideration the entry of seven klinai in II, 245. The sales-price has been read as ..ΔΔ††. One would expect the price of each of these beds to be somewhat less than that for Milesian-made klinai and roughly the same as the entry in II, 241. The most likely restoration, then, would be the figures for 42 drachmas, or an average of six drachmas per kline. The sales tax must then be restored as [II]I. Reexamination of this fragment shows that the one preserved obol of the sales tax was inscribed beneath the third obol of line 244 above; so there is room for the restoration of two obol signs to the left. The average price, then, of the Milesian-made bed is *ca.* 8 drachmas apiece; of the simple kline, *ca.* 6 drachmas.<sup>117</sup>

*Milesian beds.* The eleven klinai listed in Stele I, 229, and the one kline in I, 233, are specified as Μιλησιουργεῖς. Athenaeus in cataloguing the special products of each city cites a fragment of the fifth-century writer Kritias in which the *lechoi* (the Homeric and poetic word for couch) of Miletos and of Chios are singled out for mention.<sup>118</sup> Elsewhere Athenaeus, in discussing etymologies in -ουργεῖς, quotes another fragment from a prose work of Kritias which mentioned Milesian-made and Chian-made klinai.<sup>119</sup> In the Parthenon inventory records, Milesian-made klinai appear in the accounts for the year 434/3 and occur regularly thereafter.<sup>120</sup>

Miss Ransom has examined the view of Rayet, concurred in by Benndorf and Petersen, that the Milesian couch was a specific type having rectangular legs.<sup>121</sup> This view rests on the hypothesis that the couch with rectangular legs and incisions was

dedicated to Hera after the siege of Plataea, Thucydides (III, 68, 3) tells us that they were made of bronze and iron. Similarly, beds inventoried in the Parthenon accounts contained feet overlaid with silver (*I.G.*, I<sup>2</sup>, 276, lines 16-17, etc.).

<sup>117</sup> See Johnson, "Roman Egypt," *Economic Survey*, II, p. 473, where a triclinium and four cushions are priced at 500 drachmas.

<sup>118</sup> Athenaeus I, 28 b.

<sup>119</sup> XI, 486 e.

<sup>120</sup> *I.G.*, I<sup>2</sup>, 276, line 14. In the accounts of the Treasurers of Athena for the year 368/7, reference to the Milesian beds still appears (see *I.G.*, II<sup>2</sup>, 1425, lines 217 and 277, and Kirchner's commentary *ad loc.*).

<sup>121</sup> *Couches and Beds*, p. 54, note 5. The bibliography on this subject is given by Rodenwaldt (*R.E.*, s.v. *Kline*, 848), who concludes that up to date no results have been certain. For the application of the word *milesiourges* to metal work, see Déonna, *La vie privée*, p. 177.

distinguished in the fifth century for its elegance and richness and for the character of its design which suggests Asiatic origin. She concludes that Rayet's hypothesis is plausible but not indisputable. Richter, however, who does not refer to a Milesian type, regards the rectangular legs as "a purely Greek creation" and fails to note any Asiatic influence.<sup>122</sup> She notes many representations on Athenian vases.

One Milesian kline is designated as ἀμφικέφαλος. A word of very similar spelling, ἀμφικνέφαλλος, occurs in Pollux, X, 36. If correct, it would mean 'with pillows at both ends.' This is a *hapaax*, however, and it would seem likely that it is an error for our word. The forms are discussed by Wilhelm, *Jahreshefte*, VI, 1903, p. 237; and by Rodenwaldt in *R.E.*, s.v. *Kline*, 849. Hesychius, the *Et. Mag.*, and Photius define *amphikephalos*, which in medieval writers means 'two-headed,' as a bed which has an *anaklintron* or *anaklisis* at either end. Miss Ransom regards her figures 11 and 12 and plate I as illustrations of this type of kline.

2. κλινίδιον (III, 7). Diminutive of κλίνη. The first four letters of this word in III, 7, are wholly preserved; the fifth only partially so. The base of a vertical stroke may be seen in the photograph in *Hesperia*, XXII, plate 74, with no horizontal stroke extending from it. Since the word could not be read as *kline*, the restoration κλινί[διον] was suggested in Part I. In the line above only three letters are preserved, and the restoration *kli[nidion]* was also suggested there. But there is a difference in price of 2 drachmas and to explain this difference the writer would now prefer the restoration κλί[νε] in the upper line, with the required diminutive form for the lower price.

The word is regarded by W. Petersen as having the same meaning as the primitive *kline* and *klinis*,<sup>123</sup> and Ransom groups it with possible colloquial words for 'bed.' The word is not listed in J. Friedrich's Leipzig dissertation, *Deminitivbildungen mit nicht deminutiver Bedeutung*, and its occurrence in our list would speak for some distinction from *kline*, which would reasonably seem to be one of size.<sup>124</sup>

Price. The price of the klinidion in III, 7, is given as 6 drachmas 1 obol.

3. κλιτήρ (II, 150). Type of couch or reclining chair. In Daremberg-Saglio, *Dictionnaire*, s.v. *Cathedra*, Saglio identifies *klinter* with *klismos* and defines it as a seat with rounded and inclined back in which one could half-recline. He gives no ancient references to support this definition. Later (s.v. *Scamnum*, p. 1111b) the same writer defines the *klinter* as a seat less elevated than a *thronos*. Lécrivain (s.v. *Matrimonium*) defines the word as a bed on which the bride reclined at the nuptial feast. In the *R.E.*, Hug regards the *klinter* as a variety of *klisia* arranged for

<sup>122</sup> *Op. cit.*, p. 58.

<sup>123</sup> *Op. cit.*, pp. 222, 226.

<sup>124</sup> Suidas glosses the form as a diminutive, and Pollux (VI, 9) lists it separately from *kline* and *klinis*.

slumbering,<sup>125</sup> but Rodenwaldt follows Ransom in defining it as a poetical term for couch.<sup>126</sup> Finally, Studniczka, referring to Lucian, *Symp.*, 8, describes it as "eine lange einheitliche Bank."

In spite of so many varied definitions, there are relatively few literary references to the *klinter*. The word is applied to Penelope's bed in *Od.*, XVIII, 190, and to Simaetha's in Theokritos, 2, 86 and 113. In both passages reference is made to sleeping, in the latter for a period of ten days and ten nights. Moreover, Delphis sits down beside Simaetha on the *klinter*, and in line 139, *lektra*, 'marriage-bed,' is used as a synonym. In Lucian, *Symp.*, 8, all of the ladies who had been invited to the banquet occupied one *klinter*, and in chapter 44 during the ensuing *mêlée* one of the male guests was thrown from a *klinter*.

Two definitions of the word are preserved in the lexicographers. Hesychius defines the *klinter* as *δίφρος ἀνακλιτός*, but the plural form is defined both as *diphroi* and as *klinai*. Elsewhere in defining *δίφραξ*, presumably of Theokritos 14, 41, Hesychius equates *klinter* with a woman's *thronos*.<sup>127</sup> Photius says the *klinter* is a sort of easy chair: *εἶδος φορέιου ἔστιν δὲ καὶ κλινοκαθέδριον. Et. Mag. (s.v. πρόσκλιτρον)* calls a *klinter* a *thronos* which has a back (*prosklintron*).

The appearance of the word in our inscription shows that Ransom and Rodenwaldt erred in considering *klinter* as a poetical variant of *kline*, and, indeed, Gow has observed that it is "rare in serious poetry."<sup>128</sup> In most, but not all, of the passages it is specified that a *klinter* was an article of furniture for women. Two of the passages connect the word with leaning back. In modern Greek, *klinter* means sofa or armchair. The composite picture that emerges is of something like the modern chaise-longue: a semi-reclining seat, large enough for more than one person. Such a seat, from Roman times, can be seen in Daremberg-Saglio, *Dictionnaire, s.v. Cathedra*, fig. 1252.

4. *σκίμπος* (III, 8; V, 9).<sup>129</sup> Mean bed, pallet. A separate article by Rodenwaldt is devoted to *skimpous* in the *R.E.* This is the most detailed study of the word. The brief article of Saglio in Daremberg-Saglio, *Dictionnaire, s.v. Scimpodium*, contains in the footnotes the most complete list of ancient literary references.<sup>130</sup>

Pollux lists the word under the genus of *klinai*.<sup>131</sup> Hesychius explains the word

<sup>125</sup> *R.E., s.v. Stuhl*, 399.

<sup>126</sup> *R.E., s.v. Kline*, 847; cf. Ransom, *Couches and Beds*, p. 109.

<sup>127</sup> Gow (*ad* Theokritos 14, 41) states that the definition is "probably no more than an inference" from the Theocritean passage.

<sup>128</sup> *Ad* Theokritos, 24, 43.

<sup>129</sup> To these two references should now be added VI, 38, where the restoration [σκίμ]ποδες may be substituted for [κονί]ποδες. See above, p. 208.

<sup>130</sup> For the etymology of *skimpous*, see Walde-Hofmann, *Lateinisches etymologisches Wörterbuch, s.v. scamnum*.

<sup>131</sup> X, 35.

as *κράββατος*, from which the modern Greek word for 'bed' (*κρεβάτι*) is derived.<sup>132</sup> In the entry above, the diminutive form is defined as a 'cheap *klinidion* for one sleeper.' The scholiast on Aristophanes, *Nubes*, 254 gives *skimpous* as the Attic word for *κράββατος*. Pollux speaks of it as nothing more than a pallet.<sup>133</sup> Eustathius (*ad* Homer, *Iliad*, XVI, 608) likewise states that it is an Attic word and defines it as a cheap and low bed which is near the ground.

In *Nubes*, 254, in the caricature of the initiation of a neophyte into the secret mysteries, a 'sacred *skimpous*' takes the place of the *thronos*. At the beginning of Plato's *Protagoras* (310 c) Sokrates is represented as seated on a *skimpous*. In Xenophon (*Anab.* VI, 1, 4) the soldiers dined reclining upon them.<sup>134</sup> The picture which emerges is that of a low, humble bed, of light weight, which could be used by soldiers as a field-bed.<sup>135</sup>

Price. The price paid for our *skimpous* in Stele III, line 8, was two obols.<sup>136</sup>

5. *χάμευνα παράκολλος* (I, 231).<sup>137</sup> Veneered, low couch. Hesychius and the scholiast to Aristophanes, *Aves*, 816, define the *chameuna* as *ταπεινὴ κλινίς*, which by the etymology (*χαμαί*, 'on the ground') must refer to the low position of the bed and not to lowness in the sense of cheapness. Fraenkel (*ad* Aeschylus, *Agamemnon*, 1540) defines it as a 'poor and mean couch.'<sup>138</sup> He believes that the body of Agamemnon was exposed in a low and narrow bath-tub.<sup>139</sup> Pickard-Cambridge, on the other hand, believes that the conditions of the text are satisfied by the display of the body at the doorway on a very simple and unobtrusive vehicle.<sup>140</sup> All that is necessary to infer in the *Agamemnon*, 1540 passage is that the body of the king is in a low position.

The price paid for our *chameuna* is exactly twice the average price for a Milesian bed. Clearly, the *chameuna* was not poor and mean.<sup>141</sup>

<sup>132</sup> Cf. Buck, *Dictionary*, p. 480. *Krabbatos* is frequent in later Greek, but was condemned as un-Attic by Phrynichos, 44.

<sup>133</sup> X, 35.

<sup>134</sup> Inferior manuscripts here read *σιβάσω*, 'bed of straw or leaves.'

<sup>135</sup> Mrs. Karouzou (*A.J.A.*, L, 1946, p. 135) associates the *skimpous* with the festival of the Anthesteria, but her representations seem to be rather footstools.

<sup>136</sup> By the Roman period, *skimpous* or *skimpodium* had come to mean a single bed for a rich person. Thus Dio Cassius, LVII, 15, 4, refers to a "covered *skimpodium* such as the wives of the senators use." See Gellius, *N.A.*, XIX, 10, 1, and other references in Saglio. Cf. B. B. Rogers' note *ad Nubes*, 254. In Galen, the word is used for a sort of litter.

<sup>137</sup> For the accent of *chameuna*, see Schwyzer, *Gr. Gram.*, I, p. 476, and Buck and Petersen, *Reverse Index*, p. 294. In epigraphical publications, the word has usually been accented as a properispomenon. Liddell-Scott-Jones straddles the issue by using both accents (pp. 1313 and 1976).

<sup>138</sup> Similarly, Mau in *R.E.*, s.v. *Betten*, 371. Mau refers to an article in the *R.E.*, s.v. *χαμείνη*, which I have been unable to locate. Hesychius' gloss of *chameune* as a *stibas* (= 'a bed of straw, rushes, or leaves,' Liddell-Scott-Jones) may derive from Euripides, *Rhesus*, 9, where the *chameuna* is modified by *φυλλόσπρωτος*.

<sup>139</sup> *Op. cit.*, I, p. 175.

<sup>140</sup> *The Theatre of Dionysus in Athens*, Oxford, 1946, pp. 106-107.

<sup>141</sup> The *chameuna*, of course, might be a simple inexpensive one (*λιτή*), as in Nikainetos, 6, 3.

Whereas chameuna is defined by Liddell-Scott-Jones as 'pallet-bed,' the παράκολλος chameuna of our inscription is defined as a 'low couch with only one end to it.'<sup>142</sup> The meaning of *parakollos* is rather 'veneered' or 'tessellated,' as Blümner (*Technologie*, II, p. 328) and Ransom (*op. cit.*, p. 109) define it. Theophrastos (*H.P.* V, 7, 6; cf. IV, 3, 4) uses *παρακολλήματα* for the ornamental work attached to chests, footstools, and the like. The word means literally 'things glued on.'<sup>143</sup>

6. ἐπίκλιτρον (II, 235-236). Elbow- or head-rest for a couch. Two meanings for *epiklintron* are given in the *Thesaurus Graecae Linguae* and in Liddell-Scott-Jones: the first is 'comfortable chair or couch' and the second is 'arm or head-rest of a couch or bed.' Pollux mentions the term thrice (VI, 9; X, 34; IX, 72), in the first two cases clearly in the second sense, contrasting the *epiklintron* with the *enelata* or legs and lower frame of the bed or couch. A statement similar to that of Pollux, X, 34, is to be found in Phrynichos, frag. 130 (p. 207: ed. Rutherford), who defines *epiklintron* as the Attic word for *anaklintron*. A number of Delian inscriptions use the term, always as a part of a couch. For example, in *I.G.*, XI, 2, 147 B, lines 13-14, fifty beds are listed and four are specified as being without *epiklintra*.<sup>144</sup>

It is in fact difficult to discover upon what evidence the first meaning is based. Liddell-Scott-Jones cites in its support Aristophanes, frag. 44 (= Pollux, IX, 72),<sup>145</sup> which is inconclusive, and Aristophanes, *Eccl.*, 907,<sup>146</sup> which does not bear out this meaning, since here the *epiklintron* is thrown down from a couch, and finally *I.G.*, II<sup>2</sup>, 1541, line 26.<sup>147</sup> The latter is an inscription from Eleusis of 363/2 B.C. in which, at the end of a list of bed items, seven *epiklintra* are listed independently, followed by tables. The argument apparently is that an arm-rest of a couch cannot be a separate item in an inventory, and so these must be regarded as seven chairs. However, while this argument will hold for a chair-back, it will not necessarily apply to the elbow-rest at the end of a couch. Miss Ransom<sup>148</sup> has conjectured that some types of couch were portable and could be taken down and set up at any time; in her figure 28 she shows such a couch from two angles in a drawing which makes it clear that the

In this passage, quoted in Athenaeus, XV, 673 b, Gulick follows Dindorf in reading *χαμεινάς*, which on the evidence of our inscription must be corrected to *χάμεινα* (*χαμμευνα*: ms.).

<sup>142</sup> P. 1313.

<sup>143</sup> κόλλα = glue. For various compounds, see Buck and Petersen, *Reverse Index*, p. 367.

<sup>144</sup> Cf. *I.G.*, XI, 2, 144, line 66; 163, lines 64-65.

<sup>145</sup> τοῦτ' αὐτὸ πράττω, δὴ δ' ὀβολὸν καὶ σύμβολον ὑπὸ τῷ ἐπικλίντρῳ.

<sup>146</sup> τό τ' ἐπικλιντρον ἀποβάλοι

βουλομένη σποδείσθαι,

κάπὶ τῆς κλίνης, κτλ.

<sup>147</sup> Liddell-Scott-Jones also cites Galen 12, 302 (Kühn, XVIII:1, p. 344) as evidence for the meaning 'straight-backed chair'; however, the phrase here is ἐπικλιντρον τοῦ θρόνου, and the meaning is 'straight back of the chair.'

<sup>148</sup> *Couches and Beds*, p. 48, note 2.

basic structure was a perfectly symmetrical frame with four legs of equal length, to which was added at one end a curved rest so constructed that it could be fixed in place by means of pegs fitting into sockets made in the frame. The conjecture that such head-rests were often removable, and so could be considered separate items of furniture, finds support in the bronze beds of a later period which have been found at Priene and in the Boscoreale treasure.<sup>149</sup> These pieces have metal frames which are exactly alike at head and foot; resting lightly on the leg-tops at one end is a separate head-rest which is attached by two dowel pins which fit into small holes made both in the rest and in the center of the top surface of each leg piece.<sup>150</sup> K. G. Vollmoeller, in describing the stone beds of an Euboean tomb belonging to the fourth or third century B.C.,<sup>151</sup> assumes that the head-rests were made as separate pieces, and that they were fixed in place by a ridge which fitted into a corresponding groove in the bed frame.

There is then no reason to assume that an epiklintron was a chair simply because it appears alone in furniture lists. It was an elbow- or head-rest which could be fitted onto couches and beds, or removed, at will. This is the explanation of the term in Aristophanes, *Eccl.*, 907; according to the old hag's taunts the girl will eagerly throw away the epiklintron of her couch in the hope of being crushed by her lover, only to be disappointed in his performance.

Price. In our inscription neither the price nor the amount of the sales tax for the epiklintron is preserved. However, the Delian inscriptions offer one clear price and some indirect evidence. In *I.G.*, XI, 2, 163, lines 64-65, it is recorded that two epiklintra were bought for the beds for 3 drachmas 4 obols, or 1 drachma 5 obols each; *I.G.*, XI, 2, 144, line 66, mentions a payment of 12 drachmas for wood for the epiklintra and feet of an unknown number of beds.

### DOORS

In the Attic Stelai doors are listed among the items of furniture. This is not irregular, for apparently doors were treated as movable pieces of property. Kent<sup>152</sup> has noted that in the Delian inventories of the hieropoioi buildings were regularly listed 'with a door' or 'without a door'; he shows also that in an Attic lease inscription of 306/5 B.C. the doors and roof tiling did not belong permanently to the real

<sup>149</sup> Wiegand and Schrader, *Priene*, Berlin, 1904, pp. 378 ff., figs. 480 and 481; *Arch. Anz.*, XV, 1900, pp. 178-179; Ransom, *op. cit.*, plates VIII-XVIII. Cf. the Etruscan couch with epiklintra at both ends, Studniczka, *op. cit.*, fig. 28, and the bronze couch in the Walters Art Gallery (D. K. Hill, *Journal of Walters Art Gallery*, XV-XVI, 1952-1953, pp. 49-61).

<sup>150</sup> A description and good pictures of such rests which were found in Italy appear in *Not. d. Scavi*, 1902, pp. 448 ff., figs. 17, 19a and b, 26, 27. See also the description and photographs of what Miss Hill, *op. cit.*, terms the *fulcra*.

<sup>151</sup> *Ath. Mitt.*, XXVI, 1901, p. 371.

<sup>152</sup> *Hesperia*, XVII, 1948, p. 293.

estate,<sup>153</sup> and that in a Tenian inscription of approximately the same date the doors were clearly not a part of the house.<sup>154</sup> In addition, Kent cites Greek leases of today, according to which the lessees furnish their own doors. Finley,<sup>155</sup> however, would argue that while doors might occasionally be movable, the general practice was to consider them as a fixed part of the building, since doors and roofs were usually not mentioned in mortgage inscriptions. Yet it is dangerous to draw conclusions *e silentio*, particularly in inscriptions; moreover, we cannot ignore the high cost of wood suitable for doors. The Attic Stelai add another example to those cited by Kent of a house which is specified as 'with a door' (IV, 20).

The fact that doors were auctioned separately shows that they were in effect items of movable property; it is also clear that the houses from which they came could be rented or sold doorless, and that there was an active market for doors which were not new. We may conclude from the evidence of Kent and Finley that in the case of rented houses custom varied; clearly many tenants were expected to bring their own doors with them when they moved into a house. Thus Thucydides (II, 14, 1) relates that the inhabitants of Attica brought the very woodwork from their houses into the city with them in 431 B.C.; this does not of course necessarily mean that what they salvaged was their own, but it does mean that they thought they would have a use for individual doors. There is a passage in Lysias, XIX, *The Property of Aristophanes*, 31, which describes the precautions taken to make sure that the doors of a house were not stolen, and Robinson and Graham<sup>156</sup> note that the scarcity of door hardware to be found at Olynthos is probably due to the "wholesale removal of the doors after the destruction of the city."

The following terms for doors are used in our inscription: *θύρα, θύρα σαπρά, θύρα διάπριστος, θύρα συνδρομάδη, κλισιάδες, κλισιάδες σαπραί, κηπαία*. On the derivation of the word *thyra* see Buck, *Dictionary*, p. 465, and for a general list of Greek terms for doors, Pollux, I, 76. H. Klenk has written a Giessen dissertation, *Die antike Tür* (1924), which is based on literary and inscriptional evidence and refers to examples in ancient art. This work suffers from its lack of illustrations or diagrams, and from its failure to take advantage of archaeological findings. The use of inscriptions is unmethodical and incomplete; all the detailed evidence as to construction and cost which the building records can offer has been ignored. In H. Diels' *Parmenides* there is an Appendix, "Ueber altgriechische Thüren und Schlösser";<sup>157</sup> this is an extended commentary on the *Proemion*, 11, 11-15, but its emphasis is almost entirely upon techniques of barring and locking doors, and not on the doors themselves. There is a

<sup>153</sup> *I.G.*, II<sup>2</sup>, 2499, lines 11-14 and 30-37.

<sup>154</sup> *I.G.*, XII, 5, 872, line 44.

<sup>155</sup> *Land and Credit*, pp. 72 and 261, note 120.

<sup>156</sup> *Olynthus*, VIII, p. 257.

<sup>157</sup> Berlin, 1897, pp. 117-151; also published in his *Antike Technik*.

section on temple doors in Ebert, *Fachausdrücke*, pp. 19-22, 52-58. The most usable general article on the Greek door is that of E. Pottier in Daremberg-Saglio, *Dictionnaire*, s.v. *Janua*, which includes a number of illustrations from vase-paintings, and a history of the development of the door. The article by Ebert in *R.E.*, s.v. *Thyra* is briefer and more concerned with details of technique and terminology. On the woods used and the care taken in constructing doors, see Theophrastos, *H.P.*, V, 3, 5.

Most representations of doors in art show temple or palace entrances, but house doors are by no means unknown on vases.<sup>158</sup> References to house doors in ancient authors are frequent, but seldom explicit enough to be very helpful. Thus the most valuable treatment of doors for the purpose of this study is that of Robinson and Graham.<sup>159</sup>

Houses in Olynthos had single or double doors, and in three instances the same house had a single and a double door set side by side, one presumably for pedestrians, the other for carts and animals. The house doors were set flush in the wall, sometimes under a small projecting roof, and sometimes within a shallow porch or *prothyron*. There were no wooden doors found at Olynthos, but from odd fittings and from pictures of ancient doors it can be assumed that a house door of the fifth century was made of vertical boards held together by three cross-pieces (*ζυγά*),<sup>160</sup> the middle one a little above center, fixed by decorative bronze nails. Doorways at Olynthos were between 0.90 and 1.40 meters in width. The door was hung on a vertical pivot of wood which was as a rule tipped with bronze at the bottom end and fixed in bronze or stone sockets set in the threshold and the lintel.<sup>161</sup> These doors consistently opened inward.<sup>162</sup>

The house doors at Delos were more elegant than those at Olynthos, with stone frames and carved lintels; one in the neighborhood of the theatre measured 1.78 m.

<sup>158</sup> In vase-painting, they were especially popular in works of the Meidian circle, and most particularly on pyxides showing scenes of women's activities. See *C.V.A., U.S.A., Robinson Collection*, fasc. 3, pl. 11 and p. 20, fig. 1; *C.V.A., Bonn*, pl. 27, 4; *C.V.A., Copenhagen*, fasc. 4, pl. 162, 5 b; Furtwängler-Reichhold, *Griechische Vasenmalerei*, pl. 57, 1 and 3; Pfuhl, *Malerei und Zeichnung der Griechen*, III, fig. 580 (all double doors); *C.V.A., Bonn*, fasc. 1, pl. 25, 4 (single door); Van Hoorn, *Choes and Anthesteria*, Leiden, 1951, no. 761, fig. 117; Pfuhl, *op. cit.*, pl. 561 (double door, opened).

<sup>159</sup> *Olynthus*, VIII, pp. 153 ff. and pp. 249 ff. with plates 69-72. For stone doors, see the literature cited on page 252, note 6.

<sup>160</sup> See Ebert, *Fachausdrücke*, p. 53.

<sup>161</sup> The pivot was called *στροφεύς*, *στροφιξ* or *ἄξων*: the cap at the bottom was the *σύριγξ* or *χοινκίς* (*χοινίκη*): the socket was the *ληρός* or *ἄλμος* (*ὄλμισκος*), according to Robinson and Graham, *Olynthus*, VIII, p. 254, note 15; actual finds of these objects are listed in *Olynthus*, X, p. 295, and good pictures of them can be found in *Délos*, VIII, 2, fig. 157; cf. Wiegand, *Priene*, pp. 304 f. The socket was also *ὑποδοχείον*: *I.G.*, XI, 2, 287 A, line 116. These terms are also discussed by Klenk, *op. cit.*, pp. 39 ff., and Ebert, *Fachausdrücke*, p. 55. Some modern Greek doors still are hung in exactly the same way; see R. H. Dawkins, *B.S.A.*, IX, 1902-1903, p. 184.

<sup>162</sup> Compare this description with Parmenides' *Proem*. 11, 11-12.

in width at bottom and 1.64 m. at top, and 3.17 m. in height, but another was only 2.17 m. in height.<sup>163</sup> There is some further evidence in inscriptions as to the size of doors, but these are usually in public records and refer to buildings of considerable size. Thus we learn that the doors to the arsenal of Philo in the Piraeus were 15½ ft. high, under a lintel 12 ft. across,<sup>164</sup> and that at Eleusis the jambs of a door were made of four stones, each 5 ft. in height and 3 ft. in width, making a door of a little under 10 feet.<sup>165</sup>

1. *θύρα* (II, 13-16; V, 3, 6). Door. The Attic Stelai list one door without any description (V, 6), three *θύραι σαπραί* (V, 3), one *θύρα διάπριστος* (II, 13-14), and *θύρα συνδρομάδε* (II, 15-16) in the dual number. The listing of the rotten or damaged doors is a reminder that all of these items were second-hand, a fact which must be borne in mind when the prices are compared to prices for new objects. The first problem that arises about these terms is whether or not a door listed simply as *thyra* was single or double.<sup>166</sup> The usage of other inscriptions seems to indicate that the singular might be used to indicate the two leaves of a temple door: the expression *θυρῶν ζεύγος*<sup>167</sup> is sometimes employed, but so also is *thyra monothyros*,<sup>168</sup> which would not be necessary if the plural were always used for a double door; individual leaves of a double door are called the right or the left door.<sup>169</sup> However, since we have a separate listing of *κλισιάδες* (V, 2), which regularly has the meaning of double door (see below, p. 239), we can consider the *θύραι* in the Attic Stelai as having only one leaf. It is probably also safe to assume that these were outside doors, for the average Greek house seldom used doors inside, except occasionally for women's quarters or a store-room;<sup>170</sup> the passages from room to room were closed, if at all, by hangings (see *παραπέτασμα*, pp. 248-250).

The phrase *θύρα διάπριστος* immediately suggests the modern Dutch-door, sawed horizontally through the middle so that top or bottom may open separately. Pollux, X, 24, lists such a door, evidently having found it in a source which goes back to this inscription, for he follows it with *θύραι συνδρομάδες*, and fails to describe either. A red-figured krater in the British Museum<sup>171</sup> shows a half-door, closed at the bottom

<sup>163</sup> *Délos*, VIII, 2, p. 265.

<sup>164</sup> *I.G.*, II<sup>2</sup>, 1668, lines 30 ff.

<sup>165</sup> *I.G.*, II<sup>2</sup>, 1672, line 131.

<sup>166</sup> Gow, *ad* Theokritos 2, 6: "The plural is used in earlier Greek, as at 15.65, 24.15, 29.39, of the double doors of palace, temple or courtyard, *θύρα* being the door of a private house. T. however, uses singular and plural indifferently of Simaetha's door (31, 104, 127, cf. 6.32, 14.42 . . .)."

<sup>167</sup> *I.G.*, I<sup>2</sup>, 313, II, line 123.

<sup>168</sup> *I.G.*, II<sup>2</sup>, 1627, line 418; II<sup>2</sup>, 2500, lines 43 ff.; IV<sup>2</sup>, 110, line 33, here used to distinguish from other doors called simply *θύραι*.

<sup>169</sup> *I.G.*, II<sup>2</sup>, 1457, line 16.

<sup>170</sup> Aristophanes, *Thesm.*, 414-428.

<sup>171</sup> Walters, *Catalogue of Greek and Etruscan Vases in the British Museum*, IV, p. 43, F65 = Beazley, *A.R.V.*, p. 791, 23.

and opened (inwards, but clearly shown in perspective) at top, with a boy leaning out; this surely is the *θύρα διάπριστος*.<sup>172</sup>

The *θύρα συνδρομάδε* (dual) is a much more difficult problem, for the term itself suggests something for which we can find only one piece of evidence—a sliding door.<sup>173</sup> The expression occurs (outside of Pollux, which is not an independent notice) so far as I know only here and in *I.G.*, II<sup>2</sup>, 2500, the record of the establishment of a *synoikia* by the Eleusinians in Thriasian territory. There is a list of all the doors in the building, with the final item preserved being one sawn-through door and eleven *thyrai syndromades*.

There are several terms which are used to describe the usual pair of doors which close together at the center,<sup>174</sup> and it may be that *syndromade* was merely another of these, applying to some slight variation in the way the actual closing was made. It seems more likely, however, that the syndromas was a true folding door, that is, one made of three or four leaves,<sup>175</sup> hinged<sup>176</sup> together to make a single or double door. Such a door would be hung in the same way as an ordinary door, and so would leave no special evidence in the archaeological remains, while yet its movement in closing might accurately be described by its name. The conjecture that such doors existed at Delos and at Pompeii has already been made<sup>177</sup> and a pair can be seen on a large standing cupboard in a fresco from Herculaneum,<sup>178</sup> but they have not been connected with the term *συνδρομάς*.

Prices. Most prices which can be found are for temple doors<sup>179</sup> and so cannot be

<sup>172</sup> This example is also noted by Robinson and Graham, *Olynthus*, VIII, p. 252, note 4<sup>a</sup>. It should be remarked that Galen, 12,303 (Kühn, XVIII, 1, p. 345) describes such a door but calls it *thyrai dikleides*.

<sup>173</sup> Certainly nothing in the doorways at Olynthos showed the slightest indication of any but the type of closing described above. But the cuttings for the grille on the outer side of the doorway of the Tholos at Delphi suggest a folding arrangement: *Delphes*, II, 2, p. 17. This reference I owe to H. A. Thompson.

<sup>174</sup> *θυρών ζεύγος, θύραι δικλίδες, κλισιάδες, θύρα διπλή, πτυχές, σανίδες.*

<sup>175</sup> There are three-leaved doors pictured at Herculaneum (see Overbeck, *Pompeii*, Leipzig, 1884, fig. 77) but it is impossible to tell whether each leaf opened independently in its own doorway, or whether this was a true folding door. Vitruvius (*De arch.* IV, 6, 5-6) speaks of a four-leaved door; Klenk (*op. cit.*, p. 14) assumes that this is an ordinary double door sawn through horizontally, but this conclusion cannot be supported by any ancient evidence.

<sup>176</sup> Hinges were found at Olynthos; see Robinson, *Olynthus*, X, pp. 299-301.

<sup>177</sup> *Délos*, VIII, pp. 265-266, "Les baies des boutiques quelquefois beaucoup plus larges que celles des habitations, étaient fermées soit par de véritables portes à vantaux, soit par des volets mobiles. Il semble que, dans le premier cas, l'un des vantaux était plus large, et formé sans doute de deux panneaux de rabattant l'un sur l'autre." Overbeck, *op. cit.*, pp. 252-253, in treating the house doors at Pompeii, assumes that the three-leaved doors of the House of the Fawn and the House of Epidius Rufus had the middle panel hinged to one of its neighbors.

<sup>178</sup> Overbeck, *op. cit.*, fig. 301.

<sup>179</sup> *I.G.*, XI, 2, 199, line 76, notes payments of 570 drachmas to two workmen for doors, and *I.G.*, IV<sup>2</sup>, 102, line 37, lists a payment of 219 drachmas for doors of the *ergasterion* of the Ask-

compared to those listed in the Attic Stelai. However, there are a few modestly priced doors in other inscriptions. *I.G.*, IV<sup>2</sup>, 110, line 25, lists a payment of 20 drachmas 3½ obols for each pair of house doors made for properties at the Asklepieion at Epidauros (fourth to third century); another group of doors was made by the same workman for 39 drachmas 2 obols each, whether double or single (lines 31 ff.). In *I.G.*, XI, 2, 147, line 11, a door to the Delian *abatos* was bought from Hierakos for 18 drachmas. Another Delian house door was bought for a price which must be restored as 11 drachmas 2 obols, 12 drachmas 1 obol, or 13 drachmas (*I.G.*, XI, 2, 159, line 56).<sup>180</sup> Other prices for parts of doors can be found: *I.G.*, XI, 2, 165, line 4, lists two lime-wood boards for the *kymatia* of the pronaos doors at probably 20 drachmas, and 147, line 11, shows that the bosses for one door cost 1 drachma 4 obols.<sup>181</sup>

We cannot be sure just what the door prices listed above included; in the case of the double and single doors made for the Asklepieion, the term *θυρώματα* is used, and it is quite certain that doorposts were included, with perhaps also lintel and threshold, which would explain the high price. The first Delian door, on the other hand, was probably nothing but the leaf itself, without even its decorative bosses, which are listed as the following item.<sup>182</sup> Since the doors in the Attic Stelai were taken from houses, they presumably did not include frames or lintels; this impression is confirmed by the fact that there is a separate listing of six doorposts (see below, p. 240). Whether or not these doors still bore their metal fittings we do not know.

Price. The only door in our list for which there is an indicative partial price is the *thyra syndromas*; the restoration of a price of 23 drachmas 1 obol for the two

lepieion, where iron for two doors cost 708 drachmas (line 61) and ivory for other doors cost 3,150 drachmas (line 65). Temple doors might be decorated with designs in heated colored wax; see *Insc. Délos*, 290, lines 144 ff., where 69 drachmas were paid *τὰς προημείδας θύρας ἐγκανσαῖ* and the same for the doors behind the altar.

<sup>180</sup> There are also some inconclusive prices from Delos: *I.G.*, XI, 2, 163, lines 2 ff., mentions that Demetrios was paid 200 drachmas for making 30 minas' weight of doors and a window, but the line is incomplete; he may have made other things too, and we do not know how much a single door weighed. The fact that the weight is given suggests that these doors were metal covered. XI, 2, 154 A, line 4, notes a payment of 20 drachmas for doors and windows of the hestiatorion, but again the line is broken and we cannot be sure that this was not merely a payment for repairs.

<sup>181</sup> Some doors were covered with pitch; see *I.G.*, XI, 2, 158, line 78. We know that one metretes of pitch cost about 20 drachmas (line 76—20 drachmas 4 obols; cf. *I.G.*, XI, 2, 199, line 36) at Delos, and it is recorded in *I.G.*, XI, 2, 204, line 59, that a workman was paid 12 drachmas for thus sealing a number of doors.

<sup>182</sup> There are some recoverable prices for door hardware: *amphidai* (the rings into which the bolt slid in fastening the doors) could cost 1 drachma each (*I.G.*, XI, 2, 147, line 4) or somewhat less (several for 1 drachma 2 plus obols: *I.G.*, XI, 2, 156, line 53). *I.G.*, XI, 2, 165, line 28, lists a number of items of hardware which seem to have been bought all at the one price of 1 drachma 3 obols per mina (cf. lines 11 ff.). For the pronaos doors (line 30) 8 pairs of *choinikes* (sockets for the posts) were required, at 4 drachmas a pair. See also *I.G.*, XI, 2, 287, lines 115-116.

suits the other house-door prices which have been found. It seems likely that the price of the *thyra diaphristos* was 20 drachmas 4 obols.

2. *κηπαία* (V, 40). Garden gate. Near the listings of a *phatne* and a pigpen in Stele V is the phrase *κηπαία ἐπὶ τῷ βοῶνι*. *Kepaia* is short for *kepaia thyra* (see Pollux I, 76 and IX, 13), which is usually taken to mean the back door of a house (*Olynthus*, VIII, p. 152, note 4). That it was not merely a garden gate is shown by [Demos-thenes] XLVII, *Against Euergos and Mnesiboulos*, 53, where a violent entry into a farm house was made through the door which led to the garden (*τὴν θύραν τὴν εἰς τὸν κῆπον φέρουσιν*). A second passage which should be helpful in defining the *kepaia* is a fragment from Hermippos: <sup>183</sup> *τὴν δὲ τάλαιναν πλάστιγγ' ἂν ἴδοις παρὰ τὸν στροφέα τῆς κηπαίας ἐν τοῖσι κορήμασιν οὔσαν*. Here the *kepaia* is the door out of which refuse was thrown.

The problem to be solved in trying to visualize our *kepaia* is what the modifying phrase *ἐπὶ τῷ βοῶνι* means. If the *kepaia* is always a house door, then here we have a back door, opening into an attached cow shed, or leading to a detached cow shed. But the phrase should describe some permanent characteristic of the door—the mere fact that it once, on a certain house, led out towards a shed need not have been recorded in this list. Therefore, if these are the only alternatives, the first must be chosen, and the door thought of as of a special sort which ordinarily separated house from shed. However, it is possible that this door may have been a cow shed door and not a house door at all.<sup>184</sup> In either case the *kepaia* was presumably of much rougher and cheaper construction than any door which would be placed at the front of a house, but necessarily strong enough not to be knocked down by the animals.

3. *κλισιάδες* (V, 2, 39). Broad double door. In Stele V there are two entries, one of *klisiades* and one of *klisiades saprai*; in neither case is a price preserved. This term is derived from *κλεισίον* or *κλισίον*, which is from *κλίνω*, according to Liddell-Scott-Jones, thus doors belonging to a lean-to or outhouse. However, Pollux derived it from *κλείω* (IX, 50), and he has been followed by Dindorf. The word *klisiades* is used sometimes for an outer or street door (Dionysios Halikarnassos V, 39), sometimes for an inner door which connects the vestibule with the house (Philo Mech., I, 520). Suidas and Hesychius define it simply as a 'double door,' *θύραι δίπτυχοι*, while Pollux (IV, 125) uses it as the door of the *κλισίον*, which is wide enough to allow chariots to pass. *Et. Mag.* suggests that the connection with *klision*, which can mean stable, shows that such a door was wide enough for a yoked team,<sup>185</sup> and Herodotos

<sup>183</sup> Kock, *C.A.F.*, I, p. 238.

<sup>184</sup> On cow sheds, see H. Kraemer, *R.E.*, Suppl. 7, *s.v.* *Rind*, and Alphonse Hauger, *Zur römischen Landwirtschaft und Haustierzucht*, Hanover, 1921, especially p. 16. Doors to sheds were in demand, just as house doors were, as we know from *B.C.H.*, XXXV, 1911, p. 243, lines 50 ff., where there is mention of a *προβατώνα ἄθυρα*, and a *βούσασιν* still presumably possessing a door.

<sup>185</sup> Cf. Photius, *s.v.*, where the door is wide enough for a pair of animals.

(IX, 9) uses the term simply to denote a very broad gate in a wall (cf. Plutarch, *Alc.*, 10).

We have then a broad double door, more expensive than the doors called simply *thyrai*, which we have assumed had only a single leaf.

4. *φλιά* (V, 19). Doorjamb. Six *phliai* are listed among the furniture items in Stele V. This term seems to have had two meanings, an older, particular one—‘doorjamb,’ and a later, general one—any part of the framework of a door. However, the second usage does not appear much earlier than Apollonios Rhodios (III, 278), where the meaning is ‘lintel’; it is most frequent among very late writers (Artemidoros, *On.*, 4, 42: Schol. Gen. H to II. XXIII, 202; Quintus Smyrnaeus, 7, 338; Palladios, *Hist. Laus.*, XII, 3 and XVIII, 23; Suidas *s.v.* οὐδός). As ‘jamb’ the word appears in *Od.*, XVII, 221; Theokritos, 23, 18; Bion, 1, 87; Kallimachos, *Iamb.*, 4, 24 and 91 (Pfeiffer, frag. 194) and *Epig.*, 42, 5-6; Polybios, XII, 11, 2; Josephus, *A.J.*, V, 305.<sup>186</sup> The usual word for doorjamb in inscriptions is *parastas* (see Pollux, I, 76, where *stathmoi* are equated with *parastades*, but *phliai* are not mentioned), but *phlia* occurs in *I.G.*, I<sup>2</sup>, 386, line 6; *I.G.*, XII, 3, 170, line 24; *I.G.*, XII, 7, 237, line 50; in each of these cases the meaning is ‘jamb.’

In temples, public buildings and very fine houses the door frames were of stone<sup>187</sup> but the jambs sold among the possessions of the Hermokopidai were surely wooden, of the sort pictured in *Olynthus*, VIII, p. 250, fig. 21.

#### LAMPSTANDS

*λυχνεῖον* (II, 199-200). Lampstand.<sup>188</sup> There seems to be no reference to the word *lychneion* in Toutain’s article in Daremberg-Saglio, *s.v.* *Lucerna*, or in Hug’s in *R.E.*, *s.v.* *Lucerna*.

The most pertinent literary passage for this word occurs in Athenaeus, XV, 700 c-d,<sup>189</sup> where the author collects passages to illustrate the use of the word *lychneion* for what in his day was called *lychnia*.<sup>190</sup> Rutherford (*op. cit.*, p. 132) states that the *lychneion* was used indoors to support or suspend one or more *lychnoi*.

<sup>186</sup> See Gow’s discussion, *Theocritus*, II, pp. 47 and 410.

<sup>187</sup> See, for instance, *Délos*, VIII, 2, figs. 127-131; in *I.G.*, II<sup>2</sup>, 1672, line 129, a threshold is listed at ΔΔ., but since this one was probably of marble it does not help us to conjecture a price for the *phliai* in Stele V.

<sup>188</sup> For the etymology, see Boisacq, *Dictionnaire*<sup>4</sup>, *s.v.* *λευκός*; and Buck, *Dictionary*, p. 483. Liddell-Scott-Jones defines *λυχνούχος* as ‘lampstand.’ As Rutherford has shown (*The New Phrynichus*, London, 1881, p. 131), however, *lychnouchos* was more correctly a lantern used in the open air. See also Gulick *ad* Athenaeus, XV, 699 f in the Loeb Classical Library.

<sup>189</sup> For epigraphical references, see, for example, *I.G.*, I<sup>2</sup>, 313, line 142 (408/7 B.C.); II<sup>2</sup>, 1425, line 348; etc.

<sup>190</sup> For *lychnia*, a shortened form of *lychneion*, and condemned by Phrynichos, see Rutherford, *op. cit.*, p. 367. See also Gow *ad* Theokritos, 21, 36, vol. II, p. 377.

Our two lampstands were made of wood, and must have been of very simple construction, since the price was one obol each. An article of J. D. Beazley's on lamps of the archaic period<sup>191</sup> gives a clue to the sort of stand which seems most likely. From the lamps collected, three sorts of stands can be inferred: (1) a tripod,<sup>192</sup> wall bracket, or upright with an arm, from which the lamp was suspended by chains or thongs; (2) a stand ring, of metal or terracotta, in an ornate or simple form<sup>193</sup> (a wooden stand ring is not likely); (3) a spike which went through the central hole of a circular lamp, with a ridge at a short distance from the top, on which the lamp would rest; at the bottom some kind of flat base to allow the spike to stand upright.<sup>194</sup> This last type suits the qualifications of our entry very well, since it would be easily made of wood and simpler even in construction than type 1, so that it might well sell for an obol. That such stands were common is shown by the number of lamps of the pierced variety which have been found.<sup>195</sup>

Price. The price for the two wooden lampstands was two obols. For prices of expensive lampstands from Roman Egypt, see A. C. Johnson, *Economic Survey*, II, p. 473.

#### TABLES

1. *τράπεζα* (I, 110, 230; II, 149, 221, 222, 242-243; V, 88) and *τραπέζιον* (VI, 35; see above, p. 209). Table. The word *trapeza* originally meant 'four-footed'<sup>196</sup> and applied to a table around which people sat to eat. When the Greeks began to dine from couches a much smaller table could be used, and since it was customary to bring in tables and remove them sometimes several times during a meal,<sup>197</sup> they came to be of the lightest possible construction. The table most frequently pictured in the fifth century was small and rectangular, with two legs at the corners of one end, and a single leg centered at the other end.<sup>198</sup> This table continued to be called, inappropriately, a trapeza, but it could also be called a *tripous*.<sup>199</sup> The jokes of Ulpian Epicharmus

<sup>191</sup> *J.H.S.*, LX, 1940, pp. 22-49.

<sup>192</sup> Antiphanes (frag. 110: Kock, *C.A.F.*, II, p. 54) describes an improvised lychneion in the form of a tripod: "We fasten three javelins upright together and use them as a lampstand."

<sup>193</sup> Beazley, *op. cit.*, fig. 30; O. Broneer, *Corinth*, IV, 2, p. 49, fig. 24 (Hellenistic); Daremberg-Saglio, *Dictionnaire, s.v. Lucerna*, p. 1335, fig. 4606; Wiegand and Schrader, *Priene*, fig. 484; *Arch. Anz.*, 1900, p. 182, fig. 7.

<sup>194</sup> However, see H. A. Thompson, *Hesperia*, II, 1933, p. 198, note 1, who alone among those who have studied lamps seems to have doubts about this type of stand.

<sup>195</sup> Beazley, *op. cit.*, pp. 30, 33, 46; Broneer, *op. cit.*, p. 33; Deonna, *B.C.H.*, XXXII, 1908, pp. 140 ff., with references; Howland, *Athenian Agora*, IV, *Greek Lamps* (in press), Types 11, 19, 22, 26 A, 27 A-D.

<sup>196</sup> Buck, *Dictionary*, p. 483.

<sup>197</sup> For the use of tables in Greece, see, in particular, Richter, *op. cit.*, pp. 76 ff.

<sup>198</sup> Richter, *op. cit.*, figs. 195-205; Daremberg-Saglio, *Dictionnaire, s.v. Mensa*. Note also the greater stability of a three-legged table especially on a clay floor.

<sup>199</sup> For references to representations of tables of three legs from antiquity, see Schwendemann in *Jahrbuch*, XXXVI, 1921, pp. 114-120.

and Aristophanes quoted by Athenaeus<sup>200</sup> are evidence that either term was used simply as a generic for 'table,' and one might find himself calling a four-legged piece *tripous*, or a three-legged one *trapeza*.<sup>201</sup> One of the tables in the Attic Stelai is specified as *τετράπους* (II, 242-243), which leads us to the conclusion that the others mentioned had only three legs.

The second question which arises concerns the shape of the tables in our list. Blümner, in his early article on Greek tables,<sup>202</sup> spoke of rectangular and round tables as main-course and dessert pieces, without considering which was the older form, but it is now customary to say that the round table so frequently seen on late pots and reliefs was not introduced until the fourth century.<sup>203</sup> I have seen no specific literary reference to a round table earlier than the first century B.C.; Asklepiades of Myrlea explains in a passage quoted by Athenaeus (XI, 489 c) that the ancients thought the universe spherical and for this reason *τὴν τράπεζαν κυκλοειδῆ κατεσκευάσαντο*. Studniczka for some reason assumes that any table called a *tripous* was round and so cites Xenophon, *Anab.*, VII, 3, 21 and Antiphanes, frag. 287 (Kock, *C.A.F.*, II, p. 127), although there is nothing in either of these passages to suggest roundness. On the contrary, we know that the term *tripous* did not necessarily mean a round table, for in Athenaeus' (II, 49 a) anecdote of Ulpian it was applied to a rectangular four-legged table. However, if Pollux (X, 81) is right, the Attic Stelai once contained the term *τράπεζα μονόκυκλος*, which could only have been a circular table (the top was presumably made of a single piece); thus the period of the introduction of this style would have to be pushed back to the late fifth century. One would expect a new style to appear first at Athens, and in the houses of rich and fashionable men; we may suppose that this round table had the carved animal legs which characterized the round pieces of the following century.

Probably the tables which were listed simply as *trapeza* were rectangular, three-legged, and of the small size which might fit under a couch.<sup>204</sup> Such tables were made

<sup>200</sup> II, 49 a and c.

<sup>201</sup> Pollux (X, 69) notes that there was a sort of drinking table called a *τράπεζα μονόπους*.

<sup>202</sup> *Arch. Zeit.*, XLII, 1884, 179 ff. and 285; XLIII, 1885, 287 ff. He is followed by Kruse, *R.E.*, s.v. *Mensa*.

<sup>203</sup> Richter, *op. cit.*, p. 87, where it is called "a Greek invention"; Reincke, *R.E.*, Suppl. 6, s.v. *Möbel*, p. 505, "Mit orientalischen Einflüssen zusammenzubringen ist wohl auch die im 4 Jhd. neu auftretende Form des runden Tisches mit drei Tierfüßen"; Studniczka, *op. cit.*, pp. 123 ff.; Furtwängler, *op. cit.*, p. 38, of a round animal-legged table, "dergleichen niemals auf Vasen des fünften Jahrhunderts vorkommt." For other round tables, represented on the painted stelai of Demetrios Pagasai and dated at least as early as the third century B.C., see A. S. Arvanitopoulos, *Γράμματα Στεγμάτων*, 1928, pl. 10 (stela of Demetrios, son of Olympos) and pl. 7 (stela of Phila), both of which have more or less 'naturalistic' animal legs, three in number. Cf. also the 'drum table' in pl. 5 (stela of Choirile).

<sup>204</sup> A Delian inscription of 364 B.C. distinguishes small and large tables, but gives no real indication of the size of either type; *B.C.H.*, X, 1886, p. 467, line 145.

of wood, maple ordinarily,<sup>205</sup> or citrus for more expensive pieces. Luxurious tables might be carved and inlaid with ivory,<sup>206</sup> decorated with bronze or silver feet, or even coated with silver.<sup>207</sup> The legs were attached to the top, according to Richter,<sup>208</sup> by wooden dowels; but in the Delian lists table items are usually followed by mention of bronze ἤλοι; either these were for decoration or else they were used to hold the piece together. In *I.G.*, XI, 199 A, line 43, it is specified that the nails were used in the feet (i. e., legs) of a table. The most famous ancient tables were Sicilian; a 'Syracusan table' was one that was both elegantly made and heavily laden.<sup>209</sup>

Prices. In I, 230, four tables were sold for 16 drachmas, or 4 drachmas apiece; in II, 242-3 the four-legged table, which was probably larger, sold for 6 drachmas 2 obols. The one clear-cut table price I have found in the Delian inscriptions is 4 drachmas 3 obols for a *τράπεζα εἰς ἱεροπόσιον*.<sup>210</sup> Tables comparable to those in the Attic Stelai are probably referred to in *I.G.*, XI, 2, 144 A, line 60, where a workman was paid 7 drachmas to repair the doors and tables of the Dioskourion, using for the table bases wood bought for 4 drachmas 3 obols, and 2 drachmas' worth of nails. There were surely only two or three tables repaired at this time, since the price of a single nail was about 4 obols (*I.G.*, XI, 165, lines 13, 27), and thus only three or four at most were used. In the repair of the tables of the hestiatorion in the Asklepieion in the same year (line 67) boards for the tops and bases cost 12 drachmas but we do not know how many tables there were.

Pliny reports that Cicero paid a half-million sesterces for a table of Mauretanian citrus wood and ivory; a hanging table of King Juba was sold for 1,200,000 sesterces, and a table from the estate of the Cethegi was sold for 1,300,000 sesterces, the price of a large estate.<sup>211</sup> It is interesting to note the relatively small size of the tables which Pliny mentions as the largest yet known: a table-top of only 4½ feet in diameter heads the list.

2. *φάτνη* (II, 39; V, 37). Manger, table. The specific meaning of *phatne* must be determined by the context.<sup>212</sup> In architecture, the word was used for the coffer of

<sup>205</sup> Kratinos *ap.* Athenaeus, II, 49 a; Pollux, X, 35. Wicker tables are restored in *I.G.*, I<sup>2</sup>, 313, line 143.

<sup>206</sup> Athenaeus, II, 49 a. See G. Bakalakis, *Ἑλληνικὰ τραπεζοφόρα*, *University of Mississippi and Johns Hopkins Studies in Archaeology*, No. 39, Thessaloniki, 1948.

<sup>207</sup> *I.G.*, XI, 199 A, lines 82 ff. Herodotos, IX, 82, 2, mentions gold and silver tables among the possessions of Xerxes.

<sup>208</sup> *Op. cit.*, p. 81.

<sup>209</sup> Aristophanes, frag. 216 *ap.* Athenaeus, XII, 527 c; [Xenophon], *Epist.*, 1, 8; Plato, *Rep.*, III, 404 D; Lucian, *De mort.*, 9, 2.

<sup>210</sup> *I.G.*, XI, 2, 161 A, line 110 (279 B.C.).

<sup>211</sup> Pliny, *H.N.*, XIII, 92-93; see also R. M. Haywood, "Roman Africa," *Economic Survey*, IV, p. 25; and *R.E.*, *s.v. Citrus*.

<sup>212</sup> For the derivation of the word, see Boisacq, *Dictionnaire*<sup>4</sup>, *s.v. πάθνη*, a form which was supplanted by the Attic *phatne*.

the ceiling. It is there synonymous with *phatnoma* and in one building inscription the price for executing the work is given as 300 drachmas per phatne.<sup>213</sup> A coffer might be of wood, just as the phatne was in Stele II, 39.<sup>214</sup> However, the usual meaning of *phatne* is 'manger, feeding-trough,' for which Liddell-Scott-Jones gives numerous references. For example, Herodotos (IX, 70) states that the Tegeans dedicated to Athena Alea a bronze phatne which they found in Mardonios' tent on the Plataean battlefield.

Two factors must be considered in defining our phatne. The first is the position in the list; the second is the price. The entry in Stele II follows that of the entry for *kiste*, 'box' or 'basket'; in Stele V, those of *plinthoi* and *staphylobouloi*. In Stele II our article was made of wood, and the price is given as 10 drachmas 1 obol. It is possible that there was an otherwise unattested chest which was named *phatne* because of its shape, just as the coffer of the ceiling was so called because of its resemblance to a box. This would explain the juxtaposition of our entry to *kiste*. But Hesychius defines *phatne* simply as a *trapeza* and this definition is repeated in Suidas. The passages cited in Suidas are proverbial in the sense of ease and comfort and this is the use recognized in Liddell-Scott-Jones. For example, Euripides, frag. 379: ἡ τις . . . πλουσίαν ἔχη φάτνην. Back of this, however, may be the use of *phatne* as a 'dining table.' Hesychius' definition could then be understood in a literal sense.

#### FURNISHINGS

1. ἀμφιτάπης (I, 164-172).<sup>215</sup> Rug or blanket with pile on both sides. For the meaning of *amphi-* 'on both sides,' see Schwyzer, *Gr. Gram.*, II, p. 437. For the Iranian derivation of the word, see Boisacq, *Dictionnaire*<sup>4</sup>, p. 942; and Schroff, *R.E.*, s.v. *Tapes*. The word is defined in several lexicographers including Suidas, s.v.; Pollux, VI, 9; and Eustathius (*Commentarii ad Homeri Iliadem* . . . , p. 746, 39, citing Aelius Dionysius and Pausanias; and p. 1057, 8)<sup>216</sup> as a *tapes* having wool (*mallos* or *dasys*) on both sides.

The hitherto earliest known occurrence of the word was in the fourth-century comic poet Alexis (frag. 93: Kock, *C.A.F.*, II, p. 327). In a fragment from Diphilos the speaker had apparently been sleeping under the amphitapes.<sup>217</sup> In Athenaeus V,

<sup>213</sup> *I.G.*, XI, 2, 161 A, line 46. Cf. also the Delian account of the year 279, *Insc. Délos*, 504.

<sup>214</sup> *I.G.R.*, IV, 556 (Ancyra). For a study of *phatne* as an architectural term, see Ebert, *Fachausdrücke*, p. 47. Cf. *I.G.*, IV<sup>2</sup>, 1, 109, III, line 85.

<sup>215</sup> For *dápis* (*vel* *τάπης*), q.v.

<sup>216</sup> Cf. the convenient list of references in the *Thesaurus Graecae Linguae*. One lexicographer, Hesychius, offers a different definition, as follows: χιτῶν ἐκατέρωθεν ἔχων μαλλούς. Dindorf (*ad Thesaurus*) suggests that the first word is repeated from the definition of ἀμφιμάσχαλος.

<sup>217</sup> See Kock's note *ad* frag. 51 (*C.A.F.*, II, p. 558); and Studniczka, *op. cit.*, p. 121: "Zweiseitig wohl deshalb, weil sie auch zum Sinwickeln des gauzen Bettzeugs dienten."

197 b, purple amphitapoi were spread over the klinai (couches);<sup>218</sup> and in VI, 255 e, a young man of princely rank was covered with an amphitapos as he lay upon his couch spread with a *psilotapis*. In Homer, the uncompounded form *tapes* was used as a carpet, but more frequently signified a covering for seats and beds. In Pollux, X, 38, it is grouped with furnishings for beds. Whereas *tapes* designates various woven goods which are used for the furnishings of a house, all references to the compound *amphitapes* seem to be to a sort of blanket; this is not surprising since the amphitapes was reversible.<sup>219</sup>

The amphitapetes are qualified by two adjectives:

A. *λευκός*, white. For *leukos*, as applied to a color, see the numerous references in the *Thesaurus* and in Liddell-Scott-Jones. For example, in Aristophanes, *Ach.*, 1024, the reference is to the white, or homespun, himation of the rustics from Phyle.<sup>220</sup> In the Diocletian Edict, covers (*stromata*) were to be sold according to the dyeing and embroidery.<sup>221</sup>

For *poikilos* as a descriptive adjective of bedding or carpets, see, e. g., Aeschylus, *Ag.*, 923; Plutarch, *Them.*, 29.

B. *Ὀρχομένιος*. The preserved letters are as follows: OIX[.]MENIO. In the left part of the fourth letter space there are probably traces of an omicron. The second and third letters were cut very close together; no correction of the upright stroke was possible without erasure. The original editor suggested *Ὀ<ρ>χ[ο]μένιο(ς)*,<sup>222</sup> which seems the only possible reading.

The *R.E.* lists four towns of this name,<sup>223</sup> and we cannot be sure which one was referred to here. Two of them, those in Thessaly and Euboea,<sup>224</sup> seem unlikely because of distance and size respectively. To distinguish the remaining two, the practice of a second-century Delphic list referring to the Boeotian town as *Ὀρχ* – – and the Arcadian as *Ἐρχ* – – was unfortunately not otherwise adopted.<sup>225</sup> No reference to Orchomenian woollens is contained in Athenaeus' catalogue of special products of

<sup>218</sup> For a detailed discussion of this passage, see Studniczka, *loc. cit.*

<sup>219</sup> Liddell-Scott-Jones refers to *ψιλαί amphitapetes* in an inscription from Ionian Teos. The text in *C.I.G.*, II, 3071, is incomplete, and it is possible that in the phrase *ἀμφιτά[πητας] ἐννέα ψιλάς, ἐν[ν]έα* – – –, as punctuated by Boeckh, the *ψιλάς* is a substantive (i. e., modified by the second *ἐννέα*) as it frequently was in late Greek, meaning 'carpets.' See, e. g., Liddell-Scott-Jones, *s.v.* *ψιλός*, II, b and Gulick *ad* Athenaeus V, 197 b.

<sup>220</sup> See schol. *ad loc.*

<sup>221</sup> Col. XIX, 25.

<sup>222</sup> *Hesperia*, XVII, 1948, p. 34.

<sup>223</sup> Discussion of the Boeotian city in the *R.E.* was reserved for Suppl. 8. In addition to the cities of Arcadia, Boeotia, and Thessaly, the scholiast *ad* Apollonios Rhodios, II, 1186, refers to a city of Pontus.

<sup>224</sup> However, there are representations of Euboean tapides on the stone beds of two chamber-graves; see K. G. Vollmoeller, *Ath. Mitt.*, XXVI, 1901, pp. 331 ff. and pls. XVI-XVII.

<sup>225</sup> *B.C.H.*, XLV, 1921, pp. 1 ff.

individual cities. He cites, rather, a fragment of Hermippos (frag. 63: Kock, *C.A.F.*, I, 243) in which reference is made to Carthage in connection with *dapis* and *proskephalaia*,<sup>226</sup> and Milesian wool, woven into garments or rugs, was, of course, highly esteemed throughout the ancient world and its popularity continued for centuries.<sup>227</sup> Two Cyprians were named as the chief artists in the textile profession.<sup>228</sup> In Hellenistic and Roman times, Strabo informs us that wool from Spain, Patavium, Brundisium, and Laodicea was famous.<sup>229</sup> Whereas one city, such as Miletos, won renown for the fineness of its fabrics,<sup>230</sup> another, such as Megara, specialized in rough fabrics fit for slaves' clothing.<sup>231</sup> Since sheep were raised almost everywhere in mountainous districts including those of Arcadia and Boeotia, trade in textiles must have been considerable. The reference to Orchomenos in our inscription in itself, then, affords no clue to the nature of the blanket or carpet. Elsewhere, Athenaeus notes that Themistokles was presented by the Persian king with Perkote and Palaiskepsis to supply him bedding and clothing.<sup>231a</sup>

2. *δάπης* (*vel τάπης*) (I, 175). Rug. The form *τάπης* has been restored in Part I, following the original editor, but *δάπης* would now seem to the present editor to be the more likely form. Boisacq, *Dictionnaire*<sup>4</sup>, p. 942, lists both as Attic, *δάπης* occurring in Aristophanes, Pherekrates, and Xenophon, and *τάπης* first in Xenophon.<sup>232</sup> Buck and Petersen use *δάπης* for the index form.<sup>233</sup> Pollux in VI, 10, places the two forms beside each other, but in X, 38, in a section which contains a reference to our Stelai, the form is *dapis* and it is followed by *amphitapes*, which likewise occurs in our lists. Moreover, in Aelius Dionysius (frag. 116: ed. E. Schwabe), *δάπης* is recognized as the old Attic form.

The word is discussed *s.v. Tapes* by Schroff in the *R.E.*<sup>234</sup> In Xenophon, *Cyr.*, VIII, 8, 16, the reference is clearly to a carpet, for the posts of the beds are placed on *dapides* that yield. In Aristophanes, *Plutus*, 528, on the other hand, the reference is to sleeping on *dapides*. In Athenaeus IV, 138 f, the *dapis* is spread upon a couch of wood. Hesychius defines *δάπης* simply as *tapes*. Aelius Dionysius defines the plural as

<sup>226</sup> I, 28 a.

<sup>227</sup> Aristophanes, *Lys.*, 729; *Ranae*, 542; Cicero, *Verr.*, II: I, 34; Pliny, *H.N.*, VIII, 73; Horace, *Epist.*, I, 17, 30; Vergil, *Georg.*, III, 306; IV, 335; etc.

<sup>228</sup> Athenaeus, II, 48 b.

<sup>229</sup> III, 2, 6; V, 1, 12; VI, 3, 6; XII, 8, 16.

<sup>230</sup> Cf. J. Röhlig, *Der Handel von Milet*, Hamburg Diss., 1933, pp. 12, 22, 37.

<sup>231</sup> Aristophanes, *Ach.*, 519; *Pax*, 1002; Xenophon, *Mem.*, II, 7, 6.

<sup>231a</sup> I, 29 f.

<sup>232</sup> *Tapis* is the form used in a Delian inventory of 301 B.C., *I.G.*, XI, 2, 147, B, line 12.

<sup>233</sup> *Reverse Index*, p. 424. Since the modifying adjective, *poikile*, is in the feminine gender, the more common *τάπης* is not a possible restoration.

<sup>234</sup> For a convenient collection of literary passages referring to coverlets and carpets (including *dapis*), see W. Miller, *Univ. of Missouri Studies*, VII, 1932, pp. 669-672.

*stromata*, something spread out for lying upon.<sup>235</sup> The *dapis*, as the tapes, then, is a rug which could be spread upon the floor or on a bed.

3. ἐπιβλήτιον (I, 219-223). Bedspread. The word is known only from our inscription.<sup>236</sup> The first four letters are not preserved on the stone, but were first restored by Wilhelm,<sup>237</sup> who suggested that *epibletia* was identical with ἐπιβλήματα and ἐπιβόλαιαι of Pollux VI, 10, and that the meaning was 'bedspread' ('Bettdecken'). This meaning has been adopted in Liddell-Scott-Jones, and it would accord with the position of our word in Stele I, where it follows κνέφαλλον (lines 217-218).

4. κάμμα (I, 238). Reed, reed-mat. *Kamma* is defined by Hesychius, Eustathius<sup>238</sup> and the Ravenna scholiast to Aristophanes, *Vespaë*, 394, as ψίαθος. Suidas mentions it in conjunction with reeds (*kalamoi*).<sup>239</sup> Pollux (X, 183-184) is the chief source of information about the word. He quotes its use in Aristophanes, Pherekrates, Kratinos, Hipponax, and Eupolis (in X, 192), and defines it as wickerwork. In X, 166, he states that it is a *psiathos* or mat, used in light boats. For the Sumerian origin of the word through the intermediary of Babylonian, see Boisacq, *Dictionnaire*<sup>4</sup>, *s.v.*

5. κνέφαλλον (I, 217, 218; II, 218, 219). Cushion, mattress. Of the Greek words for pillows, cushions, mattresses, two occur in our inscription: κνέφαλλον and προσκεφάλαιον.<sup>240</sup> Other words of this meaning are listed in Ransom, *Couches and Beds*, p. 110. The manufacture of cushions and its place in ancient industry are discussed by Blümner, *Technologie*, I<sup>2</sup>, pp. 215-218. The *R.E.* article on this subject is by Herzog-Hauser, *s.v. Torus* (with bibliography), but there are references to pillows in Mau's article *s.v. Betten* and in Herzog-Hauser's article *s.v. Tomentum*. The subject is treated by Graillot in Daremberg-Saglio, *Dictionnaire*, *s.v. Torus*, with references to illustrations published throughout the *Dictionnaire*.

*Knephallon* is defined by both Hesychius and Suidas as τύλη.<sup>241</sup> Pollux (X, 41) speaks of it as soft bedding. The most interesting passage on the word is probably

<sup>235</sup> Frag. 116: ed. E. Schwabe.

<sup>236</sup> Cf. Liddell-Scott-Jones and Buck and Petersen, *Reverse Index*, p. 114.

<sup>237</sup> *Jahreshefte*, VI, 1903, p. 240.

<sup>238</sup> 1344, 42: *ad Il.*, XXIV, 189.

<sup>239</sup> Cf. *Thesaurus*, *s.v.*

<sup>240</sup> It should be noted that the ψίαθος, rush-mat, was also used as a mattress and in Stele II, when the word follows *prosképhalaion* and *knephallon*, the position would lead us to favor this meaning. See below, p. 254.

<sup>241</sup> For the derivation of τύλη, see Boisacq, *Dictionnaire*<sup>4</sup>, *s.v. τύλος*. The word originally meant 'callus' (cf. Hesychius, *s.v.*), and was applied to a 'hump,' especially one that had been hardened by carrying burdens (see Starkie *ad* Aristophanes, *Ach.*, 860). When used as the word for a cushion, it could be applied even to the 'shoulder-pad' as in Diogenes Laertius, IX, 53. Artemidoros (V, 8) refers to a tyle stuffed with wheat. From such passages one might expect that the tyle was a hard cushion and *knephallon* a soft one, and this would be favored by the etymologies. In Sappho, 50 (Bergk), however, the adjective μαλάκη, 'soft,' is applied to a tyle.

that of the grammarian Herodian in *Grammatici Graeci*, III, p. 944, lines 23 ff., where *knephallon* is referred to as an Attic form of *tyle* and quotations from Aristophanes and Plato Comicus are given. Herodian gives the derivation of the word from *κνάφος*, 'fuller's thistle,' which was used for cushioning.<sup>242</sup> Phrynichos (frag. 151) also refers to the word as Attic. Lobeck (*Phrynichi Eclogae Nominum*, p. 173) has suggested that in popular speech *τύλη* was equivalent to Latin *culcita*, 'cushion,' and *κνέφαλλον* to *tomentum*, the 'material for cushioning,' but in our reference to *κνέφαλλον πλέων* the word must be used for the cushion (or mattress) itself. Herzog-Hauser translates the two words as 'gefüllte Matratzen.'<sup>243</sup>

Illustrations of cushions are given by Saglio in Daremberg-Saglio, *Dictionnaire*, s.v. *Pulvinus*.

Prices. In the Diocletian Edict, *γνάφαλλον* is the word used for cushioning or wool flock, and the maximum price was fixed at 8 denarii per pound.<sup>244</sup> For the prices of mattresses and cushions in Egypt, see A. C. Johnson, "Roman Egypt," *Economic Survey*, II, pp. 472-473.

6. *παραπέτασμα* (I, 173, 174, 232). Curtain, hanging. Suidas defines *parapetasma* as *παρακάλυμμα* or *παράπλωμα*, and a similar definition is found in Hesychius. Herodotos (IX, 82) mentions an embroidered hanging and Aristophanes (*Ranae*, 938) refers to Persian parapetasmata which contained representations of hybrid creatures.<sup>245</sup> Pausanias (V, 12, 4) refers to an Assyrian parapetasma presented to the temple of Zeus at Olympia by Antiochos, which was suspended from the roof. Porphyry (*De antro nympharum*, 26 f.) states that in Greek temples the curtains were drawn at noon, and a sign was put on the door to warn people not to enter.<sup>246</sup> Pollux (X, 32) refers to curtains at the door of the bedchamber. Robinson and Graham have deduced from the complete absence of pivot-holes in paved rooms at Olynthos that internal wooden doors were quite unusual and that probably parapetasmata took their place.<sup>247</sup>

The word is mentioned by Saglio in Daremberg-Saglio, *Dictionnaire*, s.v. *Aulaea*, and is referred to by Deonna in *Délos*, XVIII, p. 263, note 11.<sup>248</sup>

The parapetasma in the text of I, 173 is modified by the adjective *ποικίλον*; of I, 232 by an adjective which has been restored as [*λιτ*]όν. When U. Köhler first published the fragment which has the text of I, 232, he restored [*λιν*]οῦ[*ν*] or [*ἀπλ*]οῦ[*ν*]. Wilhelm, however, republishing the text in *Jahreshefte*, VI, 1903, pp. 236-237, stated

<sup>242</sup> Cf. Boisacq, *Dictionnaire*<sup>4</sup>, s.v. *κνάφος*.

<sup>243</sup> *R.E.*, s.v. *Tomentum*, 1699.

<sup>244</sup> Col. XVIII, line 7.

<sup>245</sup> Also, probably, Euripides, *Ion*, 1158; the term here is *ὑφάσματα*.

<sup>246</sup> Cf. Fraser *ad* Pausanias V, 12, 4.

<sup>247</sup> *Olynthus*, VIII, p. 251.

<sup>248</sup> Cf. also Robinson, *Olynthus*, XII, p. 466.

that neither of these words could have been on the stone, for traces of them would now be visible. He proposed instead, [λιτ]όν, 'frugal,' which has been restored in all subsequent editions, including that in *Hesperia*, XXII, 1953. But such an adjective is clearly out of character in our document. One might expect a technical description of a parapetasma, or an adjective giving the place of manufacture, the type, or the condition, color, etc. Purely descriptive adjectives do not occur in the Attic Stelai. The present writer would, therefore, reject Wilhelm's restoration. But the lacuna between the alpha and the omicron may have been of two letter-spaces only. The traces which remain on the stone today are not conclusive.<sup>249</sup> The distance from the rightmost part of the final alpha of *parapetasma* to the left part of the omicron in the word in question is 0.02 m. There is no other example on this fragment of three letters being inscribed in so small a space, as measured horizontally. The nearest parallel occurs three lines above where the crowded letters -σιο- occupy 0.022 m. If three letters are to be restored before the omicron, it would seem most likely that one of them was an iota.

With regard to the 'vari'-colored (*poikilon*) fabrics, with colored designs either embroidered or woven, we have very little direct evidence. All the more important, then, are the fragments, found recently in Koropi near Athens, of a linen textile embroidered in silver-gilt with a diaper pattern of walking lions, which evidently dates from the late fifth century.<sup>250</sup> Pollux (X, 32) says that a parapetasma may be of simple white linen, of a dyed woven stuff, or it may be many-colored, like that mentioned by Aristophanes (frag. 611): *παραπέτασμα Κύπριον τὸ ποικίλον*. The wall paintings of Pompeii and Rome reproduce hangings in various colors,<sup>251</sup> and may afford some idea of earlier textiles. Theophrastos (*H.P.*, IV, 2, 7) mentions embroidered bed-hangings, and Rostovtzeff, *Soc. and Ec. Hist. of Hell. World*, III, p. 1412, note 177, refers to representations of such hangings on the front of funeral couches.

Price. The price of our parapetasma has been read as 10 drachmas 1 obol. This price hardly favors the restoration *λιτόν* 'frugal.' However, if the word *λινόν*, 'linen,' is restored, the high price would be understandable. For the manufacture of linen, see

<sup>249</sup> Since *ποικίλον* was inscribed in I, 173, it is possible that the parapetasma in I, 232, was described by its color. In VII, 129, Pollux lists words for color, of which only *φαιόν*, 'gray,' would meet the requirements of space in I, 232.

<sup>250</sup> J. Beckwith, *Illustrated London News*, January 23, 1954, pp. 114-115. See, on Greek textiles in general, E. Buschor, *Beiträge zur Geschichte der griechischen Textilkunst*, Diss., Munich, 1912; A.J.B. Wace, *Jahreshefte*, XXXIX, 1952, pp. 111-118; and M. T. Picard-Schmitter, *Revue Arch.*, XLVI, 1955, pp. 17-26. See also the fifth-century polychrome wool carpet and tapestry found at Pazyryk in Central Siberia (*Illustrated London News*, July 11, 1953, pp. 69-71).

<sup>251</sup> See, e. g., G. E. Rizzo, *Monumenti della pittura ellenisticoromana*, III, fasc. I, Roma, 1936; and H. G. Beyen, *Die pompeianische Wanddekoration vom zweiten bis zum vierten Stil*, I, 1938.

Blümner, *Technologie*, I<sup>2</sup>, pp. 191 ff. For prices, see, in particular, the Edict of Diocletian, cols. XXVI-XXVIII, inclusive.

7. *πίναξ*. (VII, 59, 60-61, 62). Picture, painted board. At the end of a long listing of wine jars and other vessels in Stele VII come three notations of the sale of *pinakes*. This is a word of many meanings: it might be simply a board or plank,<sup>252</sup> a hard piece of wood on which knives were sharpened,<sup>253</sup> a plate from which one ate,<sup>254</sup> or a table,<sup>255</sup> but in the fifth century it most frequently referred to a piece of wood (or possibly terracotta or metal) on which something was written, drawn, or painted.<sup>256</sup> The pinax in this latter sense could be a votive plaque,<sup>257</sup> a public notice,<sup>258</sup> or a writing tablet;<sup>259</sup> the surface might bear a picture,<sup>260</sup> a map, or a chart.<sup>261</sup> Since our pinakes were household objects of some value, many of these meanings can be ruled out as inappropriate; quite evidently the confiscated plaques were pictures which had decorated the houses of the condemned men.

At the end of the fifth century murals were no longer the dominant form which Greek painting took; instead, panel pictures (*pinakes*) became more and more popular.<sup>262</sup> Votive plaques had in the past borne drawings as well as inscriptions,<sup>263</sup> but their purpose had been primarily to communicate a message to the god, not necessarily to please the human eye. We have examples of these earlier, utilitarian paintings in the Pente Skouphia pinakes,<sup>264</sup> which record pictorially the processes of mining and smelting. The small pictures hanging on the wall of the Berlin cup sculptor's shop

<sup>252</sup> Blümer, *Technologie*, II, p. 305; *Ath. Mitt.*, VIII, 1883, p. 163.

<sup>253</sup> Theophrastos, *H.P.*, V, 5, 1; Hesychius, *s.v.* *πίνακας*; Blümner, *Technologie*, I<sup>2</sup>, p. 279.

<sup>254</sup> *Odyssey*, I, 141 and XVI, 49; Pollux, X, 82; Athenaeus, IV, 128 d; Thomas Magister, 714.

<sup>255</sup> Pollux, III, 84.

<sup>256</sup> Occasionally the word *pinax* was used to denote the message itself, and not the plaque on which it was inscribed. It later took on the special meaning of 'list' or 'index,' and in this form it is studied by Regenbogen in *R.E.*, *s.v.* *Pinax*. The multiple meanings of this word are made the basis of a pun in a votive poem; see Pfeiffer, *Callim.*, II, 96, E 54.

<sup>257</sup> Aeschylus, *Supp.*, 463; Aristophanes, *Thesm.*, 778; Strabo, VIII, 6, 15; *I.G.*, IV<sup>2</sup>, 121, lines 24 ff.

<sup>258</sup> Plato, *Critias*, 120c; Aristotle, *Pol.*, 1341a, 36; Plutarch, *Them.*, 5. For pinakes used for inscriptions, see Wilhelm, *Beiträge zur griech. Insch.*, Vienna, 1909, pp. 239 ff.

<sup>259</sup> *Iliad*, VI, 169; Aeschylus, *Supp.*, 946; Plato, *Rep.*, 501a; *Anth. Pal.*, XI, 126.

<sup>260</sup> Plutarch, *Arat.*, 12; Athenaeus, XII, 543 f.; Theophrastos, *H.P.*, III, 9, 7; V, 7, 4.

<sup>261</sup> Herodotos, V, 49; Plutarch, *Thes.*, 1; *Rom.*, 12; Strabo, I, 1, 11.

<sup>262</sup> Blümner, *Technologie*, IV, p. 431. Cf. M. H. Swindler, *Ancient Painting*, New Haven, 1929, p. 217.

<sup>263</sup> For example the early proto-Attic Sounion plaque of ca. 700 B.C. (*B.S.A.*, XXXV, 1934-1935, pl. 40 b). The subject of painted votive plaques has recently been treated by J. Boardman (*B.S.A.*, XLIX, 1954, pp. 183-201), to whom the student of the history of painted plaques should be referred for detailed bibliography.

<sup>264</sup> Blümner, *Technologie*, IV, pp. 204-205; see Davidson, *Corinth*, XII, p. 64; and Newhall, *A.J.A.*, XXXV, 1931, pp. 20-22.

show, more delicately but still very simply, two human figures, a centaur, and a deer; they are hung around a male and a female mask, and Blümner supposes that they may have been models or votive offerings.<sup>265</sup> The victor in the games often dedicated a pinax which represented himself; on a vase in Munich is a man who carries a small plaque painted with the silhouette of a runner.<sup>266</sup> Votive pictures of a far different sort were dedicated by Alkibiades in the Acropolis Pinakothek to commemorate his victories in the games;<sup>267</sup> from Satyros' description of them<sup>268</sup> we can gather an impression of their complex subjects and necessarily more elaborate technique. One of the paintings showed Olympias and Pythias in the act of crowning Alkibiades, while in the other Nemea was figured, attended by women and holding on her knees an Alkibiades whose beauty far outshone that of all the other faces in the picture. The paintings in our list were doubtless on a smaller scale, but they were probably similar to these in style and conception. Alkibiades' dedications are thought to have been the work of Aristophon,<sup>269</sup> who at other times treated scenes from the Trojan war and the journey of the Argonauts.<sup>270</sup> Another popular private painter of the last decades of the fifth century was Parrhasios, whose work must have been of considerable magnificence, for one of his paintings appealed to the taste of Tiberius.<sup>271</sup> His subjects were not only mythological and heroic; he painted portraits and athletes, and was known also for his obscene pictures,<sup>272</sup> perhaps of the sort to which Hippolytos owed his scant knowledge of women.<sup>273</sup> Fifth-century painters competed with one another at festivals with works which may have been intended for civic decoration,<sup>274</sup> like the large pinakes sometimes commissioned by temple treasurers;<sup>275</sup> but there were also private collections famous in antiquity.<sup>276</sup> The pinakes in our list give evidence that this taste for pictures had already been highly developed among Athenian citizens at the close of the Periclean age.

The problem with our entries is to know what the modifying adjectives mean. An unknown number of pinakes are described as *gegrammenos* (VII, 59), one is said to

<sup>265</sup> *Technologie*, IV, p. 331.

<sup>266</sup> *Jahreshefte*, VIII, 1905, p. 41.

<sup>267</sup> See Rouse, *Greek Votive Offerings*, Cambridge, 1902, p. 174.

<sup>268</sup> Athenaeus, XII, 534 d.

<sup>269</sup> Athenaeus says Aglaophon, but it is very doubtful that he lived so long, and since Plutarch (*Alc.*, 16) reports that the second picture was by Aristophon, it is probable that the son's name should be substituted for that of the father in Athenaeus' account. See Gulick *ad* Athenaeus, XII, 534 d, and O. Roszbach, *R.E.*, s.vv. *Aglaophon* and *Aristophon*.

<sup>270</sup> Pliny, *H.N.*, XXXV, 138.

<sup>271</sup> *Ibid.*, XXXV, 70.

<sup>272</sup> *Ibid.*, XXXV, 67 ff.; cf. Plutarch, *De poet. aud.*, 18b. See also Lippold, *R.E.*, s.v. *Parrasios*; Pfuhl, *Malerei und Zeichnung*, II, pp. 689 ff. and 732.

<sup>273</sup> Euripides, *Hippolytos*, 1005.

<sup>274</sup> Athenaeus, XII, 543 e.

<sup>275</sup> For example, *I.G.*, XI, 2, 158, lines 67 ff.; XI, 2, 161, line 75.

<sup>276</sup> Plutarch, *Arat.*, 12.

be *smikros gegrammenos* (VII, 60-61), and one is called *poikilos* (VII, 62). Anything with lettering, drawing, or painting could be referred to as *gegrammenos*,<sup>277</sup> while *poikilos* definitely suggests the use of paint of various colors.<sup>278</sup> Painted pinakes were ordinarily done in tempera on pieces of wood, stone, or terracotta, which had been covered first with white paint or chalk.<sup>279</sup> There was a second method of coloring a pinax called *enkausis*, by which heated wax color was applied to a plaque of wood or ivory.<sup>280</sup> Since such a pinax was generally signed *ὁ δέινα ἐνέκασεν*, it seems unlikely that the term *gegrammenos* would be applied; thus it is possible that the pinakes first mentioned in our list were painted in tempera, and that the one labelled *poikilos* was done in encaustic.

Pollux (X, 84) reported the pinax *poikilos* as being *ἀπ' ὀροφῆς*; apparently this phrase comes from the *Skeuographikon* of Eratosthenes,<sup>281</sup> representing the opinion of a fourth-century antiquarian as to the kind of painted board this was. According to Eratosthenes it was a panel to be fixed to a decorated ceiling, but Pliny<sup>282</sup> later asserted that Pausias of Sikyon, a fourth-century painter, was the first to introduce the practice of painting panels (*lacunaria*). Either Eratosthenes was reading a practice of his own day back into the Attic Stelai, or else Pliny was too precise in his attempt to name the inventor of the technique. One painted Greek ceiling panel, of marble, has been found, in the Lycian Nereid monument; <sup>283</sup> it is usually dated around 400 B.C.,<sup>284</sup> although J. Six has attempted to prove a date in the mid-fourth century.<sup>285</sup> Whatever date is chosen, both the style and the provenance of the Nereid panel suggest that it was not from one of the very earliest decorated ceilings, but comes rather from a time when the fashion was already widespread. Thus there is no reason to discard the informed opinion of Eratosthenes; Pliny probably meant that Pausias was the best known Greek painter of ceiling plaques. However, the private house from which the pinax *poikilos* came must have been one of the first in Athens to boast of

<sup>277</sup> Pliny, *H.N.*, XXXV, 68, mentions the existence of sketches or drawings (*graphides*) by Parrhasios, some on panels and some on parchment.

<sup>278</sup> For a discussion of the meaning of *poikilos*, see A. J. B. Wace, *A.J.A.*, LII, 1948, p. 54.

<sup>279</sup> See *I.G.*, XI, 2, 161, line 76: *λευκώσαντι τὸμ πίνακα ἀμφοτέρωθεν* ΗΗ. Cf. *I.G.*, I<sup>2</sup>, 66, line 31; II<sup>2</sup>, 1237, line 62. There is a description of painted pinakes found near Sikyon in *J.H.S.*, LV, 1935, pp. 153-154.

<sup>280</sup> For the technique of encaustic painting, see Elizabeth Dow, *Technical Studies*, V, 1936-37, pp. 3-17; Blümner, *Technologie*, IV, pp. 442 ff.; Pliny, *H.N.*, XXXV, 122. A third sort of pinax is found in the Delian lists of the second century B.C., the *πίναξ ἐμβλητέος*, evidently done in mosaic (*Insc. Délos*, 1403 B b II, line 18), but there is no evidence for the existence of mosaic pinakes in fifth-century private homes.

<sup>281</sup> See below, Pippin, p. 323.

<sup>282</sup> *H.N.*, XXXV, 123.

<sup>283</sup> *Brit. Mus. Cat.*, Greek Sculpture, II, no. 934.

<sup>284</sup> I note that there is a 1952 Columbia University dissertation by C. Gottlieb, *The Restoration of the "Nereid" Monument at Xanthos*, which is not available to me.

<sup>285</sup> *Jahrbuch*, XX, 1905, pp. 155 ff.

this new form of decoration which was invented for use in public buildings. If we take the pinax poikilos as a *lacunarium*, then the conjecture that it was done in encaustic is strengthened, for this was the medium associated with Pausias.<sup>286</sup> The Nereid plaque is only about seven inches square, and shows a full-face drawing of a woman. Six<sup>287</sup> supposes that other lacunaria were similar to coin types, with heads also shown in three-quarters or profile, and hands holding objects of iconographical significance. Pausias was famous also for his paintings of boys, and there may have been Erotes, on round or rectangular plaques, among the ceiling pinakes painted for private houses.<sup>288</sup>

Votive pictures were often equipped with doors which could be closed over the painted surface,<sup>289</sup> and purely decorative pictures protected in this way can be seen in the wall paintings at Pompeii.<sup>290</sup> This was evidently a late development, however, and none of our pinakes is said to be *tethyromenos*. We can assume that the plaques listed in the Attic Stelai were of wood, since the material of the ground is not specified.

Price. An unknown number of pictures called *gegrammenos* was sold for 60 drachmas (VII, 59); the one which was *smikros gegrammenos* brought 6 drachmas 4 obols (VII, 60-61), and the *pinax poikilos* sold for an amount which was more than 5 and less than 10 drachmas (VII, 62). Pinakes ordered for the temple buildings at Delos varied in price from 12 to 100 drachmas,<sup>291</sup> but some of these were probably much larger than anything which would hang in a private house. As time passed, paintings became even more popular and more valuable; they were a suitable gift for Aratos to send to the King of Egypt,<sup>292</sup> and an *Archigallus* by Parrhasios, valued at 6 million sesterces, was one of Tiberius' favorite treasures.<sup>293</sup>

8. *προσκεφάλαιον* (II, 216-217). Pillow, cushion for the head. There are several passages in which the word *proskephalaion* occurs in a context in which reference is clearly made to a cushion for the head: Aristophanes, *Plutus*, 542; Plutarch, *Moralia*, 59C; and Sextus Empiricus, *M.*, 267. On the other hand, at the beginning of Plato's *Republic* (328 c), Kephalos is seated on a sort of *proskephalaion* and stool.

<sup>286</sup> Pliny, *H.N.*, XXV, 122.

<sup>287</sup> *Op. cit.*, p. 158.

<sup>288</sup> Pausanias, II, 27, 3; Hesychius, *s.v.* Ἐγκουράδες and Κουράς.

<sup>289</sup> For instance, *Insc. Délos*, 1403, Bb II, line 30; 1414 b I, line 21. See René Vallois, "Les ΠΙΝΑΚΕΣ déliens," *Mélanges Holleaux*, Paris, 1913, pp. 289 ff.

<sup>290</sup> Van Buren, *Mem. of Amer. Acad. in Rome*, XV, 1938, pl. 6, fig. 3; pl. 7, figs. 1 and 2; Daremberg-Saglio, *Dictionnaire, s.v. Pictura*, figs. 5651, 5652. For a recent popular discussion of painted tablets from Herculaneum, see A. Maiuri, *Roman Painting*, Geneva, Albert Skira, 1953, p. 105.

<sup>291</sup> *I.G.*, XI, 2, 158, lines 67 ff.; 161, line 75.

<sup>292</sup> Plutarch, *Arat.*, 12.

<sup>293</sup> Pliny, *H.N.*, XXXV, 70. The figure has been questioned, and 60,000 sesterces and 1 million sesterces have been suggested instead; see Lippold, *R.E.*, *s.v. Parrasios*, 1876.

Pollux (X, 40) refers to a passage in Kratinos (frag. 269: Kock, *C.A.F.*, I, p. 93) where reference is made to the cushion on the rower's bench.<sup>294</sup> Saglio had discussed the word in Daremberg-Saglio, *s.v. Cervical*. I have found no corresponding article in the *R.E.*, although the word is mentioned by Herzog-Hauser, *s.v. Torus*.

Pollux specifically states (X, 40) that wool, leather, and linen *proskephalaia* were sold from the property of Alkibiades, and Stele II preserves the entry for seven leather ones. A reference to linen cushions in the Delian accounts is noted by Deonna (*Délos*, XVIII, p. 263, note 14). *Proskephalaia* were stuffed with feathers, wool, cotton, rabbits' hair, or similar material.<sup>295</sup> With regard to color, Gow states (*ad Theokritos* 15, 3): "Hermippus (fr. 63, 23) mentions *ποικίλα προσκεφάλαια* from Carthage, and on Attic vases the cushions are often of striped pattern; and the rugs and cushions are so painted on a stone couch at Vathia (*Ath. Mitt.*, 26, T. 17)."

Prices. In the Edict of Diocletian, *proskephalaia* were not priced separately, but were listed with mattresses (*tyle*). The maximum price for the two together varied from 250 to 2,750 denarii.<sup>296</sup> The more expensive ones were presumably of linen; for they are mentioned as coming from places which were noted for linen textiles.<sup>297</sup> For prices of pillows in Egypt, see A. C. Johnson, "Roman Egypt," *Economic Survey*, II, p. 473.

9. *ψίαθος* (I, 108; II, 220). Rush-mat. The etymology of the word is obscure; Boisacq, *Dictionnaire*<sup>4</sup>, p. 1077. Special articles are those of Pottier in Daremberg-Saglio, *s.v. Matta*, and of Hug in *R.E.*, *s.v. Matta*. The *psiathos* might be made of papyrus<sup>298</sup> or of palm-leaves.<sup>299</sup> Athenaeus, citing Antigonos of Karystos, says that either a *psiathos* or a sheepskin was provided on a *kline*,<sup>300</sup> depending on whether it was summer or winter. It might be used as a mattress and a bed,<sup>301</sup> but this usage was not inherent in the word. Thus Pollux (VI, 11) needs to specify one particular *psiathos*, that for sleeping, as a *chameunia*. The mat in Theophrastos, *H.P.*, IX, 4, 4, was clearly not used for sleeping.

<sup>294</sup> For the same meaning, see Hesychius, *s.v. πανικτόν*. Cf. Pollux, VI, 9, and Gow *ad Theokritos*, 15, 3.

<sup>295</sup> See Blümmer, *Technologie*, I<sup>2</sup>, p. 217.

<sup>296</sup> Col. XXVIII, 46-55.

<sup>297</sup> Cf. Broughton, "Roman Asia Minor," *Economic Survey*, IV, p. 616.

<sup>298</sup> Theophrastos, *H.P.*, IV, 8, 4.

<sup>299</sup> Theophrastos, *H.P.*, IX, 4, 4.

<sup>300</sup> X, 420 a.

<sup>301</sup> Aristophanes, *Lys.*, 921; Aristotle, *H.A.*, VI, 559 b; Plutarch, *Mor.*, 236 b, where the point is that it is a very mean way to sleep; schol. *ad* Aristophanes, *Ranae*, 567. Cf. Ransom (*Couches and Beds*, p. 110) who defines the word as a 'rush mat to throw over a bed.'

## IV. LIVESTOCK AND BEEHIVES

For a description of the nature and habitat of animals, reference has been made to O. Keller's standard work, *Die antike Tierwelt*, I and II, Leipzig, 1909, 1913; and to individual articles in Pauly-Wissowa, *R.E.* For the prices of animals in Greece in the fourth and third centuries B.C., the most convenient table is that of A. Segrè, *Circolazione monetaria e prezzi nel mondo antico*, Rome, 1922, pp. 168-169.

The entries for livestock in our inscriptions are found in one column of Stele VI. The prices in each case are only partially preserved; the left part of the column of the sales price is lost. Determination of the number of letter spaces occupied by the numerals of the sales prices becomes critical for establishing the price of cattle, and likewise of wine. The column in question can be seen in the photograph in *Hesperia*, VIII, 1939, p. 70. The present writer in Part I followed the alignment given in Meritt's text in *Hesperia*, VIII, pp. 72-73. This text shows the first numerals of all the sales prices of the column in vertical alignment with the exception of that in line 86 (Meritt's 37), which was shifted one space to the left although the sales tax in this line was correctly aligned. It clearly seems preferable to adopt a pattern which would yield the greatest regularity.

1. βούς (VI, 68, 69, 70). *Bous* is a generic word for the bovine species. In the singular, the word is used for ox or cow; in the plural it is equivalent to cattle.<sup>1</sup> In Greece, the most famous cattle came from the north, from Epirus and Thessaly,<sup>2</sup> but Euboea and Boeotia were also cattle producers and served as a source of supply for Attica, where there was a lack of pasture land. In 329 B.C. Eudemos of Plataea had to import into Athens a thousand pair of animals to provide for construction work on the Stadium.<sup>3</sup>

In Plutarch, *Solon*, XXIII, 3, the price of an ox in the time of Solon is given as five drachmas. The information is said to have come from Demetrios of Phaleron. Plutarch speaks of these prices as low in comparison with contemporary prices. In 410/9 B.C., 5114 drachmas were given for a hekatomb.<sup>4</sup> The price of one cow,<sup>5</sup> if the

<sup>1</sup> See Buck, *Dictionary*, p. 152.

<sup>2</sup> Arrian, *Anab.*, II, 16, 6; Aristotle, *H.A.*, III, 16; Varro, *R.R.*, II, 5, 10. See H. Kraemer, *R.E.*, s.v. *Rind* (Suppl. 7), 1166-67; and Keller, *op. cit.*, I, pp. 332 ff.

<sup>3</sup> *I.G.*, II<sup>2</sup>, 351, lines 18-19. Cf. Tod, *Gr. Hist. Inscr.*, II, p. 279.

<sup>4</sup> *I.G.*, I<sup>2</sup>, 304 A, line 7.

<sup>5</sup> I have assumed that since the offering was to Athena, the hekatomb would naturally consist of cows. It should be noted that A. Mommsen, *Feste der Stadt Athen im Altertum*, Leipzig, 1898, p. 118, note 1, does not accept this view. His references prove that male animals were at times sacrificed to female divinities, and *vice versa* (cf. also *I.G.*, II<sup>2</sup>, 1358, where rams were prescribed for Achaia, Kora, and Ge). However, the hekatomb to Athena seems to have consisted of cows; see *I.G.*, II<sup>2</sup>, 334, line 19, a decree concerning the Panathenaea: οἱ ἱεροποιοὶ ---- θούωντων ταύτας τὰς βούδας ἀπάσας ἐπὶ τῷ βωμῷ τῆς Ἀθηνᾶς ----. Cf. *I.G.*, II<sup>2</sup>, 1006, lines 14-15. This is the view of P.

hekatomb totalled 100, would be about 51 drachmas. Since the hekatomb was for the Great Panathenaea it is generally thought that it amounted to the full complement of 100 animals.<sup>6</sup> Another hekatomb, this of 109 oxen, cost 8,419 drachmas, which would make an average of 77.14 drachmas apiece.<sup>7</sup> In this case, it is to be noted, the price is not dependent on the interpretation of the word 'hekatomb.'<sup>8</sup> These animals were purchased for sacrifice at the festival of Apollo at Delos in 375/4 B.C. In 335/4 (*I.G.*, II<sup>2</sup>, 334, line 16) a hekatomb for the lesser Panathenaea cost 4100 drachmas, which would be 41 drachmas apiece if the hekatomb consisted of 100 animals. Ziehen, however, believes the hekatomb was now of smaller number and suggests 50 animals,<sup>9</sup> which would make each animal cost 82 drachmas. The estimate, however, has no probative value.

In an Athenian sacrificial calendar, dated shortly after 403/2 B.C.,<sup>10</sup> two oxen are priced at 50 drachmas, but the low price may be explained by the qualifying adjective *λειπογνώμων*, 'lacking the teeth which mark age.'<sup>11</sup> In *I.G.*, II<sup>2</sup>, 1358, a sacrificial calendar from the Attic Epakria of the period 400-350 B.C., the price of a bous is eight times given as 90 drachmas, once as 150 drachmas. Of the eight, one fee was for a pregnant cow. Since the sacrifices were to both female and male deities, the price of 90 drachmas was for a cow or ox.<sup>12</sup> The reading of 150 drachmas is in doubt. Moreover, the stone was subjected to erasure in the letter spaces immediately following (col. II, line 8). In the Agora inscription from 363/2 B.C., which contains a covenant between the two branches of the clan of the Salaminioi, the price to be paid for a bous is given as 70 drachmas.<sup>13</sup> In *I.G.*, II<sup>2</sup>, 1672, line 290, the price of a single sacrificial bous is given as 400 drachmas. This was apparently not normal, for the demos had in this case expressly established the price (*ὄσον ὁ δῆμος ἔταξεν*). The well-known famine of the period 330-326 B.C. doubtless caused a sharp rise in prices. This figure of 400 drachmas, in any case, cannot be regarded as normal. In a sacrificial calendar from Cos, dated *ca.* 300 B.C., the price to be paid for a cow is given as no less than 50 drachmas.<sup>14</sup> In a still later sacrificial inscription, this from Olbia, the price of a cow is given as 1200, but the coin is not specified.<sup>15</sup>

Stengel, *Die griechischen Kultusaltertumer*, 3rd edition, Munich, 1920, p. 153. On the sex of sacrificial animals, see also W. K. C. Guthrie, *The Greeks and their Gods*, Boston, 1951, p. 221.

<sup>6</sup> See L. Ziehen, *Rh. Mus.*, LI, 1896, p. 217.

<sup>7</sup> *I.G.*, II<sup>2</sup>, 1635, lines 35-36.

<sup>8</sup> For various numbers of animals in a hekatomb, see P. Stengel, *R.E.*, s.v. 'Ἑκατόμβη; also Kirchner *ad Syll.*<sup>3</sup>, 271, note 7; and *Syll.*<sup>3</sup>, 1024, line 29.

<sup>9</sup> L. Ziehen, *Leges Graecorum Sacrae*, II: 1, p. 95, note 22.

<sup>10</sup> J. Oliver, *Hesperia*, IV, 1935, p. 21, lines 48-51.

<sup>11</sup> Pollux, I, 182.

<sup>12</sup> Cf. R. B. Richardson, *A.J.A.*, X, 1895, p. 225.

<sup>13</sup> W. S. Ferguson, *Hesperia*, VII, 1938, p. 5, line 86.

<sup>14</sup> *Syll.*<sup>3</sup>, 1026, lines 6-7.

<sup>15</sup> *Syll.*<sup>3</sup>, 1039. Ziehen (*Leges Graecorum*, p. 249) regards it as an obol; E. H. Minns (*Scythians and Greeks*, Cambridge, 1913, p. 463) as a *chalkous*.

Prices from Delos include two work-bulls for 75 drachmas each<sup>16</sup> and a young bull for 50 drachmas in 274 B.C.<sup>17</sup> Larsen notes that the 50 drachmas is the lowest price for cattle known from Delos. Other Delian prices of the period 190-169 vary from 70 to 120 drachmas.<sup>18</sup> In a decree of the Amphictions at Delphi in 380/79, the so-called hero-bull was priced at 100 Aeginetan staters.<sup>19</sup> For a similar prize animal Jason of Pherai offered a golden crown.<sup>20</sup> In *I.G.*, II<sup>2</sup>, 2311 (400-350 B.C.), lines 71-81, cattle are listed among the *νικητήρια* and the figure of 100 drachmas seems to give the value of the animal.

Numerous other prices for cattle are preserved, all of which indicate considerable fluctuation. "The value of cows varies in the sources from 8 to 30 denarii in Babylonia, from 15 to 100 denarii in Egypt and from 100 to 200 denarii in Palestine."<sup>21</sup> Prices for oxen were higher.

Our Stele VI, lines 68-70, contains the following three entries:

--	.	βόη ἐρ[γάτα δ]ύο ἐν Ἄρ[--]
--	.ΔΔ	βόη δύ[ο]
--	....	β[όε]ς τέτταρες καὶ μό[σχοι τούτων].

The number of uninscribed spaces in the columns of prices is given according to Meritt, *Hesperia*, VIII, 1939, p. 72.<sup>22</sup> The price of the two working oxen in the first entry could presumably be 50 or 100 drachmas; for the two cows or oxen in the second entry, 70 or 120 drachmas. In 410/09 B.C., we have seen above, the price of a sacrificial cow was apparently 51 drachmas. Since the temples required only perfect animals with the duty of selection delegated to a special board of hieropoioi, this price of 51 drachmas should be regarded as a maximum for our inscription. I would suggest, accordingly, the restoration of the 100 drachma sign in line 68 and the 50 drachma sign in the missing letter space of line 69. The working oxen would then be worth 50 drachmas apiece; the cow (or, less likely, ox) of line 69, 35 drachmas.

The price of cattle would not seem to be overly high, considering the size of the animal. This supposition is in contrast to the general conception that beef was very expensive. To demonstrate the high cost of beef, Michell, *Ec. of Anc. Greece*, p. 62, note 1, cites a passage in Athenaeus (IX, 377 a) which speaks of the roasting of a whole ox at a feast in a rich household and a passage in Theophrastos (*Char.*, XXI, 7) where the scalp of an ox is nailed above the door for everyone to see. But the

<sup>16</sup> *I.G.*, XI, 2, no. 142, line 11.

<sup>17</sup> *I.G.*, XI, 2, no. 199A, lines 70-71. Cf. Segrè, *op. cit.*, pp. 168-169.

<sup>18</sup> J. A. O. Larsen, "Roman Greece," *Economic Survey*, IV, p. 387.

<sup>19</sup> *I.G.*, II<sup>2</sup>, 1126, line 32.

<sup>20</sup> Xenophon, *H.G.*, VI, 4, 29.

<sup>21</sup> F. M. Heichelheim, "Roman Syria," *Economic Survey*, IV, p. 155. Cf. A. C. Johnson, "Roman Egypt," *Economic Survey*, II, p. 232.

<sup>22</sup> This requires a slight correction in line 68 of our Stele VI.

exceptional feature is that the roasted animals were large and whole.<sup>23</sup> This appears clearly from several passages in Athenaeus. In IV, 144 a, Athenaeus cites Herodotos, I, 133, where the latter speaks of the poor as setting out small animals, the rich large animals such as a cow, a horse or a camel. Similarly, Athenaeus IV, 130 e-f. In IV, 148 e, beef ribs are named among the foods served by the stingy, and in several passages (I, 25 e; II, 63 d-e; III, 96 b), beef is mentioned along with other meats without exceptional comment. It was doubtless true, as Antiphanes, the comic poet, once said,<sup>24</sup> that the Greeks were leaf-chewing (*phyllostrogos*), and scant of table (*mikrotrapezoi*), but in comparison with other meats, beef does not seem to have been costly. In the Edict of Diocletian, the price of beef per pound is less than those for pork or lamb and the same as that for goat.<sup>25</sup>

2. αἰξ (VI, 73). Goat. References to the ubiquitous goat are surprisingly few in an economic context, but it is hard to believe that goats were less common in ancient than in modern times.<sup>26</sup>

In the fourth-century sacrificial calendar which was found near Marathon,<sup>27</sup> the price of the goat is given six times as 12 drachmas. In line 18 an all-black he-goat is valued at 15 drachmas. The price of goats in this inscription is identical with that of ewes for male divinities. In the inscription concerned with the cult of the Salaminioi (363/2 B.C.), the price to be paid for a goat is given as 10 drachmas.<sup>28</sup> In the well-known famine which affected Greece ca. 330 B.C., the price of a goat in an Eleusis inscription is given as 30 drachmas.<sup>29</sup> *Economic Survey* contains reference to only one fee for a goat—that at 80 drachmas in A.D. 22 in Egypt.<sup>30</sup>

The only literary passage which relates to the price of goats is in Isaios, XI, *Estate of Hagnias*, 41.<sup>31</sup> One hundred head of goats, together with sixty sheep, a fine horse, and furniture, are estimated at 3000 drachmas (one-half talent). A riding horse was seriously valued at 1200 drachmas in Aristophanes.<sup>32</sup> The furniture would presumably bring much less. If we allow the same price for the goats and sheep, the

<sup>23</sup> Aristophanes, *Ach.*, 85.

<sup>24</sup> Kock, *C.A.F.*, II, p. 81.

<sup>25</sup> Col. IV.

<sup>26</sup> See Larsen, *op. cit.*, p. 485. What I would hope would be the definitive article on the goat (Ziege) has not yet appeared in *R.E.*

<sup>27</sup> *I.G.*, II<sup>2</sup>, 1358.

<sup>28</sup> W. S. Ferguson, *Hesperia*, VII, 1938, p. 5, line 85.

<sup>29</sup> *I.G.*, II<sup>2</sup>, 1672, line 289 (329/8 B.C.). Ziehen (*Rh. Mus.*, LI, 1896, p. 215), however, suggests that these sacrificial victims had horns which were gilded and that the gilding was included in the price.

<sup>30</sup> II, p. 231. For one other price from Egypt, see Segrè, *op. cit.*, p. 132.

<sup>31</sup> Cf. the more indefinite passage in Isaios, VI, *Estate of Philoktemon*, 33.

<sup>32</sup> Aristophanes, *Nubes*, 21; 1224. Cf. Ehrenberg, *People of Aristophanes*<sup>2</sup>, p. 223; and Michell, *Ec. of Anc. Greece*, p. 66, note 1.



another sacred calendar, this from the Attic Epakria and dated in the first half of the fourth century (*I.G.*, II<sup>2</sup>, 1358), the prices for sheep are given as 11, 12, 16 and 17 drachmas.<sup>41</sup> Eleven drachmas was the price for the ewe to a female divinity, twelve drachmas for the ewe to a male divinity and for the ram. Sixteen and seventeen drachmas were the prices for sheep with young. The price of sacrificial sheep in the famine year 329/8 B.C. is given as 30 drachmas in an Eleusis inscription.<sup>42</sup> Two years later (327/6 B.C.) in a similar Eleusis inscription, the price of a sacrificial sheep (*ois*) is twice given as 12 drachmas; the price of a ram (*krios*) for Kore as 17 drachmas.<sup>43</sup> In a sacrificial list from Delos (*ca.* 200 B.C.),<sup>44</sup> the price of a lamb, specified as white and uncastrated, is given as 20 drachmas.

In Rome in the fourth and third centuries, sheep were early reckoned at one-tenth the price of oxen, or at six denarii.<sup>45</sup> For much later prices in Egypt where the average was about 18 drachmas for sheep, see A. C. Johnson, *Economic Survey*, II, pp. 231-232.<sup>46</sup>

4. *μόσχος* (VI, 70). Calf. The number of calves belonging to the four cattle (Stele VI, line 70) is not known. The line may well be completed with the restoration *μό[σχοι τούτων]*.

5. *σμῆνος* (VI, 66). Beehives. Solon specified that beehives of one proprietor must be at least 300 feet away from those of another,<sup>47</sup> and we may assume from this prescription that beekeeping was a widespread industry in Attica at a time when Mount Hymettos was covered with thyme. According to one estimate there were in the fifth century twenty thousand stocks of bees in Attica.<sup>48</sup>

Sir George Wheler (*A Journey into Greece*, London, 1682, p. 412) in the seventeenth century described the Athenian beehive as made of wicker, with combs which were built down from bars placed across the top, and this type was normal in Greece up to World War II. It may well have resembled the ancient type. Aristotle knew a beehive of which the interior could be seen, for he watched the ruler, the development of the brood, and the feeding of the grubs, and it has been noted that the type of hive described by Wheler would have permitted such observations.<sup>49</sup>

<sup>41</sup> Cf. Segrè, *op. cit.*, pp. 168-169.

<sup>42</sup> *I.G.*, II<sup>2</sup>, 1672, line 289. See above, p. 258.

<sup>43</sup> *I.G.*, II<sup>2</sup>, 1673, line 62.

<sup>44</sup> *Syll.*<sup>3</sup>, 1024, line 9.

<sup>45</sup> *Economic Survey*, I, pp. 47-48.

<sup>46</sup> For prices in Roman Syria, see Heichelheim, *Economic Survey*, IV, p. 155.

<sup>47</sup> Plutarch, *Solon*, XXIII.

<sup>48</sup> A. Gmelin, in J. Witzgall's *Das Buch von der Biene*, Stuttgart, 1898, p. 21. One beehive would produce one to two and a half choes of honey at one harvesting. For taxes on beehives, see Andreades, *Hist. of Gr. Pub. Finance*, I, p. 157; and Rostovtzeff, *Soc. and Ec. Hist. of Hell. World*, III, pp. 1386-1387, note 99.

<sup>49</sup> See H. M. Fraser, *Beekeeping in Antiquity*, 2nd edition, London, 1951, p. 17.

Columella, who devotes chapter 6 of Book IX of the *De Re Rustica* to the hive, states that the best were made of cork or reeds, and quotes Celsus as disapproving of hives made of cow-dung.<sup>50</sup>

For bibliography on the subject of beehives, see Olck in *R.E.*, s.v. *Bienenzucht*, and Klek in Suppl. 4 of *R.E.* under the same word.<sup>51</sup>

At the beginning of the fourth century B.C., the price of a kotyle of honey was several times given as three obols. The prices occur in *I.G.*, II<sup>2</sup>, 1356, a sacred law which set the tariff relating to sacrifices. For other prices, see, e. g., A. Böckh, *Staats-haushaltung der Athener*<sup>3</sup>, I, p. 132. The various indexes in the *Economic Survey* contain no references to the prices of beehives or to honey, although bees must have been kept wherever possible to produce the honey needed in an otherwise almost sugarless world, and their wax was a valuable by-product. The maximum price of honey is given in the Edict of Diocletian as 24 to 40 denarii an Italian pint (sexte; 0.547 liter);<sup>52</sup> for Phoenician (i. e., date) honey, 9 denarii.<sup>53</sup>

## V. REAL PROPERTY

### TYPES OF PROPERTY

In our lists, there are eleven distinct types of 'real property' which were sold by the *poletai*:<sup>1</sup> *ἀγρός, γῆ ψιλή, γῆπεδον, δρυινών, κῆπος, οἰκία, οἰκόπεδον, ὄργας, πιτυινών, συνοικία, and χωρίον*. Only five of these terms (*kepos, oikia, oikopedon, synoikia, and chorion*) occur in the Greek *horoi* most recently re-edited by Fine and Finley in virtually simultaneous publications. This may seem surprising in view of the fact that more than two hundred of these *horoi* have now been published.<sup>2</sup> On the other hand, five terms which appear on the preserved *horoi* (*ἑδάφη, ἐργαστήριον, κάμινος, καπηλείον, and οἴκημα*) do not occur in our fragmentary lists. One of our terms (*kepos*) is largely restoration;<sup>3</sup> another (*pityimon*) rests on the early transcription of the text by Pittakys.<sup>4</sup> Finley has promised a study of the vocabulary of property terms in Greek

<sup>50</sup> Fraser, *op. cit.*, p. 54, refers to hives of wicker cloomed with cow-dung found in Spain today.

<sup>51</sup> The series of articles by J. Klek and L. Armbruster, "Die Bienenkunde des Altertums" in the *Archiv für Bienenkunde* (1919-26) was not available to me.

<sup>52</sup> Col. III, lines 10-11. A list of those places in Asia Minor which were known for beekeeping is given by T. R. S. Broughton in *Economic Survey*, IV, p. 620.

<sup>53</sup> Line 12.

<sup>1</sup>M. I. Finley (*Studies in Land and Credit in Ancient Athens, 500-200 B.C.*, New Brunswick, 1951, p. 54) has shown that there was no word in the Greek language meaning 'real property.' Note also the remarks of Buck on 'landed property' in *Dictionary*, p. 769. The term 'real property' is here used in its modern content.

<sup>2</sup> John V. A. Fine, *Horoi, Studies in Mortgage, Real Security and Land Tenure in Ancient Athens (Hesperia, Supplement IX)*, Baltimore, 1951, p. 43, states the number is about 214.

<sup>3</sup> X, 17.

<sup>4</sup> X, 1.

authors; <sup>5</sup> in the meantime, the following remarks are offered concerning the meaning of the terms occurring in our lists. The specific meanings which these words seem to bear in the Attic Stelai are given on p. 269.

1. *ἀγρός* (VI, 55; VII, 74). This word is frequently used in the literature in antithesis with *πόλις* or *ἄστυ*. In the *Odyssey*: "Your father abides here in the country (*ἀγρῶ*) and goes not down to the city."<sup>6</sup> Similarly, in Plato, *Lg.*, IX, 881 c: "— — — if the assault occur in the city — — — the punishment shall be inflicted by the *astynomoi*; and if it occur *κατ' ἀγροῦς τῆς χώρας*, by the officers of the *agronomoi*." In Lysias, XXXI, *Against Philon*, 8: "This man was banned from the city — — — and for a time he lived *ἐν ἀγρῶ*." In [Demosthenes], XLVII, *Against Euergos and Mnesiboulos*, 63: "— — — went at once from the city *εἰς ἀγρόν*." In several places in Lysias, I, *On the Murder of Eratosthenes*, the speaker uses *agros* in the sense of 'country.'<sup>7</sup>

The word seems to be used, however, not only for the general sense of 'country,' but for a field or farm which was in the country. So [Demosthenes], LIII, *Against Nikostratos*, 6: "Three slaves ran away from him from his farm (*ἐξ ἀγροῦ*)." In Isaios, VI, *Estate of Philoktemon*, 33: "— — — he sold *ἀγρόν* at Athmonon for seventy-five minas to Antiphanes"; and VIII, *Estate of Kiron*, 35: "the property of Kiron consisted of *ἀγρόν* at Phyla easily worth a talent — — —"; and in XI, *Estate of Hagnias*, 42, the speaker states that the real property of Stratokles was divided into houses and *ὁ ἀγρός* worth 12 minae. In Thucydides, II, 13, 1: "Pericles — — — conceived a suspicion that perhaps Archidamos might pass by *τοὺς ἀγροῦς αὐτοῦ* and not lay them waste."<sup>8</sup> Buck classifies *ἀγρός* under the general heading of 'agriculture' and under the sub-heading of 'field for cultivation.'<sup>9</sup>

In our list, it is to be noted that a house may be situated on an *agros*,<sup>10</sup> and the *agros*, in turn, may be described as containing so many *plethra* of land.<sup>11</sup> The meaning of the word, then, would here seem to be 'farm' or a 'field for cultivation' in the country.<sup>12</sup>

<sup>5</sup> *Op. cit.*, p. 246, note 9.

<sup>6</sup> XI, 187-188: *πατήρ δὲ σὸς αὐτόθι μίμνει  
ἀγρῶ, οὐδὲ πόλινδε κατέρχεται.*

<sup>7</sup> 11, 13, 20, 22, 39.

<sup>8</sup> J. E. Powell in his *Lexicon to Herodotus*, Cambridge, 1938, p. 3, defines *ἀγροί* in I, 17<sup>2</sup>, as the cultivated land of a city, but the reference is clearly to country dwellings in the Milesian territory.

<sup>9</sup> *Op. cit.*, p. 489. Buck notes that Greek *agros* like Latin *ager* is often used in a wider sense for 'open country' vs. 'town.' On page 1304, Buck indicates that it is the plural *ἀγροί* (but also singular in Homer) which is particularly used in the sense of 'country.'

<sup>10</sup> VII, 73, 77.

<sup>11</sup> VII, 74.

<sup>12</sup> The word occurs in an Ionian inscription of Erythrai (*Athena*, XX, 1908, pp. 167-169) where Van Herwerden (*Lexicon Graecum*, Leyden, 1910, *s.v.*) translates it as 'cultus,' and Liddell-Scott-Jones as 'tilled land.'

2. γῆ ψιλῆ (VII, 72, 74). Cultivated land was divided into two types: ψιλῆ and πεφυτευμένη.<sup>13</sup> *Psile* land was that which was without trees.<sup>14</sup> The *Et. Mag.* contains the definition: ψιλὴν ἄρουραν τὴν ἄδενδρον χώραν, τὴν πρὸς τὸ σπείρεσθαι καὶ ἀρούσθαι ἐπιτηδείαν;<sup>15</sup> Liddell-Scott-Jones defines as follows: ‘the tillage of land for corn and the like, opp. γ. πεφυτευμένη (the tillage of it for vines, olives, etc.).’ The term *psile* has generally been understood as applying solely to land cultivated for cereals, or cornland.<sup>16</sup> The text of Stele VII, 72 (γῆς ψιλῆς πλέθρα . . . ἀμπέλων) shows, however, that the tillage of land for vines was called *ge psile*; so current definitions must be corrected to read ‘the tillage of land for cereals and vines’;<sup>17</sup> whereas land πεφυτευμένη means the tillage of it for fruit and olive trees.<sup>18</sup>

3. γῆπεδον (IV, 8; VII, 23, 25). *Geppedon* is not a common word. It does not occur in the various indices of the Attic Orators. The Ionic form γεώπεδον occurs in Herodotos, VII, 28, where Liddell-Scott-Jones gives it the meaning ‘portion or plot of ground, garden, esp. within a town.’ The passage in Herodotos contains a speech of Pythios wherein he explains his offer of wealth to Xerxes and concludes, “there is sufficient livelihood to me from my slaves and land (geopeda).” The geopeda were, then, cultivated lands in Lydia;<sup>19</sup> there is no connotation of land within towns. The definition in Liddell-Scott-Jones possibly arises from passages in Phrynichos and Eustathius where γῆπεδα is defined as land, such as gardens, adjacent to city houses.<sup>20</sup> But in our list, the word clearly refers to land in an inland trittys.<sup>21</sup> *Geppedon* occurs in one passage each in Plato and Aristotle.<sup>22</sup> In the former<sup>23</sup> the word refers to the home lot which one son of each of the 5,040 landholders of the state was to inherit.

<sup>13</sup> Aristotle, *Pol.*, 1258b, 18, and Demosthenes, XX, *Against Leptines*, 115. For γῆ, the root meaning of which seems to have been ‘earth’s surface, ground,’ see Buck, *op. cit.*, pp. 15-17. Cf. also Kent’s note on the meaning of this word in Delian accounts (*Hesperia*, XVII, 1948, p. 257, note 38).

<sup>14</sup> Herodotos, IV, 19 and 21.

<sup>15</sup> 818, 38.

<sup>16</sup> See Caillemer in Daremberg-Saglio, *Dictionnaire*, I, 720 b, and E. Barker, *Politics of Aristotle*, Oxford, 1948, p. 30. We may note that in M. Fraenkel, *Inschriften von Pergamon*, I, Berlin, 1890, no. 158, a vineyard and a designated number of plethra of *ge psile* are listed separately. For similar examples, see A. Wilhelm, “Neue Beiträge III” in *Sitzungsber. der k. Akad. der Wissenschaften in Wien*, Phil.-hist. Kl., 175, 1 Abh., 1913, pp. 6-7. Such examples may have given rise to the common definition of *ge psile* as ‘grain land.’ *Ge psile* would seem, however, to be a more general term for land lacking trees, which might or might not be a vineyard.

<sup>17</sup> The stone is uninscribed after ἀμπέλων. In the Delian accounts of the second and third centuries B.C., the exact number of vines was recorded; see *I.G.*, XI, 2, 287 A, lines 155, 157; *Insc. Délos*, 356 bis, B, lines 27-29; etc.

<sup>18</sup> See Lysias, VII, *On the Sacred Olive*, 7.

<sup>19</sup> Cf. Powell, *Lexicon to Herodotus*, s.v.

<sup>20</sup> Eustathius: τὸ ἐν πόλει προκείμενον οἰκίας οἶον κηπίδιον. Cf. Bekker, I, p. 32, 1.

<sup>21</sup> VII, 23-24.

<sup>22</sup> See also *I.G.*, IV, 823, line 58.

<sup>23</sup> *Lg.*, V, 741c.

These lots were to remain inalienable. In Aristotle, the passage containing the word reads: "we may have a system under which plots-of-ground (*gepeda*) are owned in severalty, but the crops are brought into a common stock for the purpose of consumption."<sup>24</sup> In both cases, the word refers to division of the cultivated land of the state, and the *κηπίδιον* of Eustathius seems hardly an appropriate synonym. In our lists, it is to be noted that the *gepeda* are located in town and inland demes and that a *gepedon* may be divided into halves. The meaning seems to be 'plot of ground' or 'lot,' but on the basis of the limited evidence, the exact nature and limits of the term are not determinable.

4 and 9. *δρυινών* and *πιτυινών*. These words make their sole appearance in the Greek language in our Stele X (line 1). In the case of the second word three letters are restored, but the ending is clear and this or some analogous word seems required.<sup>25</sup> For the word-formation, reference may be made to Schwyzer, *Gr. Gram.*, I, p. 488, section 5. *Dryinon* is defined by Liddell-Scott-Jones as 'oak-coppice'; *pituyinon* would be 'pine-coppice.' The words *δρῦς*, 'oak,' and *πίτυς*, 'pine,' were commonly paired.<sup>26</sup> For the extensive use of both types of wood in antiquity, reference may be made to Blümner, *Technologie*, II, pp. 260-261 and 283-285.

5. *κήπος* (X, 17). P. Roussel inferred from the use of the word at Delos that a *kepos* was an enclosed field which contained no buildings.<sup>27</sup> J. H. Kent in his admirable work on the Delian temple estates restudied the evidence and concluded that *kepos* referred to a 'plot of land under cultivation,' since the revenues from the *kepoi*-estates were derived from vines, grain, and fruit trees (arable land).<sup>28</sup> Non-epigraphical evidence shows that trees<sup>29</sup> and vegetables (*λάχανα*)<sup>30</sup> were grown in *kepoi*. The word corresponds, therefore, to English 'garden' and 'orchard.' Buck has written of *kepos* and its Indo-European cognates, "there may be specialization of 'garden' to 'flower garden,' 'vegetable garden,' or 'tree garden, orchard.'" <sup>31</sup>

<sup>24</sup> *Pol.*, 1263 a (Barker's translation).

<sup>25</sup> See *Hesperia*, XXII, 1953, pp. 290-291.

<sup>26</sup> See *Od.*, IX, 186; *Il.*, XIII, 389-390.

<sup>27</sup> *Délos, Colonie athénienne*, Bibliothèque des Écoles Françaises d'Athènes et de Rome, t. 111, Paris, 1916, p. 157, note 1.

<sup>28</sup> *Hesperia*, XVII, 1948, p. 318, note 240. In *I.G.*, XI, 2, 287, line 147, it is stated that a *ἱπνός* (Kent, *op. cit.*, p. 254, note 25: 'kiln'; Liddell-Scott-Jones: 'kitchen') was situated in a *kepos*.

<sup>29</sup> Plato, *Ep.*, II, 313 A, and Homer, *Od.*, IV, 737. The word *kepos* occurs only four times in the Attic Orators: [Demosthenes], XLVII, *Against Euergos*, 53; L, *Against Polykles*, 61; Isaios, V, *Estate of Dikaiogenes*, 11; and Hyperides, *Against Demosthenes*, fr. VII (Kenyon). See W. A. Golligher, *Hermathena*, LVII, 1941, p. 42.

<sup>30</sup> [Demosthenes], L, *Against Polykles*, 61 and Athenaeus, I, 7 c. See also the numerous references to *κήπου λαχανομένου* in papyri (F. Preisigke, *Woerterbuch der griechischen Papyruskunden*, I, Heidelberg, 1924, 793).

<sup>31</sup> Buck, *Dictionary*, p. 490.

The word occurs only once in our Stelai (X, 17), where it is the group of letters which seem to accord best with the traces read by Pittakys.<sup>32</sup> It is to be noted, however, that Pittakys himself restored ἀγρός and that the latter word has been coupled with χωρίον, as is the case in our entry, in Xenophon, *H.G.*, II, 4, 1.

6. οἰκία (IV, 6, 13, 20; VI, 13, 56, 76, 89, 94; VII, 23-24, 25-26, 73, 77; X, 1, 15, 17). *Oikia*, used in Homer for the nests of birds and bees<sup>33</sup> and occurring in tragedy only in one papyrus fragment,<sup>34</sup> is very common in Aristophanes and prose texts with the meanings of 'building, household, family,' etc.<sup>35</sup> In legal contexts, it seems to refer generally to a 'private residence.' Finley in his section on houses in the *horoi* has recently written, "an analysis of the economics of real security will show that, in all likelihood, it is the personal residence that is usually meant by the word 'house' in the *horoi*."<sup>36</sup>

7. οἰκόπεδον (VI, 100). *Oikopedon*, a rare word, is found in one passage in Plato in a context which shows that a building is meant.<sup>37</sup> The word occurs once, too, in Thucydides, in connection with the fortifications of Delium (IV, 90): "They threw in grape-vines as well as stones and bricks from the neighboring *oikopeda* which they pulled down." E. Bétant translates the word as 'substructio,'<sup>38</sup> which receives support from the definitions of Phrynichos<sup>39</sup> and Photius,<sup>40</sup> but the use of πλίνθον and καθαυρούντες indicates that neighboring buildings are meant.<sup>41</sup> In Aristotle, *Pol.*, 1265b, 24, where Liddell-Scott-Jones incorrectly defines *oikopedon* as 'site of a house,' it is clear that buildings are meant.<sup>42</sup> Aristotle here is criticizing passages in Plato's

<sup>32</sup> See *Hesperia*, XXII, 1953, p. 291.

<sup>33</sup> *Il.*, XII, 168, 221; XVI, 261.

<sup>34</sup> Euripides, *Phaethon*, 204. It is also found as a variant reading for ἐστία in *Medea*, 1130.

<sup>35</sup> See Liddell-Scott-Jones, *s.v.* For the most detailed study of the word and its synonyms, see J. H. H. Schmidt, *Synonymik der griechischen Sprache*, II, Leipzig, 1878, pp. 508-526. Buck (*Dictionary*, p. 458) states concerning οἶκος, οἰκία and their Indo-European cognates, "In this group the notion of 'house' as a building is subordinate to that of 'home, settlement, family'."

<sup>36</sup> *Op. cit.*, p. 65. It is to be noted that in Delian inscriptions, οἰκία is the word used for houses situated in the city of Delos. In the records of the estates of the Temple of Apollo, only one estate had an οἰκία. The principal building on the estates was the *kleision*, which Kent (*op. cit.*, p. 298), who has collected the evidence, translates as 'farmhouse.'

<sup>37</sup> *Lg.*, V, 741c. See Liddell-Scott-Jones, *s.v.*; E. des Places' translation in the Budé series, *ad loc.*; and Finley, *op. cit.*, p. 253, note 50. The translation in the Loeb text of the *Leges* ('house-plot') is here incorrect. *Lg.*, V, 740a shows that Plato is making reference to the apportionment of land and houses.

<sup>38</sup> *Lexicon Thucydideum*, Geneva, 1843, *s.v.*

<sup>39</sup> See Bekker, *Anecd.*, I, p. 32, 2. Cf. the interesting comments of Andreades, *Hist. of Gr. Pub. Finance*, pp. 151-152, note 8.

<sup>40</sup> *Lexicon*, ed. S. A. Naber, II, Leiden, 1865, p. 5, οἰκόπεδον· ἔρημον κατάπτωμα οἴκου.

<sup>41</sup> See Classen-Steup, *Thukydides*, *ad loc.*

<sup>42</sup> So Barker, *op. cit.*, p. 59.

*Leges* where two separate houses are allotted to each citizen.<sup>43</sup> Aischines, the only Attic orator in whose writings the word is preserved, writes: "He walled her up in an empty house — — — and to this day the *oikopedā* of that house stand in your city, and that place is called — — —." <sup>44</sup> This reference might be to the substructure of the house, and be in accord with the definition preserved in Bekker and Photius (see above).

There are several non-Attic inscriptions in which *oikopedā* is used in connection with allotment or division of land.<sup>45</sup> We note one in particular, an inscription of Sardis,<sup>46</sup> where an oikopedon is referred to as requiring three artabas of seed. Here the word clearly refers to a plot of ground, although possibly one designed to be used for a dwelling.

*Oikopedā* occurs in several Egyptian papyrological sources in which the editors feel that the word is used interchangeably with *oikia* or *oikos*. This has been the conclusion of Kraemer and Lewis,<sup>47</sup> Boak,<sup>48</sup> and Youtie and Pearl.<sup>49</sup> Waiving the question of the significance of Egyptian usage for Attic meaning, it should be noted that proportionately the word here more commonly means 'building-site' or 'house-lot.' Thus, in the third volume of the Michigan papyri, where Boak has noted that the twice-used phrase *τόπων οικόπεδα* has to do with buildings, there are more than twenty examples of the use of *oikopedā* where the respective editors have translated the word as 'building-site' or the equivalent.<sup>50</sup> This includes two examples in Boak's document. In the Youtie-Pearl document, *oikopedā* refers to the entire parcel of a half share of a house with land. It would seem, then, that the specific meaning of the word must be determined from the context. It might refer to a building-site; at other times the site seems to have contained a building or at least the substructure of a building.

In our Stele, the word is qualified by two adjectives, *ἐλύ* and *χέρρον*.<sup>51</sup> The latter means 'without a crop.'<sup>52</sup> Concerning *ἐλύ* which occurs only here, Meritt has written, "the word *ἐλύ* is known only from Hesychius (where it is written *εἰλύ*) and supposedly means the same as *μέλαν*."<sup>53</sup> It may be supposed, on the other hand, that the word means 'swampy' and is to be connected with *ἔλος* or *ἰλύς*.<sup>54</sup> In any case, our

<sup>43</sup> *Lg.*, V, 745 e and VI, 776 a. See Jowett's commentary *ad Pol.*, 1265 b.

<sup>44</sup> I, 182. Cf. *I.G.*, II<sup>2</sup>, 1672, line 75: τὰ οικόπεδα τῆς ἱερᾶς οἰκίας.

<sup>45</sup> See Dittenberger, *Syll.*<sup>3</sup>, no. 141, and A. Wilhelm, "Neue Beiträge, III" in *Sitzungsber. der k. Akad. der Wissenschaften in Wien*, Phil.-hist. Kl., 175, 1 Abh., 1913, pp. 11-12.

<sup>46</sup> W. H. Buckler and D. M. Robinson, *Sardis*, VII, Part 1, Leyden, 1932, no. 1.

<sup>47</sup> *T.A.P.A.*, LXVIII, 1937, p. 380.

<sup>48</sup> *Michigan Papyri*, III (ed. J. G. Winter), Ann Arbor, 1936, p. 215.

<sup>49</sup> *Michigan Papyri*, VI, Ann Arbor, 1944, p. 135.

<sup>50</sup> It is perhaps worth noting that the modern meaning of the word is 'building lot.'

<sup>51</sup> VI, 100.

<sup>52</sup> Cf. *I.G.*, II<sup>2</sup>, 2492, line 16.

<sup>53</sup> *Hesperia*, VIII, 1939, p. 75.

<sup>54</sup> Cf. Liddell-Scott-Jones, *addenda*, p. 2068; and Buck and Petersen, *Reverse Index*, p. 747.

two terms can hardly be applied to architecture. The entry in our list, then, would seem best translated as 'house-site, swampy and without a crop.'<sup>55</sup>

8. *ὄργας* (VI, 104). The word first appears in Euripides and occurs only once in the Attic orators.<sup>56</sup> It is used most often with *hiera* to designate 'uncultivated land sacred to the gods,' and, in particular, a tract of sacred land between Athens and Megara. In connection with a preserved Athenian decree of the year 352/1, the lexicographical evidence on *orgas*, including definitions from Harpokration and Photius, has been collected in Dittenberger, *Syll.*<sup>3</sup>, no. 204, note 2. Of the four occurrences of the word in Euripides three probably refer to holy ground<sup>57</sup> and Dodds has suggested that the word be translated 'mountain glades' rather than 'meadow-lands' (Liddell-Scott-Jones).<sup>58</sup> The fourth passage is in *Electra*, 1163: "Like as a mountain lioness, frequenting the thickets of orgades, she (Clytemnestra) wrought these deeds," where L. Parmentier translates the word by 'les guerets' ('the fields'); but 'mountain glades' would seem more appropriate.<sup>59</sup>

The word is used, presumably with reference to secular land, in a passage in Xenophon on hunting: "First go to the orgades and reconnoitre to discover where deer are most plentiful."<sup>60</sup> Finally, the word in the sixth century (A.D.) epigrammatist Agathias (*Anth. Pal.*, VI, 41) clearly refers to cultivated land: "His plough — — he dedicated to thee, Demeter, after cutting the ridge of his well-ploughed orgas."

Until the Pythion and Herakleion of the deme Kykala, which were near our *orgas*, can be located topographically, the exact meaning of *orgas* may remain in doubt; but I would suppose that in all passages from classical authors reference is made to a 'woody, mountainous tract.'<sup>61</sup> Since our *orgas* was hard-by (*ἐπί*) the Pythion, the land may originally have been sacred and retained the name of *orgas* on transfer to private ownership.<sup>62</sup> It is to be noted that in our entry reference is made to half of an *orgas* and that half of a conduit or canal (*dianomos*) was included in the sale.<sup>63</sup>

<sup>55</sup> For the most detailed study of the word *oikopedon*, see J. H. Thiel, *Xenophontos Poroi*, Diss. Amsterdam, Vienna, 1922, p. 9.

<sup>56</sup> [Demosthenes], XIII, *On the Tribute*, 32. The reference here is to sacred land.

<sup>57</sup> *Bacchae*, 340, 445; and *Rhesus*, 282.

<sup>58</sup> E. R. Dodds, *Euripides Bacchae*, Oxford, 1944, pp. 108-109.

<sup>59</sup> *Euripide*, IV, Paris, 1925, p. 237.

<sup>60</sup> *Cyn.*, 9, 2. Cf. *Cyn.*, 10, 19.

<sup>61</sup> Harpokration: *ὄργας καλεῖται τὰ λοχμώδη καὶ ὄρεινὰ χωρία καὶ οὐκ ἐπεργαζόμενα*. Cf. Chandler, *J.H.S.*, XLVI, 1926, p. 12; and Kahrstedt, *Ath. Mitt.*, LVII, 1932, p. 9, note 1.

<sup>62</sup> Disposal of sacred property was rare but not unheard of; see Paul Guiraud, *La Propriété foncière en Grèce jusqu' à la conquête romaine*, Paris, 1893, p. 377. In an Athenian decree of a much later date (*I.G.*, II<sup>2</sup>, 1035, lines 8-9), it is specifically enjoined that in the future no sacred property shall be sold.

<sup>63</sup> VI, 104-105. The word *dianomos* is found elsewhere only in *B.C.H.*, XXXIII, 1909, p. 462 (Argos, Roman period).

10. *συνοικία* (IV, 11). The term indicates a tenement house occupied by several persons. A. Jardé translates it as 'maisons de rapport';<sup>64</sup> Liddell-Scott-Jones as 'house in which several families live.' The word has frequently been translated as 'apartment-house,' for which Finley has recently suggested the substitute term 'multiple-dwelling,'<sup>65</sup>—a term which brings out the functional and, so to speak, non-architectural connotation of the word. One of the key passages for the meaning is Aischines (I, 124): "Where several people hire one house and occupy it, dividing it between them, we call it a *synoikia*, but where one man dwells, a house." Clearly, the *synoikia* was rented. In Aristophanes, *Equites*, 1001, the sausage-man boasts that he had a two-storey house and two *synoikiai*.<sup>66</sup> In Athenaeus, XII, 542 f, sudden prosperity results from owning *synoikiai*. The *Thesaurus Graecae Linguae* (*s.v.*) reports a Latin gloss on the word as 'insula.' The *synoikia*, then, is not only a multiple-dwelling, it is also a tenement; <sup>67</sup> so the translation 'tenement-house' is adopted.<sup>68</sup>

11. *χωρίον* (VI, 80, 94, 96, 98, 102, 133; X, 16, 17, 18). The word does not occur in Homer or in Tragedy. It is found first in Herodotos. Schmidt, in his study of Greek synonyms, defines *chorion* as follows: "*χωρίον* ist unser 'Ort', bezeichnet aber allgemeiner jedes bestimmte Grundstück, z.B. in einer Stadt oder einen Lande, ebenso eine in ihrer Eigentümlichkeit hervorspringende Gegend; daher erscheint ein *χωρίον* oft als Teil einer *χώρα*, aber auch eines anderen *χωρίον*."<sup>69</sup> In Thucydides alone, *chorion* is qualified by the following adjectives: *ἀφνειόν* (I, 13, 5), *ἀλίμενον* (II, 25, 4), *ἄπεδον* (VII, 78, 4), *ἀφανές* (IV, 29, 3), *δασύ* (IV, 29, 4), *ἐπίκαιρον* (VI, 85, 2), *ἔρημον* (I, 52, 2), *ισθμῶδες* (VII, 26, 2), *μετέωρον* (IV, 32, 3), *πετρῶδες* (IV, 9, 2), *πρόσαντες* (IV, 43, 3), *στεόπορον* (VII, 73, 1), *στενόν* (VII, 79, 1), *ὑψηλόν* (III, 97, 2), and *χαλεπόν* (IV, 9, 2).

In epigraphical texts dealing with land, the word has been variously translated: as 'field' by Meritt,<sup>70</sup> as 'ordinary farm land' by John Day,<sup>71</sup> as 'farm' by Fine.<sup>72</sup> Kent, in drawing a distinction between *kepos* and *chorion* in the Delian records, wrote

<sup>64</sup> *Céréales*, p. 147.

<sup>65</sup> *Op. cit.*, pp. 64-65.

<sup>66</sup> For what I believe is the correct interpretation of this line, see R. A. Neil, *The Knights of Aristophanes*, Cambridge, 1901, *ad loc.* Neil in effect corrects the common interpretation based on the gloss of the scholiast that *synoikia* is an *apostasis* or *phanoiptes*.

<sup>67</sup> For a construction excavated at Delos, which M. Holleaux suggests was a *synoikia*, see the report in *Comptes rendus de l'Acad. des Inscr.*, 1904, p. 737.

<sup>68</sup> Cf. W. S. Maguinness, *Hermathena*, LXIX, 1947, p. 69.

<sup>69</sup> J. H. H. Schmidt, *op. cit.*, II, p. 3. Examples are collected on pp. 9-13. Cf. also Liddell-Scott-Jones, *s.v.*

<sup>70</sup> *Hesperia*, V, 1936, pp. 393 ff.

<sup>71</sup> *Ec. Hist. of Athens*, p. 231.

<sup>72</sup> *Op. cit.*, pp. 72, 81, etc.

that choria in addition to arable land contained grazing areas.<sup>73</sup> Finley usually translates the word simply as 'land,'<sup>74</sup> but in one case uses 'property.'<sup>75</sup>

Two of our properties which are designated by the term *chorion* are located in town demes.<sup>76</sup> This might seem to weigh against interpreting choria as 'farms,' but both demes, Bate and Ankyle, which are in the town trittys of the phyle Aigeis, are located southeast of the city walls in the direction of Mt. Hymettos.<sup>77</sup> This area must have included some farms. Another bit of evidence from our lists is the small fee paid for the chorion in Aphidna—ten drachmas. Even a small tract of agricultural land would presumably be worth a higher figure. Moreover, many of the horoi which refer to choria have been found within the modern city and particularly in the area of the ancient Agora. It must be granted that the place of discovery may be at some distance from the original site; yet the percentage of these horoi mentioning choria is so high that it is difficult to believe some did not refer to urban holdings. I have therefore used the word 'land' to translated *chorion*; but 'landed property' or 'estate' would seem to be equally suitable.<sup>78</sup>

In summary, the following table presents our interpretation of the meaning which the words designating real property bear in the poletai lists.

1. Agros	Field for cultivation in the country
2. Ge psile	Land cultivated for cereals, vines and the like
3. Gepedon	Plot of ground (exact meaning uncertain)
4. Dryinon	Oak grove
5. Kepos	Garden (non-specialized)
6. Oikia	Private residence
7. Oikopedon	House-site
8. Orgas	Woody mountainous tract
9. Pityinon	Pine grove
10. Synoikia	Tenement-house
11. Chorion	Land, Landed property

#### PRICES

In Table A are listed the prices and locations of the various types of real property which had been owned by the Hermokopidai and Profaners of the Mysteries. Table

<sup>73</sup> *Op. cit.*, p. 318, note 240.

<sup>74</sup> *Op. cit.*, p. 54 and frequently thereafter.

<sup>75</sup> *Ibid.*, p. 238, note 26.

<sup>76</sup> VI, 80 and 94. Cf. Demosthenes, LV, *Against Kalikles*, 17.

<sup>77</sup> See W. Judeich, *Topographie von Athen*<sup>2</sup>, Munich, 1931, pp. 169-172.

<sup>78</sup> See Buck, *Dictionary*, p. 1310. It may be noted that in Byzantine and modern Greek *χώρα* is popularly used for 'town,' and *χωριό* has the meaning of 'village.' See Buck, *Dictionary*, pp. 1302 and 1308.

TABLE A: PROPERTY LOCATED IN ATTICA SOLD BY POLETAI <sup>78a</sup>

<i>Type of Property</i>	<i>Sales Price in Drachmas</i>	<i>Reference in Attic Stelai</i>	<i>Location</i>	<i>Trittys</i>	<i>Owner</i>
1. Oikia	—	VI, 13-15	Kollytos	City	Diodoros of Eitea
2. Oikia	.... <sup>π</sup> (at least 450)	VI, 76	Kydathenaion	City	Polystratos of Ankyle
3. Oikia	1500	VI, 89	—	—	Euphiletos of Kydathenaion
4. Oikia	105	X, 15	Semachidai	Coast	Euphiletos of Kydathenaion
5. Oikia in agros	Part of 6100	VII, 77	—	—	—
6. Oikia & ½ gepedon	—	IV, 6-9	Mounychia	City	Polystratos of Ankyle
7. Oikia & gepedon	—	VII, 23-4	Athmonon	Inland	—
8. Oikia & gepedon	—	VII, 24-6	—	—	—
9. Oikia, oak grove, pine grove, & pithoi	1800	X, 1-2	—	—	Adeimantos of Skambonidai
10. Oikia, chorion & kepos	205	X, 17	Myrrhinoutta	Coast?	Euphiletos of Kydathenaion
11. Synoikia	—	IV, 11	—	—	Axiochos of Skambonidai
12. Chorion	—	VI, 80	Ankyle	City	Polystratos of Ankyle
13. Chorion (?)	—	VII, 71	Emporioi	Coast	—
14. Chorion	105	X, 16	Gargettos	Inland	Euphiletos of Kydathenaion
15. Chorion	10	X, 18	Aphidna	Inland	Euphiletos of Kydathenaion
16. a. Ge psile b. Oikia in agros c. Agros	1900	VII, 72-74	—	—	—
17. a. Oikia & chorion b. Chorion c. Chorion d. Oikopedon e. Chorion f. ½ orgas g. ½ orgas	1200	VI, 94-108	Bate Lan— Pythion Pythion Herakleion Pythion Kykale	City — — — — —	Pherekles of Themakos

B lists property owned abroad. For purposes of comparison, we give in Table C the prices of similar types of real estate, mentioned in the Attic Orators,<sup>79</sup> dating for the most part from the first half of the fourth century B.C. Only types of property which

<sup>78a</sup> Unless specified otherwise, property is assumed to be in Attica.

<sup>79</sup> For later authors who refer to Athenian prices, cf., for example, Terence, *Phormio*, 662, and Plautus, *Mostellaria*, 634 and 823.

occur in our poletai lists have been included. This table from the Attic Orators is presented here because no similar detailed compilation occurs, to our knowledge, in the bibliography on ancient house- and land-values. Similarly, in Table D is presented like information about real estate sold by the poletai in the course of the fourth century B.C., as preserved in epigraphical records, and in Table E similar sales from the so-called Hekatostai records. Again only types of property are included which are identical with the types in Table A.<sup>80</sup>

TABLE B: PROPERTY ABROAD SOLD BY POLETAI

<i>Type of Property</i>	<i>Sales Price in Drachmas</i>	<i>Reference in Attic Stelai</i>	<i>Location</i>	<i>Owner</i>
Oikia & agros	950 +	VI, 55-56	Thasos	Adeimantos of Skambonidai
Oikia (with door) in chorion	—	IV, 20-21	Euboea	Nikides of Melite
?	310	VII, 78	Abydos	—
Chorion	—	VI, 133	Thasos	—

TABLE C: PROPERTY IN ATTIC ORATORS

<i>Type of Property</i>	<i>Sales Price in Drachmas</i>	<i>Reference</i>	<i>Location</i>	<i>Trittys</i>
Oikia <sup>81</sup>	300—	Isaios, II, 35	—	—
Oikia	4000	V, 26	Kerameikos	City
Oikia	5000	V, 29	—	City
Oikia	4400	VI, 33	—	City
Oikia	2000	VIII, 35	Dionysion in Limnais	City
Oikia	1300	VIII, 35	—	—
Oikia	3000	XI, 42	Melite	City
Oikia	500	XI, 42	Eleusis	Coast
Oikia	2000	XI, 44	—	City
Oikia	2000	Aischines, I, 98	—	City
Oikia	3000	Demosthenes, XXVII, 10	—	—
Oikia	2000 <sup>82</sup>	XXXI, 1 & 7	—	—
Oikia	1000 <sup>82</sup>	XLI, 6, 16 & 19	—	—
Oikia	700 <sup>82</sup>	LIX, 39	Statue of Hermes Psithyristes	City
Oikia & ge	5000+	Lysias, XIX, 42	—	—
Synoikia	10000	Demosthenes, XLV, 28	—	—
Synoikia	1600 <sup>83</sup>	LIII, 13	—	—

<sup>80</sup> Mention may be made of the *testimonia selecta* in Robinson, *Olynthus*, XII, pp. 399-452, which includes many passages referring in a general way to the value of the Greek house.

<sup>81</sup> Reference is to an *oikidion*.

<sup>82</sup> Amount of mortgage.

<sup>83</sup> Amount of mortgage. Sandys and Paley (*Demosthenes, Select Private Orations*, II<sup>4</sup>, Cambridge, 1910) suggest that this synoikia was worth 10,000 drachmas, which seems unduly high.

<i>Type of Property</i>	<i>Sales Price in Drachmas</i>	<i>Reference</i>	<i>Location</i>	<i>Trittys</i>
Agros	7500	Isaios, VI, 33	Athmonon	Inland
Agros	6000	VIII, 35	Phlya	Inland
Agros	12000	XI, 41	Eleusis	Coast
Agros	15000	XI, 42	Thria	Coast
Chorion	7000	Isaios, II, 34	—	—
Chorion	1000	II, 35	—	—
Chorion	5000	XI, 44	Oinoe	Coast
Chorion	3000	XI, 44	Prospalta	Inland (?)
Chorion	2000	Aischines, I, 99	Alopeke	City
Chorion	6000 <sup>82</sup>	Demosthenes, XXXI, 1	—	—

TABLE D: PROPERTY SOLD BY POLETAI IN FOURTH CENTURY<sup>84</sup>

<i>Type of Property</i>	<i>Sales Price in Drachmas</i>	<i>Reference</i>	<i>Location</i>	
1. Oikia	215	<i>Hesperia</i> , XV, no. 31 (pp. 181-184), line 2	Agryle	City
2. Oikia	410	<i>Hesperia</i> , XV, no. 31, lines 9-10	Salamis	—
3. Oikia	145	<i>Hesperia</i> , XV, no. 31, line 16	—	—
4. Oikia	575	<i>Hesperia</i> , X, no. 1 (pp. 14-17), lines 1-39	Alopeke	City
5. Oikia	—	<i>Hesperia</i> , XV, no. 32 (pp. 185-187), line 14	—	—
6. Oikia	483	Pritchett-Meritt, <i>Chronology</i> , p. 89	Agryle	City
7. Oikia & kepos	—	<i>Hesperia</i> , XV, no. 31, lines 35-36	Oion	Inland
8. Oikia, chorion & kleision	—	<i>Hesperia</i> , XV, no. 32, lines 20-21	Melite	City
9. Oikia & chorion	500	<i>I.G.</i> , II <sup>2</sup> , 1580, line 1	—	—
10. Oikia & chorion	2375	<i>I.G.</i> , II <sup>2</sup> , 1580, line 4	Prasiai	Coast
11. Oikia & chorion	2012½	<i>I.G.</i> , II <sup>2</sup> , 1580, line 8	Prasiai	Coast
12. Oikia & chorion	5000	<i>I.G.</i> , II <sup>2</sup> , 1580, line 11	—	—
13. Oikia & chorion	400	<i>I.G.</i> , II <sup>2</sup> , 1580, line 14	Paiania	Inland
14. Oikia & chorion	—	<i>Hesperia</i> , V, no. 10, line 15	Hagnous	Inland?
15. Synoikia	3705⅓	<i>Hesperia</i> , V, no. 10, lines 117-153	Peiraeus	City
16. Chorion	9050	<i>I.G.</i> , II <sup>2</sup> , 1580, line 24	Teithras	Inland
17. Chorion	680	<i>Hesperia</i> , V, no. 10, lines 153-185	Aphidna	Inland
18. ?	3250	<i>Hesperia</i> , XV, no. 31, line 22	—	—
19. —	150-199 <sup>85</sup>	<i>Hesperia</i> , V, no. 9, line 3	—	—
20. ? <sup>86</sup>	610	<i>Hesperia</i> , V, no. 9, line 6	Thria	Coast
21.	750(?)	<i>Hesperia</i> , V, no. 9, line 16	—	—

TABLE E: PROPERTY SOLD IN HEKATOSTAI RECORDS

Type of Property	Sales Price in Drachmas	I.G., II <sup>2</sup> Reference	Location	Trittys
1. Chorion	500	1594, 48-50	Aphidna	Inland
2. Chorion	Part of 81,300	1596, 8-9	Alopeke	City
3. Chorion	2005+	1596, 14-16	Salamis	
4. Chorion	50	1596, 23-24	Pallene	Inland
5. Chorion	800	1596, 27-28	Anaphystos	Coast
6. Chorion	1000	1597, 5-6	Kydantidai	Inland
7. Chorion	1375	1597, 7-8	Kydantidai	Inland
8. Chorion	100	1597, 17-18	Kothokidai	Coast
9. Chorion	250	1597, 21-22	Kothokidai	Coast
10. Chorion	100+	1598, 4-5	Phaleron	City
11. Chorion	700+	1598, 6-7	Phaleron	City
12. Chorion	440	1598, 15-16	Phaleron	City
13. Choria (2)	24,000	1598, 39-41	Halai	Coast
14. Chorion & oikopedon	11,600	1598, 12-14	—	—
15. [Oiko]peda of the chorion	550	1594, 52-53	Oinoe	Coast
16. Kepos	250	1596, 18-20	Pallene	Inland

For the prices of Athenian real estate recorded in horoi assigned to dates between the fourth and second centuries B.C., reference may be made to the four valuable tables presented by M. I. Finley, *op. cit.*, pp. 172-175. These tables are particularly estimable because of the distinction drawn between the different types of horoi.<sup>87</sup> In the case of dotal obligations a precise value of the property was fixed at the time the agreement on the dowry was reached. We would conjecture that the value indicated on these horoi would closely approximate the real value of the property, for presumably the father would have demanded from the husband adequate security.<sup>88</sup> In the case of *hypothekē* and *praxis epi lysei* transactions, the two other types of

<sup>84</sup> The inscription published as *Hesperia*, VII, 1938, p. 127, and lines 20-100 of the inscription published as *Hesperia*, V, 1936, pp. 397-404, were considered too fragmentary to include.

<sup>85</sup> Determined from the sales tax.

<sup>86</sup> Meritt restores in this stoichedon inscription: [συνουκίαν καὶ ἐσχατιάν]. For *eschatia* see *ad I.G.*, II<sup>2</sup>, 2498; and Pritchett, *Class. Phil.*, LI, 1956, p. 102, note 9.

<sup>87</sup> Unfortunately, Finley's tables do not include the evidence from the new Agora horoi, published by J. V. A. Fine in *Hesperia*, Suppl. IX, 1951. In an added appendix (pp. 182-193) Finley does, however, list the new horoi according to the various types.

<sup>88</sup> Finley (*op. cit.*, p. 30) notes that values in dotal horoi run into substantially larger sums than values in two other groups. He concludes that only wealthy Athenian fathers requested guaranties in the form of real security. This comparison would imply that values in all types of horoi were equal, and the conclusion seems hardly justified.

obligations for which values of real property are given on horoi, we have one example from the year 367/6 B.C. where a house, ultimately sold for 575 drachmas, had one hypotheke for only 150 drachmas and two praseis epi lysei for 100 and 24 drachmas, respectively.<sup>89</sup> In a speech prepared by Demosthenes for Nikoboulos, defendant in a suit against Pantainetos, the speaker says, addressing his accuser directly, "And upon a property on which you have never been able to borrow more than 10,000 drachmas and which you have sold out and out for 20,000 drachmas -- --." <sup>90</sup> John Day has concluded that in the case of loans very substantial security would be required and that the true value of mortgaged properties may be approximated by multiplying all sums on the mortgage-horoi by two.<sup>91</sup> In the figures presented in Finley's tables, the median of the sums preserved in dotal obligations averages fairly consistently 50 per cent higher than the median figures in the hypotheke and prasis epi lysei groups.

Prices of so-called undivided land properties as reported in the Attic orators are collected by P. Guiraud <sup>92</sup> and Day.<sup>93</sup> Unfortunately their presentations make no distinction between the various types of land.

For prices of real estate outside of Attica <sup>94</sup> some figures have been collected for Halikarnassos and Iasos by G. Glotz, *Le travail dans la Grèce ancienne*, Paris, 1920, pp. 297-298.<sup>95</sup> For an estimate of the value of houses at Delos during the period of independence, reference may be made to the special study by Molinier, *Les "Maisons sacrées" de Délos, au temps de l'indépendance de l'île (315-166/5 av. J. C.)*, Paris, 1914, pp. 86 ff.<sup>96</sup> Finally, D. M. Robinson has published Olynthian inscriptions which record deeds of sale.<sup>97</sup> One of these is for the sale of a house for an amount which is interpreted as 2000 drachmas. Robinson and Graham have identified this particular house in their report of the excavations.<sup>98</sup> The date of the inscription is the first half of the fourth century B.C. The price of 2000 drachmas is the same as the median price of houses in our Table C. The house was unpretentious, lacking plastered walls,

<sup>89</sup> *Hesperia*, X, 1941, pp. 14-16, lines 1-39. For the interpretation of this text, see Finley in *Studi in onore di Vincenzio Aragio-Ruiz*, III, Naples, 1952, pp. 473-491.

<sup>90</sup> Demosthenes, XXXVII, *Against Pantainetos*, 50. Demosthenes' figures have been corrected into drachmas. The actual sale price was 20,600 drachmas; see paragraph 31.

<sup>91</sup> *Ec. Hist. of Athens*, pp. 226-227.

<sup>92</sup> *Op. cit.*, pp. 392-393.

<sup>93</sup> *Op. cit.*, p. 227.

<sup>94</sup> For prices outside of the Greek area, see the tables in F. Heichelheim, *Wirtschaftliche Schwankungen der Zeit von Alexander bis Augustus*, pp. 113 ff.

<sup>95</sup> No complete documentation of the evidence concerning values of real estate throughout Greece is here intended; for such evidence is extensive. See, for example, the great catalogue of the sales of real property at Tenos, *I.G.*, XII, 5, 872.

<sup>96</sup> On land values at Delos, see J. A. O. Larsen, "Roman Greece," *Economic Survey*, IV, pp. 402-407.

<sup>97</sup> *T.A.P.A.*, LXII, 1931, pp. 42 ff.

<sup>98</sup> *Olynthus*, VIII, p. 83 and plates 21, 91. Cf. also p. 97.

cement floors, paved courts, and, in all likelihood, a second storey. The ground plan included two rows of three rooms each and four sheds or the like.<sup>99</sup>

A comparison of the prices recorded in our list of 414 B.C. with the values in fourth century Athens and elsewhere shows clearly that our Stelai give minimum figures much lower than all other minima. One house in a coastal deme was sold for 105 drachmas; one plot of land in Aphidna brought only 10 drachmas. This compares with a minimum of 300 drachmas for a house and 2000 drachmas for a chorion in Table C (Attic Orators). The minimum prices for a house on 19 prasis epi lysei horoi and 6 dotal horoi were 200 and 300 drachmas respectively.<sup>100</sup> The highest preserved price for real estate in our list in Table A, 1900 drachmas, was for three items, a house in *agros* and two plots of land under cultivation. The minimum value for an *agros* alone in Table C, on the other hand, is 6000 drachmas. Whether the explanation for our low prices lies in very small plots or in the general economic picture of the war year 414 B.C. cannot be determined on the evidence of real estate alone.

Although our evidence is admittedly very limited, one or two generalizations may be proffered. Of the seven houses sold by the poletai in Tables A and D, the median value is 410 drachmas. This is in striking contrast with a median value of 2000 drachmas for fourteen houses reported from the Attic Orators, whereas the median value of 19 houses in the prasis epi lysei horoi and of six houses in the dotal *apotimena* horoi are 700 and 750 drachmas, respectively. Clearly, the values of real estate mentioned in the Attic Orators must not be taken as indicating the average wealth of Athenians. Indeed, the values of real estate in Table C run considerably higher than the values on dotal *apotimena* horoi, which Finley has taken to mark the property of the very wealthiest Athenians.<sup>101</sup> Such land values as occur in the orators were far beyond the reach of the poorer Athenians, who might readily, on the other hand, have rented such properties as were sold in our Stelai.

There remains to be said a word about the evidence from our Stelai that successful Athenians would buy land in several parts of Attica. Euphiletos of Kydathenaion, for example, owned land on the coast in the demes of Semachidai and Myrrhinoutta, which were in the widely separated phylai of Aigeis and Antiochis, and inland in the demes of Gargettos and Aphidna, which were in the phylai of Aigeis and Aiantis. Polystratos of Ankyle owned property in his own deme, located east of the city walls, as well as in Mounychia. This is in accord with other evidence that rich Athenians

<sup>99</sup> See Robinson and Graham, *op. cit.*, pp. 83-84. It should be noted, however, that Robinson himself later (*Olynthus*, XII, pp. 72-73) argued that the price of 2000 drachmas was for half a house. In collecting figures for the prices of Olynthian houses he observed that other houses, apparently three in number, in the same section brought 4000, 4500, and 5300 drachmas, respectively. There is nothing in the text of the inscription, a deed of sale, to suggest that this was only half a house: reference is made simply to an *oikia*.

<sup>100</sup> See Finley, *op. cit.*, pp. 173, 175.

<sup>101</sup> *Op. cit.*, pp. 79 ff. But see note 88 above.

usually became large land-holders without forming large estates, and that Attica was almost unacquainted with the agrarian system which consists in the formation of vast continuous domains organized for cultivation.<sup>102</sup>

On the extent of holdings in non-Attic territory, more will be said elsewhere, since the main evidence in our Stelai comes from the summaries which included the totals for all types of possessions. It may be noted here, however, that line 15 of Stele IV, which contained the word *ὑπερορία*, 'foreign land,' seems to be the heading for a list of real property owned abroad. Whereas the real property listed above line 15 was located in Attica, the first item beneath the heading was in Euboea. The property was owned by Nikides of Melite, and included a house. The remainder of the stele is fragmentary. In Stele VI, lines 55-56, the property of Adeimantos of Skambonidai included a house and agros on the island of Thasos. The real estate, including pithoi, was sold for a price which contained six numerals. Only the last three figures are preserved, but the sum could not have been less than 950 drachmas and may well have been much more. Finally, in Stele VII, line 78, there is clear reference to property at Abydos, which I take to be the city of that name on the Hellespont.

## VI. SLAVES

With regard to slave problems in Greece, Zimmern wrote over twenty-five years ago: "the same authors are ransacked; the same evidence is marshalled; the same references and footnotes are transferred, like stale tea leaves, from one learned receptacle to another."<sup>1</sup> Our inscriptions, if preserved complete, would have shed much new light on the whole problem of slavery. But even in their fragmentary condition, the Agora pieces do contribute some measure of new information about prices and nationalities, in particular.<sup>2</sup>

### PRICES

The average price for the twenty-five slaves whose sales prices are complete is approximately 174 drachmas. One of our slaves was described as a young child (*παιδίον*) and sold for 72 drachmas, another as a child (*παῖς*) and sold for 174 drachmas, the average fee for an adult. The average price for the five women was 178 drachmas; for the seventeen men, 179 drachmas.<sup>3</sup> The sex of the Cappadocian is uncertain.

<sup>102</sup> See, for example, Glotz, *op. cit.*, pp. 299-300; and Michell, *Ec. of Anc. Greece*, pp. 43-44.

<sup>1</sup> *Solon and Croesus*, London, 1928, p. 106. Quoted by W. L. Westermann in *Athenian Studies Presented to W. S. Ferguson* (= *Harv. Stud. Class. Phil.*, Suppl. Vol. I, 1940), p. 452.

<sup>2</sup> The slaves listed in Stele XI have not been considered in this section because of the uncertain nature of the list.

<sup>3</sup> I find no basis for Andreades' statement (*Hist. of Gr. Pub. Finance*, I, p. 283) that in the fifth century the average price of women slaves was somewhat higher than that of men. Andreades himself notes that this was not the case at Delphi during the second century.

For purposes of comparison, the following evidence from fourth-century Athenian writers is presented.<sup>4</sup> The table is based in part on Westermann, *R.E.*, Supplement VI, 1935, *s.v. Sklaverei*, 915-916.

TABLE: PRICES OF SLAVES IN FOURTH-CENTURY AUTHORS<sup>5</sup>

	<i>Reference</i>	<i>Price</i>
Xenophon	<i>Mem.</i> , II, 5, 2 <i>Vect.</i> , IV, 23	Prices varied 50-1000 dr. per slave 180 dr. (average price for slaves working in silver mines. Computed). <sup>6</sup>
Demosthenes	XXVII, 9 and 18 XXVII, 9	200 dr. apiece (20 pawned in lieu of a debt of 4000 dr.). <sup>7</sup> 300-600 dr. (32-33 slaves in sword-factory worth 500-600 dr. each; none less than 300 dr.).
	XXVII, 18	200 dr.
	XLI, 8	200 dr.
[Demosthenes]	LIII, 1	125 dr.
	LIX, 29	3000 dr. (for a courtesan)
Hyperides	III (V), 2	300 dr. (for a courtesan)

The average price in 414 B.C. is seen to be somewhat lower than the prices of the fourth century, but it must be borne in mind that most of the fourth-century literary references are to skilled artisans who naturally brought a large sum. The effect which the skill of a slave had on his value comes out clearly from a passage in Aischines which gives the profit of a shoemaker as two obols a day, and of an overseer three obols;<sup>8</sup> whereas Xenophon had computed the profit of a slave in the mines as an obol a head.<sup>9</sup>

The following table shows the nationalities of all slaves for whom the sales price is completely preserved in our inscriptions:

<sup>4</sup> For slave prices in Greece after 200 B.C., see J. A. O. Larsen, "Roman Greece," *Economic Survey*, IV, p. 414. The majority of prices in this period range from 300 to 500 drachmas.

<sup>5</sup> Of the prices of slaves recorded in W. L. Westermann's important presentation in *R.E.*, *s.v. Sklaverei*, 915, eight will be found to be different from the prices given in our tables. Westermann's reference to the *editio minor* is erroneous, and it is possible that he was working from an incorrect copy. These same errors are perpetuated in his *The Slave Systems of Greek and Roman Antiquity*, Philadelphia, 1955, p. 14. Moreover, Westermann did not utilize the new evidence of our document.

<sup>6</sup> See F. Oertel, *Rh. Mus.*, LXXIX, 1930, pp. 236-237. Cf. J. H. Thiel, *Xenophontos Poroi*, Diss. Amsterdam, 1922, pp. 52-54.

<sup>7</sup> The slaves were presumably worth more on the open market.

<sup>8</sup> I, *Against Timarchos*, 97.

<sup>9</sup> *Vect.*, IV, 23.

	<i>Country</i>	<i>Price of slaves in drachmas</i>	<i>References in Attic Stelai</i>
East	Cappadocia <sup>10</sup>	151	I, 48
	Caria	72. 105. 174. 360	I, 46; I, 38; I, 45; II, 77-78
	Colchis	153	I, 44
	Lydia	60	I, 49
	Syria	240. 301	I, 37; I, 47
North	Illyria	121. 161	I, 43; I, 39
	Macedonia	310	II, 79-80
	Scythia	144	I, 42
	Thrace	115. 135. 165. 170. 195. 220	I, 41; I, 35; I, 34; I, 36; X, 7; I, 40
Greece	Messene	130	X, 9

In addition, the following nationalities can be identified, although the sales price is not preserved:

<i>Country</i>	<i>Number of Slaves</i>	<i>References in Attic Stelai</i>
Caria	3	I, 9; VI, 20; VII, 8-9
Phrygia	1	VI, 18
Scythia	1	VII, 7-8
Thrace	3	II, 70; VII, 3-4, 12-13

Of the twenty-eight slaves, sixteen, or 57%, came from the two countries Caria and Thrace.<sup>11</sup>

The highest prices were paid for the Carian goldsmith (360 drachmas) and the Macedonian woman (310 drachmas). Next came the two Syrian men (301 and 240 drachmas). The six Thracians averaged 166 drachmas, the four Carians 177 drachmas, and the two Illyrians 143 drachmas each. The Greek from Messene, who had fallen into slavery,<sup>12</sup> brought only 130 drachmas.

The average price of slaves from the east (179½ drachmas) is almost identical with that (173 drachmas) for northern slaves. It appears that differences in price must be attributed to other factors than nationality.

<sup>10</sup> The slave was a native of Melitene, which I take to be that in Cappadocia. Tod (*Gr. Hist. Inscr.*, I<sup>2</sup>, p. 199) notes that the slave may have come from the Illyrian island of Melite in the Adriatic sea, or from Malta. G. Glotz (*Le travail dans la Grèce ancienne*, p. 233) regards him as a Maltese.

<sup>11</sup> Cf. Schol. to Plato, *Laches*, 187 b: ἐν τῷ Καρὶ . . . ἀντὶ τοῦ ἐν τῷ δούλῳ· καὶ γὰρ οἱ παλαιοὶ τῶν Ἑλλήνων ἀπὸ Καρῶν καὶ Θρακῶν τοὺς δούλους ἐποιοῦντο. Ehrenberg (*People of Aristophanes*<sup>2</sup>, p. 171) states that Lydians and Phrygians were the slaves most common in Athens. His references are to comedy, and hardly justify this conclusion.

<sup>12</sup> See U. von Wilamowitz-Moellendorff, *Aristoteles und Athen*, Berlin, 1893, II, p. 179.

## OCCUPATION

Three of the slaves of Adeimantos (VI, 20-22) and three others named in the first column of Stele II (lines 73, 76 and 78) are described by their occupations. Five different occupations are designated: ὀβελισκοποιός, ὀνηλάτης, σκυτοτόμος, τραπέζοποιός and χρυσοχοῦς. The fees for the goldsmith (360 drachmas) and the *τραπεζοποιός* (215 drachmas) were much above average, that for the donkey driver (140 drachmas) much below.

The word ὀβελισκοποιός is new. *Obeliskos* is the term generally applied to iron spits or skewers,<sup>13</sup> or to objects, such as nails,<sup>14</sup> shaped like a spit. For the industrial specialization concerned in the manufacture of this one particular iron object, comparison may be made with other types of smiths: nailsmith (ἡλοποιός), sicklesmith (δρεπανοποιός), locksmith (κλειδοποιός), cutlerysmith (μαχαιροποιός), spear-maker (λογχοποιός), etc.<sup>15</sup>

Liddell-Scott-Jones defines the *τραπεζοποιός* as 'a slave who sets out the table,' but the suggestion has more recently been made that he was a carpenter who made tables.<sup>16</sup> The lexicographers, interested in the similarity of *τραπέζοποιός* and *τραπέζοκόμος*, defined the *τραπεζοποιός* as the slave who had charge of the servants, of the utensils, and of entertainments,<sup>17</sup> a sort of manager of the table. Athenaeus (IV, 170 d and e, translation of C. B. Gulick with slight modification) quotes two fragments from the fourth-century comic poets, Philemon and Antiphanes, respectively: "You have no oversight in the kitchen; a *τραπεζοποιός* is appointed to serve;" and "I went and hired in addition this *τραπεζοποιός*, who will wash the dishes, get the lamps ready, prepare the libations, and do everything else which it is his business to do."

Athenaeus defines the *τραπεζοποιός* as: τὸν τραπέζων ἐπιμελητὴν καὶ τῆς ἄλλης εὐκοσμίας.<sup>18</sup> Pollux states that he is ὁ πάντων τῶν περὶ τὴν ἐστίασιν,<sup>19</sup> and elsewhere enumerates the members of his long retinue.<sup>20</sup> The *τραπεζοποιός*, then, was a manager of all services related to the table.

The *skytotomos* is defined by Liddell-Scott-Jones as 'leather-cutter, worker in leather; esp. shoemaker, cobbler.' Earlier, Tod had rendered the word as 'saddler' which allowed him to distinguish it from the term *hypodematopoios*.<sup>21</sup> While Pollux

<sup>13</sup> See below, pp. 312-313. For bibliography, see Reinach in Daremberg-Saglio, *Dictionnaire, s.v. Veru*, and Deonna, *Délos*, XVIII, p. 227.

<sup>14</sup> See *I.G.*, XI, 2, 178, line 70. Cf. *I.G.*, I<sup>2</sup>, 313, line 141.

<sup>15</sup> For references for these terms, see Blümner, *Technologie*, IV, pp. 360-363.

<sup>16</sup> D. Hereward, *B.S.A.*, XLVII, 1952, p. 114. There is no evidence to corroborate this.

<sup>17</sup> Cf. Hug in *R.E.*, s.v. *Structor*, 383.

<sup>18</sup> IV, 170 e.

<sup>19</sup> III, 41. Similar definitions may be found in Hesychius, Photius and *Et. Mag.*

<sup>20</sup> IV, 13.

<sup>21</sup> *B.S.A.*, VIII, 1901-1902, p. 204.

lists the word among those which concern shoemaking<sup>22</sup> and elsewhere enumerates the tools of the *skytotomos* as including the shoemaker's last, the awl, and the shoemaker's knife,<sup>23</sup> Hesychius gives the word a wider definition and includes tent-making. In Aristophanes the word is definitely connected with shoemaking,<sup>24</sup> but in Homer the *skytotomos* was a maker of shields,<sup>25</sup> and in Xenophon the word seems to apply to more than shoemaking.<sup>26</sup> The term seems to have had its origin in the first activity of the leatherworker, the cutting of the leather,<sup>27</sup> and is sometimes used for the fabrication of all leather goods, but far more frequently in the special sense of shoemaker.

For the goldsmith, reference may be made to *I.G.*, I<sup>2</sup>, 374, line 103; II<sup>2</sup>, 1558 B, line 56; 1559 A, line 23; and to line 19 of D. Hereward's new fragments of *I.G.*, II<sup>2</sup>, 10;<sup>28</sup> and for the donkey driver to *I.G.*, II<sup>2</sup>, 1558 A, line 20; and 1559 B, line 97.<sup>29</sup>

#### SOURCES OF SLAVES

Three of the slaves in our lists are characterized as 'born in the house.'<sup>30</sup> This compares with ten slaves who are designated by foreign ethnics (e.g., — — — τὸ γένος Θροῦξ),<sup>31</sup> and eighteen whose names are formed from such ethnics (e.g., Θροῦττα, Καρικόν).<sup>32</sup> Of these eighteen, one was a Greek from Messene.<sup>33</sup> In addition, Olas of X, 7 was presumably a Thracian.<sup>34</sup> There remain eight slaves who have Greek names, or names which in other contexts are attributed to Greeks.<sup>35</sup>

If we accept the names as an indication of place of origin—and this assumption seems safe, since the majority of slaves came from war<sup>36</sup>—twenty-eight slaves were

<sup>22</sup> VII, 80.

<sup>23</sup> X, 141. These tools may be well seen on vases illustrating the shoemaker at work, as e.g., Cloché, *Classes*, etc., pl. XXX.

<sup>24</sup> *Equites*, 740; *Lys.*, 414. Cf. *Eccl.*, 432; *Plutus*, 162, 514.

<sup>25</sup> *Il.*, VII, 221.

<sup>26</sup> *Cyr.*, VI, 2, 37.

<sup>27</sup> German "Reimer." See Blümner, *Technologie*, I<sup>2</sup>, pp. 273 ff., where complete testimonia for *skytotomos* have been collected.

<sup>28</sup> *B.S.A.*, XLVII, 1952, p. 108.

<sup>29</sup> Also see Blümner, *Technologie*, IV, p. 303 for many references to the goldsmith.

<sup>30</sup> II, 72; 75, and VI, 23: *οικογενής*. In Plato, *Men.*, 82 B, Sokrates asks concerning a slave: "Ἐλλην μὲν ἔστι καὶ ἐλληνίζει;" to which question, Meno answers: "πάνυ γε σφόδρα, οἰκογενής γε." It may be noted that the late Greek *οικογένεια*, which means 'the status of an *oikogenes*,' is the modern Greek word for 'family'; see Buck, *Dictionary*, p. 133.

<sup>31</sup> I, 9; II, 70, 77, 80; VII, 4, 6, 8, 9, 11, 13.

<sup>32</sup> I, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49; VI, 18; X, 9.

<sup>33</sup> X, 9.

<sup>34</sup> See Hiller *ad I.G.*, I<sup>2</sup>, 328, line 7.

<sup>35</sup> Apollphanes (VI, 19), Aristarchos (VI, 21), Aristomachos (VI, 54), Kydimachos (X, 3), Pistos (I, 28), Satyros (VI 22, and X, 25), and Charias (VI, 20). Only one of these names (Pistos) is not found in Kirchner, *P.A.*

<sup>36</sup> See Glotz, *op. cit.*, p. 230.

foreign-born, three were homebred, and nine others may have been Greeks or born in Greece. The ratio of foreigners to Greeks, then, was at least as high as 28:12, or 70%, and only 7½% of the slaves were homebred. For purposes of comparison, Glotz's figures from the inscriptional deeds of manumission found at Delphi show that of 841 slaves freed, 217, or roughly 25%, were 'born in the house.'<sup>37</sup> One would expect a percentage higher than normal from the Delphic manumissions because a master would be more willing to free servants whom he had known since their childhood.

### POSSESSIONS

Our lists preserve only the partial record of the sale of the property of one slave. This slave, Aristarchos, had been owned by Adeimantos of Skambonidai, and is described as a skytotomos. His possessions are itemized in VI, lines 33-46. No prices are preserved. His property, insofar as the items can be restored, included beds and tables, possessions of no high value. In the fourth century, according to Isaios, II, *Estate of Menekles*, 29 and 35, a certain slave Menekles had goods to the value of 7000 drachmas, and in Isaios, XI, *Estate of Hagnios*, 42, it is stated that the value of the private property of the slave Stratokles after his death amounted to 5 talents 3000 drachmas.<sup>38</sup>

## VII. TILES AND BRICKS

### I. TILES

In Stelai II and VII, we have preserved four terms meaning 'tile.' They are as follows:

καλυπτήρ  
 κεραμίς  
 κέραμος  
 κέραμος στεγαστήρ

According to Blümner,<sup>1</sup> the general terms for roof tile are *keramis* and *keramos*.<sup>2</sup> The convex cover tile (Latin: *imbrex*) is *kalypter*. The concave bottom tile, flat in the middle with flanged edges, is the *keramos* or the *keramos stegaster* (Latin:

<sup>37</sup> *Ibid.*, p. 230.

<sup>38</sup> On the general subject of the possessions of slaves, see W. L. Westermann, *R.E.*, *s.v.* *Sklaverei*, 911 ff.

<sup>1</sup> *Technologie*, II, pp. 30-31. Cf. A. Jardé in Daremberg-Saglio, *Dictionnaire*, *s.vv.* *Tectum* and *Tegula*; and F. Ebert in *R.E.*, *s.v.* *Tegula*.

<sup>2</sup> Thus, Thucydides (II, 4, 2; III, 22, 4 and 74, 1; IV, 48, 2) seems to use the two words synonymously. Starkie (*ad* Aristophanes, *Nubes*, 1127) incorrectly defines *keramos* as 'unbaked tile.'

*tegula*).<sup>3</sup> There are today various terms for this tile: 'flat tile,' 'lower tile,' 'rain tile,' and 'pan tile.' There were variations, however, and one type has been recovered in which flat tile and cover tile were made in one piece. For a detailed description of various types of Greek tiles, see A. Andrén, "Architectural Terracottas from Etrusco-Italic Temples," *Skrift. Sven. Inst.*, VI, 1940, pp. lxxxviii ff.

For convenient descriptions of how roof tiles were laid, see J. Durm, *Die Baukunst der Griechen*<sup>3</sup>, Leipzig, 1910, pp. 197-206 (useful for its clear sketches); E. D. Van Buren, *Archaic Fictile Revetments in Sicily and Magna Graecia*, London, 1923, pp. xviii-xix; H. A. Thompson, *Tholos of Athens (Hesperia, Suppl. IV)*, 1940, pp. 66-73 (for the roof of the tholos); and G. P. Stevens, *Hesperia*, XIX, 1950, pp. 181-184.

One modification must probably be made to Blümner's terminology. The *keramis*, just as the *keramos*, could be used for the lower tile. In *Insc. Délos*, 440 A, lines 79-89, *keramis* and *kalypter* are listed side by side as the tiles for various buildings in accounts dated between 190-180 B.C. The distinction is maintained throughout, and it seems necessary to interpret the *keramis* here as different from the *kalypter*, and hence as the lower tile.

PRICES. Relatively full information is available for the price of roof tiles from Delos in the third century B.C. It is much less complete for other places. The table below gives in graphic form such prices as are known to me from epigraphical sources. The figures from Delos are based in part on those of Glotz and Larsen.<sup>4</sup> It is to be noted that prices were considerably higher in the fourth century than in the fifth and by 246 B.C. had fallen to about one-half of what they had been.<sup>5</sup>

For prices in *Economic Survey*, other than those from Delos, I have noted only one quotation from Ephesos in Asia Minor (Vol. IV, p. 838) where 300 roof tiles cost 50 drachmas. Finally, it may be of interest to note that we know that one man

<sup>3</sup> I. Thallon-Hill and L. S. King (*Corinth*, Vol. IV, part 1, *Decorated Architectural Terracottas*, Cambridge, 1929, p. 39) call the flat tiles by the term *ἡγεμόνες*, a word which is applied to tiles only in inscriptions. In *I.G.*, II<sup>2</sup>, 1627, lines 303 and 305, *hegemones* is modified by *leontokephaloi*, 'lion-headed'; they seem to have been the lowest row of pan tiles turned up to form a sima and accordingly provided with lion heads. Cf. *I.G.*, IV<sup>2</sup>, 102, line 100, where the word is coupled with *paraietis*. See, also, Robinson, *Olynthus*, XII, p. 466; and H. Lattermann, *Griechische Bauinschriften*, Strassburg, 1908, p. 34. In the Eleusis inscriptions the front tile of each row of convex tiles was called the 'hegemon with flower patterns.' See K. A. Rhomaios, *Κεράμοι τῆς Καλυδῶνος*, Athens, 1951, pp. 24 ff. This hegemon, or eaves cover tile with antefix, is described with illustrations by F. Noack, *Eleusis*, Berlin and Leipzig, 1927, pp. 66-68. In either case, the hegemon tile belongs at the edge of the roof.

<sup>4</sup> G. Glotz, *Journal des Savants*, XI, 1913, p. 19; and J. A. O. Larsen, "Roman Greece," *Economic Survey*, IV, pp. 397-398. See also Larsen, "The Price of Tiles at Delos from 210 to 180 B.C.," *Class. Phil.*, XXXVI, 1941, pp. 156-166.

<sup>5</sup> See Larsen, *Economic Survey*, IV, pp. 397-398.

## PRICES OF ROOF TILES

Place and Date	Type of Tile	Single	Pair	Reference
ELEUSIS				
329/8 B.C.	Corinthian keramis	1 dr. <sup>6</sup>		<i>I.G.</i> , II <sup>2</sup> , 1672, line 72
	Corinthian keramis		5 ob. <sup>6</sup>	II <sup>2</sup> , 1672, line 72
	Laconian keramos		4 ob.	II <sup>2</sup> , 1672, line 188
	<i>Agelaia</i> keramis	1 dr. 1 ob. <sup>6</sup>		II <sup>2</sup> , 1672, line 209
EPIDAUROS				
IV/III	keramis		3 dr. <sup>7</sup>	IV <sup>2</sup> , 108, line 147
<i>init.</i> III	keramis	1 dr. 3 ob.		IV <sup>2</sup> , 109, II, line 98
	keramos		3½ ob.	IV <sup>2</sup> , 109, II, line 143
	Corinthian keramos	1 ob.		IV <sup>2</sup> , 109, II, line 149
DELOS				
303	keramos		1 dr. 2 ob.	XI, 2, 144 A, line 63
282	[keramis]		4½ ob.	XI, 2, 158 A, line 85
279	keramos		5 ob.	XI, 2, 161 A, lines 73-74
274	keramos		1 dr. 1¾ ob. <sup>8</sup>	XI, 2, 199 A, line 109
269	[keramis]		1 dr.	XI, 2, 203 B, line 3
250	keramis	4 ob.	4-5 ob.	XI, 2, 287 A, lines 85, 113-114
246	keramos		4 ob.	<i>Insc. Délos</i> , 290, line 161
246	keramis		4 ob.	290, line 165
208	keramis <sup>9</sup>	3 ob.		365, lines 46, 52
207	keramis		5½ ob.	366 A, line 22
207	keramis		5 ob.	366 A, line 24
190-180	keramis	2½ ob.		440 A, line 79
	kalypter	2¼ ob. <sup>10</sup>		440 A, line 79
	keramis	2½ ob.		440 A, lines 85, 89
169	[keramos]		ca. 1 dr. 1 ob.	461 Ab, lines 52-54

at Rome could make 220 bricks per day,<sup>11</sup> and T. Frank has estimated that tiles would be twice as expensive as bricks.<sup>12</sup>

1. *καλυπτήρ* (VII, 97). Cover tile. Stele VII contains the entry for 210 cover tiles in line 97. In the following line, there is an entry for *Κορυθιοურγείς* cover tiles, which presumably were distinct from those in line 97. Of the numerals for these

<sup>6</sup> Transportation charges to Eleusis are listed separately and are not included in this price.

<sup>7</sup> Lattemann (*B.C.H.*, XXXII, 1908, p. 298) believes the price included transportation charges.

<sup>8</sup> Beginning with 274 B.C., the price given is for tiles delivered at the required site. In 282 and 279, the tiles were purchased at Syros.

<sup>9</sup> Larsen (*Class. Phil.*, XXXVI, 1941, p. 163) believes that in this document *keramis* refers to the lower tile.

<sup>10</sup> The prices are those of Larsen, as computed in *ibid.*, pp. 160-161.

<sup>11</sup> H. Dessau, *Inscriptiones Latinae Selectae*, Vol. 2:2, Berlin, 1906, 8675.

<sup>12</sup> *Economic Survey*, I, p. 165.

Corinthian cover tiles, only an upright stroke is preserved, but it is reasonable to conclude in the light of the figures in the three lines above that the first numeral was the sign for 100.

In 1882, E. Fabricius defined the Corinthian tile of inscriptions as one made in Corinth and thence exported.<sup>13</sup> He asserted that it was not, like the later Corinthian column, a specific type. In the following year, W. Dörpfeld denied this, and suggested that Corinthian tiles were an angular variety,<sup>14</sup> a view which has found wide acceptance and has no evidence against it. Rounded tiles he regarded as Laconian. Lattermann, in turn, advanced a different explanation,<sup>15</sup> and he was followed only by H. Koch.<sup>16</sup> They postulated that Corinthian tiles were made in one piece (*imbrex* and *tegula*). This view has now been criticized by L. D. Caskey,<sup>17</sup> Thallon-Hill and King,<sup>18</sup> Rhomaios,<sup>19</sup> Robinson and Graham,<sup>20</sup> and others; and on the basis of abundant archaeological evidence, which to my knowledge has been most completely assembled in Andréon, *op. cit.*, pp. lxxxviii-c, Dörpfeld's position would seem to have been sustained.<sup>21</sup>

In my reading on tiles, I have failed to find any description of the term *κέραμος Ἀττικὸς*. This occurs in Pollux, X, 182, and is specifically attributed to our stelai. The Corinthian, Sicilian<sup>22</sup> and Laconian tiles have been defined according to type, and we know that Laconian tiles were far more common in Athenian buildings than the Corinthian type. Moreover, a tile standard for the measurement of curved Laconian tiles has been found in the Athenian Agora.<sup>23</sup> But for a specific Attic tile we have no information at all. We would conjecture that it was a rare type which was used in the fifth century and subsequently disappeared from use.

2. *κεραμίς* (VII, 96). Roof tile. The word is used in the general sense of roof tile in Aristophanes, *Vespae*, 206; Thucydides, III, 22; and Xenophon, *H.G.*, VI, 5, 9.

<sup>13</sup> *Hermes*, XVII, 1882, p. 582.

<sup>14</sup> *Ath. Mitt.*, VIII, 1883, p. 162: "die grossen viereckigen, plattenartigen *κεραμίδες* mit dachförmigen *καλυπτῆρες* . . ."

<sup>15</sup> *B.C.H.*, XXXII, 1908, pp. 298 ff.; cf. B. Keil, *Hermes*, XIX, 1884, p. 154, note 1. It may be noted that in *I.G.*, II<sup>2</sup>, 1672, lines 71-72, Corinthian tiles were purchased both in Athens and from Corinth. Those bought in Athens were more expensive.

<sup>16</sup> *Röm. Mitt.*, XXX, 1915, p. 111.

<sup>17</sup> *A.J.A.*, XIV, 1910, p. 308, note 2.

<sup>18</sup> *Corinth*, IV, 1, pp. 39-42.

<sup>19</sup> *Gnomon*, VII, 1931, pp. 650-651.

<sup>20</sup> *Olynthus*, VIII, p. 234.

<sup>21</sup> Attention should be drawn to the single mention of *καλυπτῆρας μολωθριαίους* in *Insc. Délos*, 456 A, line 4, which Durrbach defines as 'noues,' or 'gutter tiles.' Cf. Deonna, *Délos*, XVIII, p. 124.

<sup>22</sup> W. Darsow, *Sizilische Dachterrakotten*, Berlin, 1938.

<sup>23</sup> This standard was published in detail by G. P. Stevens in *Hesperia*, XIX, 1950, pp. 174-188. It was found in front of a small building in the southwest corner of the Agora which has been designated as the Civic Offices (*Hesperia*, XVI, 1947, p. 200, pl. XLII, 2). The building dates from the early Roman period. Stevens claims that the dimensions of the standard were given in Attic feet.

In *Insc. Délos*, 366 A, lines 21 and 23, the *keramides* are purchased by the pair. The word is here modified by *ἐπίζυγοι*. This is the only occurrence in Greek of this adjective.<sup>24</sup> Liddell-Scott-Jones, marking the word as “dub. sens.,” offer no definition. Since the tiles were purchased in pairs, it would seem natural to consider a pair as consisting of two unlike tiles, the cover tile and flat tile. *Epizygos* might indicate that they were joined together. This is the interpretation for *epizygos* offered by Lattermann, who bases his argument in part on prices for tiles.<sup>25</sup> But more recently Larsen has stated that the original tiles, which have been recovered from the Delian stoa to which the inscription refers, prove that the pairs were not combined.<sup>26</sup> He therefore interprets *epizygos* as synonymous with *zeugē*. In the majority of these passages, *keramides* means ‘roof tile’ without distinction of cover tile or pan tile. In Stele VII, the entry states that 221 *keramides* were sold.

3. *κέραμος* (II, 122; VII, 94, 99). Tile or rain tile. *Keramos* sometimes means ‘the potter’s clay,’ but usually the product, as ‘pottery, earthen vessel, tile.’<sup>27</sup> In Stele VII, the word occurs in a list of roof tiles. In both lines 94 and 97 *keramos* is in the singular number and is modified by *palaios*, ‘old.’ Unfortunately, the price, which to judge by all parallels would certainly have been less than a drachma, is not preserved.

4. *κέραμος στεγαστήρ* (II, 112-123). Lower tile. In Part I, the following text was offered for lines 122-123 of Stele II:

κεράμο στέ[ρ]ας !!  
στερῶς ζευκ[τε]ρί(α)

The surface of the marble is very weathered, as can be seen from the photograph on plate 70 of *Hesperia*, XXII, 1953. What I originally read with dots as faint signs for two units in line 122, consisting of marks in vertical alignment with the numerals in the line above, cannot be traces from the ancient text. The following reading must be substituted:

κεράμο στε[γ]α{σ}-  
στέρως ζεύ· Η[... ]!

The Attic form *κεράμο* is not to be taken as a dual, but as the genitive singular. The stonecutter doubled the sigma in the middle of the second word.<sup>28</sup> As was reported

<sup>24</sup> It is not clear why Buck and Petersen, *Reverse Index*, p. 631, list this word as *ἐπίζυγον*, hence presumably a substantive.

<sup>25</sup> *Op. cit.*, p. 298. Lattermann has been followed by Noack (*op. cit.*, p. 60, note 3). Ebert (*R.E., s.v. Tegula*, 122) takes both *ζεύγη* and *ἐπίζυγοι* to mean that flat and cover tile were combined into one.

<sup>26</sup> *Class. Phil.*, XXXVI, 1941, p. 158, note 8.

<sup>27</sup> See Buck, *Dictionary*, p. 618.

<sup>28</sup> Cf. other examples in K. Meisterhans, *Grammatik der Attischen Inschriften*<sup>3</sup>, Berlin 1900, p. 98.

in the commentary on line 123 in Part I, the fourth letter of what is now the third word cannot be an Attic gamma. This would enable us to read the word ζεύγη. The base of an upright stroke may, however, be taken as part of the sign for the numeral one hundred, and the word for 'pairs' was abbreviated.

Hesychius defines *stegaster* as σωλήν. The critical passage for the definition of the latter word is Plutarch, *Mor.*, 526 B (*De cupid. divit.*, 7),<sup>29</sup> where the reference is to the pan tile, or the lower tile.<sup>30</sup>

## II. BRICKS

πλίνθος (V, 36). Brick.<sup>31</sup> The word was originally applied to a 'slab of stone,'<sup>32</sup> and this meaning must be understood in *I.G.*, I<sup>2</sup>, 372, lines 10 ff.<sup>33</sup> More commonly, *plinthos* was used for 'brick.' It was applied to sun-baked as well as fire-baked brick. Ordinary building was carried out with unbaked bricks.<sup>34</sup> This was certainly true of private buildings,<sup>35</sup> and Pausanias, in addition, gives a long list of temples which were built of such material.<sup>36</sup> Robinson-Graham have reported on the strength and advantages of these common sun-dried bricks, of which most house walls at Olynthos were constructed.<sup>37</sup> They correct the impression that such material was primitive and that houses built of it must have been small and unpretentious. This method of construction was more durable than that in which soft stones were used, and Demosthenes speaks of houses of illustrious men which had lasted from an earlier age.<sup>38</sup>

### PRICES OF BRICKS<sup>39</sup>

Date		Price per Thousand	Reference
ELEUSIS			
329 B.C.	Plinthoi, including transportation within Eleusis	38 dr.	<i>I.G.</i> , II <sup>2</sup> , 1672, line 26
	Plinthoi, 1½ ft. long	36 dr.	II <sup>2</sup> , 1672, line 56
	Plinthoi with <i>geonion</i> <sup>40</sup>	40 dr.	II <sup>2</sup> , 1672, line 57

<sup>29</sup> See Blümner, *Technologie*, II, p. 31, note 3.

<sup>30</sup> See also Durrbach *ad I.G.*, XI, 2, 203 B, line 97.

<sup>31</sup> See Ebert in *R.E.*, *s.v.* *Later*.

<sup>32</sup> See Buck, *Dictionary*, p. 603. For a somewhat different etymology ('clod of earth'), see W. Belardi, *Doxa*, III, 1950, p. 218.

<sup>33</sup> In one inscription, *I.G.*, IV<sup>2</sup>, 102, *plinthos* is used for both 'stone slab' and 'clay brick.'

<sup>34</sup> See Xenophon, *Mem.*, II, 1, 7; and Vitruvius, II, 8, 16.

<sup>35</sup> Plutarch, *Demosthenes*, 11.

<sup>36</sup> II, 27, 6; X, 35, 5.

<sup>37</sup> *Olynthus*, VIII, pp. 224-229. Cf. Robinson, *Olynthus*, XII, p. 468.

<sup>38</sup> XXIII, *Against Aristocrates*, 207; cf. III, *Third Olynthiac*, 25.

<sup>39</sup> Prices do not include transportation unless so specified.

<sup>40</sup> This is the only occurrence of the word *geonion*. It indicates the price at which the clay was purchased. So C. Tsountas, 'Εφ. Ἀρχ.', 1883, p. 131; Dittenberger (*ad Syll.*<sup>2</sup>, 587); Kirchner (*ad I.G.*, I<sup>2</sup>, 1672); and Liddell-Scott-Jones. Michell (*Ec. of Anc. Greece*, p. 130) apparently takes the word to mean 'mortar.'

<i>Date</i>		<i>Price per Thousand</i>	<i>Reference</i>
DELOS			
282 B.C.	Plinthoi	65 dr. <sup>41</sup>	I.G., XI, 2, 158 A, line 58
	Plinthoi	71 dr. 2½ ob. <sup>41</sup>	XI, 2, 158 A, lines 58-59
	Plinthoi	77 dr. 4⅔ ob. <sup>41</sup>	XI, 2, 158 A, line 60
ca. 280	Plinthoi	15 dr.	XI, 2, 165 A, line 6
ca. 268	Plinthoi	50 dr.	XI, 2, 204, line 71
ca. 250	Plinthoi (delivered and laid)	63 dr. 2 ob.	XI, 2, 287 A, lines 99-101

For prices of brick in Rome, see Frank, *Economic Survey*, I, p. 165.<sup>42</sup> Frank estimates the price at one sesterce for about 70 bricks.

### VIII. TOOLS. MISCELLANEOUS OUTDOOR ITEMS

Of the items discussed in this section, the group to which the most study has been devoted in modern times comprises tools used in Greek sculpture. The entire second part of S. Casson's *Technique of Early Greek Sculpture*, Oxford, 1933, is given to a study of such tools from antiquity.<sup>1</sup> Reference has been made to Blümel, *Griechische Bildhauer an der Arbeit*, fourth edition, 1953, to Blümner, *Technologie*, and to various articles in Daremberg-Saglio, *Dictionnaire*. Blümner attempts to associate each tool with its ancient Greek name, and his work has been the most useful single publication. The articles in Daremberg-Saglio usually contain full illustrations. W. M. F. Petrie (*Tools and Weapons*, British School of Archeology in Egypt, London, 1917), while specifically referring to Egypt, has collected numerous comparisons from all other countries.

For prices, the author has systematically consulted the various indexes of *Economic Survey*, vols. I-V. These volumes contain only one table for prices of tools, that from Egypt in the second and third centuries after Christ (vol. II, p. 471). Reference has also been made to entries for tools in the Edict of Diocletian (A.D. 301). The evidence for prices in Greek building inscriptions, inventories and financial accounts has never been completely collected, but the author has, whenever possible, reported parallels in Athenian and Delian records. On the whole, the picture obtained is that tools and weapons were not cheap. One bit of almost contemporary evidence about the price of tools comes from the *Pax* of Aristophanes, 421 B.C. The sickle-maker, after the conclusion of peace, describes his blessings as follows (1198-1206):

<sup>41</sup> Computed from sales of 290, 70 and 60 plinthoi, respectively.

<sup>42</sup> Cf. *Economic Survey*, V, p. 209. For prices of transporting and laying brick in Egypt, see A. C. Johnson in vol. II, p. 472.

<sup>1</sup> Pp. 169-234. A much more abbreviated discussion, containing no reference to Greek words, may be found in G. M. A. Richter, *The Sculpture and Sculptors of the Greeks*, rev. ed., New Haven, 1950, pp. 143 ff.

ὡς πρὸ τοῦ

οὔδεις ἐπρίατ' ἂν δρέπανον οὐδὲ κολλύβον,  
 νυνὶ δὲ πεντήκοντα δραχμῶν ἐμπολῶ.  
 ὀδὶ δὲ τριδράχμους τοὺς κάδους ἐς τοὺς ἀγρούς.  
 ἀλλ' ὦ Τρυγαίε τῶν δρεπάνων τε λάμβανε  
 καὶ τῶνδ' ὅ τι βούλει προῖκα· καὶ ταυτὶ δέχου.  
 ἀφ' ὧν γὰρ ἀπεδόμεθα κάκερδήναμεν  
 τὰ δῶρα ταυτί σοι φέρομεν ἐς τοὺς γάμους.

During the war the craftsmen could not get the smallest coin (*chalkous*: 1/8 obol) in exchange for agricultural tools. After the peasants returned to their farms with the coming of peace, the sickle became worth 50 drachmas and the kados 3. This price of 50 drachmas is the one given in all manuscripts and is adopted by many editors.<sup>2</sup> Apart from the metrical considerations of the quantity of the alpha in *drachmon*, it seems difficult to reconcile the 50 drachmas for the sickle with the 3 drachmas for the kados. The latter was a large jar often used for storage purposes, although smaller than the pithos.<sup>3</sup> In *I.G.*, XI, 2, 203, line 44, and 219, A, line 39, two kadoi were repaired for 2 and 1½ drachmas, respectively.<sup>4</sup> The two prices in the passage in the *Pax* can more easily be reconciled by adopting the emendation of five drachmas for the sickle.<sup>5</sup>

The impression given in our stelai is that after the resumption of the Peloponnesian War tools were not cheap in wartime. This appears, for example, from the price of a hoe, or mattock (*sminye*) which was sold for 3 drachmas 2 obols.<sup>6</sup> This cannot have been far from the price in normal times.

1. ἀμαλλεῖον (V, 8).<sup>7</sup> Band for binding sheaves. The word is defined in the lexicographers as *σχοινίον, ἐν ᾧ τὰς ἀμάλλας δεσμεύουσι*.<sup>8</sup> Synonyms are given as *οὐλόδετον* and *ὠρόδεσμος*. Previously, the earliest occurrence of our word was in Kallias, writer of old comedies.<sup>9</sup>

Photius states that the sheaf-band was made of straw, but our price (one drachma one obol) indicates that the material was expensive. Ropes were made out of esparto

<sup>2</sup> Also Ehrenberg, *People of Aristophanes*<sup>2</sup>, p. 224, note 8.

<sup>3</sup> Aristophanes, *Eccl.*, 1004; Hesychius, *s.v.*

<sup>4</sup> These may well have been of metal.

<sup>5</sup> So Van Herwerden, Van Leeuwen, Sharpley, and Coulon in their texts of the play, following Elmsley and Meineke.

<sup>6</sup> III, 12.

<sup>7</sup> In our list, the aspirate was added. For other examples of the addition of the *spiritus asper*, particularly from the later part of the fifth century, see K. Meisterhans, *Grammatik der attischen Inschriften*,<sup>3</sup> p. 85.

<sup>8</sup> See *Thesaurus Graecae Linguae*, *s.v.* ἀμάλλιον, and references there cited.

<sup>9</sup> Demianczuk, *Supplementum Comicum*, Krakov, 1912, p. 28: ὅτ' ἀμαλλεῖω παῖς ὦν ἐδέθη.

grass,<sup>10</sup> papyrus,<sup>11</sup> hemp,<sup>12</sup> ox-hide<sup>13</sup> and hair. The price of hair twisted into rope is given in the Edict of Diocletian as 10 denarii per pound.<sup>14</sup> Hemp was priced at 4-6 denarii per pound.<sup>15</sup>

2. ἄξων (II, 127). Axle.<sup>16</sup> Various types of axles, including those rigidly attached to the framework of the wagon and those which revolved with the wheels, are discussed by Miss H. L. Lorimer in her illustrated article, "The Country Cart of Ancient Greece."<sup>17</sup> More recently, the word has been studied by Thiel in connection with the *axon* mentioned in Hesiod, *Erga* 424.<sup>18</sup> He discusses the possibility that the word refers to the pivot or the axis of a pounding-machine,<sup>19</sup> to which Polybios in I, 22, 5-7, compares a boarding-bridge (*corvus*).<sup>20</sup> Since Hesiod refers to a cart in line 426, it seems difficult to interpret the *axon* of line 424 as anything other than a cart-axle. It is true that the enumeration of parts of the wagon is interrupted by mention of a mallet in line 425, and the length of the axle is given as seven feet. Hesiod, however, is referring to the season for cutting wood, and the mallet is to be made from the timber hewn at the same time as that for the axle. The width of the cart is explained by the fact that the wagon had to be low and of broad axle to prevent its overturning.<sup>21</sup> The Hesiodic wagon was doubtless a one-axle vehicle.<sup>22</sup>

We have preserved at least one Athenian price for axles. The epistatai of Eleusis in recording the building account for the temple of Demeter and Persephone in the year 327/6 B.C. listed the price of 5 drachmas apiece for 17 new axles. The total was

<sup>10</sup> Pliny, *H.N.*, XIX, 29-30. The plant *spartum* was found in Spain and Africa. Pliny comments on the costliness of this type of rope.

<sup>11</sup> See, for example, Theophrastos, *H.P.*, IV, 8, 4.

<sup>12</sup> Theophrastos, *H.P.*, IX, 2, 1. The hemp-ropes of Syria and Babylonia were well known at least in Roman times. See F. M. Heichelheim, "Roman Syria," *Economic Survey*, IV, p. 131.

<sup>13</sup> *Od.*, II, 426.

<sup>14</sup> Col. XI, 3.

<sup>15</sup> Col. XXXII, 16-17.

<sup>16</sup> For other meanings of *axon*, see, for example, Robinson, *Olynthus*, X, p. 295.

<sup>17</sup> *J.H.S.*, XXIII, 1903, pp. 132-151. Cf. E. Saglio in Daremberg-Saglio, *Dictionnaire*, s.v. *Carrus*, p. 1635; and F. Studniczka, "Der Rennwagen im syrisch-phönikischen Gebiet," *Jahrbuch*, XXII, 1907, pp. 147-196.

<sup>18</sup> *History of Roman Sea-Power before the Second Punic War*, Amsterdam, 1954, pp. 107 ff.

<sup>19</sup> For *axon* meaning 'door-pivot' see Robinson, *Olynthus*, XII, p. 455 and the references there given. Cf. also the study of the Solonian *axones* in *A.J.A.*, XLV, 1941, especially pp. 354-355.

<sup>20</sup> *Op. cit.*, p. 110.

<sup>21</sup> Paley in his edition of Hesiod (*ad* line 424) quotes Tzetzes' observation: "Hesiod calls the seven-foot axle very convenient in size: I should call it very inconvenient, though no great farmer myself." Thiel (*op. cit.*, p. 108) wrote as follows: "Personally I have never seen a cart with an axle of seven feet in my life and, though it is a rather rash supposition, it is tempting to suppose that such a cart has never existed anywhere, certainly not in ancient Greece: think of the Greek roads." But the normal interval between wheel ruts in ancient roads in Greece is *ca.* 1.50 m., i. e. presumably five feet. The axle, of course, would have to be considerably longer.

<sup>22</sup> Cf. A. W. Mair, *Hesiod*, Oxford, 1908, pp. 155-158.

85 drachmas.<sup>23</sup> In the Edict of Diocletian (Col. XV, 1-2), the maximum price for an axle is given as 250 denarii.

3. *γαλεάγρα* (II, 124). Weasel-trap.<sup>24</sup> Theophrastos states that the *galeagra* was made of elm wood.<sup>25</sup> For illustrations of various types of cages, see E. Saglio in Daremberg-Saglio, *Dictionnaire*, *s.v. Cavea*, 981; for illustrations of various hunting nets, including a trap for hares, see E. Pottier in Daremberg-Saglio, *Dictionnaire*, *s.v. Rete*.

It may be noted that there is another type of *galeagra*, not defined in Liddell-Scott-Jones, which would be not unsuited to our word in its present context. This is a meaning for *galeagra* in the sense of 'olive press.' The word occurs in the Arabic text of the *Mechanica* of Hero of Alexander. L. Nix and W. Schmidt in vol. II of the Teubner edition (Leipzig, 1900) have given a German translation.<sup>26</sup> Hero in book III, 16-17, describes two types of *galeagra*. They are illustrated by Nix and Schmidt on pp. 236 and 242. Each type was in the shape of a box; so doubtless resembled a 'trap.' The *galeagra* is studied in detail by A. G. Drachmann, "Ancient Oil Mills and Presses," *Danske Videnskabernes Selskab*, Arch-kunst. Meddelelser, I, 1932, pp. 60-62, 150.

'Olive press' has not been offered as the meaning for our *galeagra*, because Hero, who is dated in the second or first century B.C., speaks of the press as something new. Moreover, this agrees with Pliny, who is probably describing the *galeagra* in the following language: "sive in sportis prematur, sive ut nuper inventum est exilibus regulis pede incluso."<sup>27</sup> The oil press *galeagra* was a late development. In addition, Cato, who died in 149 B.C., in his sections on grape and olive presses in the *De agricultura* did not know of such a press. We cannot, therefore, apply the meaning to a fifth-century word.

4. *δίκελλα* (II, 131). Two-pronged hoe or mattock.<sup>28</sup> For illustration of the instrument, dating from the Roman period, see Saglio in Daremberg-Saglio, *Dictionnaire*, *s.v. Bidens*; and H. Thedenat, *s.v. Raster*.<sup>29</sup> For a description of the use of the

<sup>23</sup> *I.G.*, II<sup>2</sup>, 1673, line 32. Cf. Kirchner *ad loc.*

<sup>24</sup> This is the literal meaning; see Pollux, X, 155. The word is also used for an iron cage for ferocious beasts; see Diogenes Laertius, V, 5, 216; Athenaeus, XIV, 616 c; and E. Saglio in Daremberg-Saglio, *Dictionnaire*, *s.v. Cavea*, 981.

<sup>25</sup> *H.P.*, V, 7, 6. Cf. Blümner, *Technologie*, II, p. 291, note 5.

<sup>26</sup> An earlier publication of Hero's text with French translation is that of D. de Vaux in *Journal Asiatique*, Ninth Series, vols. I and II, 1893. For *galeagra*, see II, pp. 164 ff.

<sup>27</sup> *H.N.*, XV, 5.

<sup>28</sup> For the etymology of the word, see Buck, *Dictionary*, p. 501. Cf. A. Walde, *Vergleichendes Wörterbuch der indogermanischen Sprachen*, ed. J. Pokorny, Berlin and Leipzig, 1927-32, I, p. 436, II, p. 591; and Schwyzer, *Gr. Gram.*, I:2, p. 475, note 2.

<sup>29</sup> Cf. the illustration in R. Billiard, *L'agriculture dans l'antiquité d'après les Géorgiques de Vergile*, Paris, 1928, p. 58. For two-pronged hoes from Egypt, see Petrie, *op. cit.*, plate XIX.

instrument, see Aeschylus, fragment 196 N. In Aristophanes, *Pax*, 566-570, the *dikella* is mentioned with the *sphyra* and *thrinax* as a tool of the farm. Its purpose was to break up the soil.

The price of a *dikella* in Athens in 327/6 B.C. was two drachmas. This figure comes from the accounts of the epistatai of Eleusis, who listed twelve *dikellai* of a stater and a half each. The stater is given as 8 obols,<sup>30</sup> and the total payment, as restored by Kirchner, was 24 drachmas. In the Edict of Diocletian, the maximum price for a *dikella* is given as 12 denarii (Col. XV, 43: reading of the Geronthrean stone).

The reason for the occurrence of the word *dikella* in an inscription relating to building and in particular to stone-quarrying (*I.G.*, II<sup>2</sup>, 1673) is not entirely clear.<sup>31</sup> A hoe is hardly suitable in this context. The two prongs of the *dikella* were not always parallel. Like *skapane*, the word was used as well for an instrument with transverse hoe-like blades.<sup>32</sup> Since the meaning of \*κελλα is to 'cleave' or 'split'<sup>33</sup> our instrument may be the 'trimming-hammer' described in Casson, *op. cit.*, pp. 171-173, as the tool used in the earliest stages of stonework. There is no specific reference to this tool, and its name is not known. One end was flat, the other pointed, not unlike the modern geological hammer. Casson has reported the marks of such a tool at an ancient quarry. Very similar to this tool are the miner's pickaxe, illustrated in Petrie, *op. cit.*, plate XIV, no. 74, which had a point to split the stone and an axe for trimming, and the quarryman's pick, illustrated in Petrie, plate XIV, nos. 71-72, in the shape of a modern stone-pick. The stonecutter's mallet,<sup>34</sup> rectangular in shape with flat heads, which is illustrated in Richter, *op. cit.*, fig. 439, and the similar instrument with longer handle which is depicted in the quarrying scenes in the Vatican manuscript of Vergil,<sup>35</sup> are other quarrying instruments with transverse blades.

5. *δρέπανον* (II, 128). Pruning-hook. *Drepanon* is followed in the next line by the word *ἀμπελοργόν*, so spelled in the Attic script. I have interpreted this latter word, not as the genitive plural of the noun *ἀμπελοργός* which means a vineyard worker (vinitor)<sup>36</sup> nor as the new name of a tool, but as an adjective, synonymous in meaning with *ἀμπελοργικός*, 'of' or 'for culture of vines,' modifying *drepanon*. In the records of Brauronian Artemis, the two words seem to be similarly joined (*I.G.*, II<sup>2</sup>, 1526). For the formation of the adjective, cf. *ἀνθεμουργός*, *-όν* and similar adjectives listed in Buck and Petersen, *Reverse Index*, pp. 629-631. According to Hesiod, *Scutum Her-*

<sup>30</sup> *I.G.*, II<sup>2</sup>, 1673, line 50. Cf. Kirchner's note *ad loc.*

<sup>31</sup> For bibliography on the tools of the stone worker, see Richter, *op. cit.*, p. 143, note 55.

<sup>32</sup> See Buck, *loc. cit.*

<sup>33</sup> See Boisacq, *Dictionnaire*<sup>4</sup>, *s.v.*

<sup>34</sup> For words for hammer, see Blümner, *Technologie*, II, pp. 194 ff.

<sup>35</sup> Illustrated in Daremberg-Saglio, *Dictionnaire*, I, p. 381, fig. 465; and Blümner, *Technologie*, III, p. 83.

<sup>36</sup> See Daremberg-Saglio, *Dictionnaire*, *s.v. Vinitor*. The *ampelourgos* was usually a slave.

*culis*, 292, a drepanon was used by vintagers, and in Plato, *Republic*, 333 d, the drepanon is connected with the art of vine-dressing. Homer in *Od.*, XVIII, 368, calls the sickle *εὐκαμπές*, 'well-curved.' Hesiod applies to *ἄρπη* (*Theog.*, 175), which is the same instrument as the drepanon of line 162, the epithet *καρχαρόδους*; hence the blade must have had a serrated edge.

Metal pruning-hooks discovered in American excavations in Athens are published by D. B. Thompson in *Hesperia*, VI, 1937, p. 421, fig. 18; and by O. Broneer in *Hesperia*, VII, 1938, p. 210, fig. 44, no. 215. For other examples, reference may be made to D. M. Robinson, *Olynthus*, X, p. 340, note 21.

The general meaning of drepanon is 'sickle,'<sup>37</sup> but the word was also used for the scythes on the Persian chariots.<sup>38</sup> According to Reinach,<sup>39</sup> the shape and size varied, but the drepanon was distinguished from an ordinary knife by having a curved cutting surface. Reinach gives illustrations of the object.<sup>40</sup> More recently, H. J. W. Tillyard has published a group of inscriptions from the Spartan Artemision in several of which a socket in the shape of a sickle was cut into the stone.<sup>41</sup> Tillyard states that an iron drepanon was the prize for boys' contests and that it was offered to Artemis.<sup>42</sup> One of Tillyard's fragments (no. 17) is part of a metrical inscription of Roman date and the reference to drepanon is plain.

The price of a drepanon is given by Aristophanes (Coulon's text) as five drachmas in time of peace.<sup>43</sup>

6. *θερμανστίς* (I, 97, 98). Kettle for boiling water, tongs. The word is defined by Liddell-Scott-Jones as 'tongs' or 'kettle.' The latter definition comes from Pollux, X, 66. In listing the pots used for heating water, he gives *θερμαντήρ*, *θερμανστρίς*, and follows these with *χαλκία θερμαντήρια* and *λέβητες*. Our word in Stele I immediately follows the entry *χαλκίον θερμαντήριον* of line 96, which in turn is preceded by *λέβης* in lines 91-92. This position, then, suggests that the meaning of our word is 'kettle.' See Amyx in "The Attic Stelai, Part III," to appear subsequently. Pollux gives the form of our word as *θερμανστρίς*. For the loss of the liquid, see Schwyzer, *Gr. Gram.*, I, p. 260.

For ancient tongs used by metal workers, reference may be made in particular to Blümner, *Technologie*, II, p. 193. For an illustration of iron tongs, see G. R. Davidson, *Corinth*, XII, no. 1444.

<sup>37</sup> See Buck, *Dictionary*, p. 507.

<sup>38</sup> Xenophon, *Anab.*, I, 7, 10.

<sup>39</sup> Daremberg-Saglio, *Dictionnaire*, s.v. *Falx*.

<sup>40</sup> Cf. also Beazley in Caskey-Beazley, *Attic Vase Paintings in Boston*, Part II, London and Boston, 1954, p. 72.

<sup>41</sup> *B.S.A.*, XII, 1905-1906, pp. 351-393.

<sup>42</sup> *Ibid.*, pp. 384-386.

<sup>43</sup> *Pax*, 1201. Cf. above, p. 288.

7. *θρῖναξ* (II, 119). Three-pronged fork. An old gloss states that this agricultural instrument sometimes had five, not three, prongs.<sup>44</sup> Hesychius (*s.v.*) defines *thrinax* as a grain shovel. J. E. Harrison has published an illustration of a modern Cretan *θυρνάκι*, a winnowing instrument in use today,<sup>45</sup> which must closely resemble the ancient instrument. It is a combination of a fork and shovel. The prongs would help to pick up the mixed mass of stalks and grain, the broad curved surface would be an excellent shovel. The *thrinax* was usually of iron, sometimes of wood. In Aristophanes, *Pax*, 566-570, reference is made to the *thrinax* together with the *sphyrā*, 'mattock.' These were the two tools used to clear the space between rows of vines and fruit trees. In addition to the articles of J. E. Harrison, reference may be made to Blümner, *Technologie*, I<sup>2</sup>, p. 9.

The price of the *thrinax* in the Edict of Diocletian (Col. XV, 46) is given as 8 denarii.

8. *κάλως* (I, 214). Rope, cord.<sup>46</sup> Rope-making is discussed by G. Lefaye in Daremberg-Saglio, *Dictionnaire*, *s.v.* *Restiarius* and *Restis*.<sup>47</sup> These articles contain, however, no reference to *kalos*. Our entry reads *κάλω ἵππειώ δύο*. It occurs after an entry for bedstead and is followed in three lines by entries for cushions, pillows and bedspreads. Moreover, Pollux, in referring to the property of Alkibiades, lists *kalos* among the bands and straps which make up the girth of the bedstead.<sup>48</sup> Our line may be translated 'two horsehair cords' of bedsteads.<sup>49</sup> For *ἵππειος* in the meaning of 'horsehair,' see Homer, *Il.*, XV, 537.

In the fragmentary accounts of the epistatai of Eleusis for the year 327/6 B.C., a payment was made to a metic Theokles for *kalos* for a *katagogis*, which may have been a lowering device. The price paid for the *kalos* is given as 19 drachmas, but the quantity is not preserved.<sup>50</sup> The next entry in this inscription was for *strophos*, or twisted cord. To the metic Kallianaxis for three talents of strophe the sum of at least 90, but not more than 100 drachmas, was paid. The entry preserves the sum of 90 drachmas, but the figures may have continued onto the left part of the next line which is lost. The weight of a talent is conventionally given as 36.86 kg.<sup>51</sup> Three talents, then, would equal roughly 244 lbs. The price per pound, depending on whether we used the price of 90 or 100 drachmas, would be in the neighborhood of 2½ drachmas.

<sup>44</sup> *Cyrrilli Glossarium*, *s.v.* (ed. M. Schmidt, *Hesychius*, vol. IV, Jena, 1862, p. 342).

<sup>45</sup> *J.H.S.*, XXIII, 1903, p. 303. Cf. *J.H.S.*, XXIV, 1904, pp. 246-249.

<sup>46</sup> See Buck, *Dictionary*, pp. 548-549. The gradation by size in the English use of 'rope,' 'cord,' 'string,' 'twine' was not distinguished in Greek, which used *κάλως*, *σπάργανον* and *σχοῖνος*, the last for rope made by plaiting rushes together.

<sup>47</sup> Cf. Blümner, *Technologie*, I<sup>2</sup>, p. 295.

<sup>48</sup> X, 36. See Aristophanes, *Aves*, 816 and the scholia on this line. For a description of such bedsteads, see P. Girard in Daremberg-Saglio, *Dictionnaire*, *s.v.* *Lectus*, p. 1015 b.

<sup>49</sup> Cf. A. Wilhelm, *Jahreshefte*, VI, 1903, p. 239; C. Ransom, *Couches and Beds*, p. 109.

<sup>50</sup> *I.G.*, II<sup>2</sup>, 1673, lines 18-19.

<sup>51</sup> *Oxford Classical Dictionary*, *s.v.* *Weights*.

In the Edict of Diocletian (Col. XI, 3), the price of hair twisted into rope was 10 denarii per pound. The cost of a piece of rope for hanging a person is known to have been an obol.<sup>52</sup>

9. *καρκίνος* (II, 126). Forceps, crane. The etymological meaning of *karkinos* is crayfish or crab,<sup>53</sup> from which the word has taken on many derivative meanings,<sup>54</sup> including a type of women's shoe and a sign in the zodiac. As a tool, at least two meanings are attested for *karkinos*: 'compass' and 'forceps, a pair of tongs.'

Photius defines *karkinos* as 'forceps' and this meaning of the word occurs in Euripides, *Cyclops*, 609; *Anth. Pal.* 6, 117, and Athenaeus, X, 456 d. This instrument is illustrated in Blümner, *Technologie*, II, pp. 192-193; and by S. Reinach in Daremberg-Saglio, *Dictionnaire*, s.v. *Forceps*. The later meaning of compass occurs in Sextus Empiricus, *M.*, X, 54, for which E. Saglio in Daremberg-Saglio, *Dictionnaire*, s.v. *Circinus*, has given illustrations.

Pollux, however, refers to a *karkinos* as listed in the Attic Stelai. He states (X, 148): ἐν δὲ ταῖς Ἀττικαῖς στήλαις ἀναγράφεται πρίων λιθοπρίστης καὶ καρκίνος λίθους ἔχων (v.l. ἐλών; Bekker ἔλκων). Pollux clearly had in mind the machine for raising weights which is commonly called a crane; for he continues, εἴποις δ' ἂν καὶ μηχανὴν λιθαγωγόν. It is to be noted, moreover, that Pollux lists *karkinos* under the heading of builders' tools (οἰκοδόμον σκεύη). Such a machine is described with illustrations in Blümner, *Technologie*, III, pp. 111-131.

It is possible that Pollux or his source had before him some other quotation from the Attic Stelai which referred more specifically to stonework than our preserved reference in Stelai II. His meaning, however, is not inappropriate for a word inscribed on the same line with *toros*.

10. *κλίμαξ* (II, 27, 28; V, 85).<sup>55</sup> Ladder. The word was used both for staircase and for ladder.<sup>56</sup> In some instances the staircase was probably no more secure than the ordinary ladder. Lysias tells of the wife who was permitted to sleep on the first floor with her small child in order to avoid the risk of falling down the staircase when she went to tend it.<sup>57</sup> In *I.G.*, II<sup>2</sup>, 1668, line 84, reference is clearly made to a wooden stairway for the arsenal of Philo. The context of our word, however, requires the

<sup>52</sup> Lucian, *Timon*, 131.

<sup>53</sup> Boisacq, *Dictionnaire*<sup>4</sup>, s.v.

<sup>54</sup> See *Thesaurus Graecae Linguae*, s.v.

<sup>55</sup> The form *κλίμα[χς]* was used in Part I (p. 266), but it may be noted that *κλίμα[κιοι]* is also a candidate, particularly since Pollux (X, 178) associates it with our Stelai.

<sup>56</sup> In architectural contexts, the word *klimax* has other meanings. These have not been considered in this section. In the Erechtheion accounts (*I.G.*, I<sup>2</sup>, 372, 373) the diminutive means a coffer or wooden frame with openings for coffers in ceilings. See J. M. Paton, *Erechtheum*, Cambridge, 1927, pp. 365-66. Cf. Robinson, *Olynthus*, XII, p. 462, and *I.G.*, XI, 2, 144 A, line 42. In building inscriptions from Epidauros *klimax* means, according to Ebert (*Fachausdrücke*, pp. 49, 60), the screen or railing (Gitter). Prices for the latter are contained in *I.G.*, IV<sup>2</sup>, 102.

<sup>57</sup> Lysias, I, 9.

meaning of 'ladder.' In one case *klimax* follows the words for millstone and pestle; in the other, those for millstone and mortar. For illustrations of ancient ladders, see G. Nicole, Daremberg-Saglio, *Dictionnaire*, *s.v.* *Scalae*.

In Stele II, 27, the price of a *klimax* is clearly inscribed as 8½ drachmas. The price for the second ladder in line 28 is only partially preserved in the form of the upper part of two vertical strokes. The sum could not be more than two drachmas. The marked difference in price may be explained by the condition of the articles. There are numerous references to *klimakis*, 'ship's ladder,' in the Athenian naval inventories (*I.G.*, II<sup>2</sup>, 1604 ff.), but the entries do not indicate prices.<sup>58</sup> For comparative purposes, however, reference may be made to prices for other wooden objects. Scantling for oars (*kopeis*), for example, is stated by Andokides (II, *On his Return*, 11) to have been worth five drachmas apiece at Samos in 411 B.C. The official price for this wood for making oars was three drachmas apiece in 324 B.C.<sup>59</sup> Oars of poor quality, which had not stood proof, averaged two drachmas apiece in 346/5 B.C.<sup>60</sup> The pole for sounding the bottom of the sea was worth at least seven drachmas in 377/6 B.C.<sup>61</sup> In the Edict of Diocletian (Col. XIV, 6), the price of an ordinary large ladder of 30 rungs is 150 denarii.

11. *κρέαγρα* (II, 133). Meat-hook. The main article on this word in Daremberg-Saglio, *Dictionnaire*, is that of Saglio, *s.v.* *Fuscinula*; it is also discussed by Blanchet, *s.v.* *Harpagο*, and by Reinach, *s.v.* *Veru*. Robinson devotes a special section to the *kreagra* and gives what appears to be the most complete bibliography.<sup>62</sup>

The *kreagra* was made of bronze or iron, and had a varying number of prongs. It is most often grouped with kitchen utensils and is mentioned in connection with meats.<sup>63</sup> The scholiast on Aristophanes, *Equites*, 772, describes it as shaped like a hand with the fingers slightly curved. As Rogers noted (*ad Aristophanes, Eccl.*, 1002) the *kreagra* was strictly speaking a 'flesh-hook,' but the term was applied figuratively to any grappling-hook for fishing up articles from the depths, as, in the *Ecclesiastusae* passage, a bucket from a well. This is another of our items which is mentioned in Pollux, X (98).

One specimen was found at Olynthos, and Robinson lists similar implements which have been found throughout the ancient world. There are several representations on vases. The inventories of the Treasure of Athena include two *kreagrai*.<sup>64</sup>

<sup>58</sup> It may be mentioned that in the Delian accounts of the *hieropoioi* of the period 314-250 B.C. prices for making or repairing *klimakes*, but along with other objects, are contained in *I.G.*, XI, 2, 144, line 42; 165, line 9; and 287 A, line 97.

<sup>59</sup> *I.G.*, II<sup>2</sup>, 1631, line 372; A. Böckh, *Urkunden über das Seewesen*, Berlin, 1840, p. 114.

<sup>60</sup> *I.G.*, II<sup>2</sup>, 1622, lines 390-397.

<sup>61</sup> *I.G.*, II<sup>2</sup>, 1604, line 29. See Böckh, *op. cit.*, p. 126.

<sup>62</sup> *Olynthus*, X, pp. 198-199.

<sup>63</sup> Cf. Blanchet in Daremberg-Saglio, *Dictionnaire*, *s.v.* *Harpagο*, 12a.

<sup>64</sup> *I.G.*, II<sup>2</sup>, 1425, line 416.

12. ξύλα καύσιμα (V, 7). Firewood. *Xylon* is used for cut wood in the sense of 'firewood,' 'timber,' and is possibly derived from ξύω, 'scrape.'<sup>65</sup> The word occurs in numerous places in the Delian accounts of the *hieropoioi*.<sup>66</sup> It is usually side by side with *klematides*, 'brushwood,' and *rhymos*, 'log.'<sup>67</sup> Such firewood was commonly used in sacrifices.<sup>68</sup>

Many prices of xyla are preserved from the records of Delos, where of course the wood had to be imported. Indeed, the scarcity of wood on Delos is attested by a Delian law from the last part of the third century which regulated the sale of wood and charcoal.<sup>69</sup> The weight of the wood in talents is frequently given as well as the price. A talent represented a man's load and weighed over 80 pounds avoirdupois.<sup>70</sup> The Delian evidence for a period of 80 years is presented in the following table, based in part on that of G. Glotz in *Journal des Savants*, XI, 1913, p. 23.

## PRICE OF FIREWOOD AT DELOS

Date	Price per Talent	Maximum	Minimum	Inscription
ca. 310		1 dr. 2 ob.	1 dr. 1½ ob.	<i>I.G.</i> , XI, 2, 142, lines 60-61
ca. 305	1 dr. 1½ ob.			XI, 2 144 A, line 29
300	1 dr. 1½ ob.			147 A, line 12
279	1 dr. 2 ob.			161 A, line 108
274	1 dr. 2 ob.			199 A, line 49
269	1 dr. 1 ob.			203 A, lines 58, <sup>71</sup> 59
268		1 dr. ⅛ ob.	1 dr.	204, lines 46, 49, 63
267	1 dr. 2 ob.			205 Bd, line 14
ca. 265		1 dr. 1 ob.	1 dr.	219 A, lines 15, 49, 55
258		1 dr. ¼ ob.	4 ob.	224 A, lines 30, 31
250		1 dr. 1 ob.	4 ob.	287 A, lines 45, 50, 52, 61, 65, 67, 73, 80, 81, 82
ca. 245		1 dr. 2¼ ob.	1 dr. 1¾ ob.	<i>Insc. Délos</i> , 290, lines 48, 73, 82, 85, 94, 99
After 248	1 dr. 1 ob.			291, line 29
231		1 dr. 1 ob.	1 dr.	316, lines 100, 104, 110

<sup>65</sup> See Boisacq, *Dictionnaire*,<sup>4</sup> s.v. *Xylon* for this and other possibilities. Cf. Buck, *Dictionary*, pp. 49-50. In the Erechtheion building inscriptions, the word sometimes means 'beam,' and it is so translated in G. P. Stevens, *Erechtheum*, p. 329. Elsewhere in the same inscription (VII, line 7: p. 320), it is applied to the moulding. In *Jahreshefte*, VIII, 1905, p. 11, Wilhelm has defined *xyla* ("das frische Holz der Stämme") in distinction to various other words referring to wood.

<sup>66</sup> Of equal frequency is the use of the word *xyla* in the sense of 'timber' or 'lumber.' The type of lumber (oak, pine, etc.) is usually specified. It should be noted that under the general heading of wood, Pollux (VII, 109) makes the subdivisions of *kausima* and *ergasima*, 'wood that can be worked.'

<sup>67</sup> See, in particular, E. Schulhof and P. Huvelin, *B.C.H.*, XXXI, 1907, pp. 53 ff.

<sup>68</sup> See Kirchner *ad I.G.*, II<sup>2</sup>, 1672, line 124.

<sup>69</sup> *Insc. Délos*, 509. See J. A. O. Larsen, "Roman Greece," *Economic Survey*, IV, pp. 352-354.

<sup>70</sup> In the Attic-Euboic standard, a talent was 36.86 kg. A kilogram is equal to 2.2046+ pounds. It is more probable, however, that a market talent of 39.25 kilograms was used; see Larsen, *op. cit.*, p. 295. This equals a little over 86½ pounds.

<sup>71</sup> The rate is given as 1 drachma 1 obol per talent. The actual price paid for 50 talents was 60 drachmas 4 obols which would be at the rate of 1 drachma 1¼+ obols per talent.

In later Delian accounts, prices seem to amount consistently to slightly more than one drachma per talent.<sup>72</sup> In 173 B.C., however, there was a rise to 2 drachmas 1½ obols.<sup>73</sup> A survey of the price of wood after 250 B.C. may be found in Larsen, *op. cit.*, p. 395.

One would judge from the *Acharnenses* of Aristophanes that there was a good supply of wood for fuel in Attica in the fifth century. A. Böckh has concluded that this was beechwood.<sup>74</sup> Men and asses carried wood and faggots into the city.<sup>75</sup> At the beginning of the fourth century, firewood for a small sacrifice was purchased according to the fixed tariff for two obols.<sup>76</sup> According to [Demosthenes], XLII, *Against Phainippos*, 7, Phainippos daily sent six asses laden with firewood from his place on Kytheros into Athens. Phainippos received more than twelve drachmas per day; so the burden of wood for an ass was worth two drachmas. The maximum of firewood an ass could carry on its back has been estimated at 70 pounds.<sup>77</sup> This might be a maximum for long distances; on a short haul a donkey could certainly carry more.

In 329/8 B.C., a year which was inflationary for foodstuffs, one sale of wood is recorded at the price of 1 drachma 3 obols per talent.<sup>78</sup>

13. ξύλα τετράγωνα (VI, 39). Wood of squared deal. This combination of words occurs in Pollux, IV, 163; Theophrastos, *H.P.*, V, 1, 1; Polybios, V, 89, 1; and Plutarch, *Mor.*, 210 E. In building inscriptions the combination is very common: Attica, *I.G.*, I<sup>2</sup>, 313, lines 99-101; Epidauros, *I.G.*, IV<sup>2</sup>, 108, line 162; 109, II, lines 21, 99, 143, 159, etc.; 115, line 23; Chalkis, *I.G.*, XII, 9, 907, line 26. Similarly, wood was sometimes sold as *strongylos*, or unsquared.<sup>79</sup> In most of these entries the wood was sold by the wagonload.

With regard to lumber, it may be noted that large timber for building had to be imported into Athens from great distances.<sup>80</sup> Even beams and smaller wood were brought in by sea.<sup>81</sup>

14. όκίστιον (II, 120). Harrow. This word, otherwise unknown in Greek, occurs in our list after words for the farm implements, shovel and fork; so it was

<sup>72</sup> For prices of firewood in Egypt, see the table of A. Segrè, *Circolazione monetaria*, pp. 156-157.

<sup>73</sup> *Insc. Délos*, 456 B, lines 11-12.

<sup>74</sup> *Staatshaushaltung der Athener*<sup>3</sup>, I, p. 126.

<sup>75</sup> Pollux, VII, 109.

<sup>76</sup> *I.G.*, II<sup>2</sup>, 1356, lines 3 and 18. For other prices of wood for sacrifices, see *Hesperia*, VII, 1938, p. 5, lines 87-93 (3-10 drachmas).

<sup>77</sup> Michell, *Ec. of Anc. Greece*, p. 72.

<sup>78</sup> *I.G.*, II<sup>2</sup>, 1672, lines 124-125.

<sup>79</sup> *I.G.*, IV<sup>2</sup>, 109, II, line 135.

<sup>80</sup> Thucydides, IV, 108; Xenophon, *H.G.*, VI, 1, 11. Cf. E. C. Semple, *The Geography of the Mediterranean Region*, London, 1932, Chap. XI, especially p. 276.

<sup>81</sup> Demosthenes, XXI, *Against Meidias*, 167.

suggested in Part I that it might be cognate with Latin *occa*,<sup>82</sup> hence derived from *IE* \**ak* (meaning 'sharp, pointed').<sup>83</sup> Our word would then mean 'harrow.' It would also be cognate with *ὄξίνα*, known only from Hesychius,<sup>84</sup> which is given by Liddell-Scott-Jones as being probably a Doric feminine. The description of the process of harrowing, drawn from Roman sources, is given in Daremberg-Saglio, *Dictionnaire*, s.v. *Rustica res*, p. 923 b, and in R. Billiard, *L'agriculture dans l'antiquité d'après les Géorgiques de Virgile*, pp. 69-70. The instrument is discussed, but without illustrations, in the same dictionary s.vv. *Irpex* and *Crates*.

15. *ὄνος ἀλέτων* (II, 24, 238, 239; V, 83). Upper millstone.<sup>85</sup> The earliest use of this combination of words occurs in a fragment of the Gortynian laws (ca. 450 B.C.).<sup>86</sup> In a literary context, they are first found in Xenophon, *Anab.*, I, 5, 5. The lexicographers, including Pollux,<sup>87</sup> Hesychius,<sup>88</sup> and Suidas,<sup>89</sup> define the words as indicating the grinding stone which turned around.

The evolution of the grain mill is given in Blümner, *Technologie*, I<sup>2</sup> pp. 20-49,<sup>90</sup> and a rough chronology for the Greek mill has been worked out by Robinson and Graham, *Olynthus*, VIII, pp. 331-332. The earliest example of the revolving ass-driven type cited by Robinson and Graham was found in the ruins of Motya in Sicily, a city destroyed ca. 397 B.C. Only one example of the revolving type is represented at Olynthos, although numerous examples of the hand type of grain mill were discovered. Our inscription would seem to confirm the conjecture of Robinson and Graham that the ass-driven type was as early as the fifth century. A third-century Megarian bowl found at Thebes shows the hand type and the ass-driven type side by side.<sup>91</sup> For numerous illustrations of the revolving mill, see W. Deonna, *Délos*, XVIII, pp. 131-135 and plates LI-LII.

Strabo has recorded that millstones were made in abundance on the island of Nisyros in the Sporades.<sup>92</sup> Robinson and Graham have reported that stones from various sites in Greece were made of hard black porous lava, and they conjecture these were manufactured at Thera and shipped in trade all over Greece.<sup>93</sup>

<sup>82</sup> *Hesperia*, XXII, 1953, p. 258.

<sup>83</sup> See Buck, *Dictionary*, p. 504.

<sup>84</sup> Hesychius' definition is: *ἐργαλείον τι γεωργικόν, σιδηροῦς γόμφους ἔχον, ἐλκόμενον ὑπὸ βῶων*.

<sup>85</sup> For the most complete documentation for this meaning, see Blümner, *Technologie*, I<sup>2</sup>, p. 30, note 1. For a recent study, see Robinson, *Olynthus*, XII, p. 453.

<sup>86</sup> M. Guarducci, *Inscriptiones Creticae*, IV, Rome, 1950, 75 B, line 7.

<sup>87</sup> VII, 19.

<sup>88</sup> S.vv. *μύλη* and *ὄνος*.

<sup>89</sup> S.vv. *μύλη* and *ὄνεον*.

<sup>90</sup> Cf. A. Hug, *R.E.*, s.v. *Μύλη*, cols. 1064-1065.

<sup>91</sup> M. Rostovtzeff, *A.J.A.*, XLI, 1937, p. 88, fig. 1. This bowl is also illustrated in Rostovtzeff, *Soc. and Ec. Hist. of Hell. World*, I, plate xxv.

<sup>92</sup> X, 488.

<sup>93</sup> *Op. cit.*, p. 330. Similarly, T. Wiegand and H. Schrader, *Priene*, p. 394, note 1. Millstones of granite and other igneous stone existed.

The price of the upper millstone of Stele II, 239 is recorded as 7 drachmas 1 obol. In II, 24, the first numeral of the price is missing. Figures for 4 drachmas 2 obols are preserved, at least in part. The missing numeral is almost certainly the sign for five drachmas, which would give a total of 9 drachmas 2 obols. The price of the millstone in II, 238 is only partially preserved. The sum contained two numerals followed by the preserved signs of two obols. The two most likely restorations, approximating the other two totals, would yield sums of 6 drachmas 2 obols, or 10 drachmas 3 obols.

16. *πέδη* (II, 127). Brake. This word has previously been defined as ‘fetter’; in plural, ‘shackles.’<sup>94</sup> Most uses in the literature are metaphorical. In Stele II, the word is combined with *ἄξων*, ‘axle.’

Earlier, I suggested that the meaning here was ‘brake.’<sup>95</sup> The compound word *τροχοπέδη*, denoting a block of wood thrust between the spokes of a wheel, is known from Athenaeus, II, 99 c, and from Herodian, 467.<sup>96</sup> Drags in the form of oblong slabs of metal are also depicted in two bas-reliefs illustrated in Daremberg-Saglio, *Dictionnaire*, s.v. *Sufflamen*. These were clamped on the rim of the wheel.<sup>97</sup>

17. *πέλεκυς* (I, 109). Axe.<sup>98</sup> The most complete bibliography is given by Reinach in Daremberg-Saglio, *Dictionnaire*, s.v. *Securis*, to which may be added that contained in Robinson, *Olynthus*, X, p. 342, note 29. Many iron axe-heads have been found in Greece. Illustrations of numerous types of axes from reliefs and vase-paintings are given by Blümner, *Technologie*, II, pp. 202-203. He notes that the *pelekys* was used mostly in woodwork, particularly by carpenters and shipbuilders. *Pelekys* indicated the two-edge axe; for the single-edge, the words *πέλεκυς ἐτερόστομος* or *ἡμιπέλεκκου* might be used.

18. *πτέον* (II, 119)<sup>99</sup> Winnowing-shovel.<sup>100</sup> The instrument is described by A. Jardé in Daremberg-Saglio, *Dictionnaire*, s.v. *Ventilabrum*; by E. Saglio, *ibid.*, s.v. *Pala*; and in greater detail in Blümner, *Technologie*, I<sup>2</sup>, pp. 7-9. Special articles of Jane E. Harrison, “Mystica Vannus Iacchi,”<sup>101</sup> include a study of the *ptyon*. She cites several examples on vases to which may be added those cited by Ure, *J.H.S.*, LXIX, 1949, pp. 18-24.

<sup>94</sup> See Liddell-Scott-Jones, s.v., and *Thesaurus Graecae Linguae*, s.v. For a description of such fetters, see Daremberg-Saglio, *Dictionnaire*, s.v. *Compes*.

<sup>95</sup> *Hesperia*, XXII, 1953, p. 259. Further study, however, has revealed no evidence to uphold the suggestion that this brake operated by friction against the axle.

<sup>96</sup> Ed. S. Pierson in Moeris, *Lexicon*, Leipzig, 1831, p. 345.

<sup>97</sup> For such a clamp found in Italy, see L. A. Milani, *Studi e materiali*, I, 1899, p. 138, fig. 42.

<sup>98</sup> Buck, *Dictionary*, p. 561.

<sup>99</sup> For the Attic form *pteon*, instead of the dialectical *ptyon*, see Schwyzer, *Gr. Gram.*, I, p. 183.

<sup>100</sup> Buck, *Dictionary*, p. 500; Boisacq, *Dictionnaire*<sup>4</sup>, p. 824; modern Greek uses *φτνάρι* for ‘shovel.’ Buck (p. 499) notes the difficulty of distinguishing among the ancient names of Greek digging implements.

<sup>101</sup> *J.H.S.*, XXIII, 1903, pp. 292-324; and XXIV, 1904, pp. 241-254.

Eustathius described Homer's ἀθηρηλοῦγός, 'consumer of chaff,' as a ptyon which he said was in shape like a hand.<sup>102</sup> The shovel was used to toss up the grain against the wind. The wind carries the chaff to a distance and the heavier grain falls short in a mounting heap. The process is wholly unlike that described in relation to the winnow-basket, *liknon*.<sup>103</sup>

The price of the ptyon in the Edict of Diocletian (Col. XV, 44) is given as 12 denarii.

19. ῥυμός (V, 11). Log.<sup>104</sup> The word has, among others, three meanings which might be appropriate in our inscription: the shaft of the plow, the pole of a chariot, and logs of wood for fuel. The *rhymos*, as the shaft of a plow, was composed of two parts, the beam, or curved piece (*gyes*), and the shaft attached to it (*histoboëus*). A description is given by E. Saglio in Daremberg-Saglio, *Dictionnaire*, s.v. *Aratrum*, p. 354 b. For illustrations, see Cloché, *Classes*, etc., p. 12 and plate VIII. Pollux,<sup>105</sup> Hesychius and Suidas<sup>106</sup> define the word as the pole of the chariot or cart, which went between the horses and by which the cart was pulled. This use is derived from the etymological meaning of the word. It is attested from Homer and Herodotos and is illustrated by A. Baudrillart in Daremberg-Saglio, *Dictionnaire*, s.v. *Jugum*, p. 665.<sup>107</sup>

For the third meaning of *rhymos*, which is attested only in the inscriptions, the exact sense is not certain. This use is discussed by Schulhof and Huvelin (*B.C.H.*, XXXI, 1907, pp. 53-56); by Larsen (*op. cit.*, p. 354); and by Kirchner (*ad I.G.*, II<sup>2</sup>, 1672, lines 124 and 307) who refers to Harzbecker's unpublished Leipzig dissertation, which is not available to me.<sup>108</sup> The word seems to be used for firewood and refers to larger pieces of wood than *xyla*. Since our word occurs only four lines below the entry ξύλα καύσιμα (V, 7), the third meaning would seem likeliest in this context.

Numerous prices for *rhymos* are preserved in the Delian accounts of the hieropoioi.<sup>109</sup> The word usually occurs side by side with *xyla*, *lampas*, 'torch' or 'faggot,' and *klematides*, 'brushwood.' Schulhof and Huvelin have noted that in the accounts of the archonship of Sosisthenes (250 B.C.)<sup>110</sup> the price of *rhymos* in the singular was one obol; in the plural, two obols.<sup>111</sup> This rule cannot be applied strictly in this or in

<sup>102</sup> *Ad Od.*, XI, 128 (p. 1675, 54-57) and *ad Il.*, XIII, 588.

<sup>103</sup> See J. E. Harrison, *op. cit.*, p. 302.

<sup>104</sup> For the etymology, see Boisacq, *Dictionnaire*<sup>4</sup>, s.v. ('that which is drawn'). For the meaning of *rhymos* in inventories, see above, p. 224, note 85.

<sup>105</sup> I, 146.

<sup>106</sup> s.v. *Rhymos*.

<sup>107</sup> Cf. Lübker, *Reallexikon*<sup>8</sup>, p. 1126a. In architectural contexts the word has sometimes been interpreted as meaning 'unsquared log.' See G. P. Stevens, *Erechtheum*, p. 354.

<sup>108</sup> Cf. also Dürrbach *ad I.G.*, XI, 2, 154, line 18.

<sup>109</sup> In the Delian inventories, on the other hand, *rhymos* regularly means 'row' or 'shelf.'

<sup>110</sup> *I.G.*, XI, 2, 287.

<sup>111</sup> *Op. cit.*, p. 56.

other years. In line 57 of the accounts of Sosisthenes, the singular form is followed by the one obol sign and in line 48 the plural form by the signs for two obols. But in the present text of line 69, the plural form is followed by the signs for at least three obols. In the accounts of the year 279 (*I.G.*, XI, 2, 161) the singular *rhymos* cost  $1\frac{1}{2}$  obols (A, line 112) and 2 obols (A, lines 89 and 100), the plural *rhymoi*  $4\frac{1}{2}$  obols (A, line 94). In the accounts of a year shortly after 246 B.C.,<sup>112</sup> *rhymos* in the singular number is worth one obol in line 71, two obols in line 83. In the accounts of 231 B.C.,<sup>113</sup> *rhymos* cost 6 obols (line 76) and 3 obols (line 77). The plural brought 6 obols (line 80) and 9 obols (line 87) in this same year.

In Stele V, the form is singular. From the position of the one preserved obol sign in the sales price column, it can be determined by comparison with the numerals in line 8 that the price for this log for firewood—if this description is correct—was at least two obols.

For at least one inscription which carefully regulated the sale of fuel (charcoal and wood), see *Insc. Délos*, 509. In Delos of course the wood had to be imported.

20. *σανίς* (II, 228). Board or plank. Our *sanis* in the singular number is listed in a miscellaneous group of tools and furniture items in Stele II. The meanings of this word often overlap those of *pinax*,<sup>114</sup> and are fully as various; a *sanis* could be a picture,<sup>115</sup> a public notice,<sup>116</sup> or a chopping board;<sup>117</sup> in Euripides, *Alcestis*, 967, it is the term used for the tables on which Orphic wisdom was preserved. Another meaning is ‘bench or seat,’ and since our *sanis* comes immediately after a *diphros*, this at first seems an interesting possibility. However, this usage can only be found in an inscription from Delphi from the fourth century B.C., where the *sanis* was a plank used for a bench,<sup>118</sup> and in the seventh Mime of Herodas;<sup>119</sup> so that we have no evidence of its existence in the fifth century. In Homer *sanides* are frequently double doors,<sup>120</sup> but the basic meaning in the singular is ‘plank,’ as distinct from ‘beam,’ which was usually called *ξύλα*.<sup>121</sup> *Sanides* were the boards used in doors,<sup>122</sup> gates,<sup>123</sup>

<sup>112</sup> *Insc. Délos*, 290.

<sup>113</sup> *Insc. Délos*, 316.

<sup>114</sup> See above, pp. 250-253.

<sup>115</sup> Dittenberger, *Syll.*<sup>3</sup>, 977a, line 10 (= *Insc. Délos*, 2085); Herodas, IV, 36.

<sup>116</sup> Aristophanes, *Vespae*, 349, 848; [Demosthenes], XXV, *Against Aristogeiton*, 70; Lysias, XXVI, *Against Euandros*, 10; Pollux, III, 85; *I.G.*, I<sup>2</sup>, 313, line 168; 374, line 190.

<sup>117</sup> Diodorus, XII, 24.

<sup>118</sup> *Delphes*, III, 5, no. 23, col. 1, line 62 (= Dittenberger, *Syll.*<sup>3</sup>, 244 B, line 62). Pomtow *ad* Dittenberger, *Syll.*<sup>3</sup> takes the *sanides* to be a kind of triclinium; Bourguet describes them as: “trois planches servent de bancs.”

<sup>119</sup> See Headlam *ad* VII, 5; however, this term has also been taken to mean a board on which shoes were displayed.

<sup>120</sup> *Il.*, IX, 583; XII, 453, 461; *Od.*, II, 344; XII, 121; XXII, 128; cf. Euripides, *Ores.*, 1221; Pollux, I, 76; IX, 35; X, 29.

<sup>121</sup> See L. B. Holland, *A.J.A.*, XLV, 1941, p. 354.

or in a ship's deck,<sup>124</sup> the walls of a house,<sup>125</sup> a table top,<sup>126</sup> or a ceiling.<sup>127</sup> Since the item *sanis* stands in our list without description it should probably be given its simplest meaning of board or plank.

The price of the *sanis* was 2 drachmas 1 obol, 6 drachmas 1 obol, or 11 drachmas 1 obol. We have two comparative prices from nearly the same period in the Erechtheion accounts of 407/6 B.C.: in both the price of *sanides* (totalling six) is given as 1 drachma each.<sup>128</sup> In the former entry, the text includes the specification that the accounts were to be inscribed on the tablets. From the fourth century there is detailed information in the records of the temple at Eleusis:<sup>129</sup> an elm *sanis* 10 feet by 10 fingers by 3 fingers cost 14 drachmas; another 10 feet by ½ foot by one palm cost 13 drachmas 3 obols; one 16 feet by 3 palms by 6 fingers cost 20 drachmas 2 obols; one 9 feet by ½ foot by 1 palm cost 9 drachmas, and so on. In the Delian records of the hieropoioi of the period 314-250 B.C., the purchase of *sanides* for tables, stands, etc., is several times mentioned. *Sanides* of lime wood sold at 5, 8, and 8½ drachmas each,<sup>130</sup> those of elm at 11½ drachmas.<sup>131</sup> Another entry refers simply to a plural number of *sanides* at 12 drachmas.<sup>132</sup> Since the epigraphical evidence clearly shows that the price of the *sanis* depended on the size and type of wood, the price in our entry, where the word lacks a descriptive adjective, cannot be determined.

21. *σκαλῖς* (II, 125). Hoe.<sup>133</sup> This instrument is described by S. Dorigny in Daremberg-Saglio, *Dictionnaire, s.v. skapheion*. Reference to *skalīs* occurs in *I.G.*, II<sup>2</sup>, 1424a, line 391; and 1548. For illustrations of ancient hoes, see Robinson, *Olynthus*, X, pp. 343-344 and plate CVII.

22. *σμυνή* (II, 130; III, 12). Hoe or mattock.<sup>134</sup> The instrument is described with illustrations by E. Saglio, in Daremberg-Saglio, *Dictionnaire, s.v. Bidens*.<sup>135</sup> For references to more recent published illustrations of ancient hoes, see Robinson, *Olyn-*

<sup>122</sup> *Olynthus*, VIII, p. 252.

<sup>123</sup> *J.H.S.*, XLVI, 1926, p. 181.

<sup>124</sup> Euripides, *Helen*, 1556; Polybios, I, 22, 9; II, 5, 5.

<sup>125</sup> Blümner, *Technologie*, IV, p. 437.

<sup>126</sup> *Insc. Délos*, 1416 A, col. I, line 77.

<sup>127</sup> *Insc. Délos*, 1417 A, col. I, line 73.

<sup>128</sup> *I.G.*, I<sup>2</sup>, 374, lines 190 and 281 (= *Erechtheum*, pp. 390 and 394; XVI, col. 1, lines 30-33 and XVII, col. II, lines 33-34).

<sup>129</sup> *I.G.*, II<sup>2</sup>, 1672, lines 151 ff.

<sup>130</sup> *I.G.*, XI, 2, 165, lines 4 and 32; 161 A, line 96.

<sup>131</sup> *I.G.*, XI, 2, 165, line 5.

<sup>132</sup> *I.G.*, XI, 2, 144 A, line 67. Cf. also 199 A, line 63 (40 drachmas), where, however, the entry is incomplete.

<sup>133</sup> See Buck, *Dictionary*, p. 501. Modern Greek *σκαλίδα*, *σκαλιστήρι* is a small weeding hoe.

<sup>134</sup> See Buck, *Dictionary*, p. 501.

<sup>135</sup> Cf. *s.v. Sarculum*, p. 1076.

thus, X, pp. 343-344. In Aristophanes, *Nubes*, 1486-1500, the *sminye* was to be used for chopping up the roof of the *phrontisterion*.<sup>136</sup>

We cannot be sure of the number of our word; if the form is correctly restored in Stele III, 12, as singular, the price of the *sminye* was three drachmas one obol. The only other price from antiquity known to me is given in the Edict of Diocletian, where the maximum figure is 12 denarii (Col. XV, 44: reading of the Geronthrean Stone).

23. *στελέα* (VI, 29). Haft, handle. It is now suggested that line 29 of Stele VI, which was left unrestored in Part I, be completed to read as follows: [*στελε*]αὶ δύο δύο *τόρον*. In the Eleusinian building records for the year 327/6 B.C., *steleioi* were purchased for six new *toroi*, 'drills.'<sup>137</sup> In Hesychius a *toros* is defined, in part, as the instrument into which the *steleos* was inserted.<sup>138</sup> In both cases the gender is masculine, but the feminine form occurs in Homer, *Od.* XXI, 422; Aeneas Tacitus, 18, 10, and Hesychius, *s.v.* *στειλέαν*.<sup>139</sup>

The price of the *stelea* for *toroi* in 327/6 B.C. is given as 3 drachmas 3 obols each.

24. *στροπήρ* (II, 121). Beam, rafter. From Harpokration and Suidas have come definitions of the *stroter* as the rafter or crossbeam laid upon the *dokos* or bearing-beam. In an architectural context the word, translated 'Sparren,' is discussed by F. Noack, *Eleusis*, p. 209, by L. D. Caskey, *A.J.A.*, XIV, 1910, pp. 303-306, and by F. Ebert, *Fachausdrücke*, pp. 38-40, 47.

Two prices for *stroteres* are contained in the Attic building inscription, *I.G.*, II<sup>2</sup>, 1672, dated in the year 329/8 B.C. In line 63, the price is given as 1 drachma 4 obols; in line 85, as 2 drachmas 3 obols. In the former case 93 *stroteres* were purchased; in the latter, some figure of 15 or more. The *dokos*, or bearing-beam, cost 17 drachmas (line 66) and the smaller *himas*, plank laid upon the *stroter*, 1 drachma (line 64). These prices give some idea of the relative size of these roof timbers.

25. *τόρος* (II, 126).<sup>140</sup> Drill, borer.<sup>141</sup> Eustathius defines a *toros* as a well-digging instrument or a tool for stone-cutting.<sup>142</sup> Earlier Hesychius had defined it simply as a stone-cutting instrument.<sup>143</sup> Various types of chisels are illustrated by E.

<sup>136</sup> Cf. *Pax*, 546; *Aves*, 602.

<sup>137</sup> *I.G.*, II<sup>2</sup>, 1673, lines 55-56.

<sup>138</sup> *S.v.* *τόρος* and *τόρον*.

<sup>139</sup> See *Thesaurus Graecae Linguae*, *s.v.* *στειλεία*.

<sup>140</sup> Cf. VI, 29, where the restoration [*στελε*]αὶ δύο δύο *τόρον*, 'two handles of two drills,' is now proposed.

<sup>141</sup> For the etymology, see Boisacq, *Dictionnaire*<sup>4</sup>, *s.v.* *τείρω* and *τορός*, 'piercing.'

<sup>142</sup> *Ad Od.*, V, 249 (p. 1533, 10-11).

<sup>143</sup> *S. v.* *τόρον*. Pollux (VII, 192, and X, 149) and Photius limited their definition to 'an instrument for digging wells,' as does Blümner, *Technologie*, II, p. 214, note 2.

Saglio, Daremberg-Saglio, *Dictionnaire, s.v. Caelum*.<sup>144</sup> Saglio equates the Latin *caelum*, 'chisel,' with *τόρος*. In an Eleusinian building inscription and in a section relating to the quarrying of stone, mention is made of *toroi* which were supplied with handles.<sup>145</sup> The word is not of common occurrence, but it seems not unlikely in view of the definitions of Hesychius and Eustathius and the context of the word in the building inscription that the instrument is the 'piercing' or pointed drill described in books relating to the technique of sculpture as the 'running drill.'<sup>146</sup>

In the Eleusinian building accounts for the year 327/6 B.C., one lengthy item refers to the making of six new *toroi*.<sup>147</sup> The weight of the new instrument is given as 38 staters. The price of new iron was 4 obols per stater which makes the total 152 obols, or 25 drachmas 2 obols. The price of the metal per instrument, when made of *kainos sideros*, was 25½ obols, or slightly more than 4 drachmas 1 obol. In addition, the payment to the craftsman for making the tools was 6 drachmas. The cost of each *toros*, then, was approximately 5 drachmas 1 obol, which was two and a half times the price of a *dikella*, as recorded in the same inscription.

26. *τροχιλεία* (V, 4). Pulley, block-and-tackle equipment.<sup>148</sup> The word usually seems to refer to the pulley of a hoisting machine; <sup>149</sup> sometimes it is taken to mean the entire block-and-tackle equipment.<sup>150</sup> In Athenaeus, V, 208 e, reference is made to the use of the *trochileia* for lifting stones and missiles. In Aristophanes, *Lys.*, 722, a woman had tried to let herself down from the Acropolis by the rope of the pulley. The building accounts of the Erechtheion for the year 408/7 B.C. recorded a payment to laborers working by the day on the *trochileia*.<sup>151</sup> In *I.G.*, I<sup>2</sup>, 313, line 112, and 314, line 123, there is mention of large and small *trochileiai* in the accounts of the *epistatai* of Eleusis in 408/7 B.C.<sup>152</sup> Numerous epigraphical references from Delos, Epidauros, Eleusis, and Athens are collected in van Herwerden, *Lexicon*<sup>2</sup>, *s.v.* Blümner, *Technologie*, III, pp. 112 ff., discusses this pulley instrument in detail.

The cost of *τὰ τροχιλεία* is given in *I.G.*, IV<sup>2</sup>, 1, 102, lines 49-50, as 260 drachmas. The word is in the plural, but Hiller (*ad. loc.*) equates the form with Attic *ἡ τροχιλεία*.

<sup>144</sup> For references to chisels found in more recent excavations, see Robinson, *Olynthus*, X, pp. 344 ff.

<sup>145</sup> *I.G.*, II<sup>2</sup>, 1673, line 55.

<sup>146</sup> See Casson, *op. cit.*, pp. 202 ff.; and Richter, *op. cit.*, pp. 144-145.

<sup>147</sup> *I.G.*, II<sup>2</sup>, 1673, lines 53-55.

<sup>148</sup> Definitions from Liddell-Scott-Jones.

<sup>149</sup> See Aristotle, *Mech.*, 853 a, 32; Polybios, I, 22, 5; and VIII, 4, 5. So Lucretius, IV, 905; and Vitruvius, X, 2, 1. The Latin word is *trochlea*. For well-side scenes on vases, in one of which at least a rope is strung on a pulley, see the references in Amyx, *A.J.A.*, XLIX, 1945, pp. 514-515.

<sup>150</sup> Cf. *I.G.*, XI, 2, 161 A, line 69. This *μηχανή* is identified by Kirchner (*ad I.G.*, II<sup>2</sup>, 1672, line 156) as a *trochileia*.

<sup>151</sup> *I.G.*, I<sup>2</sup>, 374 K, lines 142-143 (= L. D. Caskey, *Erechtheum*, p. 386).

<sup>152</sup> See also *I.G.*, II<sup>2</sup>, 1672, lines 156, 205, and 309.

This Epidaurian inscription is dated in the early part of the fourth century and records the accounts of the building of the temple of Asklepios. In the accounts of the epistatai of Eleusis of the year 329/8 B.C., there is a record in lines 205-206 of a sum due to a certain Sosidemos for the iron-work of the trochileia. The weight of the iron is given as 83 talents 23 staters, and the sum of money is 1569 drachmas.<sup>153</sup>

27. *τρύπανον* (II, 131). Auger.<sup>154</sup> The word is derived from \**ter-* meaning 'bore.' Buck and others define it as 'auger,' a more or less generic word for a boring instrument. Casson believes that the word should be restricted to the 'bow-drill,' which is certainly one meaning.<sup>155</sup> Clear reference to such a drill occurs as early as Homer, *Od.*, IX, 385. The spinning motion of the *trypanon* is mentioned in Euripides, *Cyclops*, 461. The instrument was used in gem-cutting as well as by the sculptor and the carpenter.<sup>156</sup> A clear illustration of a bow-drill, reproduced from a hydria of the fifth century in the Boston Museum, appears in Cloché, *Classes*, etc., plate 26. Trypana are described in detail by Blümner, *Technologie*, II, pp. 222-226; and by de Villefosse in Daremberg-Saglio, *Dictionnaire*, s.v. *Terebra*.

28. *ύών* (V, 39). Pigpen. This word has occurred before only in a small and fragmentary papyrus: C. C. Edgar, *Zenon Papyri*, III, Cairo, 1928, 59468, line 2. The word was apparently first defined in Liddell-Scott-Jones, *Greek-English Lexicon*, revised edition, 1940. See Buck and Peterson, *Reverse Index*, p. 259, for this and similar formations in *-on*.

29. *φρύγανον* (IX, 9-10). Brushwood. *Phryganon*, derived from *φρύγω*, 'roast or parch,'<sup>157</sup> is a term applied to small dead wood or brushwood. Theophrastos, *H.P.*, I, 3, 1 made four genera of plants: tree (*dendra*), shrub (*thamnos*), herb (*ποα*), and undershrub (*phryganon*). In *Syll.*<sup>3</sup>, 1027, lines 14-15, the word is distinguished from *ξύλα*; in Plutarch, *Fab.*, 6, 4, it is made synonymous with *lygos*, 'twig' or 'withe.'

I have discovered no prices for phryganon in sacred inscriptions where *xyla* and *rhyμος* seem to be the usual words for firewood for sacrifices.

30. *χάραξ* (II, 254, 259; V, 25). Vine-prop, pointed stake. The word, derived

<sup>153</sup> *I.G.*, II<sup>2</sup>, 1672, lines 205-206. Through the kindness of the Ephor, M. Mitsos, I was able to examine this stone in the Epigraphical Museum, which at the time of this writing is closed for repairs. Kirchner had read the figures for the weight of the iron in talents as 5033. The first character which he read as the numeral for 5000 is the sign for fifty talents (i. e. 10 x 5 talents). Kirchner's H is actually a T. This corrected reading accords with the earlier text of Koehler in *I.G.*, II, 834b, II, line 70.

<sup>154</sup> See Buck, *Dictionary*, p. 594.

<sup>155</sup> *Op. cit.*, p. 208. Cf. Richter, *op. cit.*, p. 144.

<sup>156</sup> See Babelon in Daremberg-Saglio, *Dictionnaire*, s.v. *Gemmae*, p. 1469a.

<sup>157</sup> See Boisacq, *Dictionnaire*<sup>4</sup>, p. 1040.

from *χαράσσω*, 'sharpen,' 'make pointed,'<sup>158</sup> can be used for any pointed stake. In Stele V, the modifying phrase *ὑπὸ ταῖς ἀμπέλοις* makes clear that our reference is to vine-props. In Aristophanes, *Ach.*, 986, the reference, too, is clearly to vine-props. The use of such props, usually of oak or olive wood, for grapevines is discussed, with references to ancient literature, by Jardé in Daremberg-Saglio, *Dictionnaire*, s.v. *Vinum*, p. 918 a.

Most vines needed props, as may be concluded from numerous references: Homer, *Il.*, XVIII, 563; Hesiod, *Scutum*, 298; Aristophanes, *Ach.*, 986; Theokritos 3, 70; Varro, I, 8. Some species remained on the ground, but the grapes were liable to be eaten by mice and foxes. Some grew on trees, but this was not approved of by the best authorities.<sup>159</sup> The need for vine-props, then, in a country which specialized in vines, was extensive.

Although it is well known that large timber, particularly for naval purposes, had to be imported into Athens, a passage in Demosthenes, XXI, *Against Meidias*, 167, indicates that in the fourth century even small *charakes* were brought in by sea. At the end of the Archidamian War we learn from the *Pax* of Aristophanes that the price of a hundred vine-poles was not more than one drachma.<sup>160</sup> Stele II, line 254, contains the entry 10200 vine-poles. The sale price is given as 59 drachmas. For each hundred stakes the price was roughly 3½ obols. These stakes were hardly new, for they are described as being in a *chorion* at Phaleron. Similarly, in Stele V, lines 24-25, the stakes were described as under the vines in a field at Athmonon (modern Amaroussi). In the case of the entry in II, 254, the sale price is given to the left of the entry for charakes, but it must include the price of the stone *lenos* in the line below, the two entries being sold together.

In the Edict of Diocletian, Col. XIV, line 7 (A.D. 301), the maximum price for charakes is given as 10 denarii per bundle of 100.

## IX. WEAPONS

The Greek names for the various weapons used in their armies are collected by P. Monceaux in Daremberg-Saglio, *Dictionnaire*, s.v. *Exercitus*. Only the spear and the short spear occur in our lists. The present author is unaware of any definitive treatment of individual Greek weapons corresponding to the study of the Roman *pilum* by Schulten in the *R.E.* Petrie's 1917 study of weapons (*Tools and Weapons*) is based on Egyptian material. Interest in Greek weapons seems to have been chiefly in those of the Homeric period, for which Miss Lorimer's brilliant article in *B.S.A.*,

<sup>158</sup> See Boisacq, *Dictionnaire*<sup>4</sup>, s.v.

<sup>159</sup> See Michell, *Ec. of Anc. Greece*, pp. 79-80.

<sup>160</sup> Line 1263. Columella (XI, 2, 12) states that one man could cut 110 vine-props in a day.

XLII, 1947, pp. 76-138, is basic,<sup>1</sup> although weapons have been ardently collected and reported from numerous excavations. Lammert has sketched the history of the bow in *R.E.*, s.v. *Pfeil*; H. Weber's chapter "Angriffswaffen" in *Olympische Forschungen*, I, Berlin, 1944, pp. 146-165, seems to be the most detailed study of the archaeological evidence. There is a useful illustrated study of arms and armour in the British Museum, *Guide to the Exhibition Illustrating Greek and Roman Life*<sup>2</sup>, London, 1920, pp. 74-109. Robinson has published a chapter on arrowheads, spearheads, slingbullets, and shields in *Olynthus*, X, pp. 378-446.

I know of no study on the cost of ancient weapons. Stele II contains the price of the short hurling spear and a spear without butt-spike as 2 drachmas and 1 drachma 4 obols, respectively.

In a scene near the close of the *Pax* of Aristophanes, various traders come upon the scene and interview Trygaios. The prices for their wares include 1000 drachmas for a breastplate (*thorax*), 60 for a trumpet (*salpinx*) and 50 for a helmet (*kranos*).<sup>2</sup> These are regarded as high, if not fictitious, prices.<sup>3</sup> In *I.G.*, II<sup>2</sup>, 1126, lines 29-30, a law of the Delphic Amphictyonic League dated in 380/79 B.C., the shield is priced at 200 Aeginetan staters and the crest (*lophos*) at 15 staters. This amounts to 600 drachmas for the former, 45 for the latter. But these were apparently adornments for a colossal statue and hardly typical prices. The price of the *δόρυ*, which would complete the panoplia and provide a basis for comparison, is unfortunately lost.

One other inscription is known to me which contains prices for some weapons. This is from Koresia on the island of Keos and is dated at the beginning of the third century B.C. The weapons mentioned were given as prizes of victory, so were presumably of good quality. The following prices are given:

VALUE OF WEAPONS IN *I.G.*, XII, 5, 647<sup>4</sup>

<i>Weapon</i>	<i>Price</i>	<i>Line No.</i>
Bow ( <i>toxon</i> )	7 dr.	28
Bow and quiver ( <i>pharetra</i> )	15 dr.	28
Spearhead ( <i>lonche</i> ) <sup>5</sup>	3½ ob.	30
Staff pole ( <i>kontos</i> )	2 dr.	31
Shield	20 dr.	31

Our evidence is scattered, but we can safely conclude that weapons were not cheap.

<sup>1</sup> D. H. F. Gray's recent article "Metal-Working in Homer" (*J.H.S.*, LXXIV, 1954, pp. 1-15) includes references to early weapons discovered in excavations.

<sup>2</sup> Lines 1224, 1240, 1251.

<sup>3</sup> A. Böckh, *Staatshaushaltung der Athener*<sup>3</sup>, I, p. 138; Ehrenberg, *People of Aristophanes*<sup>2</sup>, p. 224.

<sup>4</sup> *Syll.*<sup>3</sup>, 958.

<sup>5</sup> Or, possibly, spear.

*δοράτιον* (II, 226). Short spear. Hesychius defines *doration* as the short lance or javelin (*μικρὰ λόγχη* or *ἀκόντιον*).<sup>6</sup> It was cast by hand and used for striking from afar. In the fighting at Pylos the *doration* is mentioned by Thucydides as a weapon of the Athenian light-armed troops which along with stones inflicted injury on the Spartans.<sup>7</sup> It is described by De Ridder in Daremberg-Saglio, *Dictionnaire, s.v. Jaculum*, p. 594 b.

*δóρν* *ἀνευ στύρακος* (II, 225). Spear without the butt-spike. *δóρν*, a common word in Homer, was originally the 'tree-trunk' or 'beam,' whence it came to mean 'spear-shaft' and eventually, sometimes, 'spear.' It is connected with Greek *δρῦς* 'tree, oak' and Avestan *daru*—'tree-trunk.'<sup>8</sup> Cuq in Daremberg-Saglio, *Dictionnaire, s.v. Hasta*, p. 33 b, states *δóρν* "signifie proprement le bois (Homer, *Il.* XVI, 814); aussi les poètes l'emploient-ils pour désigner d'autres bois que celui de la lance, mais dans les auteurs de prose il désigne toujours la lance." In our entry the qualifying phrase 'without the butt-spike' makes clear that *δóρν* has its customary prose meaning.

The word *styrax* is known from Xenophon, *H.G.*, VI, 2, 19, and Plato, *Laches*, 184 a.<sup>9</sup> In the former passage the Spartan commander at Korkyra is described as using his baton to strike one of his captains, his *styrax* to strike another. If the *styrax* were the spear-point, the commander would have killed instead of flogged the man. It must, then, be the butt end of the lance. In the Plato passage, the mariner is said to have let the spear slip through his hand until he retained only the end of the *styrax*. The word is derived from *στυρός* and is the Attic form for the more common *σαυρωτήρ*.<sup>10</sup> Both words, then, refer to the caps fastened on to the end of the shaft at the opposite end from the spear-head.<sup>11</sup> The spear could then be stuck upright in the ground.<sup>12</sup> Many of these butt-spikes have survived. Several are described by Robinson (*Olynthus*, X, pp. 416-418, plates 127-128) who gives references in his notes to those from other excavations than Olynthos.

## X. MISCELLANEOUS

Included under the title of 'Miscellaneous' are twelve items which do not fall easily under any of the nine preceding headings. They are listed in alphabetical order by the Greek names.

1. *ἀργύριον ἀργόν* (VII, 93). Unwrought silver. The item in Stele VII, line 93

<sup>6</sup> *s.v.* *ἀκόντιον*.

<sup>7</sup> IV, 34, 3.

<sup>8</sup> See, in particular, Buck, *Dictionary*, p. 1390.

<sup>9</sup> For the most complete documentation of this word, see *Thesaurus Graecae Linguae*.

<sup>10</sup> See Boisacq, *Dictionnaire*<sup>4</sup>, pp. 902 and 922.

<sup>11</sup> See Harpokration, *s.v.* *σαυρωτήρ*.

<sup>12</sup> See, for example, Homer, *Il.*, III, 135.

was earlier restored in the *editio princeps* as [ἀργύ]ριον ἀργὸν κ[— —],<sup>1</sup> and this reading was retained in our Part I.<sup>2</sup> The second thought of the present writer, however, is that he would hesitate to accept the restoration.

Meritt noted as a parallel for his restoration that in Pausanias III, 12, 3, ἄργυρος was modified by *argos*. Similarly, one might have cited passages in which *argos* is used with the same meaning and is applied to lead, bronze, and iron.<sup>3</sup> But our entry occurs following a series of *pithaknai* and preceding a rather lengthy list of roof tiles. A reference to uncoined silver seems out of place.

The adjective *argos* can be applied to certain types of manufactured objects which are left 'unfinished' or to certain objects or tools which are 'idle.' In architecture, the word means 'blank.' For example, the uncarved moulding or the block without anathyrosis is so termed in the Erechtheion building inscriptions.<sup>4</sup> Liddell-Scott-Jones lists examples of the 'undressed' hide, wheat 'unprepared for eating,' the 'unpolished' stone, land 'lying fallow,' and χρήματα 'yielding no return.' In Josephus the stone which is 'unwrought' is *argos*.<sup>5</sup> Since our inscription is not stoichedon (although 3½-4 letters seem likely for the lacuna before the rho), and nouns in -ριον are numerous (see Buck and Petersen, *Reverse Index*, pp. 94-108), the author is not prepared to offer a substitute restoration. In keeping with the sequence of jars, one might suggest ἀμφόριον, λεκάριον,<sup>6</sup> or possibly λουτήριον. On the whole, however, the item seems too elusive.

2. βαθρόθυμα (V, 33). Base of a *thymiaterion* or censer. All the letters of this word, which is new in Greek lexicography, are preserved with the exception of the first. In Part I no effort was made to identify the object which it names. It may now be suggested that the word is compounded from βάθρον, 'base, pedestal,' and θύμος, 'thyme' or θυμός,<sup>7</sup> and refers to the base of a thymiaterion. For the formation of the word, comparison may be made, for example, with ἐπίθυμον. K. Wigand in his apparently exhaustive study of the thymiaterion in *Bonner Jahrbücher*, CXXII, 1912, pp. 1-97, gives illustrations of terracotta bases from Greek sources (pp. 41-42). Since our item follows a terracotta object and is in turn followed by a vase, it is reasonable to infer that it too was of terracotta.

3. δέσμη (II, 151). Bundle, package. For the etymology cf. Boisacq, *Dictionnaire*<sup>4</sup>, s.v. δέω I. Athenaeus quotes a fragment from Semos of Delos to the

<sup>1</sup> B. D. Meritt, *Hesperia*, VII, 1938, p. 81.

<sup>2</sup> *Hesperia*, XXII, 1953, p. 282.

<sup>3</sup> See the references in *Thesaurus Graecae Linguae*.

<sup>4</sup> See G. P. Stevens, *Erechtheum*, pp. 315 and 316 with references.

<sup>5</sup> *Ap.*, I, 198.

<sup>6</sup> Pollux (X, 87) specifically associates *lekos* with our Stelai, and the item *lekarion* (X, 86) is mentioned in the sentence which follows a reference to confiscated lists.

<sup>7</sup> For the derivation of θυμῖω, etc., from θυμός, see Boisacq, *Dictionnaire*<sup>4</sup>, s.vv. θυμός and θύμος.

effect that several handfuls of barley (-sheaves) were bound together into a single *desme*.<sup>8</sup> Similarly, Athenaeus elsewhere refers to a *desme* of split wood;<sup>9</sup> Alexis refers to 'bundles' of thyme;<sup>10</sup> and Dionysios of Halikarnassos (III, 61) to a 'bundle' of rods. Hesychius defines ἀγκαλίδες, 'armfuls,' as *desmai* of firewood.<sup>11</sup> The word was widely used in Egypt for 'bundles' of hay and straw; see the papyrological references in A. C. Johnson, "Roman Egypt," *Economic Survey*, II, pp. 470-471.

In II, 151, the word *desme* is followed by a sigma. The remaining letters of the word are lost, and the item was left uncompleted in Part I. Since there are references to *desmai* of coriander, of wheat, of barley,<sup>12</sup> one likely restoration would be the word σ[ησάμων]. The entry would presumably refer to sesame-sheaves. Another possibility might be the word σ[άκκων]. [Demosthenes] XXXV, *Against Lakritos*, 34, contains a reference to *desmai* of skins, and by analogy *desme* of *sakkoï* would refer to a bundle of cloth bags or sacks.

4. ἐκχάλκωμα (VI, 86). Bronze objects. The word occurs only in our inscription. The first five letters are preserved; the remainder has been completed according to the suggestion of Tod in *Hermathena*, LIX, 1942, p. 82. The simplex is used for any bronze vessel or instrument, including bronze tablets for treaties<sup>13</sup> and a metal breastplate.<sup>14</sup> The diminutive of the simplex, *chalkomation*, is used in *Insc. Délos*, 1417, A, col. I, line 104, for ten objects which were contained in a small box. The reference in our inscription may well be to similar small objects, for the price is given as 52 drachmas, approximately one fourth of the value of the bronze *obelos* of I, 95.

5. ἐπικαρπία (I, 20, 22, 29; II, 81, 97, 178; VIII, 5; X, 11, 31[?]). Crop. A precise definition of this word in our context is difficult. It first occurs in the Gortynian Laws (ca. 450 B.C.)<sup>15</sup> in connection with the rights of heiresses and bears the general meaning of 'revenue' or 'income' of all the property. This seems to be the meaning also in its earliest literary use, in Andokides I, 92. However, Holleaux, in publishing an inscription from Thespiai, noted that the meaning of *epikarpiā* was there "récolte . . . sur pied dans le moment où la vente a lieu."<sup>16</sup> He gave references to the Attic Stelai for a similar meaning. The definition of 'crops not yet reaped' has subsequently been accepted for *epikarpiā* in our inscriptions, for example, by Kirchner,<sup>17</sup>

<sup>8</sup> XIV, 618 d (= *F.H.G.*, IV, 495).

<sup>9</sup> XV, 700 b.

<sup>10</sup> Frag. 117: Kock, *C.A.F.*, II, p. 339.

<sup>11</sup> Cf. Pollux, II, 139.

<sup>12</sup> See *Thesaurus Graecae Linguae*, s.v.

<sup>13</sup> Polybios, III, 26, 1.

<sup>14</sup> Polybios, VI, 23, 14.

<sup>15</sup> *Inscriptiones Creticae*, IV, Rome, 1950, 70, col. VII, line 33.

<sup>16</sup> *R.E.G.*, X, 1897, p. 36. Cf. also Ziebarth, *Wochenschr. klass. Phil.*, XIV, 1897, 1026.

<sup>17</sup> *Ad Syll.*<sup>3</sup>, 96, note.

Daux,<sup>18</sup> Tod,<sup>19</sup> and the present writer.<sup>20</sup> Simultaneously, however, Liddell-Scott-Jones has defined the word here simply as 'produce, crop.' The crux passage would seem to be our Stele X, line 11, which reads: *ἐπικαρπία τῆς γῆς ἐν ᾿Οφρυνείοι ἐκέκό[μιστο]*. Clearly, the epikarpia here has been harvested. Pollux in Book I, 237, in a paragraph which enumerates the parts of a tree, gives a list of words meaning 'produce' or 'crop.' *Epikarpia* occurs between *ἐκφόριον*, 'that which the earth produces,' and *καρπὸς ἀκμάζων*, 'a ripe crop.' The word would seem, then, to have some general meaning of the crop in fruit,<sup>21</sup> whether or not it had been picked.

6. *κηρωτή* (I, 163). Salve, cosmetic. All the letters of this word except the last are restored. Such extensive restoration may seem very bold, and none was attempted in the previous edition, which was the *editio princeps*. Nevertheless, the present editor has proposed this text in Part I on the evidence of a sentence in Pollux, X, 150, which reads: *ἐν δὲ τοῖς Δημοπρατοῖς καὶ ράκια καὶ κηρωτὴ γέγραπται*. The sentence occurs in a section which has the heading *ιατροῦ σκεύη*. Since *rakia* is inscribed on the same line as our word, and the restoration of *kerote* meets the stoichedon requirements, it seems reasonable to associate the two in our stele.

There are numerous references in medical writers, particularly Dioskorides, to various kerotai made from myrtle (3, 45), iris (3, 84), Dropwort (1, 148), roses, etc. Starkie (*ad Aristophanes, Ach.*, 1176) collects similar passages in Hippokrates.<sup>22</sup> Hug's article in Daremberg-Saglio, *Dictionnaire, s.v. unguentum*, contains the prices of various ointments. See also the prices of various ingredients in Col. XXXII of the Edict of Diocletian.

7. *λίτρον* (II, 135). Carbonate of soda. For the Ionic-Attic form *λίτρον*, see Schwyzer, *Gr. Gram.*, I, pp. 259 and 532.<sup>23</sup> For the derivation, see Boisacq, *Dictionnaire*<sup>4</sup>, *s.v. νίτρον*. The earliest occurrence of the word is in Herodotos.<sup>24</sup>

Nitre, often mixed with castor oil, was used as a soap by fullers and washers.<sup>25</sup> The word is treated at length by Schramm (in *R.E.*, *s.v. nitrum*), who discusses the source and use of the substance which, he says, is variously translated as soda, salt-

<sup>18</sup> *B.C.H.*, L, 1926, p. 217.

<sup>19</sup> *Gr. Hist. Inscr.*, I<sup>2</sup>, p. 199.

<sup>20</sup> *Hesperia*, XXII, 1953, p. 233.

<sup>21</sup> Thus the later adjective *ἐπικαρπος* means 'fruit-bearing.'

<sup>22</sup> In Aristophanes, frag. 320, line 1, quoted in Pollux, VII, 95, *kerote* means 'cosmetic,' a meaning which Dindorf in the *Thesaurus Graecae Linguae* attributes also to the passage in Pollux, X, 150. For the use of salves in the toilette, see Hug, in Daremberg-Saglio, *Dictionnaire, s.v. unguentum*, 1856.

<sup>23</sup> Moeris, Photius, and Phrynichos all testify to the form *λίτρον* in Attic writers of an early date.

<sup>24</sup> So Buck and Petersen, *Reverse Index*, p. 338.

<sup>25</sup> Pollux, X, 135. Cf. Blümner, *Technologie*, I<sup>2</sup>, p. 175.

peter, and potash.<sup>26</sup> Schramm's discussion, however, is almost entirely restricted to the evidence from Pliny's *Natural History*. One detailed chemical study of nitron is not mentioned by Schramm, that of K. C. Bailey (*The Elder Pliny's Chapters on Chemical Subjects*, I, London, 1929, pp. 169-171) who concludes that the nitron or litron of the ancients was not always the same, but that in most cases it was a carbonate or bicarbonate of sodium or potassium.

The use of litron (in composition) in Athens as a soap can safely be inferred from Aristophanes, *Ranae*, 711, and Plato, *Tim.*, 60 d.<sup>27</sup> Athenaeus quotes fragments which indicate its use as an antidote to poisoning (II, 61 d); in cooking (II, 68 a: Antiphanes, Kock, *C.A.F.*, II, p. 69); and for cleansing (XV, 665 b: Plato, Kock, *C.A.F.*, I, p. 620). Anaxippos (Kock, *C.A.F.*, III, p. 300) uses *nitron*, 'the soda-shop,' as the place in the market where groceries were sold; cf. Gulick *ad* Athenaeus, IV, 169 c. Herodotos (II, 86, 87) describes its use in embalming. The careless husband in Theokritos (XV, 16) forgot to bring home nitron, no doubt for use as a soap.

For the price of a form of sodium carbonate, see T. Frank, *Economic Survey*, V, p. 417 (Col. XXXII, line 34 of the Edict of Diocletian: 250 denarii a pound).

8. ὀβελίσκος (I, 93-94; II, 132). Small skewer, spit. Since our word occurs in I, 93-94 in the company of kitchen utensils, it seems reasonable to assume that the specific meaning is here 'skewer' or 'spit.' The word in this meaning is studied by Reinach in Daremberg-Saglio, *Dictionnaire*, s.v. *Veru*. His fig. 7406 shows illustrations of spits for roasting. At Delos, *obeliskoi* were frequently dedicated, and Deonna has collected numerous references in *Délos*, XVIII, p. 227.<sup>28</sup> The inventories of the Treasurers of Athena mention 42 votive *obeliskoi*.<sup>29</sup> The most detailed study of the meaning of the word is in W. Petersen, "Greek Diminutive Suffix -ισκο- -ισκη-," *Transactions of the Connecticut Academy of Arts and Sciences*, XVIII, 1913, pp. 165 and 181. Petersen states that when *obeliskos* means 'spit' there is no clear reference to small size, and suggests that its identity with *obelos* is due to prehistoric syncretism. He notes one inscription in which the word is qualified by the adjective *mikros*<sup>30</sup> and lists five other meanings for the word, to which now may be added 'drainpipe' and 'bar.'<sup>31</sup> On the other hand, the juxtaposition of *obelos* and *obeliskos*

<sup>26</sup> For the Asia Minor sources of soda, see T. R. S. Broughton in *Economic Survey*, IV, p. 624. The best, however, came from Calastra on the Theramic Gulf, and a coarse variety was plentifully produced in Egypt (Pliny, *H.N.*, XXXI, 106; Strabo, XVII, 803).

<sup>27</sup> Blümner, *R.E.*, s.v. *Seife*. Plutarch, *Demetr.*, 27, contains the amusing story of Demetrios spending 250 drachmas, which the Athenians had levied on themselves, for soap (*smegma*) for Lamia and her fellow courtesans.

<sup>28</sup> See also *I.G.*, II<sup>2</sup>, 1638, line 67, and 1640, line 30 (*tabulae amphictyonum Deliacorum*).

<sup>29</sup> *I.G.*, II<sup>2</sup>, 1425, line 407.

<sup>30</sup> This inscription has more recently been published as *I.G.*, XI, 2, 161, B (line 128).

<sup>31</sup> For references, see Liddell-Scott-Jones and cf. Tod, *Num. Chron.*, 6th Ser., VII, 1947, p. 1. For the meaning 'obelisk,' see, in particular, J. Friedrich, *Deminutivbildung*, p. 20.

in consecutive lines of Stele I raises the question of what distinction is intended. The present writer finds it hard to believe that the two words are identical and would guess that the difference is one of size.

Price. In I, 93, eight obeliskoi were sold for 17 drachmas, or slightly more than 2 drachmas apiece. In I, 94, six obeliskoi brought 14 drachmas 2 obols. The average price of fourteen was slightly less than 2 drachmas 1½ obols.

Most obeliskoi were doubtless of iron. In two Delian accounts, where the meaning of the word is 'bars' or 'rails' of a balcony, Glotz has stated: "Des barreaux qui valaient 7 ob. en 298 valent le même prix en 250 pour une quantité plus que double."<sup>32</sup> Glotz lists other prices from Delos. It should be noted, however, that some of the Delian obeliskoi were made of oak-wood.<sup>33</sup>

Prices of iron objects in general are given in A. C. Johnson, "Roman Egypt," *Economic Survey*, II, p. 471.<sup>34</sup> Nails, for example, varied in price between 2 and 8 drachmas per mina of weight.

9. ὀβελός (I, 95). Skewer, spit. The meaning and use of the word *obelos* have been made the subject of a special and thorough study by M. N. Tod (*Num. Chron.*, 6th Ser., VII, 1947, pp. 1-27). Tod notes that *obelos* was the spelling for the word in the sense of 'spit' and that after 485 B.C. all Attic inscriptions use *obolos* for the coin or sum of money.

Price. Whereas most skewers or spits were doubtless of iron, our object in I, 95 is specified as being of copper:<sup>35</sup> the single skewer brought the price of 200 drachmas. Unfortunately, the weight is not given. In *Insc. Délos*, 313, frag. i, line 15, twelve copper obeliskoi averaged one mina apiece; so there is no reason to associate the *obelos* or *obeliskos* with the standard *obol* of the Aeginetic and Attic-Euboic weight standards.

10. παραστόμιος (II, 198). The word is unknown elsewhere in Greek. It occurs only here in the form *παραστομία*. It is preceded on the same line by a word of five letters, of which only the final one, a sigma, is preserved. Presumably we have a feminine adjective modifying a noun in the singular number.

<sup>32</sup> *Journal des savants*, XI, 1913, p. 27. The references are to *I.G.*, XI, 2, 148, line 70, and 287, A, line 101.

<sup>33</sup> *I.G.*, XI, 2, 199, A line 62 (6 drachmas apiece); 203, A, line 50 (also 6 drachmas apiece).

<sup>34</sup> No prices of iron are given in Heichelheim, *Wirtschaftliche Schwankungen*, or in Larsen's "Roman Greece," *Economic Survey*, IV. For a succinct account of the economic importance of iron, see Rostovtzeff, *Soc. and Ec. Hist. of Hell. World*, II, p. 1217.

<sup>35</sup> The word *χαλκός* covered both 'copper' and its alloy with tin, 'bronze.' Buck (*Dictionary*, p. 611) notes that the actual reference in the majority of cases would be to bronze, since this was so much more extensively employed than pure copper. Cf. Blümner, *Technologie*, IV, pp. 38-66. An analysis of numerous specimens is summarized in K. C. Bailey, *The Elder Pliny's Chapters on Chemical Subjects*, II, pp. 159-161.

The simplex *στόμιον* in the sense of ‘that which belongs to the mouth,’ ‘bit,’ has been studied by W. Petersen (*Greek Diminutives in -ιον*, p. 53), who gives ancient references for this meaning.<sup>36</sup> Lafaye, too, has discussed the word, with illustrations, in his article on *Frenum* in Daremberg-Saglio, *Dictionnaire*, 1337 a. But the most detailed study of the bit seems to be that of E. Pernice, “Griechisches Pferdegeschier” in *Berliner Winckelmanns Programme*, no. 56, Berlin, 1896. Pernice publishes two bronze bits belonging to the fourth century B.C. which were found with muzzle and part of headstall in a grave in Boeotia.

Prepositions other than *παρά* are compounded with *stomion* to designate parts of the bridle. We know from Pollux that *upostomia* is an iron part of the bridle;<sup>37</sup> the *peristomion* may be the part which goes over the nose and attaches to the ends of the bit.<sup>38</sup> But not all of the words for the parts of the bridle are known. Marchant has observed in a note on Chapter X of Xenophon’s masterly treatise on *Horsemanship*, a chapter in which the bit is described in some detail, that we do not know the Greek terms for “the pendants to which the reins were attached” or “the curved or S-shaped branches with eyes to which the bridle was fastened.”<sup>39</sup> Either of these pieces might well be described as *parastomia*. Since our adjective is modifying a feminine noun ending in sigma,<sup>40</sup> some such word as *labis*, which can mean a clasp or buckle and has the sense of something that one can take hold of, may be suggested.<sup>41</sup> This would admirably suit Marchant’s second missing term, the piece to which the bridle is fastened. The fact that a modifier *parastomia* was needed shows that the word was one with a general meaning, not always associated with the bit. Moreover, the piece was very small and might reasonably be sold for the price given on our stone, 2 obols. The complete entry in Stele II, line 198, may now be tentatively corrected to [λαβι]ς παραστομία.

11. *ράκια* (I, 163). Bandages, rags. The word *rakos* can designate a rag of any kind, not only a ragged garment.<sup>42</sup> Petersen has concluded, on the other hand, that

<sup>36</sup> Herodotos, I, 215; IV, 72; Aeschylus, *Prom.*, 1009; Sophocles, *El.*, 1462. For other meanings of *stomion*, see Petersen, *op. cit.*, pp. 50, 103, and 113.

<sup>37</sup> I, 184; II, 100; and X, 56.

<sup>38</sup> Cf. Hesychius *s.v.* *πισάκιον*.

<sup>39</sup> Xenophon, *Scriptora Minora*, Loeb Classical Library, pp. 350-351. Cf. Pernice, *op. cit.*, p. 23.

<sup>40</sup> Although most of the compounds in *-στόμιος* make adjectives of two terminations, Liddell-Scott-Jones lists *ἀστόμιος* as one of three terminations. But the evidence there cited is not conclusive. Buck and Petersen (*Reverse Index*, p. 43), however, have shown that no fixed rules are possible: “The fem. of *-ιος* is sometimes the same as the masc., sometimes it is *-ια*, Ion. *-ιη*. The familiar rule according to which compounds do not change, but simple words form a distinct feminine, has many exceptions.”

<sup>41</sup> Cf. *cheirolabis*, the part of a plow which one takes hold of (Pollux, I, 252).

<sup>42</sup> In the accounts of Artemis Brauronia, *I.G.*, II<sup>2</sup>, 1514 ff., *rakos* has a special meaning as determined in A. Mommsen’s article on this word in *Philologus*, LVIII, 1899, pp. 343-347. Kirchner (*ad I.G.*, II<sup>2</sup>, 1524, line 177) has summarized Mommsen’s conclusions as follows: “*ράκος* hic et

*rakion* "is always a ragged or tattered garment in the Attic."<sup>43</sup> He finds the word a deteriorative rather than a diminutive in origin.<sup>44</sup> Nevertheless, Pollux (X, 149-150) has listed the word under the general heading of medical equipment and has specifically noted that *rakia* was joined with the word for 'salve' or 'cosmetic' in the records of the sale of confiscated property. The reference seems to be to our line. *Rakia*, then, seems here to refer to bandages made of rags.

12. *τηλία* (II, 143). A kind of board or tablet. The definition is that of Buck, *Dictionary*, p. 601. This item, of which eighteen were sold, occurs just after the entry for two jars (*kadoi*) and preceding a list of articles of furniture. The word is discussed at some length in Boisacq,<sup>45</sup> who lists two etymologies of unrelated meanings. The rare Attic *telia* means the 'hoop of a sieve.'<sup>46</sup> The more common meaning is related to Sanskrit *tala-*, 'plane surface,' and Latin *tellus*, 'board.' Boisacq's first definition is 'table de boulanger,' which accords with the definitions given by the Scholiast to Aristophanes, *Plutus*, 1037, by the Venetus Scholiast to *Vespae*, 147, and by Bekker, *Anecd.*, 275, 15. Architecturally, the word has sometimes been defined as 'trap-door.'<sup>47</sup> This meaning derives from the description of the house of Philoktemon in Aristophanes, *Vespae*, 139-148, where a *telia* was clapped over the opening of the flue in the kitchen when the old jurist attempted to escape. It is clear, however, that this *telia* was movable, for it required a log to keep it down. All that is meant by *telia* in this passage is 'board.' In Aischines, I, *Against Timarchos*, 53, the reference is to a gaming board for cock-fighting. As the description in the Scholiast to Aristophanes, *Vespae*, 147, states, the *telia* was a type of thick *σανίς*, or board, but just what type would have been accumulated to the number of eighteen is problematical.

deinceps non pannum significare sed particulam vestimenti muliebris menstruis imbutam probat Mom. Inde natam esse vim vocabuli in hoc recensu obviam, ut scilicet usurpetur pro donario a puellis virginitatem adeptis Dianae oblato."

<sup>43</sup> *Op. cit.*, p. 129.

<sup>44</sup> *Ibid.*, pp. 95-96. It may be noted that in *I.G.*, XI, 2, 147 B, line 13, where furnishings were characterized as 'ragged,' the adjective *ράκώδη* was used.

<sup>45</sup> *Dictionnaire*<sup>4</sup>, pp. 966-967.

<sup>46</sup> For objects illustrating this meaning, cf. Blümner, *Technologie*, I<sup>2</sup>, p. 51; and Saglio in Daremberg-Saglio, *Dictionnaire*, s.v. *Cribrum*.

<sup>47</sup> See, for example, Robinson and Graham, *Olynthus*, VIII, p. 195; Robinson, *Olynthus*, XII, p. 471; and Liddell-Scott-Jones.

## ADDENDA ET CORRIGENDA TO PART I

Listed below are all changes which have been made in the text of the Attic Stelai as published in Part I. Several of the corrections I owe to the kindness of a communication from Marcus N. Tod. For the most part, the *addenda* result from the restudy of the items in Parts II and III.

Line Nos.

Stele I

- 175 For *τάπισ* read *δάπισ*  
 229 Enter the tax as [†]  
 230 “ “ “ “ [III]  
 231 “ “ “ “ [III]  
 232 “ “ “ “ [III]  
 232 For [λιτ]όν read [.?.]ον

Stele II

- 13 Read [III] [ΔΔ]IIII  
 21 For π[α]ναθenaϊκ(οί) read π[α]ναθenaϊκ(ό)  
 32 For ὑπο[σταθμὸν] read ὑπό[σταθμον]  
 35 For ὑποσταθμὸν read ὑπόσταθμον  
 116 For [...<sup>7</sup>...]ν λέκος read [...<sup>6</sup>...]ν λέκος  
 122/3 Read *κεράμο στε[γ]α{σ}—*  
*στέρως ζεν· Η[...]*  
 135 For *σαργάνα* read *σαργάνα[ι]*  
 151 For σ[— —] read σ[εσάμον]  
 192 For κρ[ατέρως] read κρ[ατέρες]  
 198 For [...<sup>5</sup>]ς παραστομία read [λαβι(?)<sup>5</sup>]ς παραστομία  
 201 For [χ]όναι read [χ]όναι and delete † in the price column  
 222 For | read † (sales price)  
 227 For — — .II read [I] [†]II  
 245 Change to: [II]I [ΔΔ]ΔΔ† κλίνα[ι]ΓII  
 247, 253, Correct Φαλέροι to Φαλεροῖ  
 and 256

Stele III

- 6 For κλι[νίδιον] read κλί[νε]  
 13 For κά[δος] read κά[δοι — —]  
 14 For στ[άμνος] read στ[άμνοι — —]

## Stele V

- 14 For ἐπικ[λίνοτρο] read ἐπίκ[λιντρον]  
 15 For κλίνας read κλίναι  
 22 Amyx reads ἕτερα ΔΙ ἐμίσει(ι)α.  
 24 For ἄθμον[εῦσι] read ἄθμον[οῖ]  
 28 For Κεραμ[εῦσι] read Κεραμ[έον]  
 32 For [τρ]ιπτέ<ρ>ε read [τρ]ιπτέ<ρ>ε  
 33 Read [β]αθρόθυμα  
 34 Read φιδάκνε<ς> στόμα  
 36 Amyx prefers the removal of the mark of punctuation.

## Stele VI

- 29 For [. . .<sup>ca. 6</sup> . . .]αι read [στελε]αἰ  
 35 Change to [τραπέ]ζιον  
 38 Change to [σκήμ]ποδες  
 68 Read the tax and sales price as [H] [H]  
 69 Read the tax and sales price as: [H] [Π]ΔΔ  
 70 At the end of the line add: τούτον]  
 73 For— . . .Δ read [H] [Π]ΔΔ]Δ  
 86 For ἐκχαλ[κόματα] read ἐκχαλ[κόματα]

## Stele VII

- 46 For ἄχσχιόχο read ἄχσ[χ]ιόχο  
 93 For [ἀργύ]ριον read [. . . .]ριον  
 98 Read [Κορι]νθιοργῆς Η --  
 106 The word should be shifted two letter spaces to the left.

In Plate 71 the photograph was printed upside down.

W. KENDRICK PRITCHETT

THE *DEMIOPRATA* OF POLLUX X

After having made a number of references in the early chapters of Book X to an unidentified *Demioprata*, Pollux at last (X, 96) observes in his disjointed way that this word in its general meaning was used in comedy and by Lysias, and then adds: "On the Attic Stelai, located at Eleusis, is inscribed the property of those who dishonored the gods, which was sold by the state."<sup>1</sup> His usual introduction to a citation from this source is *ἐν δὲ τοῖς Δημοπράτοις*, but once (X, 148) he begins *ἐν δὲ ταῖς Ἀττικαῖς στήλαις*, once (X, 40) *ἐν τοῖς Ἀλκιβιάδων*, and once (X, 38) *καὶ Ἀλκιβιάδων δὲ κτλ.* In all there are thirty-four such citations: twelve of these can be immediately recognized as belonging to the Attic Stelai as we have them, and most of the rest are so clearly offered by Pollux as items from the same list that we can safely assume that when he refers to the *Demioprata* he always means the Attic Stelai. Pollux supplies us with a number of items of furniture and equipment which apparently appeared in sections of the Stelai now lost; these are collected below in Table A. In Table B are parallels between *Onomasticon* X and the present text of the Attic Stelai.

TABLE A. ADDITIONAL *σκεύη* FROM THE *Demioprata* OF POLLUX X

ITEM		POLLUX X
<i>άλων τρία ἡμιφόρμια</i>	one and a half <i>phormoi</i> of salt	169
<i>ἄρτημα ὀβελίσκων</i>	cord for hanging up spits	96
<i>γαστρόπτης</i>	utensil used in stuffing sausage	105
<i>δευτήρ</i>	utensil for mixing dry and wet parts of dough, or for basting	105
<i>ἐκπιεστήριον</i>	press (see Stele V, 10 for <i>πιεστήριον</i> )	135
<i>ἐμμόχλια σιδηρᾶ</i>	bolts for locking a door	23
<i>ἤθμὸς ἐπικρητηρίδιος</i>	strainer which fits on top of a <i>krater</i>	108
<i>κανάστρον</i>	an alternate spelling for <i>καναύστρον</i>	86
<i>καλυπτῆρες ἰκριωτῆρες</i>	upright tiles	157
<i>καρκινὸς λίθους ἔχων</i>	tongs for use in stonework	148
<i>κέραμον Ἀττικὸν καὶ κέραμον Κορίνθιον</i>	Attic and Corinthian tiles	182
<i>κλιμάκιον</i>	small ladder	171

<sup>1</sup> τὰ μὲν οὖν δημόπρατα οὐ μόνον τοῦνομα παρ' Ἀριστοφάνει ἐν τοῖς Ἴππεύσιν ἔστιν ἐπίπαστα λείχων δημόπραθ' ὁ βάσκανος

ἀλλὰ καὶ παρὰ τοῖς ἄλλοις κωμωδοδισκάλοις· πρὸς δὲ καὶ Λυσία λόγος ἔστιν ὑπὲρ τῶν δημοπράτων πρὸς Εὐθίαν. ἐν δὲ ταῖς Ἀττικαῖς στήλαις αἱ κείνται ἐν Ἐλευσίνι τὰ τῶν ἀσεβησάντων περὶ τὸ θεῶν δημοσίᾳ πραθέντα ἀναγγραπταί. All references are to the text of E. Bethe, *Pollucis Onomasticon*, Teubner, Leipzig, 1900 and 1931. On Ἐλευσίνη see below, p. 324.

ITEM		POLLUX X
κνέφαλλον καινὸν καὶ κνέφαλλον παλαιόν	new and old pillows (see I, 217-18 for κ. πλέον)	39
κόσκινον κριθοποιόν	sieve for barley (see V, 81 for κόσκινον)	114
κυμινοθήκη	cummin box	93
λουτήριον καὶ ὑπόστατον	washing tub and stand (see II, 233-4 for λουτήριον λίθινον)	46
μαχαίρια ἐλεφάντινα καὶ μαχαίρια κεράτινα	knives of ivory and horn	90
μολυβδοκρατευταί	lead frame on which a spit turns (two mss. read μολύβδον κρατηταί; μολύβδον κρατευταί may be the correct reading)	96
παρωλενίδας	an armful or bundle	170
πίνακες μαζηροί	trenchers for barley cakes	83
πρίων λιθοπρίστης	saw for stonework (cf. <i>I.G.</i> , I <sup>2</sup> , 313, line 129)	148
προσκεφάλαιον λινούν καὶ ἔρεοῦν	linen and woolen cushions	40
ρίπαικὰ πλέκτον <sup>2</sup>	wicker fan for blowing up a fire	175
τράπεζα μονόκυκλος	round table with top made of one piece	81
σκάφη μακρὰ καὶ σκάφη στρογγύλη	oblong tub for kitchen use, and a round tub	103
ὑπολήνιον	stand for a wine vat	130
φενακνίδα	alternate spelling for φίδακνίδα (see V, 21)	74

TABLE B. *Demioprata* PARALLELS IN THE ATTIC STELAI

(All the identifiable references in Pollux are to Attic Stelai I, II, V, VI, and VII.)

	POLLUX X	ATTIC STELAI
ἀμφιτάπης	38	I, 164; 172
θύρα διάπριστος	24	II, 13-14
θύρα συνδρομάδη	24	II, 15-16
καλυπτῆρες κορινθιουργεῖς	157	VII, 98

<sup>2</sup> Bethe reads *ρίπαικὰ παγκτόν*. Alternate manuscript readings are *ρίπαι καί*, *παγωγον*, *παγων*. Whatever the correct form of *ρίπαικά*, its meaning is clear from the context, and *πλέκτον*, an easy emendation from the meaningless *παγκτον*, is perfectly suitable to the passage, which moves on to mention similar wicker (*οἰσύνος*) equipment.

	POLLUX X	ATTIC STELAI
<i>κάναναστρον</i>	86	I, 237
<i>κηρωτή</i>	150	I, 63
<i>κιβωτὸς θυριδωτή</i>	137	V, 16
<i>κλίνη ἀμφικνέφαλλος</i> <sup>3</sup>	36	I, 233
<i>λέκος</i>	87	II, 116
<i>ληνός</i>	130	VI, 137
<i>πίναξ ποικίλος . . . καὶ</i> <i>πίναξ ἕτερος γεγραμμένος</i>	83	VII, 59 ff.
<i>προσκεφάλαιον σκύτινον</i>	40	II, 216-17
<i>ῥάκια (καὶ κηρωτή)</i>	150	I, 163
<i>σησάμων ἡμισάκιον</i>	169	II, 136-7
<i>χαμεύνη παράκολλος</i>	36	I, 231

An interest in epigraphy is a surprising quality to find in a second-century lexicographer, even one who lived at Athens. We who have only fragments of the inscription would like to discover where Pollux found his text of the Attic Stelai, and whether it was full and accurate.

In the first nine books of the *Onomasticon* there are only nine scattered passages which could suggest that Pollux might have made use of a non-literary source. In III, 39, at the word *protoposis*, is the statement: "This term is written in the laws of the king archon."<sup>4</sup> The marker which indicates mortgage of land is defined as a *sanis* or *stele* in III, 85, but the fact that the mortgage-pillars were inscribed is not mentioned. In VII, 61, there is an allusion to the statues of Kleobis and Biton in Argos; they are not mentioned, however, because there was an inscribed base, but because the sculpture illustrated a certain type of clothing. The custom of dedicating *anathemata* is treated briefly in I, 11, and in V, 149, terms for writing upon stelai are listed, but Pollux appears to be quite unaware that dedicatory inscriptions had been gathered and published by Polemon. In V, 166, there is a discussion of the proper terms used to describe legal and public inscriptions, and again, in speaking of Athenian political processes in Book VIII, Pollux several times (c. 46, c. 128) indicates that inscriptions would be made at certain points, yet with all his pedantry he makes no reference to the collections of epigraphical texts which could have provided him with a wealth of citations.<sup>5</sup>

<sup>3</sup> On the stone it is *κλίνη Μιλησιουργῆς ἀμφικέφαλος*.

<sup>4</sup> Cf. Polemon *ap.* Athenaeus, VI, 234 f.

<sup>5</sup> Philochoros' collection of epigraphical texts, the *Ἐπιγράμματα Ἀττικά*, was made probably in the early years of the 3rd century B.C. No portions of it remain, but the title has led Böckh and others to assume that the inscriptions included were exclusively metrical. Jacoby, however, believes that the *Epigrammata* may have been selected from various types of inscriptions, and concludes:

It has been argued, however, that Pollux knew and used Krateros' *Ψηφισμάτων συναγωγή*, a work which offered texts of a large number of Athenian inscriptions, mostly from the fifth and fourth centuries, with full commentaries.<sup>6</sup> Once, indeed, Krateros is explicitly cited (VIII, 126); the word *nautodikai* is under discussion, and Pollux adds to his very brief definition the statement: "If one may trust Krateros, who collected the *Psephismata*, those who are unwilling to open proceedings are called *hubristodikai*—this word was current in Sicily." It happens that Harpokration (*s.v. ναυτοδίκαι*) has preserved a fragment of the very Krateros commentary to which Pollux must refer, and the first thing one notices is that Pollux, in defining his major heading (*nautodikai*), has made use of none of the many details which Krateros provided. It is thus more probable that the exotic term *hubristodikai* comes from a predecessor in the lexicographic tradition than that Pollux himself found it in the *Psephismata*. This leaves us in some doubt as to the origin of his reference to Sicilian usage; it may belong to Krateros, or it may have been added by Pollux's lexicographer.<sup>7</sup>

A second passage in which a reference to Krateros may exist is VII, 15. Here Pollux is discussing buying and selling, and he says, "In the Attic *psephismata* which grant privileges to foreigners, one can find *εἶναι αὐτῷ οἰκείαν ὄνησιν*." The troublesome thing here is that it is not possible to find such a phrase among surviving inscriptions. For some reason the word *ὄνησις* has been restored in *C.I.G.*, 3597b, an inscription from Ilium, but actually it occurs only in this chapter of the *Onomasticon*. The formula to which Pollux seems to refer uses the word *ἐγκτησις* with the genitive, as in *I.G.*, II<sup>2</sup>, 360, line 20: *εἶναι δ' αὐτοῖς καὶ γῆς καὶ οἰκίας ἐγκτησις*.<sup>8</sup> It seems likely that Pollux's *hapax* sprang from an erroneous reading, and that his use of *οἰκείαν* is also a mistake.<sup>9</sup> He has taken the word in good faith as a derivative of *ὠνέομαι*, but if the

"This may, incidentally, be the first collection of its kind and would in that case be the genuine predecessor of Krateros' *Psephismata*" (*F.G.H.*, III B, Supp. I, p. 228). Krateros' fuller collection was made only a decade or so later, and was given considerable use during the first five centuries after Christ, as is proved by the list of works in which fragments have been found (see *F.G.H.*, III B, 342; P. Krech, *De Crateri Ψηφισμάτων συναγωγῇ*, diss. Greifswald, 1938, pp. 94 ff.). Polemon's publications of dedicatory inscriptions and antiquarian curiosities were made in the first decades of the second century B.C. and were used by Athenaeus (VI, 234 f; X, 436 d; 442 e; XI, 472 b; 486 d; XIII, 587 c); the collection of Menetor, *Περὶ ἀναθημάτων*, was probably similar, although we cannot be sure that it contained Attic texts (Athenaeus, VIII, 594 d; *F.H.G.*, IV, p. 452). Other ancient epigraphers who worked with non-Attic inscriptions are listed by Böckh in the preface to *C.I.G.*, I.

<sup>6</sup> Plutarch, *Arist.*, 26, 1-2. See Krech, *op. cit.*, *passim* and Jacoby, *R.E.*, *s.v. Krateros*.

<sup>7</sup> Krech, *op. cit.*, p. 22, takes these words too as a part of the Krateros commentary, and then must argue that this is not evidence of the inclusion of non-Attic texts in the *Psephismata*.

<sup>8</sup> The same formula appears in *I.G.*, II<sup>2</sup>, 8, line 17; 351, line 29; 505, line 53; 554, line 30. With slight variations it is used in *I.G.*, II<sup>2</sup>, 237, line 25; 884, line 5, and *I.G.*, I<sup>2</sup>, 110, line 30. See also *R.E.*, V, 2584, and A. Billheimer, *Naturalization in Athenian Law and Practice*, Princeton diss., 1922, pp. 21-22.

<sup>9</sup> Dittenberger in his index lists only four uses of *οἰκείος*, none of which suggests this context.

source in which he found it had been the full collection of Krateros' *Psephismata*, the formula granting the right to buy property would have appeared again and again, surely not each time with the same error. Once more, the conjecture which best fits the facts is that Pollux did not know the epigraphical texts of Krateros at first-hand, but had instead come upon an isolated (and inaccurate) reference to them in the work of some Alexandrian word-collector.

Thus there is no evidence in the first nine books of the *Onomasticon* to convince us that Pollux had ever consulted the text of a single inscription. The effect of Book X, however, is wholly different. There the *Demioprata* is cited more often than any other individual source and only less frequently than all of Attic comedy together. This is true despite the fact that when the word *demioprata* came up originally in VII, 13, Pollux apparently did not know of its application to the forced sale of Alkibiades' property. Of course, the final book of the *Onomasticon* sets out to be different from the others, for it was written to refute the criticisms which Phrynichos had made of the earlier books.<sup>10</sup> Apparently the treatment of tools, implements, and household equipment had suffered most at Phrynichos' hands, for this is what Pollux chose to review. Words already treated are brought up again in Book X, and there is everywhere fuller documentation. It is possible that as a part of this tightening of defenses and search for reinforcements Pollux at last sought out a collection of inscriptions and studied the text of the Attic Stelai in quest of genuine fifth-century terminology.

Böckh believed that Pollux used a collection entitled *Demioprata*, which included lists of confiscated property and also some temple records.<sup>11</sup> This conclusion is a by-product of his interpretation of Athenaeus, XI, 476 e, where he would read, "One can find in the *Collection of Demioprata* this inscription from a stele on the Acropolis which includes votive objects: 'silver drinking horn, etc.'" <sup>12</sup> Böckh's conjecture is on the whole unacceptable; he cannot explain why, with a whole collection of inscriptions, all related to moveable property, Pollux should have chosen to use only material from the Attic Stelai. It is extremely unlikely that such a specialized collection was made in ancient times, but had it been done, it is quite certain, as Köhler pointed out,<sup>13</sup> that the blunder of calling temple records *demioprata* would never have been committed. It is much more reasonable to give up trying to make sense of the Athenaeus passage as it stands, and to follow Kaibel in marking a lacuna after *οὕτως*, on the assumption that the item cited as *demioprata* has been lost, and that the silver drinking cup belongs to another inscription.<sup>14</sup> There is no way of knowing whether the lost item came from

<sup>10</sup> M. Naechster, *De Pollucis et Phrynichi Controversiis*, diss. Leipzig, 1908, pp. 29, 34; Bethe, *R.E.*, s.v. *Iulius (Pollux)*, 777, 778.

<sup>11</sup> *Staatshaushaltung der Athener*<sup>3</sup>, I, p. 252; II, pp. 248-249.

<sup>12</sup> ἔστιν οὖν τοῦτο εἶρεῖν ἐν τοῖς Δημοπρατοῖς ἀναγεγραμμένον οὕτως ἐκ στήλης ἀνακειμένης ἐν ἀκροπόλει, ἢ τὰ ἀναθήματα περιέχει· κέρας ἔκπωμα ἀργυροῦν, κτλ.

<sup>13</sup> *Hermes*, XXIII, 1888, p. 399.

<sup>14</sup> See *I.G.*, II<sup>2</sup>, 1407, line 38; 1408, line 17.

the Attic Stelai or from the records of some other confiscation; finally the Athenaeus passage offers no hint whatsoever as to the epigraphical source which Pollux was using in his Book X.

Köhler<sup>15</sup> assumed that Pollux found his text of the Attic Stelai in the *Psephismata* of Krateros, and offered as 'proof' the assertion that the description of the Stelai in X, 96, contains echoes of the accusation of Alkibiades as we find it in Plutarch (*Alkibiades*, 22). It is indeed quite certain that Plutarch made use of Krateros when he wrote this section of the *Life* of Alkibiades,<sup>16</sup> but the only phrase of his which might be heard as similar to Pollux occurs not in the text taken from the *Psephismata*, where the verb is ἀδικεῖν (*Alkibiades*, 22), but in the preliminary summary of the charge (ἀσεβεῖν περὶ τὸ θεῶν: *Alkibiades*, 19), which was Plutarch's own.

If Pollux was using a full collection of texts, like the *Psephismata* of Krateros, it is very curious that he chose to cite only the Attic Stelai, and yet failed to use the Stelai time and again in his treatment of terms which we know appeared in the Attic Stelai lists.<sup>17</sup> The impression left by Boox X is that Pollux thought of the *Demioprata* as listing only furniture and household equipment, and that he could forget that the property listed had not all belonged to Alkibiades. Surely these misconceptions would not have persisted in the mind of one who knew Krateros' extensive explanations and commentaries. Altogether, it is hard to believe that a man who had not tried to use such a source when dealing with the workings of the Athenian state would now think of looking through a cumbersome corpus of public inscriptions to find information about furniture and kitchen implements.<sup>18</sup> And there is no reason to assume anything so uncharacteristic; as a matter of fact, Pollux tells us at the outset, though with singular lack of grace, where his new material came from. Having heard, he says, of Eratosthenes' Σκευογραφικόν, he made a great search for it, but when he finally got hold of a copy it proved disappointing, and he was forced after all to find for himself the solution to many problems (X, 1-2). We may doubt, however, that he found his *Demioprata* references for himself, since their appearance in Book X is exactly simultaneous with Pollux's supposedly fruitless perusal of the *Skeuographikon*.

The *Skeuographikon*, which in Pollux's time was circulated as an independent work, was actually an extract, made by some later writer, from Eratosthenes' essay *On Attic Comedy*.<sup>19</sup> It is certain that here, as in his historical investigations, Eratos-

<sup>15</sup> *Op. cit.*, p. 398.

<sup>16</sup> Krech, *op. cit.*, pp. 30 f.

<sup>17</sup> In Book X Pollux cites the *Demioprata* for 42 items, but he treats 65 others which appear in our text of the Stelai without referring to the *Demioprata*.

<sup>18</sup> See Jacoby, *R.E.*, s.v. *Krateros*: "Die Zurückführungen aus Pollux, der K. nur einmal (VIII, 26) aus lexikographischer Tradition zitiert, namentlich die der δημιόπρατα im 10. Buche gerade auf K., sind sehr zweifelhaft."

<sup>19</sup> Knaack, *R.E.*, s.v. *Eratosthenes*: Naechster, *op. cit.*

thenes made use of epigraphical material, for one fragment<sup>20</sup> contains a discussion of the pyramids on which the Solonic laws were inscribed, and we know from Harpokration (*s.v.* ἀξονι) that this was one of the points on which Polemon, the old 'stone-picker,' criticized Eratosthenes as an inaccurate epigraphist.<sup>21</sup> Inaccurate he may have been, but he was conversant with Attic inscriptions, and it would have been natural for him to make use of the Attic Stelai when he was dealing with the household terminology of Old Comedy. Even he probably did not take his text from the face of the stone; it is he who must have consulted the collection of inscriptions made by Krateros.<sup>22</sup> Only in this indirect way do the *Demioprata* references of Pollux derive from the *Psephismata*.

If Pollux owed his Attic Stelai citations to the *Skeuographikon*, we can understand why he seems to have so inadequate an idea of what the inscription was, and why he is not always able to make use of it. It is clear too why fifteen references are made to the *Demioprata*, with no explanation of what this term may mean until we reach chapter 96, where it is identified as the list from the Attic Stelai. Evidently the first use of the *Demioprata* in the *Skeuographikon* was in connection with the word *μολυβδοκραπενταί*, and not until Pollux, treating items in his own order, reaches this word does he repeat Eratosthenes' introductory definition, and his description of the physical aspect and location of the stelai which were his source. The special use of the term *Demioprata* and also the identifying phrase 'Attic Stelai' were evidently taken from the Alexandrian scholar; one or both may have originated with Krateros.

Thus Pollux, far from having a complete and accurate text of the Attic Stelai before him, had only the scattered citations which had been taken from Krateros by Eratosthenes, and from Eratosthenes by the man who had extracted the *Skeuographikon* from the *Peri komodias*. This means that Pollux's citations may well show a fair rate of error, and that care must be exercised in making use of them. To begin with, in the passage already quoted (X, 96), in which Pollux identifies his *Demioprata* as the Attic Stelai, there is a question as to whether the word Ἐλευσῶνι should be honored, or whether it should be altered with Bergk to read Ἐλευσινίω.<sup>23</sup> If the text of Pollux is accepted unchanged, then we must accept too something like Köhler's conjecture that there were two nearly identical inscriptions, one in Athens and one at Eleusis, and that Krateros had taken his text from the latter.<sup>24</sup> Doubling of inscriptions was not a usual Attic practice, and this theory further forces one to argue that

<sup>20</sup> Frag. 37: *F.G.H.*, II, p. 1019.

<sup>21</sup> Schol. Aristophanes, *Aves*, 11; Harpokration, *s.v.* ἀξονι; Strabo, I, 15. We may note that Pollux, VIII, 28, in discussing κύρβεις, follows Eratosthenes, not Polemon. See L. B. Holland, *A.J.A.*, XLV, 1941, pp. 346 ff.

<sup>22</sup> Presumably not that of Philochoros, if Böckh, Krech, and others are right in thinking that it assembled only verse inscriptions.

<sup>23</sup> See Pritchett, *Hesperia*, XXII, 1953, pp. 234-235.

<sup>24</sup> *Op. cit.*, p. 400.

it is only coincidence which has caused all trace of the Eleusis inscription to disappear, while a major part of that at Athens has been recovered. Surely it is much easier to suppose that Krateros' original description of the Stelai as standing in the Eleusinion (Ἐλευσινίῳ) was misunderstood at one of the stages in the transmission of this information to Pollux, and that Pollux, who seems to have had little curiosity about such matters, never bothered to check the location of the inscription.

Three times Pollux uses the name Alkibiades when he mentions an item from the *Demioprata*, and it is tempting to try, with his help, to assign specific pieces of property in the lists to Alkibiades' household. In X, 38, while discussing rugs and blankets, Pollux remarks that "a certain *amphitapes* of Alkibiades was sold," and here his information about the owner of the rug is presumably based on an identification made by Eratosthenes, who could consult a full text of the Stelai, where the confiscated properties were listed in groups under headings naming the dispossessed owner, and who consequently knew to whom each item had belonged. In the incomplete text which we have of the inscription, the word *amphitapes* appears in just one place, near the end of Stele I, where nine rugs of different sorts are listed. Since the rug noted by Eratosthenes need not have been from this group at all but could instead have appeared in some other section of the Stelai now unreadable, this one Pollux citation would not by itself give sufficient ground for assuming that the last section of Stele I lists Alkibiades' personal possessions. However, Pollux identifies as Alkibiades' two more items which occur in the same part of Stele I; the inlaid couch and the bed with two headrests of *Onomasticon*, X, 35-36, can be found listed at I, 231 and 233, and the appearance in the lexicon of the special descriptive adjectives, *parakollos* and *amphikephalos*, makes it quite certain that Pollux's terms derived from this exact location in the Stelai. It is safe, then, to assume that somewhere between line 49 of Stele I, where the last item which certainly belonged to Kephisodoros is listed, and line 157, where the group containing the *amphitapes* begins, came two lines stating that the property next listed had belonged to Alkibiades (cf. I, 12-13). This means that the ample supply of rugs, curtains, pillows and coverlets, the expensive beds, the chests, and the foppishly long list of *himatia* may all be thought of as the personal possessions of Alkibiades. Apparently the beginning of Stele II, which seems to follow immediately upon Stele I, continues the same list of properties at least through line 60.

A second case where Pollux may help to identify certain items as the property of Alkibiades is less clear. Meritt has supposed<sup>25</sup> that the *prospephalaia skutina* of Stele II, 216, were the originals of the leather pillow in Pollux X, 40, where the lexicographer writes: ". . . clearly they (pillows) were also made of leather and wool, since among the confiscated properties of Alkibiades were a *prospephalaion skutinon*, one of linen, and one of wool." If Meritt is right, then somewhere between line 206

<sup>25</sup> *Hesperia*, V, 1936, p. 384.

and line 216 there once stood a notice that the property following had belonged to Alkibiades, ending the thus very short listing for Phaidros, which begins at line 188. We might also expect, between the announcement of Alkibiades' ownership and line 214, listings of linen and woolen pillows, each occupying two lines, for terms coupled by Pollux are usually found in close conjunction on the stone (see for instance, in Table B, *rakia* and *kerote*, *chameune parakollos* and *kline amphikephalos*, *thyra diapristos* and *thyra syndromade*). Lines 214 and 215 must then have contained an item or items interrupting the listing of pillows, for whatever word stood in line 214 was shorter than *proskephalaia* by at least four letters; it may be noticed that one item also separates the pair of terms in Pollux, X, 36, which appear as Stele I, 231 and 233. If all of these suppositions were correct, we would thus lack but one line of completely filling the space between line 206 and line 214 of Stele II, as it has been restored, and we would consider everything listed from line 216 to line 246 as having come from the household of Alkibiades. However, these conclusions are at best only tentative, for we know from vase-paintings that any Athenian house would contain a quantity of pillows of all sorts; they might be expected to turn up among the furnishings of all the condemned men. There is no way to be sure that the one leather pillow which happened to have been inscribed on a portion of stone destined to survive was the same leather pillow which, listed with others as the property of Alkibiades, caught the eye of Eratosthenes and was reported by Pollux. The household equipment listed at Stele II, 216 ff., may have belonged to another of the men, most probably Phaidros, and the *proskephalaia skutina* which Pollux mentions as Alkibiades' may have been listed somewhere else entirely—in Stele I, for instance, along with the pillows and coverlets of lines 217 ff.

The question of Pollux's accuracy has some importance, too, in a consideration of the relationship between *Onomasticon*, X, 83, and the *pinax* items found in Stele VII, 59 ff. Pollux first considers *pinakes* as plates for food, but he adds that there are also *pinakes* which are pictures, *ὡς καὶ ἐν τοῖς Δημοπρατοῖς ἔστιν εὐρεῖν καὶ πίναξ ποικίλος ἀπ' ὀροφῆς καὶ πίναξ ἕτερος γεγραμμένος*. On the stone we find

πίν[ακες γεγραμμ]έ[νοι — —]  
 πίν[αξ ἕτερ]ος σμικρός  
 γεγ[ραμμένο]ς  
 [πίναξ ποικί]λος.

Bethe has surrounded everything in the Pollux text after *εὐρεῖν* with quotation marks, as though these words were a direct quotation from the Attic Stelai. If this were precisely accurate, we would have to conclude either that there were two places in the Stelai (VII, 59, and another which has vanished) where nearly the same groupings of *pinax* items were made, or, with Köhler, that there were two slightly varying versions

(Attic and Eleusinian) of the inscription, and that Pollux's quotation came from the stelai which have disappeared. However, closer inspection will show that neither of these conclusions is necessary, for we can after all identify Pollux's fragment with these lines from Stele VII, and account for his variations quite simply. It is immediately evident that Pollux's citation has been somewhat altered, for the two *καί* 's would not have appeared on the stone. In addition, Pollux's items seem to have got out of order; in the listing as he gives it there is no reason for the word *ἕτερος*, since two distinct types of *pinakes* are being dealt with. Actually, *ἕτερος* would only be used in a grouping like that of Stele VII, where one item is to be distinguished from preceding items of exactly the same sort—one small *pinax* with a drawing on it was sold separately from an unknown number of others which differed only in size.<sup>26</sup> It is so unlikely that just these same circumstances prevailed in the sale of some other group of *pinakes*, listed in some other part of the Stelai, that we can here use the text transmitted by Pollux to restore the words missing on the stone. Eratosthenes was apparently most interested in the *pinax poikilos*, which he believed to have been of the special sort used in decorated ceilings (*ἀπ' ὀροφῆς*), and so he put it first among the plaques which he had found in the Attic Stelai.<sup>27</sup>

I have argued that the *Demioprata* references were taken from the *Skeuographikon*, and not from the Stelai or from an epigraphical collection, but before we can finally conclude that Pollux made no direct use of inscriptions or their texts in preparing Book X, there are three more passages which must be examined, for at three points in Book X Pollux presents other bits of epigraphical evidence which have nothing to do with the Attic Stelai. In X, 60, Pollux reports on an *anathema*, set up in Athens by a certain Diogenes, which was called an *analogeion*. In this case, he says, one can't turn to the work of Eratosthenes for an explanation of the term, for it is there treated as something related to the preparation of books. Here is an explicit statement of independence from Eratosthenes, but it does not mean that Pollux had himself been poking about among the antiquities of the city; it is the strange term applied to it, and not the fountain itself or any inscription it may have borne, that interests him, and the word would come from a word-book, not from an inspection of the monument. In X, 146 reference is made to the text of an unknown stele: *ἐν δὲ τῇ ἐν Ὀλυμπίᾳ στήλῃ ἀναγράφεται τρύπανα τρυπανίας ἔχοντα*. Pollux's failure to identify this inscription any more accurately suggests that its source was not an annotated epigraphical collection; the phrasing is much the same as that used to introduce an Attic Stelai citation and it is easy to believe that this reference was also culled from

<sup>26</sup> Compare the use of *ἕτερος* in *I.G.*, II<sup>2</sup>, 1672, lines 152 ff.

<sup>27</sup> There are a few other variants in Pollux's citations: in X, 35, he writes *χαμείνη* for Attic Stelai, I, 231 *χαμείνα*; in X, 36, *ἀμφικέφαλλος* for Attic Stelai, I, 233, *ἀμφικέφαλος*; and in X, 79, he states that a stand or base for a piece of furniture in the Attic Stelai is always *ὑπόστατον*, while we find *ὑπόσταθμον* on the stone (Stele II, 32-34).

the *Skeuographikon*. However, in X, 126, there is a reference to certain *σταθμία χαλκά* listed among the *anathemata* on the Acropolis during the archonship of Alkibiades. The inscription is as usual badly identified, but if this is the archon Alkibiades of *I.G.*, II<sup>2</sup>, 776,<sup>28</sup> then the list must have been inscribed around 250 B.C., and we cannot very well attribute it to Eratosthenes, who was by that time at Alexandria. Köhler believed that Pollux at this point was using Polemon's *Περὶ τῆς Ἀθήνησιν ἀκροπόλεως*, a collection of Acropolis dedications,<sup>29</sup> but nowhere else in the *Onomasticon* does Pollux show any acquaintance with Polemon's work. A more realistic supposition is that, pursuing his ordinary methods of composition, Pollux was here borrowing from another lexicographer, an earlier grammarian who may also have supplied to Book III, 39, its citation from the king archon's list. It was natural to him to accept occasional descriptions of ancient monuments from the pens of his predecessors, never allowing his eye to wander from the book in search of the relic itself. Pollux was interested in words because he wished to use them successfully among men who considered themselves learned, but he had no wish to study the past that had produced the language he sought to restore.

ANNE PIPPIN

UNIVERSITY OF CALIFORNIA

<sup>28</sup> See Meritt, *Hesperia*, VII, 1938, p. 135. Böckh, *op. cit.*, I, p. 252, note f, has argued that Pollux's inscription, like the one listing the silver drinking horn in Athenaeus, XI, 476 e, was included in a specialized collection called *Demioprata*. He did not know of the later archon, and so assumed that Pollux had mistakenly referred to the archonship of Alkibiades when the inscription named him rather as treasurer. Thus Böckh would see here a reference to the fifth-century Alkibiades.

<sup>29</sup> *Op. cit.*, p. 398.